ARCTURUS WAREHOUSE LLC

Initial Study/Mitigated Negative Declaration

Prepared for
City of Oxnard
Community Development Department

October 2023

ESA

ARCTURUS WAREHOUSE LLC

Initial Study/Mitigated Negative Declaration

Prepared for
City of Oxnard
Community Development Department
214 South C Street
Oxnard, California 93030
805.385.8272

October 2023

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ENVIRONMENTAL CHECKLIST

Initial Study

1.0 Project Information

1. **Project Title:** Arcturus Warehouse LLC

2. **Lead Agency Name and Address:** City of Oxnard
Community Development Department
Planning Division
214 South C Street
Oxnard, California 93030

3. **Contact Person and Phone Number:** Jay Dobrowalski
805-385-3948

4. **Project Location:** The Project site is located on a 14.33-acre (approximately 624,372 square feet) site located in the southern portion of the City of Oxnard within the County of Ventura (**Figure 1**). Specifically, the site is located at 5980 and 6000 Arcturus Avenue (**Figure 2**) on Assessor's Parcel Numbers (APN) 231-009-313 and 231-009-315 respectively. The Project site is currently comprised of a vacant lot in an industrial/agricultural area that is used to store shipping containers.

5. **Project Sponsor's Name and Address:** Controlled Environments Construction, Inc.
1562 Parkway Loop, Suite E
Tustin, California 92780

6. **General Plan Designation(s):** The Project site is designated under the City of Oxnard 2030 General Plan as Light Industrial (ILT), according to the General Plan Land Use Map. The proposed Project conforms to the 2030 General Plan land use designation.

7. **Zoning:** The zoning designation for the proposed Project is Light Manufacturing (M-1).

8. Description of Project:

The proposed Project includes the construction of a 105,383-square-foot cold storage facility (**Figure 3**), which would include the import/export and distribution of fresh produce and refrigerated food stuff. The first floor would consist of 2,700 square feet of office space, 55,836 square feet of racked cold storage space, and 44,147 square feet for the controlled temperature loading docks, and the second floor would consist of 2,700 square feet of office use. The main entrance to the facility would be located along the building's western edge. The proposed facility would be two stories and up to 50 feet in height (**Figure 4**). The first floor would include a receiving dock, five cold storage rooms, shipping dock, maintenance shop, office area, restrooms, telecommunication room, main electrical room, fire pump room, lunch room, lobby, locker rooms, waiting area for truckers, and a shipping/receiving area (**Figure 5**). Truck dock apron space would be provided adjacent to both the receiving and shipping docks. The second floor would include a conference room, manager's office, lunch room, restrooms, telecommunication room, and open offices (**Figure 6**). Heating, ventilation, and air conditioning (HVAC) units would be located on the western portion of the roof (**Figure 7**). A 10-foot by 70-foot pit-type truck scale would be located west of the building, and a container stack rack system with the capacity for 90 containers would be located north of the building. The system would stack a maximum height of three containers. Two Southern California Edison (SCE) electrical service transformers would be provided on site: one near the building's northwestern edge and one near the proposed Project's northwestern boundary within the trailer area. A guard check-in station would be located near the building's southwestern corner and would allow for on-site truck queuing. Two refrigeration chillers would be located east of the building, and a covered trash enclosure would be provided near the Project's proposed northern mid-site boundary, adjacent to the container stack rack system. The Project site would include an eight-foot-tall decorative concrete block wall around the perimeter of the site.

Parking and Circulation

The proposed Project would provide 67 vehicle parking spaces (53 standard, one van accessible, two standard accessible, one Electric Vehicle Fast Charging Simplified (EVCS) van accessible, seven carpool/vanpool, and three EVCS stall spaces) and 10 bicycle parking spaces (five short term and five long term spaces), which would be located adjacent to the building's western boundary and the Project site's southeastern boundary. In addition, 271 truck trailer spaces would be provided in the western portion of the Project site. Aided by a grant from the South Coast Air Quality Management District (SCAQMD), the facility would be fitted with electrical outlets ("yard plugs") that would allow for the on-board fuel powered refrigeration units to be transferred to electric power, which would assist with reducing idle emissions. The Project site would include a total of 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area.

The seven existing driveways on site, consisting of four driveways along McWane Boulevard and three driveways along Arcturus Avenue, would be removed as part of the Project. The proposed Project would construct three new gated driveways: two driveways along McWane Boulevard and one driveway near the proposed Project's northwestern boundary along Arcturus Avenue. The driveway near the center of the proposed Project's southern boundary along McWane Boulevard

would serve as the main entrance, and the driveway along Arcturus Avenue would serve as secondary emergency access.

Exterior Design

According to current design plans, the majority of the building would be comprised of beige, insulated metal panel walls (**Figure 8**). The receiving and shipping docks would include white dock doors, a brown dock apron canopy, and a concrete stem wall with a smooth concrete finish. The portions of the building proposed for the office uses would be comprised of khaki split face concrete block with brown accents and bronze-tinted glass windows.

Landscaping

The proposed Project would include various trees, shrubs, and grasses along the northern, southern, and western boundaries of the Project site as well as within the parking area adjacent to the building's western edge (**Figure 9**). The proposed Project would include a total of 41 trees comprised of Marina Strawberry, Brisbane Box, Southern Magnolia, Natchez Crape Myrtle, Tuscarora Crape Myrtle, California Sycamore, and Holly Oak trees. The proposed Project's landscaping is designed to comply with Chapter 2, Article XIII (Landscape Water Conservation Standards) of the City's Code of Ordinances. The proposed Project would provide bioswales along Arcturus Avenue and McWane Boulevard that would convey stormwater to a small underground water detention system near the corner of Arcturus Avenue and McWane Boulevard.

Utilities and Off-Site Improvements

The proposed Project would not include any off-site utilities but may require some undergrounding within the Arcturus Avenue right-of-way for the gas lateral and the sewer lateral connecting to the existing sewer on McWane Boulevard. The potable water line would connect near the southwest corner of the project site. A new 12-inch PVC stormwater system would also be installed. The power lines are located along the Project site's southern and western boundaries and would remain under the proposed Project. Off-site improvements would include signage, lighting, and street and sidewalk improvements.

Construction Schedule

The proposed Project construction schedule is anticipated to begin in December 2023 and would be completed in July 2024. Construction would include five main phases and associated subphases: demolition, grading/excavation, paving, construction, and finishing/painting. Construction would occur six days a week (Monday through Saturday) between the hours of 7:00 a.m. and 4:30 p.m. In addition, prior to construction activities, a construction traffic control plan would be prepared for the proposed Project to ensure that adequate emergency access exists during construction.

Project construction would include the removal of approximately 30 cubic yards of hardscape debris. The proposed Project would include approximately 8,469 cubic yards of cut and 15,800 cubic yards of fill. In addition, the proposed Project would import approximately 7,331 cubic yards of soil. During construction, excavation is anticipated to occur up to a maximum depth of 12 feet below ground surface (bgs).

Operations

The proposed Project is anticipated to open in the year 2024. During operation, inbound product would arrive by truck or container and proceed through the facility, be federally inspected as required, and be directed to the outbound dock for distribution or placed in a container for export. Carriers (truck drivers) would check in by cell phone and would be directed by the guard to their assigned parking slot or dock station. The storage capacity of the facility would allow for short-term hold on products to organize and consolidate loads for internal distribution or export. Eight pallet jacks would be used for loading and unloading the trailers, and four electric forklifts would be used to store and retrieve the product from the pallet racking in the cold storage rooms. In addition, containers from the stack rack system would be loaded onto a chassis and transported to the shipping or receiving dock via three terminal trucks.

The facility would operate Monday through Saturday between the hours of 6:00 AM and 10:00 PM. A total of 25 employees would be generated under the Project, with an average of 12 employees per shift.

Approvals required by City of Oxnard

The proposed Project would require review and discretionary approval by the City decision-maker, which is the Community Development Director. No additional discretionary approvals are needed, but ministerial permits such as a Zone Clearance permit will also be required.

9. Surrounding Land Uses and Setting.

The area surrounding the Project site consists of a mix of industrial uses, agricultural uses, and undeveloped land. The Project site is bounded by a BMW auto parts manufacturing facility to the north, with Hueneme Road beyond; metal fabricator development to the east, with Edison Drive beyond; McWane Boulevard to the south, with agricultural land uses beyond; and Arcturus Avenue to the west, with industrial uses beyond.

Review of the Phase I Environmental Site Assessment (Phase I ESA) for the Project (Northgate Environmental Management, Inc. 2015) indicates that the southern portion of the Project site operated as a polyester resin manufacturing plant (encompassing approximately 3.5 acres) between 1968 until 1996, and the northern portion of the Project site was originally used for agriculture until 1994 when it became vacant land. The manufacturing plant produced various kinds of polyester resins in liquid form with principal raw materials (bromine, styrene, phthalic and maleic anhydride, glycol compounds, caustic soda, and methylene chloride). By 2012, the previous facilities appear to have been removed/demolished and graded.

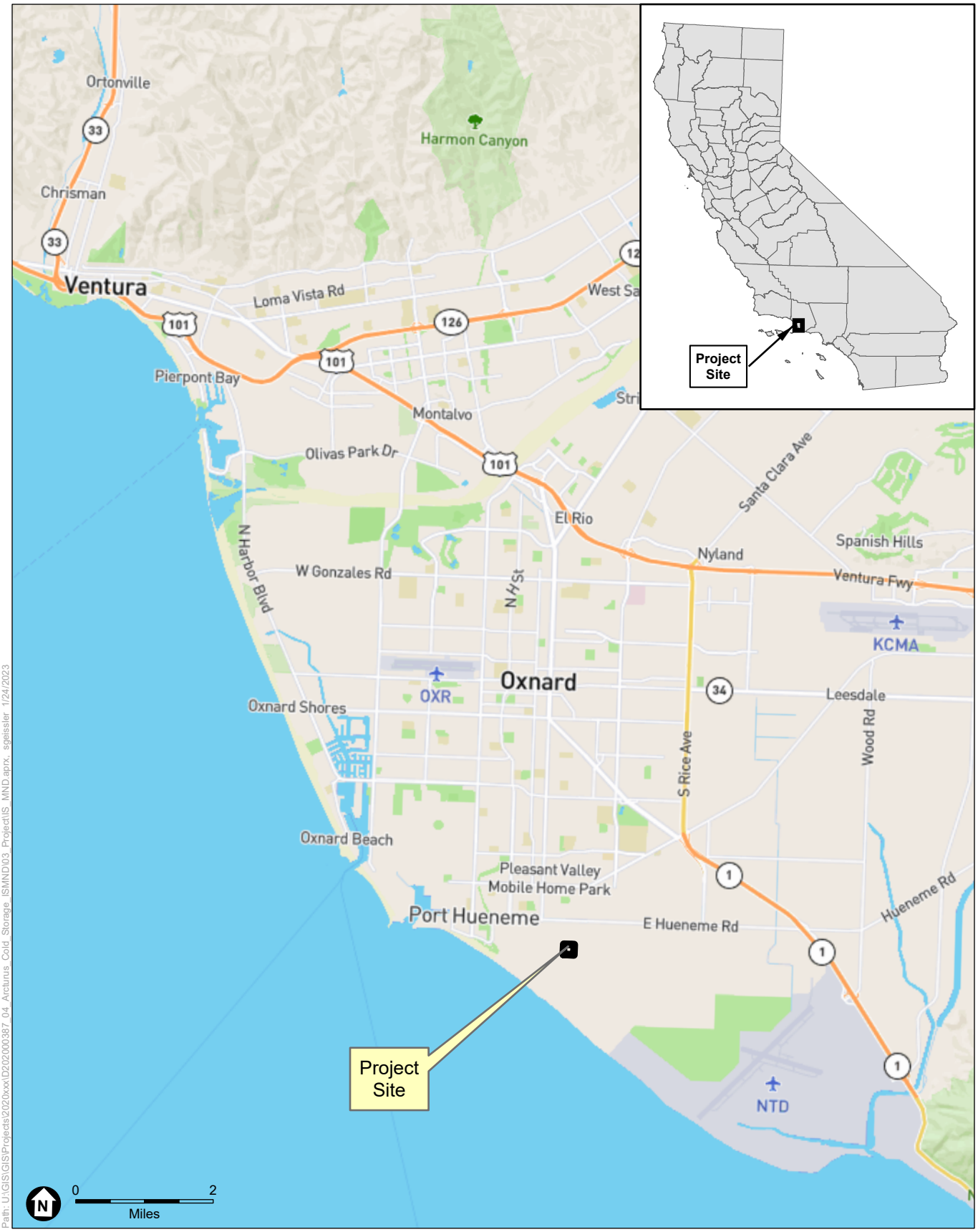
The Project site is currently comprised of a vacant lot in an industrial/agricultural area that is used to store shipping container chassis. The eastern portion of the Project site previously included a railroad spur which was removed from the Project site in 2022.

10. Other public agencies whose approval is required.

No other permits, financing approval or participation agreement are anticipated to be required from public agencies other than the City of Oxnard.

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

The City of Oxnard sent a notification letter on August 01, 2023 to the Native American tribe that is on the City's Assembly Bill (AB) 52 list (Appendix A). This list includes only one tribe, Barbareno/Ventureno Band of Mission Indians, that has requested notification of projects within the City in accordance with AB 52. The Barbareno/Ventureno Band of Mission Indians did not request consultation with the City of Oxnard regarding the proposed Project.



SOURCE: ESRI

Arcturus Warehouse LLC IS/MND

Figure 1
Project Vicinity

ESA



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SOURCE: Mapbox, 2022 ESA, 2023

Arcturus Warehouse LLC IS/MND

Figure 2
Project Location

ESA

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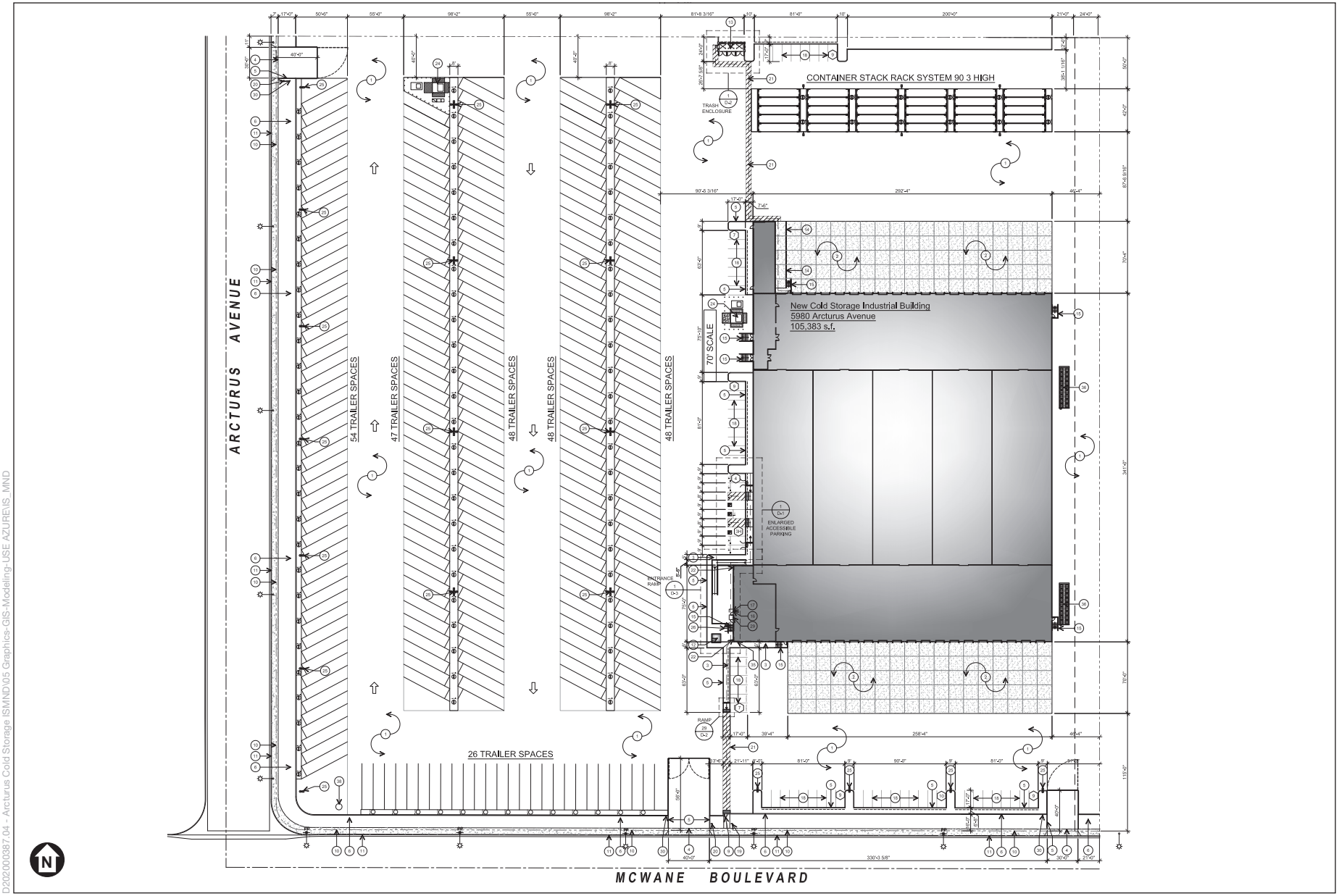

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SOURCE: DRA Architects, 2023

Arcturus Warehouse LLC IS/MND

Figure 3
Project Site Plan

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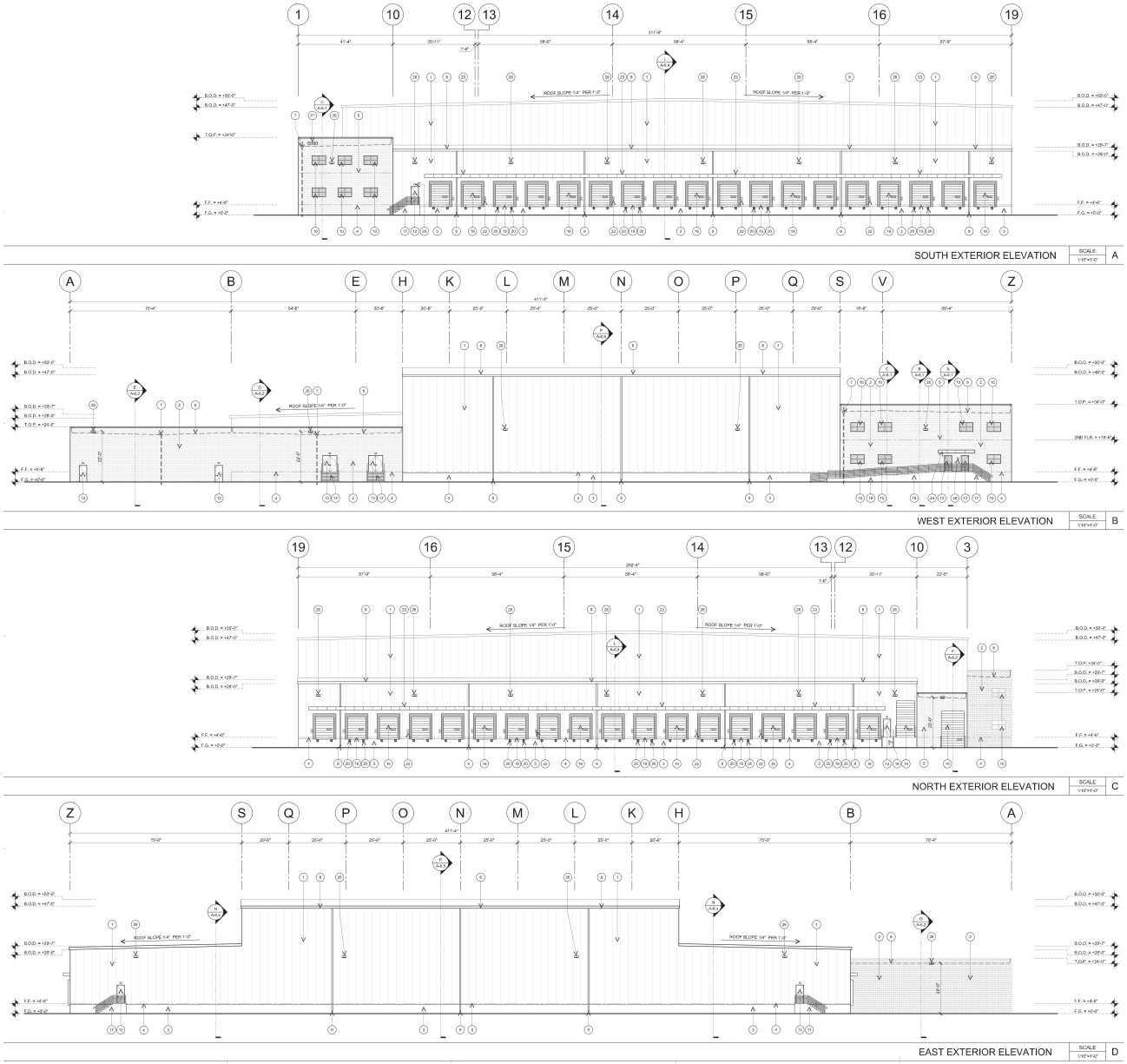

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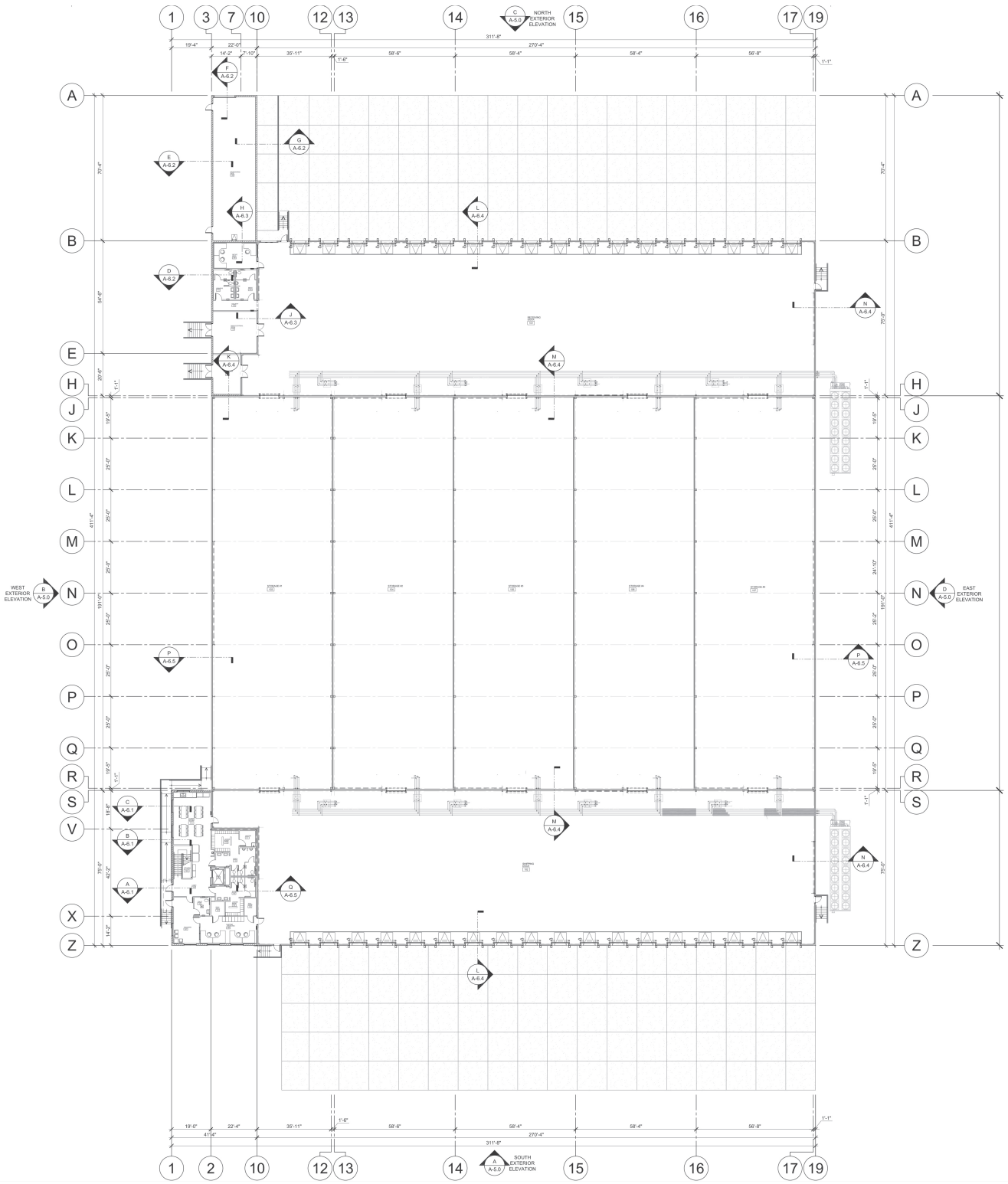
SOURCE: DRA Architects, 2022

Arcturus Warehouse LLC IS/MND

Figure 4
Project Elevations

ESA



SOURCE: DRA Architects, 2022

Arcturus Warehouse LLC IS/MND

Figure 5
Overall Floor Plan – First Floor

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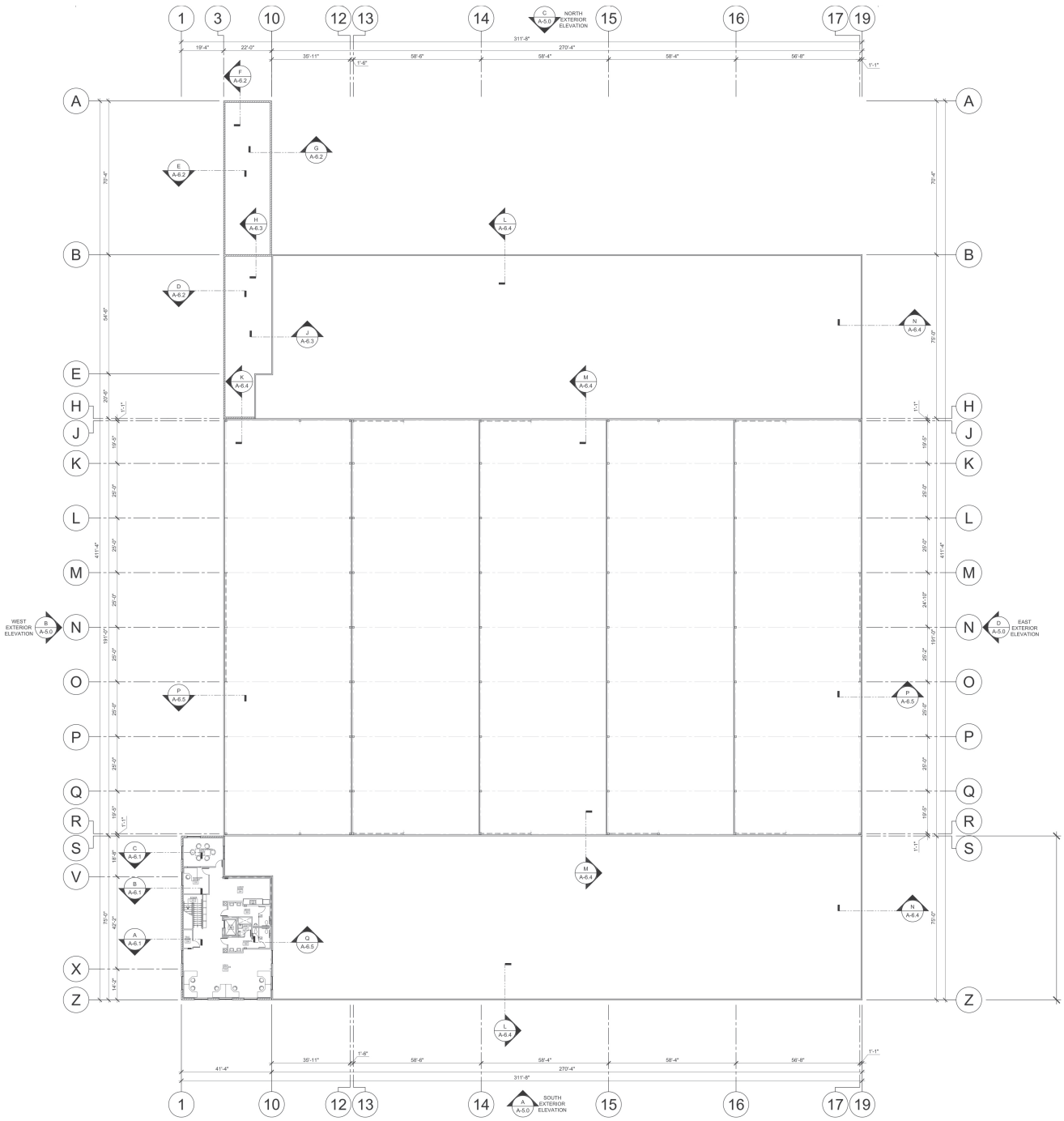

SOURCE: DRA Architects, 2022

Arcturus Warehouse LLC IS/MND

Figure 6
Overall Floor Plan – Second Floor

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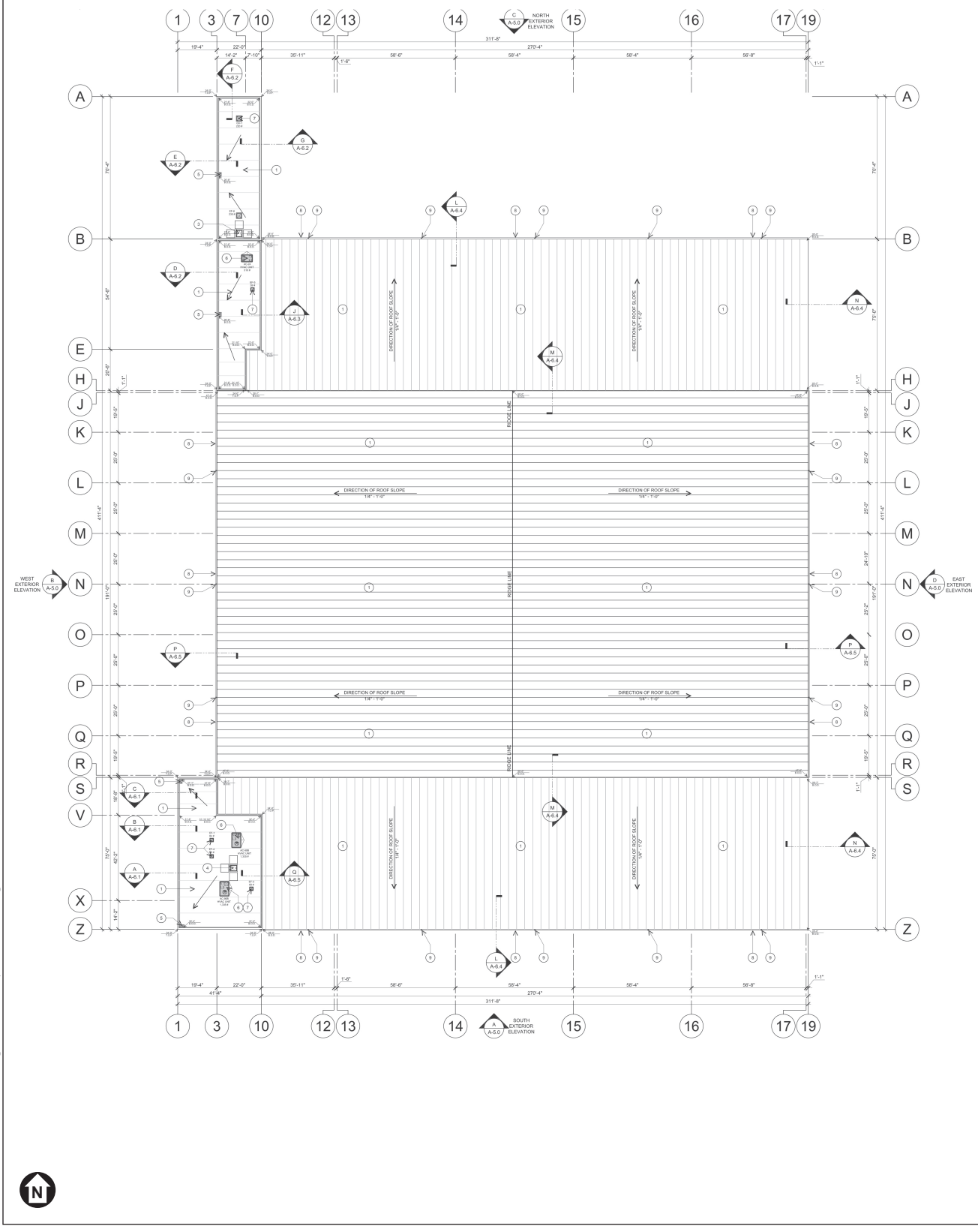

SOURCE: DRA Architects, 2022

Arcturus Warehouse LLC IS/MND

Figure 7
Roof Plan

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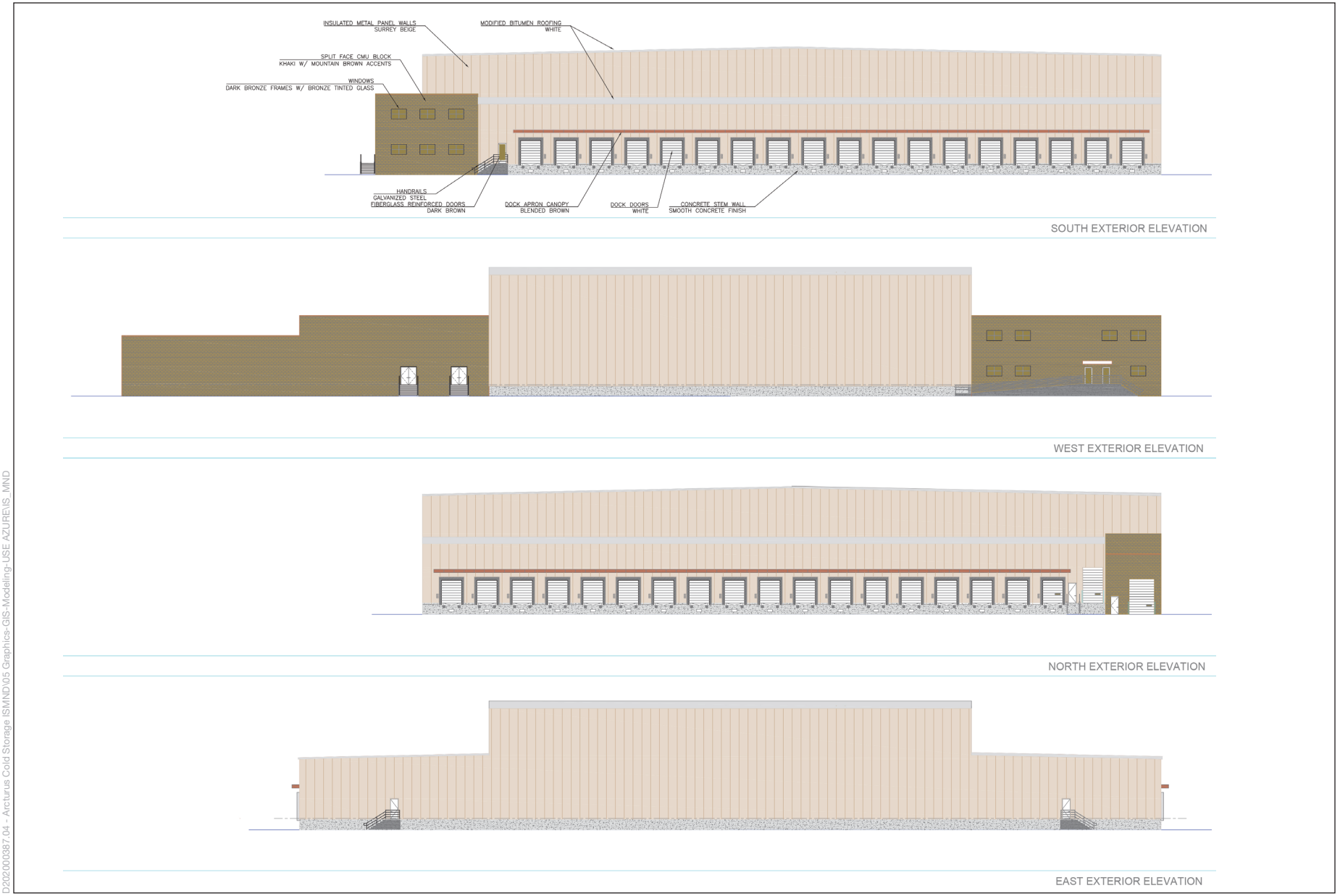

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SOURCE: Controlled Environments Construction, Inc., 2021

Arcturus Warehouse LLC IS/MND

Figure 8
Exterior Building Elevations

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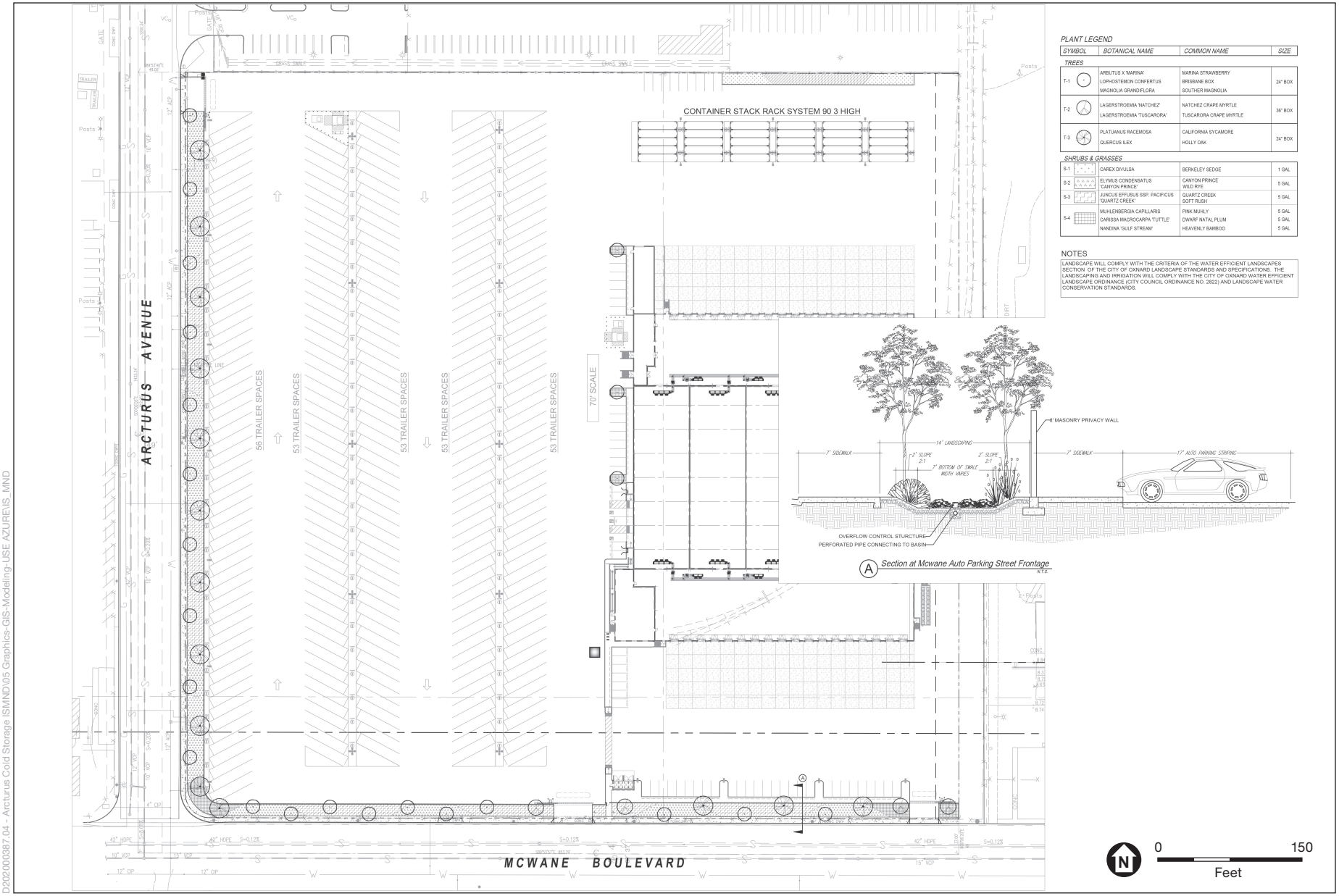

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SOURCE: DRA Architects, 2022

Arcturus Warehouse LLC IS/MND

Figure 9
Landscape Plan

ESA

2.0 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐	Aesthetics and Urban Design	☒	Cultural Resources and Tribal Cultural Resources	☐	Mineral Resources	☐	Utilities and Energy
☐	Agricultural Resources	☐	Geology and Soils	☐	Noise	☐	Wildfire
☒	Air Quality	☒	Hazards and Hazardous Materials	☐	Population, Education, and Housing	☒	Mandatory Findings of Significance
☒	Biological Resources	☒	Hydrology and Water Quality	☐	Public Services and Recreation		
☒	Climate Change and Greenhouse Gas Emissions	☐	Land Use and Planning	☒	Transportation and Circulation		

DETERMINATION:

On the basis of this initial study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	Date
	OCTOBER 31, 2023
Printed Name	**For**
JAY DOBROWALSKI	

3.0 Environmental Checklist

3.1 Aesthetics and Urban Design

Issues:		*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a)	Would the project have a substantial adverse effect on a scenic vista such as an ocean or mountain view from an important view corridor or location as identified in the 2030 General Plan or other City planning documents?	☐	☐	☒	☐
b)	Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway, or route identified as scenic by the County of Ventura or City of Oxnard?	☐	☐	☐	☒
c)	Would the project substantially degrade the existing visual character or quality of the site or its surroundings such as by creating new development or other physical changes that are visually incompatible with surrounding areas or that conflict with visual resource policies contained in the 2030 General Plan or other City planning documents?	☐	☐	☒	☐
d)	Would the project add to or compound an existing negative visual character associated with the project site?	☐	☐	☐	☒
e)	Would the project create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐

Discussion

a) **Less than Significant Impact.** A scenic vista is generally defined as a public viewpoint that provides expansive views of a highly valued landscape for the benefit of the public. Based on a review of the Oxnard General Plan Background Report (City of Oxnard, 2006), the highly valued landscape areas are scenic areas and view corridors within the City of Oxnard. The 2030 General Plan Goals and Policies outline three broad categories of aesthetic resources, including Local Waterways, Agricultural Greenbelts, and Beaches and Coastlines (City of Oxnard 2022). Other scenic areas and view corridors include local waterways, agricultural open space, beaches and coastline, scenic highways/roadways, hills and mountains, and urban landscapes that maintain original historic architectural features and contain park/plaza features. Beyond the City limits includes scenic resources such as the Coastal Mountain Range west of the city and the hills of Point Mugu State Park that bound the southeastern portion of the city.

Agricultural land uses, which could be considered an aesthetic resource per the City's definition in the 2030 General Plan, are located south of the Project site across McWane Boulevard. However, the Project would include a 16-foot landscape buffer between McWane Boulevard and site development which would include landscaping comprised of trees, shrubs, and grasses that would abut the proposed eight-foot-tall concrete block wall along the southern boundary. The landscaping and fencing would assist with screening

views of the site from the adjacent McWane Boulevard and agricultural land uses. In addition, the proposed cold storage facility would be similar in height and character to the adjacent metal fabricator development to the east. No other scenic areas or view corridors are visible from the Project site due to distance and intervening structures. Therefore, the proposed Project would not obstruct scenic views, and impacts would be less than significant.

b) **No Impact.** The Project site is not located within a State-designated scenic highway, according to the General Plan Background Report. The nearest eligible state scenic highway is along California State Route 1, located approximately 2.2 miles northeast of the Project site, and the nearest officially State-designated scenic highway is State Route 33, located approximately 26 miles northwest of the Project site (California Department of Transportation, 2018). The Project site is also approximately 2.1 miles southwest of Oxnard Boulevard, which is an eligible State scenic highway as well as a City-designated scenic highway to U.S. 101. Due to the proposed Project's location and distance from these scenic resources, implementation of the proposed Project would not result in impacts on existing scenic resources within a state or local scenic highway.

c) **Less than Significant Impact.** The proposed Project includes development of a cold storage facility on 14.33 acres of vacant and undeveloped land that is used to store shipping containers and chassis and is surrounded by urban development with industrial uses to the north, east, and west and agricultural uses to the south. The facility would be up to 50 feet in height and would be partially screened with an eight-foot-tall concrete block wall surrounding the site perimeter as well as landscaping along the southern and western boundaries. Given the Project site's current undeveloped state and use, development of the proposed Project would improve general public views of the site from adjacent roadways including McWane Boulevard and Arcturus Avenue. In addition, the proposed wall and landscaping would provide adequate screening of public views of the Project site from off-site industrial and agricultural uses. Furthermore, the proposed Project would be compatible with the surrounding industrial development and is an allowed use in the M-1 land use zone. Finally, the Project site was previously developed and occupied by buildings from approximately 1967 to approximately 2009, so the presence of buildings on the Project site is not an entirely new concept. Therefore, implementation of the proposed Project would not substantially degrade the existing visual character or quality of the site or its surroundings. Impacts would be less than significant.

d) **No Impact.** Negative visual character includes, but is not limited to, urban blight or nuisances as identified in the Oxnard City Code. Urban blight refers to the deterioration and decay of buildings and older areas of a city where buildings/properties are not maintained and become run-down, abandoned, or condemned. The existing visual character of the site reflects that the site is currently undeveloped with ruderal vegetation and used for shipping container and chassis storage. The existing visual character of the site is not considered to be negative. The proposed Project includes development of a cold storage facility up to 50 feet in height that would be partially screened by the proposed wall surrounding the site perimeter and landscaping along the southern and western site

boundaries. The wall and landscaping along the site's perimeter would screen views of the site from McWane Boulevard and Arcturus Avenue, which would enhance the visual character of the site. Therefore, implementation of the proposed Project would have no impacts related to adding to or compounding an existing negative visual character associated with the Project site.

e) **Less than Significant Impact.** The Project site is in an urban area with streetlights and parking lots that create nighttime light pollution. The proposed Project would not contribute a significant amount of additional light during nighttime hours, as lighting would not include more than typical exterior lighting for employees and truckers to safely use the facility and parking areas. Any new lighting would be required to conform to requirements in Section 16-320, *On-Site Lighting*, of the Oxnard City Code, which requires lighting to illuminate only the intended surfaces and to not exceed seven foot-candles. Additionally, the proposed Project would not create substantial glare, as reflective surfaces used on the proposed Project exterior would include only a limited number of windows on the southern and western portions of the facility related to the proposed office use; however, the windows would be comprised of bronze tinted glass. Furthermore, metal paneling used for the main portion of the facility would be painted and would not provide substantive glare reflection. Therefore, the proposed Project would not create a new substantial source of light or glare that would adversely affect views in the Project area. Impacts would be less than significant.

References

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City of Oxnard. 2022. City of Oxnard, California, 2030 General Plan, Goals and Policies. Adopted October 2011 with Amendments through December 2022. Oxnard, California: City of Oxnard, Development Services Department, Planning Division. Available at: https://www.oxnard.org/wp-content/uploads/2017/06/Oxnard-2030-General-Plan-Amend-12.2022-SMc.pdf. Accessed March 2, 2023.

3.2 Agricultural Resources

Issues:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use?	☐	☐	☐	☒
b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Would the project involve other changes in the existing environment that, due to their location or nature, could result in conversion of off-site farmland to non-agricultural use?	☐	☐	☒	☐

Discussion

a) **No Impact.** The Project site is currently identified as Urban and Built-Up Land and not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance based on a review of the California Department of Conservation's California Important Farmland Finder (California Department of Conservation [DOC], 2022). Therefore, implementation of the proposed Project would not convert farmland to an urban use, and no impact to farmland would occur.

b) **No Impact.** Williamson Act contracts are formed between a county or city and a landowner for the purposes of restricting specific parcels of land to agricultural preserve areas. The Project site does not contain any agricultural uses and is currently zoned for Light Manufacturing (M-1) with a Light Industrial (ILT) land use designation according to the 2030 General Plan Land Use Element. Because there are no active Williamson Act contracts associated with the Project site, the proposed Project would not conflict with existing agricultural zoning or a Williamson Act contract. Therefore, no impacts related to agricultural zoning or a Williamson Act contract would occur with the implementation of the proposed Project.

c) **Less Than Significant Impact.** Land designated as Prime Farmland is located south of the Project site across McWane Boulevard, with land designated as Farmland of Statewide Importance beyond. Additional land designated as Farmland of Statewide Importance is located east of the Project site across Edison Drive. The construction and operation of the proposed cold storage facility would not involve other changes in the existing environment that would result in the conversion of agricultural or forest lands. In addition, during construction, the proposed Project would be required to comply with Ventura County Air Pollution Control District (VCAPCD) Rule 55 for controlling fugitive dust. Specific Rule 55 control requirements may include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, covering all trucks hauling soil with a fabric cover and maintaining a freeboard height of 12 inches, and maintaining effective cover over exposed areas. Compliance with Rule 55 would ensure that dust generated at the Project site would not impact agricultural crops within the Project vicinity. Therefore, impacts related to the conversion of off-site farmland to non-agricultural use would be less than significant.

References

California Department of Conservation (DOC). 2022. California Important Farmland Finder. Available at: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed on January 31, 2023.

3.3 Air Quality

Issues:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project conflict with population or other growth forecasts contained in the Ventura County AQMP or otherwise obstruct implementation of the Ventura County AQMP?	☐	☐	☒	☐
b) Would the project result in a net increase of any criteria pollutant in excess of quantitative thresholds recommended by the VCAPCD?	☐	☒	☐	☐
c) Would the project expose sensitive receptors to substantial pollutant concentrations exceeding state or federal standards or in excess of applicable health risk criteria for toxic air contaminants?	☐	☒	☐	☐
d) Would the project create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion

a) **Less than Significant Impact.** VCAPCD is responsible for attaining and maintaining air quality standards in the Ventura County portion of the South Central Coast Air Basin (SCCAB) through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of VCAPCD includes preparation of plans for attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution (VCAPCD, 2003). The Ventura County portion of the SCCAB is designated as nonattainment for ozone for the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) and for respirable particulate matter 10 micrometers in diameter and smaller (PM10) for the CAAQS. VCAPCD and the Ventura Council Association of Governments (VCOG) are responsible for preparing the air quality management plan (AQMP), which addresses federal and state Clean Air Act (CAA) requirements. The VCAPCD has adopted Air Quality Management Plans (AQMPs) to meet the CAAQS and NAAQS. The VCAPCD board approved the 2022 AQMP on December 13, 2022 (VCAPCD, 2022). CARB approved the 2022 AQMP January 26, 2023. The goals of the 2022 AQMP are to ensure that city and county population growth does not interfere with emission reductions and progress in meeting the state and national ambient air quality standards.

The proposed Project is located within the Ventura County portion of the SCCAB, which is under the jurisdiction of the VCAPCD for air quality planning and control. As such, VCAPCD's 2022 AQMP is the applicable air quality plan for the proposed Project. Projects that are consistent with the regional population, housing, and employment forecasts identified by the Ventura Council of Governments (VCOG) are deemed consistent with the AQMP growth projections, since the forecast assumptions by VCOG forms the basis of the land use and transportation control portions of the AQMP. Additionally, because VCOG's regional growth forecasts are based upon, among other

things, land uses designated in general plans, a project that is consistent with the land use designated in a general plan would also be consistent with the VCOG's regional forecast projections, and thus also with the AQMP growth projections.

The proposed Project includes the construction of a cold storage facility on a site that is currently designated Light Industrial (ILT) within the 2030 General Plan (City of Oxnard, 2014). The construction of a cold storage facility does not require a general plan amendment and would not increase population beyond that projected in the 2030 General Plan. The proposed Project would generate a total of 24 employees. The Southern California Association of Governments (SCAG) estimates that the population of Oxnard will increase by 32,100 residents and generate 15,000 new jobs between 2016 and 2045 (SCAG, 2020). Even in the unlikely event that all new jobs created by the proposed Project were to result in new residents to Oxnard, the Project would result in less than one percent of expected City population and employment growth. Therefore, the proposed Project would not result in population growth that would exceed the regional forecast, the Project would not conflict with the VCAPCD's AQMP, and impacts would be less than significant.

The Environmental Resources Chapter of the 2030 General Plan contains goals and policies related to air quality resources. The goals and policies related to air quality resources that are applicable to the proposed project include the following:

Goal ER-14: Improved air quality and minimized adverse effects of air pollution on human health and the economy.

Policy ER-14.1, Incorporate Ventura County AQMP Mitigations: Incorporate construction and operation mitigation measures recommended or required by the current Ventura County Air Quality Management Plan (AQMP) when preparing CEQA reviews, as appropriate.

Policy ER-14.4, Emission Control Devices: Require all construction equipment to be maintained and tuned to meet appropriate EPA [United States Environmental Protection Agency], CARB [California Air Resources Board], and VCAPCD emissions requirements and when new emission control devices or operational modifications are found to be effective, such devices or operational modifications are required on construction equipment.

Policy ER-14.5, Reducing Construction Impacts during Smog Season: Require that the construction period be lengthened to minimize the number of vehicles and equipment operating at the same time during smog season (May through October).

Policy ER-14.6, Minimizing Dust and Air Emissions through Permitting Requirements: Continue to require mitigation measures as a condition of obtaining building or use permits to minimize dust and air emissions impacts from construction.

Policy ER-14.7, Mitigation Monitoring: Ensure that projects with identified air quality impacts in their respective EIRs are subject to effective mitigation monitoring as required by AB [Assembly Bill] 3180.

Policy ER-14.10, Consultation with Ventura County Air Pollution Control District: Consult with the Ventura County Air Pollution Control District (VCAPCD) during CEQA review for projects that require air quality impact analysis and ensure that the VCAPCD is on the distribution list for all CEQA documents.

Policy ER-14.11, Support Regional Attainment Plans: Support recommendations to reduce air pollutants found in the VCAPCD local attainment plans and use its regulatory authority to mitigate "point" sources of air pollution (e.g., factories, powerplants, etc.).

Policy ER-14.12, Use VCAPCD Air Quality Assessment Guidelines: Use the VCAPCD Air Quality Assessment Guidelines and recommended analytical tools for determining and mitigating project air quality impacts and related thresholds of significance for use in environmental documents. The City shall continue to cooperate with the VCAPCD in the review of development proposals.

The proposed Project would comply with the above applicable General Plan air quality resource goal and policies, which would reduce air emissions. Compliance would be achieved through required regulatory compliance for applicable VCAPCD rules as well as through the CEQA process for using the VCAPCD Air Quality Assessment Guidelines and mitigating potentially significant impacts, if identified. Therefore, because implementation of the proposed Project would not exceed applicable growth projections and would not conflict with applicable General Plan air quality resource goal and policies, the Project would not conflict with the VCAPCD's AQMP, and impacts would be less than significant.

b) **Less than Significant with Mitigation Incorporated.** The Project would contribute to local and regional air pollutant emissions during construction (short-term or temporary) and occupancy (long-term). The analysis of Project construction and operational emissions to violate any federal or state air quality standard or contribute substantially to an existing or projected air quality standard violation and to increase any criteria pollutant in excess of quantitative thresholds recommended by the VCAPCD is provided below. Additional information is provided in the Air Quality and Greenhouse Gas Technical Report (2023), provided in Appendix B.

Construction Emissions

Construction of the Project has the potential to generate temporary regional criteria pollutant emissions through the use of heavy-duty construction equipment, such as backhoes and cranes, through vehicle trips generated by workers and haul trucks traveling to and from the Project Site, and through building activities such as the application of paint and other surface coatings. In addition, fugitive dust emissions would result from demolition and various soil-handling activities. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions.

The maximum daily construction emissions for the Project were estimated for each construction phase. The maximum daily emissions are predicted values for a representative worst-case day, and do not represent the actual emissions that would occur for every day of construction, which would likely be lower on many days.

The results of the criteria pollutant calculations are presented in **Table 3.3-1**, *Estimated Unmitigated Construction Emissions.* Within the California Emissions Estimator Model (CalEEMod), the emissions estimating model developed by the California Air Pollution Control Officers Association (CAPCOA), fugitive dust emissions include the application of water as a control measure consistent with VCAPCD Rule 55. Therefore, emissions include dust control measures as required by VCAPCD Rule 55 (Control of Fugitive Dust). Emissions also include fugitive ROG control measures to be implemented by architectural coating emission factors required by VCAPCD Rule 74.2 (Architectural Coatings). As shown in Table 3.3-1, construction-related daily emissions would exceed the VCAPCD significance thresholds and mitigation measures would be required.

TABLE 3.3-1
ESTIMATED UNMITIGATED CONSTRUCTION EMISSIONS (POUNDS PER DAY)[a]

Construction Phases	ROG	NO_X	CO	SO_2	PM10[b]	PM2.5[b]
Demolition	1.1	10.4	14.6	<0.1	0.6	0.5
Grading and Excavation	3.1	35.4	34.4	0.1	2.9	1.5
Foundations	2.3	23.9	30.5	0.1	2.3	1.2
Building Construction	4.2	40.3	42.4	0.1	2.8	1.8
Paving	1.1	6.0	6.2	<0.1	0.3	0.2
Architectural Coatings	2.5	1.8	3.2	<0.1	0.1	0.1
Overlapping Phases						
Building Construction + Paving + Architectural Coating	7.9	48.0	51.8	0.1	3.3	2.1
Maximum Daily Construction Emissions[b]	**7.9**	**48.0**	**51.8**	**0.1**	**3.3**	**2.1**
VCAPCD Significance Threshold	25	25	NA	NA	NA	NA
Exceeds Threshold?	No	**Yes**	NA	NA	NA	NA

NA – Not Applicable.

[a] Totals may not add up exactly due to rounding in the modeling calculations.

[b] Emissions include fugitive dust control measures consistent with VCAPCD Rule 55 (Fugitive Dust).

SOURCE: ESA 2023

Operational Emissions

Operational criteria pollutant emissions were calculated for mobile, area, and stationary sources. CalEEMod, EMFAC2021, and OFFROAD2021 were used to calculate the emissions based on the operational assumptions (see additional information provided in the Air Quality and Greenhouse Gas Technical Report (2023), provided in Appendix B). Operational emission estimates include compliance with VCAPCD Rule 74.2 (Architectural Coatings), which limits the VOC content of architectural coatings. The results of the regional criteria pollutant emission calculations for VOC, NO_X, CO, SO_2, PM10, and PM2.5 are presented in **Table 3.3-2,** *Estimated Unmitigated Operational Emissions.* The Project's operational-related daily emissions would exceed the VCAPCD significance thresholds and mitigation measures would be required.

TABLE 3.3-2
ESTIMATED UNMITIGATED OPERATIONAL EMISSIONS (POUNDS PER DAY)[a]

Source	ROC	NO_X	CO	SO_2	PM10	PM2.5
Area (Consumer Products, Landscaping)	3.6	<0.1	<0.1	<0.1	<0.1	<0.1
Energy (Natural Gas)	<0.1	0.1	0.1	<0.1	<0.1	<0.1
Mobile Sources – Light-Duty Vehicles	0.2	0.1	1.3	<0.1	0.1	<0.1
Mobile Sources – Heavy-Duty Vehicles	0.9	34.2	12.6	0.2	2.7	0.9
Transportation Refrigeration Units	68.9	65.8	7.5	0.2	1.9	1.8
Forklifts (Electric)	–	–	–	–	–	–
Project Maximum Daily Operational Emissions	**73.6**	**100.2**	**21.5**	**0.4**	**4.7**	**2.7**
VCAPCD Significance Threshold	25	25	NA	NA	NA	NA
Exceeds Thresholds?	**Yes**	**Yes**	NA	NA	NA	NA

NA – Not Applicable.

[a] Totals may not add up exactly due to rounding in the modeling calculations.

[b] Operational Mobile Emissions calculated outside of CalEEMod.

SOURCE: ESA 2023

Mitigation Measures

As shown in Table 3.3-1 and Table 3.3-2, Project emissions would exceed the VCAPCD significance threshold for NO_X during construction and for ROG and NO_X during operations. For a Project that emits more than 25 pounds of ROG or NO_X, the VCAPCD requires implementation of feasible mitigation measures. The following mitigation measures are required to reduce the Project's construction and operational emissions.

Mitigation Measure AIR-1: Construction Fugitive Dust Control. The Project developer shall implement fugitive dust control measures throughout all phases of construction. The Project developer shall include in construction contracts the control measures required and recommended by the Ventura County APCD at the time of development. These measures, like all EIR mitigation measures, are binding on subsequent parties and developers. Examples of the types of measures currently required and recommended include the following:

- Minimize the area disturbed on a daily basis by clearing, grading, earthmoving, and/or excavation operations.
- Pre-grading/excavation activities shall include watering the area to be graded or excavated before the commencement of grading or excavation operations. Application of water should penetrate sufficiently to minimize fugitive dust during these activities.
- All trucks shall be required to cover their loads as required by California Vehicle Code §23114.
- All graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved onsite roadways, shall be treated to prevent fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally-safe soil stabilization materials, and/or roll-compaction as appropriate. Watering shall be done as often as necessary.

- Material stockpiles shall be enclosed, covered, stabilized, or otherwise treated, to prevent blowing fugitive dust off site.
- Graded and/or excavated inactive areas of the construction site shall be monitored by a City-designated monitor at least weekly for dust stabilization. Soil stabilization methods, such as water and roll-compaction, and environmentally-safe control materials, shall be periodically applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area should be seeded and watered until grass growth is evident, or periodically treated with environmentally-safe dust suppressants, to prevent excessive fugitive dust.
- Signs shall be posted on the site limiting onsite traffic to 15 miles per hour or less.
- During periods of excessive winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties, typically wind speeds of 30-40 mph or gusts in excess of 55 mph), all clearing, grading, earth moving, and excavation operations shall be curtailed to the degree necessary to prevent fugitive dust created by onsite activities and operations from being a nuisance or hazard, either off site or on site. The site superintendent/supervisor shall use his/her discretion in conjunction with the Ventura County APCD in determining when winds are excessive.
- Adjacent streets and roads shall be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.
- Personnel involved in grading operations, including contractors and subcontractors should be advised to wear respiratory protection in accordance with California Division of Occupational Safety and Health regulations.

Mitigation Measure AIR-2: Construction Equipment Emissions Control. The Project developer shall implement measures to reduce the emissions of pollutants generated by heavy-duty diesel-powered equipment operating at the Project Site throughout the Project construction phases. The Project developer shall include in construction contracts the control measures required and recommended by the Ventura County Air Pollution Control District at the time of development. Required measures shall include the following:

- The Project shall utilize off-road diesel-powered construction equipment that meets or exceeds the California Air Resources Board (CARB) and United States Environmental Protection Agency Tier 4 Final off-road emissions standards or equivalent for equipment rated at 50 horsepower (hp) or greater during Project construction where available within the Ventura County region. Such equipment shall be outfitted with Best Available Control Technology, which means a CARB certified Level 3 Diesel Particulate Filter or equivalent.
- Maintain all construction equipment in good condition and in proper tune in accordance with manufacturer's specifications.
- Limit truck and equipment idling time to five minutes or less.
- Minimize the number of vehicles and equipment operating at the same time during the smog season (May through October).
- Use alternatively fueled construction equipment, such as compressed natural gas, liquefied natural gas, or electric, to the extent feasible.

Mitigation Measure AIR-3: Building Energy. The Project developer shall include in construction and building management contracts the requirement to install and use solar or low-emission water heaters in new buildings where feasible and as in common practice in similar new construction in the Oxnard area, or other measure shown to be equally effective.

Mitigation Measure AIR-4: Rooftop. The Project developer shall include in construction and building management contracts the requirement that new buildings shall be designed with roof systems capable of supporting equipment that generates electricity from sunlight and/or wind if economically feasible and subject to review by the Fire Department. The roof systems may be designed to service the building and/or enter into a commercially reasonable public or private utility agreement for purposes of generating energy or transmission.

Mitigation Measure AIR-5: Landscaping. The Project developer shall include in building management contracts the requirement that commercial landscapers providing services at the common areas of Project Site use electric or battery-powered equipment, or other internal combustion equipment that is either certified by the California Air Resources Board or is three years old or less at the time of use, to the extent that such equipment is reasonably available and competitively priced in Ventura County (meaning that the equipment can be easily purchased at stores in Ventura County and the cost of the equipment is not more than 20 percent greater than the cost of standard equipment).

Mitigation Measure AIR-6: Mitigation Fund. The Project developer shall contribute to a cumulative impacts mitigation "buy-down" fund managed by the City based on the Ventura County Air Pollution Control District fee schedule effective at the time a building permit is issued. The City shall consider transit and traffic demand management improvements and other programs suggested by the Project developer, in excess of those otherwise required, as credits against the fee and/or to be funded from the fee fund.

Mitigated construction emissions are shown in **Table 3.3-3**, *Estimated Mitigated Construction Emissions*, and mitigated operational emissions are shown in **Table 3.3-4**, *Estimated Mitigated Operational Emissions*. As shown in Table 3.3-3, with the incorporation of Mitigation Measures AIR-1 and AIR-2, the Project's construction emissions would be reduced to below the VCAPCD thresholds of significance. As shown in Table 3.3-4, with the incorporation of Mitigation Measures AIR-3, AIR-4, and AIR-5, the Project's operational emissions would continue to exceed the VCAPCD thresholds of significance. However, as required by Mitigation Measure AIR-6, the Project would be required to contribute to a cumulative impacts mitigation "buy-down" fund. The City will determine the specific amount to be contributed by the Project. The Project's anticipated contributions to the mitigation "buy-down" fund would offset the operational emissions.

Therefore, with implementation of mitigation measures, the Project would not violate an air quality standard or contribute substantially to an existing or projected air quality violation and would not result in a net increase of any criteria pollutant in excess of quantitative thresholds recommended by the VCAPCD. This impact would be less than significant with the incorporation of mitigation.

TABLE 3.3-3
ESTIMATED MITIGATED CONSTRUCTION EMISSIONS (POUNDS PER DAY)[a]

Construction Phases	ROG	NO_X	CO	SO_2	PM10[b]	PM2.5[b]
Demolition	0.2	1.6	15.3	<0.1	0.2	0.1
Grading and Excavation	0.8	9.5	37.7	0.1	1.6	0.4
Foundations	0.6	8.0	33.1	0.1	0.8	0.2
Building Construction	1.7	15.6	46.1	0.1	0.9	0.4
Paving	0.8	1.3	9.2	<0.1	0.1	0.1
Architectural Coatings	2.4	1.1	3.4	<0.1	0.1	<0.1
Overlapping Phases						
Building Construction + Paving + Architectural Coating	4.9	18.0	58.7	0.1	1.1	0.5
Maximum Daily Construction Emissions[b]	**4.9**	**18.0**	**58.7**	**0.1**	**1.6**	**0.5**
VCAPCD Significance Threshold	25	25	NA	NA	NA	NA
Exceeds Threshold?	No	No	NA	NA	NA	NA

NA – Not Applicable.

[a] Totals may not add up exactly due to rounding in the modeling calculations.

[b] Emissions include fugitive dust control measures consistent with VCAPCD Rule 55 (Fugitive Dust).

SOURCE: ESA 2023

TABLE 3.3-4
ESTIMATED MITIGATED OPERATIONAL EMISSIONS (POUNDS PER DAY)[a]

Source	ROC	NO_X	CO	SO_2	PM10	PM2.5
Area (Consumer Products, Landscaping)	3.6	<0.1	<0.1	<0.1	<0.1	<0.1
Energy (Natural Gas)	<0.1	0.1	0.1	<0.1	<0.1	<0.1
Mobile Sources – Light-Duty Vehicles	0.2	0.1	1.3	<0.1	0.1	<0.1
Mobile Sources – Heavy-Duty Vehicles	0.9	34.2	12.6	0.2	2.7	0.9
Transportation Refrigeration Units	68.9	65.8	7.5	0.2	1.9	1.8
Forklifts (Electric)	–	–	–	–	–	–
Reductions from Mitigation Measures	**(48.7)**	**(75.3)**	–	–	–	–
Project Maximum Daily Operational Emissions	**24.9**	**24.9**	**21.5**	**0.4**	**4.7**	**2.7**
VCAPCD Significance Threshold	25	25	NA	NA	NA	NA
Exceeds Thresholds?	No	No	NA	NA	NA	NA

NA – Not Applicable.

[a] Totals may not add up exactly due to rounding in the modeling calculations.

[b] Operational Mobile Emissions calculated outside of CalEEMod.

SOURCE: ESA 2023

Cumulative Impacts

The VCAPCD's approach for assessing cumulative impacts related to operations or long-term implementation is based on attainment of ambient air quality standards in accordance with the requirements of the CAA and California Clean Air Act. As discussed earlier, the VCAPCD has developed a comprehensive plan, the AQMP, which addresses the region's cumulative air quality condition.

A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or California non-attainment pollutant. Because Ventura County is currently in non-attainment area for ozone and PM_{10}, cumulative projects could exceed an air quality standard or contribute to an existing or projected air quality exceedance. Cumulative impacts to air quality are evaluated under two sets of thresholds for CEQA and the VCAPCD. In particular, Section 15064(h)(3) of the CEQA Guidelines provides guidance in determining the significance of cumulative impacts. Specifically, Section 15064(h)(3) states in part that:

> *A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency.*

For purposes of the cumulative air quality analysis with respect to CEQA Guidelines Section 15064(h)(3), the Project's incremental contribution to cumulative air quality impacts is determined based on compliance with the VCAPCD adopted AQMP. The Project would not conflict with or obstruct implementation of AQMP and would be consistent with the growth projections in the AQMP.

Nonetheless, VCAPCD no longer recommends relying solely upon consistency with the AQMP as an appropriate methodology for assessing cumulative air quality impacts. The VCAPCD recommends that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality. As shown in Table 3.3-3 and Table 3.3-4, the Project's mitigated emissions would be below VCAPCD significance thresholds for ROG and NO_X, both ozone precursors.

The formation of ground-level ozone is a complex process due to photochemical reactions of precursor pollutants (i.e., ROG and NO_X emissions) in the atmosphere in the presence of sunlight. Meteorological factors, such as wind, would result in dispersive effects of pollutants, including ozone precursor and particulate matter emissions, that are dispersed horizontally downwind and through vertical mixing. Accounting for this, the Project's emissions would not exceed the VCAPCD significance thresholds with implementation of

mitigation measures AIR-1 through AIR-6. Therefore, the Project's incremental contribution to long-term emissions of non-attainment pollutants and ozone precursors, considered together with cumulative projects, would not be cumulatively considerable, and therefore the cumulative impact of the Project would be less than significant with mitigation incorporated.

c) **Less than Significant with Mitigation Incorporated.** This impact evaluates the potential for the Project's construction and operational emissions to expose sensitive receptors to substantial pollutant concentrations of carbon monoxide, naturally occurring asbestos, Valley Fever, or other TACs of concern (including DPM). Sensitive receptors are individuals who are considered more sensitive to air pollutants than others. The reasons for greater than average sensitivity may include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered as relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. The nearest sensitive receptors to the Project Site are residential uses located approximately 2,100 feet northwest of the Project Site. This analysis examines potential exposure of off-site sensitive receptors from the development of the Project.

Construction Fugitive Dust

Construction of the Project would generate fugitive dust (primarily PM10 fugitive dust) from site grading and earth-moving activities. Fugitive dust emissions are primarily associated with earth disturbance and grading activities, and vary as a function of soil silt content, soil moisture, wind speed, acreage of disturbance area, and miles traveled by construction vehicles on- and off-site. The majority of this fugitive dust will remain localized and will be deposited near the Project Site. The VCAPCD does not have a quantitative significance threshold for fugitive dust. The VCAPCD's Air Quality Guidelines recommend minimizing the generation of fugitive dust, especially during grading and excavation operations, rather than requiring the quantification of fugitive dust emissions. The Project would be required to implement applicable fugitive dust control through regulatory compliance for VCAPCD Rule 55 (Fugitive Dust), which includes requirements for controlling visible dust beyond the property line, track-out of dust, stabilizing material and soil while hauling, minimizing dust from equipment and vehicle travel on unpaved roads, stabilizing storage piles, and various record keeping requirements to document compliance. Furthermore, Mitigation Measure AIR-1 for fugitive dust control provides specific requirements supportive of and in line with VCAPCD Rule 55 (Fugitive Dust) requirements. Regulatory compliance and implementation of Mitigation Measure AIR-1 would reduce fugitive dust impacts to less than significant.

Naturally Occurring Asbestos

Construction in areas of rock formations that contain naturally occurring asbestos could release asbestos into the air and pose a health hazard. A review of the United States

Geological Survey *Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California*, which includes a map containing areas more likely to have rock formations containing naturally occurring asbestos in California, indicates that there are no areas likely containing naturally occurring asbestos in the Project area.[1] Therefore, the Project would not expose sensitive receptors to naturally occurring asbestos during construction. Project impacts to air quality related to naturally occurring asbestos would be less than significant.

Valley Fever

Soil conditions on the Project Site do not generally meet the Ventura County Air Quality Assessment Guidelines criteria for potential presence of Valley Fever fungus, which include the disturbance of undeveloped topsoil, the presence of dry, alkaline soils, or the disturbance of virgin undisturbed soil in non-urban areas.

The Project Site is an existing vacant industrial site that has been disturbed by tractor trailers traveling and parking on the site. Therefore, the implementation of the Project would have a low probability of the site having valley fever growth sites and exposure to the spores from disturbed soil. The Project would minimize the generation of fugitive dust during construction activities by complying with the VCAPCD Rule 55 (Fugitive Dust). As discussed above, Mitigation Measure AIR-1 for fugitive dust control provides specific requirements supportive of and in line with VCAPCD Rule 55 (Fugitive Dust) requirements. Therefore, with the relatively low probability of the presence of Coccidioides immitis spores combined with regulatory compliance and implementation of Mitigation Measure AIR-1, , this would reduce Valley fever impacts during the construction period to a less than significant level.

During operations, dust emissions are anticipated to be negligible, because most of the project area would be occupied by a cold storage facility, pavement, and landscaped areas. This condition would preclude the possibility of providing habitat suitable for Coccidioides immitis and for generating fugitive dust that may contribute to Valley fever exposure. Project operational impacts to air quality related to Valley Fever would be less than significant.

Carbon Monoxide Hotspots

The SCAQMD generally experiences higher concentrations of carbon monoxide (CO) than the VCAPCD. In past years, busy intersections would have the potential to create CO Hotspots due to vehicular emissions of CO. As cars have become cleaner, this has become rare. The SCAQMD demonstrated that CO Hotspots are no longer to be anticipated even when applying worst case intersection data, prior studies, and existing background CO concentrations. This conclusion is also applicable within the VCAPCD.

[1] United States Geological Survey, Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California, 2011.

The SCAQMD study demonstrates that the Project would not cause or contribute considerably to the formation of CO hotspots, that CO concentrations at Project-impacted intersections would remain well below the threshold one-hour and eight-hour ambient air quality standards (CAAQS) of 20 or 9.0 parts per million (ppm), respectively within one-quarter mile of a sensitive receptor, and that no further CO analysis is warranted or required.

The SCAQMD conducted CO modeling for the 2003 AQMP for the four worst-case intersections in the Air Basin. These include: (a) Wilshire Boulevard and Veteran Avenue; (b) Sunset Boulevard and Highland Avenue; (c) La Cienega Boulevard and Century Boulevard; and (d) Long Beach Boulevard and Imperial Highway. In the 2003 AQMP CO attainment demonstration, the SCAQMD notes that the intersection of Wilshire Boulevard and Veteran Avenue is the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day.[2] This intersection is located near the on- and off-ramps to Interstate 405 in West Los Angeles. The evidence provided in Table 4-10 of Appendix V of the 2003 AQMP shows that the peak modeled CO concentration due to vehicle emissions (i.e., excluding background concentrations) at these four intersections was 4.6 ppm (one-hour average) and 3.2 ppm (eight-hour average) at Wilshire Boulevard and Veteran Avenue.[3] Therefore, projects that result in traffic at any intersection of less than 100,000 vehicles per day would be considered to be less than significant.

Based on the Project's Transportation Study, the maximum traffic volume would be approximately 223 average daily trips (50 passenger vehicle trips and 173 truck trips per day).[4] As the Project does not result in 100,000 vehicles per day at any study area intersection, this comparison demonstrates that the Project would not contribute to the formation of CO hotspots and that no further CO analysis is required. Therefore, the Project would result in less than significant impacts with respect to CO hotspots.

Toxic Air Contaminants

Construction

Temporary TAC emissions associated with DPM emissions from heavy construction equipment would occur during construction activities. According to OEHHA and the VCAPCD Air Quality Assessment Guidelines,[5] health effects from TACs are described in terms of individual cancer risk based on a lifetime (i.e., 70-year) resident exposure duration. Given the temporary and short-term construction schedule (approximately 12 months), the Project would not result in a long-term (i.e., lifetime or 70-year) exposure as a result of construction activities.

The Project would be generally consistent with the applicable 2022 AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities.

2 SCAQMD, 2003 AQMP, Appendix V: Modeling and Attainment Demonstrations, page V-4-24.

3 The eight-hour average is based on a 0.7 persistence factor, as recommended by the SCAQMD.

4 Associated Transportation Engineers. Arcturus Avenue Cold Storage Facility, Oxnard, California, Revised Traffic Study, Table 2, p. 9, February 21, 2023.

5 VCAPCD, Ventura County Air Quality Assessment Guidelines, October 2003, http://www.vcapcd.org/pubs/Planning/VCAQGuidelines.pdf. Accessed February 2023.

The Project would comply with regulatory control measures including the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation that requires fleets to retire, replace, or repower of older, dirtier engines with newer emission-controlled models; compliance with these would minimize emissions of TACs during construction. In addition, the Project would implement Mitigation Measure AIR-2 to reduce NO_X emissions, which would also have co-benefits of reducing construction TAC emissions (diesel particulate matter) and reducing the potential for TAC impacts.

Although sensitive receptors (residential uses) are located to the northwest of the Project Site, the downwind concentration and associated cancer risk at 2,100 feet (642 meters, 0.4 miles) away would be very small. The short-term duration of construction activity anticipated at approximately 12 months, along with regulatory compliance to reduce diesel particulate matter emissions, and the distance to sensitive receptors (2,100 feet and more) would not create conditions that result in a significant health risk to sensitive receptors. Impacts from construction TACs would be less than significant. Thus, construction activities would not expose sensitive receptors to substantial toxic air contaminant concentrations, and construction-related health impacts would be less than significant.

Operation

The Project Traffic Study[6] indicates that the Project would generate 223 total average daily trips, of which 173 would be truck trips and 50 would be passenger vehicle trips per day. The Project would provide 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area. This would reduce TRU idling emissions.

As previously discussed, the Project would comply with the anti-idling regulation that would limit truck idling to five minutes at a location. The truck fleet would also be required to comply with the applicable provisions of the CARB 13 CCR, Section 2025 (Truck and Bus regulation) to minimize and reduce PM10, PM2.5, and NO_X emissions from diesel-fueled trucks. Therefore, Project operations would not be considered a substantial source of diesel particulates.

The CARB Air Quality Land Use Handbook indicates that there is a 70-percent drop off in particulate pollution levels at 500 feet.[7] Although vehicle trips generated by the Project may come within 500 feet of nearby sensitive receptors, emissions from vehicles would be dispersed along roadways. Considering the distance from the Project site (where emissions could reasonably be assumed to be the most concentrated) to the nearest sensitive receptors (2,100 feet and more), operational Project-related TAC exposure impacts to these off-site sensitive receptors would be below the established thresholds during operation of the project.

6 Associated Transportation Engineers. Arcturus Avenue Cold Storage Facility, Oxnard, California, Revised Traffic Study, Table 2, p. 9, February 21, 2023.

7 CARB, Air Quality and Land Use Handbook, p. 6, April 2005.

The Project does not include industrial manufacturing processes, paint spray operations, or other emission sources. The Project's cold storage and office land uses would not include installation of industrial-sized paint booths or require extensive use of commercial or household cleaning products.

Project operations would only result in minimal emissions of TAC from maintenance or other ongoing activities, such as from the use of architectural coatings and other products. Based on the uses expected on the Project Site, potential long-term operational impacts associated with the release of TACs would be minimal, regulated, and controlled, and would not be expected to exceed VCAPCD toxic emissions thresholds. Thus, operation of the Project would not expose sensitive receptors to substantial toxic air contaminant concentrations and operational impacts would be less than significant.

d) **Less than Significant Impact.**

Construction

Potential activities that may emit odors during construction include the use of architectural coatings and solvents, as well as the combustion of diesel fuel in on-and off-road equipment. VCAPCD Rule 74.2 would limit the amount of VOCs in architectural coatings and solvents. In addition, the Project would comply with the applicable provisions of the CARB Air Toxics Control Measure regarding idling limitations for diesel trucks. Through mandatory compliance with VCAPCD Rules, no construction activities or materials are expected to create objectionable odors affecting a substantial number of people. Therefore, construction activities would result in less than significant impacts with respect to odors.

Operations

According to the 2003 Ventura County Air Quality Assessment Guidelines, land uses associated with odor complaints typically include:

- Wastewater treatment facilities
- Sanitary landfills
- Transfer stations
- Composting facilities
- Asphalt batch plants
- Painting and coating operations
- Fiberglass operations
- Food processing facilities
- Feed lots/ dairies

  Petroleum extraction, transfer processing, and refining operations and facilities
- Chemical manufacturing operations and facilities
- Rendering plants

The Project does not include any uses identified by the VCAPCD as being associated with substantial odors. As a result, the Project is not expected to discharge contaminants into the air in quantities that would cause a nuisance, injury, or annoyance to the public or property pursuant to VCAPCD Rule 51 (Public Nuisance). Therefore, operation of the Project would result in less than significant impacts with respect to odors.

References

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VCAPCD 2022. *Final 2022 Ventura County Air Quality Management Plan*. December 2022. Available: http://www.vcapcd.org/pubs/Planning/AQMP/2022/Final-2022-AQMP-with-appendices-20221130.pdf

Associated Transportation Engineers, 2021. Traffic Impact Study.

3.4 Biological Resources

Issues:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Would the project have a substantial adverse effect on federally protected waters of the U.S. as defined by Section 404 of the federal Clean Water Act or protected waters of the state as defined by Section 1600 et seq. of the California Fish and Game Code (including, but not limited to, marshes, vernal pools, coastal wetlands) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Would the project conflict with any local policies or ordinances protecting biological resources?	☐	☐	☒	☐
f) Would the project conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

To identify the potential biological resource constraints associated with the project, ESA conducted a literature review and follow-on site survey to characterize existing conditions and determine the potential for sensitive biological resources to occur within the Project site, including a 500-foot buffer (study area). The following resource inventory databases and various publications were referenced:

- California Natural Diversity Data Base (CNDDB) (California Department of Fish and Wildlife [CDFW] 2023a). Database was queried for special-status species records in the Oxnard USGS 7.5-minute quadrangle and five surrounding quadrangles including Ventura, Saticoy, Santa Paula, Camarillo, and Point Mugu.
- California Natural Community List (CDFW 2023b).
- Inventory of Rare and Endangered Vascular Plants of California (California Native Plant Society [CNPS] 2023). Database was queried for special-status species records in the Oxnard USGS 7.5-minute quadrangle and five surrounding quadrangles including Ventura, Saticoy, Santa Paula, Camarillo, and Point Mugu.
- Critical Coastal Areas Map Viewer (California Coastal Commission 2023).
- Environmentally Sensitive Habitat Areas (ESHA) Map, City of Oxnard (City of Oxnard 1982/2014).

- Critical Habitat Portal (United States Fish and Wildlife Service [USFWS] 2023a).
- Information for Planning and Consultation (USFWS 2023b). Database was queried for federally listed species records within and immediately surrounding the Project site.

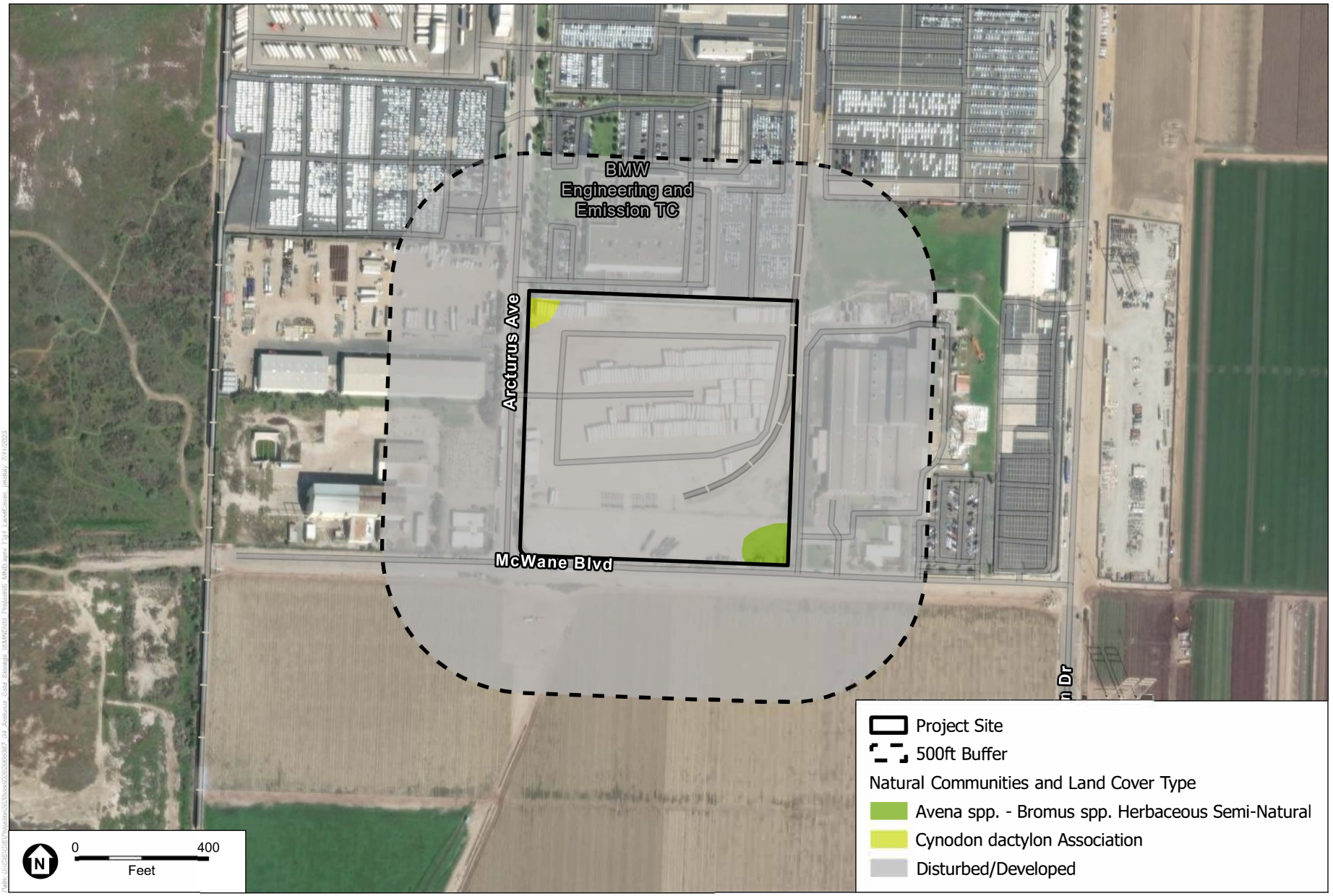
Site Survey

The site survey was conducted by ESA Biologist, Sonya Vargas, on March 1, 2023 and consisted of walking transects and meandering throughout the study area to characterize and map vegetation and habitats, and to determine the potential for special-status plants and wildlife to occur. All incidental and visual observations of flora and fauna, including signs (i.e., presence of scat) as well as any audible detections, were noted during the assessment and are described further below. All native and non-native natural communities and land cover types were characterized and delineated on aerial photographs during the field survey, and then digitized on aerial maps using geographic information system software (ArcGIS). Each natural community was characterized using *A Manual of California Vegetation, Second Edition* (Sawyer et al, 2009) as a reference; however, where a particular community was not clearly defined in the publication, it was instead characterized using species dominance, or other physical descriptor.

Discussion

a) **Less than Significant with Mitigation Incorporated**. Most of the Project site consists of unvegetated bare ground, while the northwest and southeast corners consist of scattered grasses and forbs, including Australian saltbush (*Atriplex semibaccata*), bermuda grass (*Cynodon dactylon*), red brome (*Bromus* rubens), ripgut brome (*Bromus diandrus*), barley (*Hordeum* sp.), wild oat (*Avena* sp.), prickly lettuce (*Lactuca serriola*), cheeseweed mallow (*Malva parviflora*), and Russian thistle (*Salsola* sp.). The Project site is currently comprised of a vacant lot in an industrial/agricultural area that is used to store shipping container chassis and is subject to regular vehicular and pedestrian traffic. Ornamental trees and shrubs (e.g., New Zealand Christmas tree [*Metrosideros excelsa*] and crimson bottlebrush [*Callistemon citrinus*]) line the outer perimeter of the Project site. The portions of the study area to the north, west and east of the Project site have been developed and consist of industrial land use, including paved roadways (i.e., Arcturus Avenue). The portion of the study area to the south of the Project site consists of a mixture of paved (i.e., E. McWane Boulevard) and unpaved roadways and active agriculture. The northwest corner of the Project site was characterized as *Cynodon dactylon* Association, the southeast corner of the Project site was characterized as *Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance, and the rest of the survey area was characterized as disturbed/developed (see **Figure 10, Natural Communities and Land Cover Types**).

The Project site itself supports very limited habitat for wildlife, specifically those accustomed to development and the presence of humans. Mammal species observed within the study area include the California ground squirrel (*Otospermophilus beecheyi*). Bird species observed within the study area that includes the Project site and a 500-foot buffer around the site include the killdeer (*Charadrius vociferus*), American crow (*Corvus brachyrhynchos*), house finch (*Haemorhous mexicanus*), California gull (*Larus californicus*), house sparrow (*Passer domesticus*) and Eurasian collared-dove (*Streptopelia decaocto*).



SOURCE: ESA, 2023

Arcturus Warehouse LLC IS/MND

Figure 10
Natural Communities and Land Cover Types

Critical Habitat

Under the Federal Endangered Species Act (FESA), to the extent feasible, the USFWS and National Marine Fisheries Service (NMFS) are required to designate critical habitat for endangered and threatened species. Critical habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated critical habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter. Designated critical habitats require special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. Critical habitat delineates all suitable habitat, occupied or not, essential to the survival and recovery of the species.

The USFWS Critical Habitat Portal indicates that critical habitat does not occur within the Project site. The nearest identified critical habitat is for the tidewater goby (*Eucyclogobius newberryi*) which occurs approximately 0.2 miles to the southwest of the Project site, and no habitat for this species occurs within the study area. Additionally, critical habitat for the western snowy plover (*Charadrius nivosus* ssp. *nivosus*) exists approximately 0.5 miles to the southwest of the site, along the coast; however, suitable nesting habitat does not exist within the Project site. Therefore, the proposed Project is not expected to result in an impact to critical habitat.

Special-Status Species

Special-status species are defined as those that, because of their recognized rarity or vulnerability to various forms of habitat loss or population decline, are recognized by federal, state, or other agencies as under threat from human-associated developments. Some of these species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as special-status on the basis of adopted policies and the expertise of state resource agencies or other respected organizations, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. Special-status species are defined as follows:

- Species listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and 50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species).
- Species that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register, December 2, 2016).
- Species that meet the definitions of rare or endangered species under CEQA (State CEQA Guidelines, Section 15380).
- Species listed, proposed for listing, or identified as candidate species for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 CCR 670.5 animals; 14 CCR 670.2 plants).

- Animal species of special concern to the CDFW (Shuford & Gardali 2008 for birds; Williams 1986 for mammals; Moyle et al. 1995 for fish; and Jennings & Hayes 1994 for amphibians and reptiles).
- Animal species that are fully protected in California (California Fish and Game Code [FGC], Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish]).
- Bat species considered priority by the Western Bat Working Group (WBWG 2023).
- Bird species protected by the Migratory Bird Treaty Act (MBTA).
- Plants considered by the CNPS to be rare, threatened, or endangered (Rank 1A, 1B, 2A, and 2B plants) in California.
- Plants listed as rare under the California Native Plant Protection Act (FGC 1900 et seq.).
- 2022 Ventura County Planning Division Locally Important Animal List and Ventura County Planning Division 2022 Locally Important Plant List (County of Ventura 2023).

A search of the most current CNDDB, CNPS and Information for Planning and Consultation (IPaC) databases revealed that 46 special-status plant and 49 wildlife species have been previously recorded within the Oxnard and surrounding five USGS 7.5-minute quadrangle maps (see **Appendix C1, Database Results**). Based on the disturbed nature of the study area and the absence of suitable habitat, it was determined that all plant species and 44 of the wildlife species do not have a potential to occur within the study area and are omitted from further discussion.

A total of 5 wildlife species were determined to have a low to moderate potential to occur within the study area, based on the following criteria (see **Appendix C2, Special-Status Species Potential for Occurrence**):

Low Potential: Limited habitat exists for a particular species within the study area. For example, the appropriate vegetation assemblage may be present while the substrate preferred by the species may be absent, or the preferred habitat may be present, but has undergone substantial disturbance, such that the species is not expected to occur.

Moderate Potential: Marginal habitat for a particular species is present within the survey area. For example, the available habitat may be somewhat disturbed and/or may not support all stages of a species' life cycle, or it may not fit all preferred habitat characteristics, however, still supports important components, such as a particular soil or community type.

Two species, the burrowing owl (*Athene cunicularia*) and California horned lark (*Eremophila alpestris actia*) were determined to have a moderate potential to occur within the study area. Based on the presence of suitable habitat and appropriately-sized small mammal burrows within the Project site, focused surveys for burrowing owl were conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFW 2012) (see **Appendix C3, Focused Burrowing Owl Survey Results**). The focused surveys

resulted in negative findings; therefore, this species is expected to have a low potential to occur within the study area, especially when considered with the current disturbance levels on and surrounding the project site. However, the project site contains suitable Burrowing Owl habitat and since Burrowing Owl are a mobile species that can colonize a site, the implementation of **Mitigation Measure BIO-1** would ensure that potential impacts to Burrowing Owl would be less than significant.

Mitigation Measure BIO-1: A preconstruction Burrowing Owl survey should be conducted following the protocol detailed in the CDFW *Staff Report on Burrowing Owl Mitigation*. An initial take avoidance survey shall be conducted no less than 14 days prior to initiating ground disturbance activities, and a subsequent take avoidance survey shall be conducted within 24 hours prior to ground disturbance.

The horned lark and other migratory bird species protected in accordance with the MBTA and Sections 3505, 3503.5, and 3511 of the California FGC may nest within the study area. Direct impacts may occur to the degree that nests may be directly removed with the removal of ornamental species and crushed underfoot (ground nesters in paved or disturbed areas), or nests may be abandoned in adjacent habitat due to disturbance resulting in a direct loss of an active bird nest. Temporary, indirect impacts (noise, traffic, construction activities, ground vibrations, human presence) may affect wildlife species surrounding the construction site, especially nesting birds, when in season. Therefore, work activities within 500 feet of the Project site should be scheduled outside of the avian nesting season (February 15 to September 15). If the nesting season cannot be avoided, the implementation of **Mitigation Measure BIO-2** would ensure that impacts to nesting birds would be considered less than significant.

Mitigation Measure BIO-2: If work activities occur within the bird nesting season (generally defined as February 15 through September 15), a qualified biologist shall conduct a nesting bird survey within 3-7 days prior to the proposed construction start date, to identify any active nests within 500 feet of the Project site. If an active nest is found, the nest shall be avoided and a suitable buffer zone shall be delineated in the field such that no impacts shall occur until the chicks have fledged the nest as determined by a qualified biologist. Construction buffers shall be 300 feet for passerines and up to 500 feet for raptor species; however, avoidance buffers may be reduced at the discretion of the biologist, depending on the location of the nest and species tolerance to human presence and construction-related noises and vibrations.

If activities must take place within an established buffer, steps should be taken to reduce indirect effects to nesting activity by actively reducing construction noise (to no more than 3 decibels [dBA] above pre-construction ambient noise levels) within proximity to a presumed nest location and/or installing temporary construction noise barriers. If the reduction of noise is not feasible, work activities shall be postponed until the nest is deemed inactive and/or the breeding season has concluded.

b) **No Impact**. "Sensitive" natural communities and habitats are defined by the CDFW as those natural communities that have a reduced range and/or are imperiled as a result of residential and commercial development, agriculture, energy production and mining, or an

influx of invasive and other problematic species. Vegetation communities are evaluated using the CDFW's Vegetation Classification and Mapping Program (VegCAMP) Heritage Methodology, which is based on the knowledge of range and distribution of a specific vegetation type and the proportion of occurrences that are of good ecological integrity. Evaluation is done at both Global (natural range within and outside of California [G]) and Subnational (State level for California [S]) levels, each ranked from 1 (critically imperiled or very rare and threatened) to 5 (demonstrably secure). Natural communities and habitats with state ranks of S1-S3 are considered Sensitive Natural Communities and require review when evaluating environmental impact (CDFW 2023c). Sensitive natural communities are not present within the study area.

As the Project site does not support riparian vegetation and/or sensitive natural communities identified in regional plans, policies, or regulations, or by the California Department of Fish and Game or USFWS, impacts to riparian vegetation and/or sensitive natural communities, are not expected. No impact would occur.

c) **No Impact.** Wetlands (including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas) are considered waters of the U.S., and are defined by U.S. Army Corps of Engineers (USACE) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3[b]; 40 CFR 230.3[t]). No wetland features are identified by the National Wetlands Inventory (NWI) as occurring within the Project area (USFWS 2023c) and during the site survey, no wetland features were observed. Since Project construction would not extend into riparian habitat as there is none present, no impacts would occur.

d) **No Impact**. Wildlife corridors are features that exist as topographical or structural pinch points that, among other purposes, are utilized by wildlife for travel between one geographical area to the next. While these resources may support limited biological function and are perhaps utilized strictly for travel purposes, for example, a dry culvert under a roadway or bridge; more often, they contain natural vegetation and habitats that support foraging, roosting, and breeding activities, as well. Very often, particularly in the case of riparian corridors, aquatic species depend entirely on these features to persist.

Wildlife corridors are not present within the study area, and the proposed Project would not result in impacts to existing wildlife corridors or affect wildlife movement.

e) **Less than Significant Impact**. The proposed Project would result in the removal, impact, and/or replacement of approximately four ornamental trees including crimson bottlebrush and New Zealand Christmas trees that occur along the inner and outer perimeter of the chain-link fence. The City of Oxnard Landscape Standards states that removal of healthy trees of a height of six feet or more shall be done only with approval of the Parks and Recreation Department (City of Oxnard 1988). With approval from Parks and Recreation Department for removal of existing trees, the proposed Project would not conflict with any

other local policies or ordinances protecting biological resources and impacts would be considered less than significant. The City of Oxnard Landscape Standards also indicate that tree replacement may be required. New trees will be installed along the outer perimeter according to the final landscape plans and in accordance with the City of Oxnard Landscape Standards.

f) **No Impact.** The Project site is not located within any habitat conservation plan or natural community conservation plan areas or other approved local, regional, or state habitat conservation plan area. Therefore, the proposed Project would not conflict with provisions of an adopted natural community conservation plan or other approved local, regional, or state habitat conservation plan. No impact would occur.

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3.5 Climate Change and Greenhouse Gas Emissions

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases or otherwise conflict with the state goal for reducing greenhouse gas emissions in California?	☐	☐	☒	☐
c) Would the project contribute or be subject to potential secondary effects of climate change (e.g., sea level rise, increase fire hazard)?	☐	☒	☐	☐

Discussion

a, b) **Less than Significant Impact.**

Construction Emissions

Construction emissions would be associated with vehicle engine exhaust from construction equipment and vehicles, vendor trips, and construction worker commuting trips. Construction-related GHG emissions are considered temporary and short term. **Table 3.5-1**, *Construction Greenhouse Gas Emissions*, shows construction GHG emissions amortized over 30 years.

TABLE 3.5-1
CONSTRUCTION GREENHOUSE GAS EMISSIONS

Emission Source	CO_2e (Metric Tons) [a,b]
Demolition	13.3
Grading and Excavation	102.0
Foundations	11.3
Building Construction	708.8
Paving	39.5
Architectural Coatings	21.2
Construction Office Trailer and Watering	6.9
Total	**858.3**
Amortized Over 30 Years	28.6

[a] Totals may not add up exactly due to rounding in the modeling calculations.
[b] Construction mobile emissions calculated outside of CalEEMod using EMFAC2021.
SOURCE: ESA, 2023.

Operational Emissions

Operation of the Project would generate GHG emissions through motor vehicle trips to and from the Project Site, energy use, and potential leakage from gas-insulated circuit breakers (area source). CalEEMod, EMFAC2021, and OFFROAD2021 were used to calculate the

annual GHG emissions based on the operational assumptions (see additional information provided in the Air Quality and Greenhouse Gas Technical Report (2023), provided in Appendix B). Additionally, GHG emissions associated with SF_6-insulated circuit breakers at the on-site substation were calculated based on up to 320 pounds of SF_6 contained in equipment, an annual leak rate of 0.1%, and a GWP of 22,800.[8] **Table 3.5-2**, *Annual Operational Greenhouse Gas Emissions,* shows the Project's estimated annual operational GHG emissions.

TABLE 3.5-2
ANNUAL OPERATIONAL GREENHOUSE GAS EMISSIONS

Emission Source	CO_2e (Metric Tons) [a,b]
Mobile Sources – Light-Duty Vehicles	55.1
Mobile Sources – Heavy-Duty Vehicles	3,820.8
Transportation Refrigeration Units	1,643.2
Area	<0.1
Insulated circuit breakers (SF_6)	3.3
Electricity	410.5
Natural Gas	13.8
Water and Wastewater Treatment	113.1
Solid Waste	33.5
Forklifts (Electric)	42.3
Construction (Amortized)	28.6
Total	**6,164.2**

[a] Totals may not add up exactly due to rounding in the modeling calculations.
[b] Construction mobile emissions calculated outside of CalEEMod using EMFAC2021.
SOURCE: ESA, 2023.

Greenhouse Gas Reduction Plans, Policies, and Regulations

2022 Scoping Plan

The 2022 Scoping Plan presents a non-exhaustive list of impactful GHG reduction strategies that can be implemented by local governments within the three priority areas (Priority GHG Reduction Strategies for Local Government Climate Action Priority Areas).[9] A detailed assessment of goals, plans, policies implemented by the City which would support the GHG reduction strategies in the three priority areas is provided below. In addition, further details are provided regarding the correlation between these reduction strategies and applicable actions included in Table 2-1 (page 72) of the Scoping Plan (Actions for the Scoping Plan Scenario). Based on the discussions below, the Project would not conflict with applicable 2022 Scoping Plan strategies and regulations to reduce GHG emissions.

[8] CO_2e Emissions = 320 lbs SF_6 x 0.1% leak rate per year x 0.0004536 metric ton/lb x 22,800 GWP = 3.3 $MTCO_2e$/year

[9] CARB, 2022 Scoping Plan for Achieving Climate Neutrality, Table 1 of Appendix D, November 2022.

Transportation Electrification

The priority GHG reduction strategies for local government climate action related to transportation electrification are discussed below and would support the Scoping Plan action to have 100 percent of all new passenger vehicles to be zero-emission by 2035 (see Table 2-1 of the Scoping Plan).

The CARB approved the Advanced Clean Cars II rule which codifies Executive Order N-79-20 and requires 100 percent of new cars and light trucks sold in California be zero-emission vehicles by 2035. The State has also adopted AB 2127, which requires the CEC to analyze and examine charging needs to support California's EVs in 2030 and to support decision-makers allocation of resources to install new EV chargers where they are needed most.

The Project would include electric vehicle parking spaces equipped with EVCS and, aided by a grant from the SCAQMD, the facility would be fitted with electrical outlets ("yard plugs") that would allow for the on-board fuel powered TRUs to be transferred to electric power, which would assist with reducing idle emissions. The Project would provide 67 parking spaces (53 standard, one van accessible, two standard accessible, one EVCS van accessible, seven carpool/vanpool, and three EVCS stall spaces) and 10 bicycle parking spaces (five short term and five long term spaces), which would be located adjacent to the building's western boundary and the Project site's southeastern boundary. The Project would provide 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area. This would support the electrification of transportation-related sources of emissions and would reduce vehicle and equipment emissions. Thus, the Project would not conflict with this strategy.

Vehicle Miles Traveled Reduction

The priority GHG reduction strategies for local government climate action related to vehicle miles traveled (VMT) reduction are discussed below and would support the Scoping Plan action to reduce VMT per capita 25 percent below 2019 levels by 2030 and 30 percent below 2019 levels by 2045.

The proposed Project would generate 50 average daily employee vehicle trips, and as such, would not create a substantial increase in VMT. Furthermore, as stated in the Transportation Study, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact.[10] Additionally, the Project site is located approximately 0.3 miles from the nearest existing bicycle facility at the Pacific Coast Bikeway Route along Hueneme Road and approximately 0.6-miles from the Hueneme and Courtland transit stop, which is served by Gold Coast Transit District Route 23. The Project would not remove or interfere with any bicycle or pedestrian facilities. The Project would also provide 67 parking spaces (53 standard, one van accessible, two standard accessible, one EVCS van accessible, seven carpool/vanpool, and three EVCS stall spaces) and 10 bicycle parking spaces (five short

[10] Associated Transportation Engineers. 2023. Revised Traffic Study. February 21, 2023.

term and five long term spaces), which would be located adjacent to the building's western boundary and the Project site's southeastern boundary. As such, the Project would not conflict with this strategy.

Building Decarbonization

The priority GHG reduction strategies for local government climate action related to electrification are discussed below and would support the Scoping Plan actions regarding meeting increased demand for electrification without new fossil gas-fire resources and all electric appliances beginning in 2026 (residential) and 2029 (commercial) (see Table 2-1 of the 2022 Scoping Plan).

California's transition away from fossil fuel–based energy sources will bring the project's GHG emissions associated with building energy use down to zero as our electric supply becomes 100 percent carbon free. California has committed to achieving this goal by 2045 through SB 100, the 100 Percent Clean Energy Act of 2018. SB 100 strengthened the State's Renewables Portfolio Standard (RPS) by requiring that 60 percent of all electricity provided to retail users in California come from renewable sources by 2030 and that 100 percent come from carbon-free sources by 2045. The land use sector will benefit from RPS because the electricity used in buildings will be increasingly carbon-free, but implementation does not depend (directly, at least) on how buildings are designed and built.

Although this GHG reduction measure is aimed primarily at jurisdictions and not individual projects, the Project would be required to comply with applicable City of Oxnard Municipal Code requirements for building energy efficiency and electrification and would adhere to applicable CALGreen (Title 24) requirements for energy efficiency and electrification of new buildings. As previously stated, the Project would include electric vehicle parking spaces equipped with EVCS and would provide 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area. This would support the electrification of the Project. Thus, the Project would not conflict with this strategy.

City of Oxnard Climate Action and Adaptation Plan

The City's CAAP identifies seven areas under which the City can reduce GHG emissions: clean energy, water conservation and reuse, green buildings, waste reduction and recycling, transportation, nature-based solutions, and land use.

The proposed Project would comply with applicable City of Oxnard Municipal Code requirements for building energy efficiency and electrification and would adhere to applicable CALGreen (Title 24) requirements for energy efficiency and electrification of new buildings. The Project would also include electric vehicle parking spaces equipped with EVCS and would provide 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area. The Project's design would support electrification and not conflict with California's ability to achieve clean electrification goals via SB 100, which strengthened the State's Renewables Portfolio Standard (RPS) by requiring that 60 percent of all electricity provided to retail users

in California come from renewable sources by 2030 and that 100 percent come from carbon-free sources by 2045.

The proposed Project would increase water demand compared to a vacant site; however, water use would be characteristic of an industrial cold storage facility with ornamental landscaping. The proposed Project would connect to existing City potable and recycled water lines, as applicable, but is not anticipated to deplete groundwater supplies through the consumption of the water. The proposed Project would not substantially decrease groundwater supplies within the city of Oxnard, as additional industrial growth was accounted for in the City's 2030 General Plan and 2020 Urban Water Management Plan. Water would be used in limited quantities for the ornamental landscaping as well as incidental use from building operations and hygienic purposes such as employee restrooms, breakrooms, cleaning, and other typical workplace usage. Water fixtures would comply with applicable City of Oxnard Municipal Code requirements for water efficiency and would adhere to applicable CALGreen (Title 24) requirements for water efficiency.

The City of Oxnard Environmental Resources Division provides waste pick-up and hauling services for residents and businesses. Waste would be delivered to the Del Norte Regional Recycling and Transfer Station. Waste would be generated in limited quantities from building operations such as from employee office activities, breakrooms, cleaning, and other typical workplace waste disposal. Waste would be managed, diverted and recycled, as applicable, at the Del Norte Regional Recycling and Transfer Station.

The proposed Project would generate 50 average daily employee vehicle trips, and as such, would not create a substantial increase in VMT. Additionally, the Project site is located approximately 0.3 miles from the nearest existing bicycle facility at the Pacific Coast Bikeway Route along Hueneme Road and approximately 0.6-miles from the Hueneme and Courtland transit stop, which is served by Gold Coast Transit District Route 23. The Project would not remove or interfere with any bicycle or pedestrian facilities. The Project would also provide 67 parking spaces (53 standard, one van accessible, two standard accessible, one EVCS van accessible, seven carpool/vanpool, and three EVCS stall spaces) and 10 bicycle parking spaces (five short term and five long term spaces), which would be located adjacent to the building's western boundary and the Project site's southeastern boundary.

The proposed Project would include a total of 41 trees and the ornamental landscaping would be designed to comply with Chapter 2, Article XIII (Landscape Water Conservation Standards) of the City's Code of Ordinances. The Project would result in the removal, impact, and/or replacement of approximately four ornamental trees. Thus, the net new trees would sequester carbon dioxide from net new tree growth.

Based on the above, the proposed Project would not conflict with the City's CAAP.

c) **Less than Significant Impact with Mitigation Incorporated.** Climate change may result in a number of secondary effects, including a reduction in the quality and supply of water from the Sierra snowpack, increased risk of large wildfires, reductions in the quality and quantity of certain agricultural products, exacerbation of air quality problems, increase in

temperature and extreme weather events, and a decrease in the health and productivity of California's forests.[11]

An individual project, such as the Arcturus Warehouse project, cannot generate enough GHG emissions to effect a discernible change in global climate. However, the Project contributes to the potential for global climate change by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on global climate change. To determine significance, an evaluation was completed to determine if the Project would contribute or be subjected to the secondary effects of climate change expected to occur in California, as shown in **Table 3.5-3**, *Secondary Effects of Climate Change*. As described in the evaluation, the project would not contribute or be subject to potential secondary effects of climate change. Although the Project would result in a less than significant climate change impact, implementation of mitigation measures AIR-1 through AIR-6 would help reduce air pollutant emissions and mitigation measures AIR-2 through AIR-6 would also have co-benefits or reducing GHG emissions associated with the Project. Project impacts related to climate change and greenhouse gases would be less than significant and would be further reduced with the implementation of mitigation.

TABLE 3.5-3
SECONDARY EFFECTS OF CLIMATE CHANGE

Consequences of Climate Change in California	Project Evaluation
Sea Level Rise, Flooding, Coastal Erosion. Sea level rise, coastal flooding and erosion of California's coastlines would increase, as well as sea water intrusion.	**The Project would not contribute or be subject to this potential secondary effect of climate change.** The Project site is approximately 0.65 miles inland. According to the California Office of Emergency Services, the Project is not in a tsunami hazard zone and not in (but is near to) a flood hazard zone. The proposed Project includes the construction and operation of a cold storage facility that would be located in the northeastern portion of the site, which has been designed to move flows to the southern and western portions of the site near McWane Boulevard to the proposed ribbon drain, bioswales, and underground detention system as well as the existing curb and gutter. As stated in the Project's Hydrology and Stormwater Quality Report, the proposed Project's drainage design would reduce the increase of stormwater runoff while maintaining the existing drainage pattern. In the event of a storm exceeding the 100-year storm event or pump station malfunction, the flow would back up into the pipes connected to the detention system and would pond in the on-site bioswales. If further flooding occurs, the bioswales would be over topped, and the flow would sheet flow back to the existing gutters and exit the Project site similar to the existing drainage patterns. Furthermore, the parking lot would provide significant ponding in the event that the storm drain inlets were to clog or were inundated with water.[12] The Project contains design features that would reduce the potential for impacts and would not result in the displacement of coastal businesses and residences.

[11] State of California, Department of Justice, Office of the Attorney General, Climate Change Impacts in California, https://oag.ca.gov/environment/impact, accessed July 13, 2023.

[12] RJR Engineering and Consulting, Inc. 2023. Hydrology and Stormwater Quality Report. August 23, 2023.

Consequences of Climate Change in California	Project Evaluation
Reduction in the Quality and Supply of Water from the Sierra Snowpack. The Sierra snowpack would melt earlier and all at once. Earlier and larger releases of water could overwhelm California's water storage facilities, creating risk of floods and water shortages.	**The Project would not contribute or be subject to this potential secondary effect of climate change.** Existing climate change models are designed for large-scale projects and are not precise enough to accurately predict changes on a watershed level. Therefore, it would be highly speculative to quantify the impacts of climate change on water supplies on a project-level basis. Development and operation of the Project would result in the need for water service. However, the Project site is designated under the 2030 General Plan as Light Industrial, and is zoned M-1, Light Manufacturing. As stated in the Oxnard City Code, cold storage facilities are permitted uses in the M-1 zoning district that are subject to the requirement for approval of a zone clearance permit (a ministerial approval). In addition, regarding the proposed Project, a Development Design Review (DDR) permit is needed for the construction of the new building. Upon approval of the DDR permit and subsequent zone clearance permit, the proposed Project would not conflict with the Project site's zoning designation. Thus, the General Plan has anticipated development of the Project site and the demand of water service for typical industrial developments. The Proposed industrial development is consistent with the light industrial land use designation of the 2030 General Plan. As a cold storage facility, the Project would not place demands on water services above those planned for by the City of Oxnard.
Forest Fires and Wildfires. Higher risk of forest fires and wildfires resulting from increasing temperatures and making forests and brush drier. Climate change will affect tree survival and growth.	**The Project would not contribute or be subject to this potential secondary effect of climate change.** The Project site is not forested, and development of the site would not contribute to a change in the health and productivity of forested land. Based on a review of the California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Severity Zones (FHSZs) prepared as part of the CAL FIRE's Fire and Resource Assessment Program, the Project site is not located within or near an area that is designated as a Very High FHSZ.[13] The nearest Very High FHSZ designated in a Local Responsibility Area is located approximately 5.3 miles southeast of the Project site, and the nearest Very High FHSZ designated in a State Responsibility Area is located approximately 5.8 miles southeast of the Project site. Development and operations of the Project would not result in an increase in wildfire, nor would it enhance insect populations or establish non-native species, resulting in a decrease in the health or productivity of California's forests.
Reductions in the Quality and Quantity of Certain Agricultural Products. Damage to agriculture caused by drought, higher temperatures, saltwater contamination through rising sea levels, flooding, and increased risk of pests. Agriculture production declines could lead to food shortages and higher prices.	**The Project would not contribute or be subject to this potential secondary effect of climate change.** This secondary effect relates to agricultural production. The Project is industrial in nature and would not engage in the production of agricultural products. The Project Site is currently comprised of a vacant lot in an industrial/agricultural area that is used to store shipping containers. The eastern portion of the Project Site previously included a railroad spur, which was removed in 2022. Thus, it is not used for agriculture production under existing conditions. Furthermore, the Project's incremental contribution to climate change would not have a measurable impact on the reduction of quality or quantity of agricultural commodities produced in California.

[13] California Department of Forestry and Fire Protection (CAL FIRE). 2023. Communities at Risk. Available at: https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/fire-plan/communities-at-risk/?lang=zh-CN. Accessed on March 6, 2023.

Consequences of Climate Change in California	Project Evaluation
Public Health and Air Quality Impacts. Climate change could result in public health and air quality problems. Attainment of air quality standards would be impeded by increasing emissions, accelerating chemical processes, and raising inversion temperatures during stagnation episodes resulting in public health impacts.	**The Project would not contribute or be subject to this potential secondary effect of climate change.** Health effects from air quality problems that would be exacerbated by an increase in temperature would more commonly occur at a local level. As discussed in Section 3.3, the project would not expose sensitive receptors to substantial pollutant concentrations. Implementation of mitigation measures AIR-1 through AIR-6 would further reduce less than significant air pollutant emissions (mitigation measures AIR-2 through AIR-6 would also have co-benefits or reducing GHG emissions) associated with the Project.
Habitat destruction and loss of ecosystems due to climate change affecting plant and wildlife habitats.	**The Project would not contribute or be subject to this potential secondary effect of climate change.** The Project site is currently comprised of a vacant lot in an industrial/agricultural area that is used to store shipping containers. The eastern portion of the Project site previously included a railroad spur, which was removed in 2022. Under the Federal Endangered Species Act (FESA), to the extent feasible, the USFWS and National Marine Fisheries Service (NMFS) are required to designate critical habitat for endangered and threatened species. Critical habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. The USFWS Critical Habitat Portal indicates that critical habitat does not occur within the Project site. Furthermore, the Project's incremental contribution to climate change would not have a measurable impact on habitat destruction and loss in California.

SOURCES: State of California, Department of Justice, Office of the Attorney General, Climate Change Impacts in California, https://oag.ca.gov/environment/impact, accessed July 13, 2023. ESA 2023.

References

California Air Pollution Control Officers Association (CAPCOA), 2008. CEQA & Climate Change Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf

California Air Resources Control Board (CARB). 2017. California's 2017 Climate Change Scoping Plan. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf. Accessed on May 27, 2022.

California Department of Justice, Office of the Attorney General, Climate Change Impacts in California, https://oag.ca.gov/environment/impact, accessed July 13, 2023.

3.6 Cultural Resources and Tribal Cultural Resources

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section15064.5?	☐	☒	☐	☐
b) Would the project cause a substantial adverse change in the significance of a unique archaeological resource pursuant to State CEQA Guidelines Section15064.5?	☐	☒	☐	☐
c) Would the project directly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐
e) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).	☐	☒	☐	☐
f) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resources determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Discussion

a) **Less than Significant with Mitigation Incorporated.** A Cultural Resources Assessment (ESA, 2023) was conducted for the Project in July 2023 and is provided in **Appendix D**. The assessment included a California Historical Resources Information System – South Central Coastal Information Center (SCCIC) records search conducted on February 15, 2023; a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search conducted on February 9, 2023; a pedestrian survey conducted on March 1, 2023; and a subsurface archaeological sensitivity assessment based on a review of historic maps, aerial photographs, and geotechnical investigations.

The records search results indicate that the Project site had not been previously surveyed. No cultural resources have been previously recorded within the Project site or 0.5-mile radius. Several historic-period (remains of farm buildings and associated artifacts and

features, a Japanese cemetery, and the Hueneme Masonic Cemetery) and prehistoric archaeological sites (artifact and shell scatters, shell middens, a Chumash cemetery), and two Native American villages are within the general vicinity of the Project site. The NAHC SLF search returned negative results.

A cultural resources survey of the Project site was conducted on March 1, 2023. The Project site is currently vacant and used for storage. Many portions of the Project site were characterized by standing water as a result of recent rain. The ground surface was mostly covered with gravel with some vegetation along the perimeter of the Project site. A dirt pile was also observed in the southeastern-most portion of the Project site. Ground surface visibility ranged from approximately 0 to 15 percent. No surface evidence of archaeological resources was identified as a result of the survey.

The subsurface archaeological sensitivity assessment indicates that the Project site is characterized by Holocene alluvial deposits (11,700 years ago to present) – the period for which there is widely accepted evidence for human occupation of southern California. Although portions of the Project site have been utilized for agricultural purposes and portions of the site subject to industrial development, these activities consist largely of surficial and/or shallow disturbances. Depending on the construction techniques employed to construct the previous polyester resin manufacturing plant, the southern portion of the Project site may have been subject to deeper disturbances than the northern portion of the Project site. Furthermore, the Project site was once bisected by a tributary, was in proximity to several small unnamed lagoons, and is located within proximity to the coast. These bodies of water would have attracted prehistoric inhabitants to the area for associated floral and faunal resources. Although the records search did not identify previously recorded resources within the Project site or records search radius, the majority of these areas have not been previously subject to archaeological survey. In addition, surface visibility during the survey conducted for this Project was limited by surficial visual obstructions such as gravel, stockpiled soil and equipment, and standing water such that the majority of the ground surface could not be adequately inspected. As is demonstrated by the presence of prehistoric archaeological sites, such as a Chumash cemetery, artifact and shell scatters, and shell middens, and two Native American villages, the general Project vicinity was utilized by prehistoric inhabitants and should be considered sensitive for subsurface prehistoric archaeological resources. Based on these factors, the potential to encounter buried archaeological deposits in the southern portion of the Project site is considered moderate while the potential in the northern portion of the Project site is considered high.

Should archaeological resources be encountered, they could qualify as historical resources as defined in CEQA Section §15064.5. Impacts to such resources could constitute a substantial adverse change in the significance of a historical resource. The following mitigation measures are required to reduce potential impacts to historical resources.

Mitigation Measure CUL-1: The Applicant shall retain an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology (Qualified Archaeologist) to carry out all mitigation related to archaeological resources. Prior to the start of ground-disturbing activities, the Qualified Archaeologist or their

designee shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains, and safety precautions to be taken when working with archaeological monitors. The Developer shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

Mitigation Measure CUL-2: Archaeological monitoring shall be conducted during ground disturbing activities, such as clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the Project. Monitoring shall be conducted by an archaeologist who is familiar with the types of archaeological resources that could be encountered and who will work under the direct supervision of the Qualified Archaeologist. Monitoring can be reduced to part-time inspections or ceased entirely if determined appropriate by the Qualified Archaeologist, based on field observations. In the event that archaeological resources are unearthed during ground-disturbing activities, the archaeological monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the discovery until it has been evaluated. The archaeological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries.

Mitigation Measure CUL-3: In the event of the unanticipated discovery of archaeological materials, the Developer shall immediately cease all work activities in the area (within approximately 100 feet) of the discovery until it can be evaluated by the Qualified Archaeologist. Construction shall not resume until the Qualified Archaeologist has conferred with the City on the significance of the resource. If it is determined that the discovered archaeological resource constitutes a historical resource or unique archaeological resource pursuant to CEQA, avoidance and preservation in place shall be the preferred manner of mitigation. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Treatment Plan shall be prepared and implemented by the Qualified Archaeologist that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource. The City shall consult with appropriate Native American tribal representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered. The treatment plan shall include provisions for the final disposition of the recovered resources, which may include onsite reburial, curation at a public, non-profit institution, or donation to a local Native American Tribe, school, or historical society.

Mitigation Measure CUL-4: At the conclusion of archaeological monitoring and prior to the release of the grading bond, the Qualified Archaeologist shall prepare a final monitoring report. The report shall include a summary of monitoring results, description of resources unearthed, if any, significance evaluation and treatment of the resources, and the results of the artifact processing, analysis, and research. Appropriate California Department of Parks and Recreation 523 Forms shall be appended to the report, as

necessary. The report shall be submitted by the Applicant to the City to signify the satisfactory completion of the Project and required mitigation measures. The Qualified Archaeologist shall submit the final report to the South Central Coastal Information Center within 30 days of its acceptance by the City.

b) **Less than Significant with Mitigation Incorporated.** As noted under impact a), the potential to encounter buried archaeological deposits in the southern portion of the Project site is considered moderate while the potential in the northern portion of the Project site is considered high. Should archaeological resources be encountered during ground disturbance, impacts to such resources could constitute a substantial adverse change in the significance of an archaeological resource.

Mitigation Measure CUL-1 through CUL-4: Implementation of these mitigation measures is required.

c) **Less than Significant Impact.** Archival research was conducted and consisted of geologic map review, geologic literature review, and a paleontological resources database search conducted by the Natural History Museum of Los Angeles County (LACM). The Project lies within a geologically active zone of the western Transverse Ranges. These east-west trending mountains are the site of some of the most active tectonism in California (Sylvester and O'Black Gans 2016). Compressional forces have led to rapid uplift of mountains and concomitant rapid down-dropping of the intervening basins. These basins contain a very thick section of Pleistocene to Recent sediments. Review of the geologic map by Clahan (2003) indicates that the entire Project Site is underlain by fine-grained Holocene alluvial fan and associated deposits (Qhff). These fine-grained deposits infill the Oxnard coastal plain and are predominantly clay with interbedded lenses of coarser alluvium (sand and gravel). Given the broad extent of the plain and the distance from the uplifted Santa Susana and Conejo mountains, it is unlikely excavations will reach down to bedrock of an age to contain paleontological resources. A review of the geotechnical investigation of Krazan & Associates, Inc. (2015) confirmed that loose Holocene alluvium extended down to at least 50 feet below ground surface. As defined by the Society of Vertebrate Paleontology (2010), young Holocene deposits are too young to host significant paleontological resources.

The LACM indicates that no fossil localities lie directly within the Project Site. The records search did show fossil localities between 7 and 9 miles from the Project site (Bell 2023). However, those localities are from older, Pleistocene marine units that are exposed in the uplifted mountains and not relevant to the Project. Based on this information, construction activities associated with the Project would result in less than significant impacts to paleontological resources.

d) **Less than Significant with Mitigation Incorporated.** The SCCIC records search results and SLF through the NAHC did not identify recorded human remains sites within the Project Site, and no surface human remains were noted on the pedestrian survey. Should ground disturbance encounter human remains, disturbance of those remains could result in a potentially significant impact.

Mitigation Measure CUL-5: If human remains are encountered, the Applicant or its contractor shall halt work in the vicinity (within 100 feet) of the discovery and contact the Ventura County Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5, which requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). The MLD may, with the permission of the landowner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the MLD on all reasonable options regarding their preferences for treatment.

If the NAHC is unable to identify an MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the facility property in a location not subject to further and future subsurface disturbance.

e, f) **Less than Significant with Mitigation Incorporated.** As of July 1, 2015, California AB 52 of 2014 was enacted and expanded CEQA by defining a new resource category, "tribal cultural resources (TCR)". AB 52 establishes that "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Public Resources Code Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (Public Resources Code Section 21084.3). Effects on tribal cultural resources are only knowable once a specific project has been proposed because the effects depend highly on the individual Project site conditions and the characteristics of the proposed activity.

The SCCIC records search and a pedestrian survey did not identify potential tribal cultural resources within the Project Site. The SLF through the NAHC yielded negative results. The City conducted consultation with California Native American tribes pursuant to AB 52 to identify tribal cultural resources in or near the Project Site (see **Appendix A** of this IS/MND).

The City of Oxnard sent a notification letter on August 01, 2023 to the Native American tribe that is on the City's AB 52 list (Appendix A). This list includes only one tribe, Barbareno/Ventureno Band of Mission Indians, that has requested notification of projects within the City in accordance with AB 52. The letters provide brief descriptions of the Project and its location, with maps, the lead agency's contact information, and a notification that the tribe has 30 days to request consultation pursuant to Public Resources Code section 21080.3.1.

The Barbareno/Ventureno Band of Mission Indians was notified of the proposed Project but did not request consultation with the City of Oxnard (see Appendix A). There are no known tribal cultural resources located within the Project area, and therefore, no impacts to known tribal cultural resources would occur.

Although the current AB 52 process for the proposed Project failed to identify any TCRs, new TCRs may be identified or established over the course of the implementation of the Project and could be impacted.

Mitigation Measures CUL-3 and CUL-5: Implementation of these mitigation measures is required.

Therefore, implementation of the above mitigation measures would reduce the Project's potential impact on tribal cultural resources to less than significant.

References

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Clahan, K.B. 2003. Geologic map of the Oxnard 7.5-minute quadrangle, Ventura County, California: A digital database. California Geological Survey Preliminary Geologic Maps PGM-03-04, scale 1:24,000.

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Krazan & Associates, Inc. 2015. Geotechnical engineering investigation proposed Cold Storage Facility 5980 and 6000 Arcturus Avenue, Oxnard, California.

Sylvester, A.G. and E. O'Black Gans. 2016. Roadside Geology of Southern California. Missoula, Montana, Mountain Press, 389 p.

3.7 Geology and Soils

Issues:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist or based on other substantial evidence of a known fault?	☐	☐	☐	☒
ii) Strong seismic ground shaking that cannot be addressed through compliance with standard Code requirements?	☐	☐	☒	☐
b) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse that cannot be addressed through compliance with standard Code requirements?	☐	☐	☒	☐
c) Would the project be located on expansive soil, creating substantial risk to life or property that cannot be addressed through compliance with standard Code requirements?	☐	☐	☒	☐
d) Would the project expose people or structures to inundation by seiche or tsunami?	☐	☐	☐	☒
e) Would the project rely on dredging or other maintenance activity by another agency that is not guaranteed to continue?	☐	☐	☐	☒

Discussion

The analysis in this section is based on the information provided in the Geotechnical Engineering Investigation Report and Report Update prepared by Krazan and Associates, Inc. (Krazan) on December 4, 2015 and April 2, 2020, respectively, and contained in Appendix E as well as the Hydrology and Stormwater Quality and Erosion and Sediment Control Plan prepared by RJR Engineering and Consulting, Inc. (RJR Engineering) on August 23, 2023 and November 5, 2022, respectively, and contained in Appendix F of this MND.

a.i) **No Impact.** A fault is a plane or surface in the earth along which failure has occurred and materials on opposite sides have moved relative to one another in response to the accumulation and release of stress. The United States Geological Survey (USGS) defines active faults as those that have had surface displacements within Holocene time (about the last 11,000 years). Potentially active faults are those that have had surface displacement during Quaternary time, within the last 1.6 million years. Based on a review of the City of Oxnard General Plan Background Report, the most regionally active faults in the vicinity of the City of Oxnard are the Oak Ridge, Pitas Point-Ventura, Red Mountain, Anacapa, and Malibu Coast faults (City of Oxnard, 2006).

The nearest significant active fault to the Project site is the Simi-Santa Rosa fault which is located approximately 6.7 miles from the site (Krazan, 2015). As mapped on the California Geologic Survey's Earthquake Zones of Required Investigation online mapping tool, no Alquist-Priolo Earthquake Fault zones are located on the Project site or in the City of Oxnard (California DOC, 2023a). Therefore, no impacts would result from the potential for fault rupture of a known earthquake fault on the Project site.

a.ii) **Less than Significant Impact.** The proposed Project is located in Southern California, an area that is subject to strong seismic ground shaking. Seismically induced ground acceleration is the shaking motion that is produced by an earthquake. As noted in Response 3.7.a.i above, there are no known active faults within the city. There are a number of potentially active/active faults in the region including the Oak Ridge, Pitas Point-Ventura, Anacapa, and Malibu Coast faults; however, these faults are located approximately 1.5 to 10 miles from the city of Oxnard. The proposed Project includes construction of a cold storage facility which could experience moderate to high ground shaking from these fault zones, as well as some background shaking from other seismically active areas of the Southern California region. Although some structural damage is typically not avoidable during a large earthquake, the proposed Project would be constructed to meet existing construction ordinances and the most recent California Building Code (CBC) in order to protect against building collapse and major injury during a seismic event. The CBC includes specific design measures, which are based on the determination of Site Classification and Seismic Design Categories specific to the Project site. These design measures are intended to maximize structural stability in the event of an earthquake. Therefore, adherence to the CBC requirements would reduce impacts related to strong seismic shaking to a less than significant level.

b) **Less than Significant Impact.** Unstable geologic units or soils commonly occur when there are landslides, lateral spreading, subsidence/collapse, or liquefaction.

Landslides

The geologic and topographic characteristics of an area often determine its potential for landslides. Landslides (or slope failure) refer to the dislodging and falling of a mass of soil or rocks along a sloped surface. Although the potential for small-scale slope failure may exist in the city, particularly along stream banks, margins of drainage channels, and similar settings where steep banks or slopes occur, the flat terrain of the Project site minimizes this potential geologic hazard. Therefore, given the Project site's topography, seismically induced landslides would not pose a danger to the people or structures on site. Therefore, no impacts would result from implementation of the proposed Project.

Lateral Spreading

Lateral spreading movement occurs when a soil mass slides laterally on liquefied soil layers, moving downslope or towards a free face. The Project site is located within a potential liquefaction zone (Krazan, 2015), and therefore, there is a potential for lateral spreading to occur at the Project site. However, the proposed Project would be subject to the seismic design criteria of the most recent CBC which has been adopted within the

Oxnard City Code. The CBC includes provisions that would reduce lateral spreading impacts on site. Therefore, impacts would be less than significant.

Subsidence/Collapse

Subsidence or collapse is the sinking of the ground surface caused by the compression of earth materials resulting from manmade activities, such as groundwater or oil and gas withdrawal. The resulting compression typically occurs only once within affected soils and cannot be repeated during fluctuations of the groundwater level or from peat oxidation.

The near surface alluvial/colluvial soils on site are moderately compressible under saturated conditions, and structures within the proposed Project vicinity have experienced excessive post-construction settlement (Krazan, 2015). The Project applicant would be required to design and construct the proposed Project in conformance with the most recently adopted CBC, which includes provisions to reduce subsidence and collapse impacts, and applicable recommendations made in the Geotechnical Engineering Investigation Report prepared for the proposed Project. Therefore, impacts would be less than significant.

Liquefaction

Liquefaction is a phenomenon that occurs when soil undergoes transformation from a solid state to a liquefied condition due to the effects of increased pore-water pressure. This typically occurs where susceptible soils (particularly soils in the medium sand to silt range) are located over a high groundwater table. A high groundwater table is described as one within 50 feet of the surface. A majority of the City of Oxnard is susceptible to liquefaction as a result of underlying thick alluvial deposits and high groundwater levels. In addition, the City of Oxnard is located in a Seismic Hazard Area for liquefaction according to the California Geologic Survey's Earthquake Zones of Required Investigation online mapping tool (California DOC, 2023a).

As stated in the Geotechnical Engineering Investigation Report, the Project site is located within a liquefaction zone (Krazan, 2015). To ensure that the proposed cold storage facility would not experience structural damage due to liquefaction, the proposed Project applicant would be required to design and construct the proposed Project in conformance with the most recently adopted CBC, which would reduce potentially significant impacts to a less than significant level.

c) **Less than Significant Impact.** Expansive soil is characterized by a clay composition whereby clay particles expand dramatically upon wetting. Structures constructed on expansive soils require special design considerations that are identified within the CBC. The near-surface clayey sand soils encountered on the Project site have been identified as having a low expansion potential (Krazan, 2015). To ensure that the proposed cold storage facility would not experience structural damage due to expansive soil, the Project Applicant would be required to design and construct the proposed Project in conformance with the most recently adopted CBC, which would reduce potentially significant impacts to a less than significant level.

d) **No Impact.** Seiches and tsunamis are caused by earthquakes. Seiches are waves caused by large-scale, short-duration oscillation of confined bodies of water (such as reservoirs and lakes) during earthquakes that may damage low-lying adjacent areas, although not as severely as a tsunami. The closest enclosed body of water that could result in earthquake-induced seiche is Lake Piru which is approximately 32.4 miles northeast of the Project site. Due to the distance of Lake Piru, potential seiches in the lake would not impact the Project site. Tsunamis are earthquake-induced surge waves that can cause severe coastal flooding. The Project site is located approximately 0.6-mile inland (northeast) from the Pacific Ocean; however, the Project site is not located within a tsunami hazard area as mapped by the California Department of Conservation (California DOC, 2023b). Therefore, implementation of the proposed Project would not be impacted by seiches or tsunamis.

e) **No Impact.** The proposed Project is located in a developed area and would be located on City-owned parcels. The operation of the proposed Project would not rely on maintenance activities under the purview of other agencies aside from the City of Oxnard. Therefore, no impact would occur.

References

California Department of Conservation (DOC). 2023a. California Geologic Survey. Earthquake Zones of Required Investigation. Available at: https://maps.conservation.ca.gov/cgs/EQZApp/app/. Accessed on March 2, 2023.

California Department of Conservation (DOC). 2023b. CGS Information Warehouse: Tsunami Hazard Area Map. Available at: https://www.conservation.ca.gov/cgs/tsunami/maps. Accessed on February 1, 2023.

City of Oxnard. 2006. City of Oxnard General Plan Background Report. Available at: https://www.oxnard.org/wp-content/uploads/2016/08/OxnardDraftBackgroundReport2006_04.21.06.pdf. Accessed on March 2, 2023.

Krazan and Associates, Inc. 2015. Geotechnical Engineering Investigation: Proposed Cold Storage Facility 5980 and 6000 Arcturus Avenue Oxnard, California. December 4, 2015.

RJR Engineering and Consulting, Inc. 2022. Erosion and Sediment Control Plan. November 5, 2022.

RJR Engineering and Consulting, Inc. 2023. Hydrology and Stormwater Quality Report. August 23, 2023.

3.8 Hazards and Hazardous Materials

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials that cannot be addressed through compliance with standard regulatory requirements?	☐	☒	☐	☐
b) Would the project create a substantial hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Would the project emit hazardous substances or involve handling hazardous or acutely hazardous substances, or waste within one-quarter mile of an existing or proposed school in quantities or a manner that would create a substantial hazard?	☐	☐	☒	☐
d) Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐	☐
e) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

Discussion

The analysis in this section is based on the information provided in the Phase I Environmental Assessment Report (Phase I ESA) prepared by Northgate Environmental Management, Inc. (Northgate) on June 19, 2015, as well as the Addendum to the Phase I ESA prepared by Northgate on July 14, 2015. Additionally, a Soil and Groundwater Management Plan (SGMP) was also prepared by Northgate on June 9, 2023. All three reports are contained in Appendix G.

a) **Less than Significant with Mitigation Incorporated.** Exposure of the public or the environment to hazardous materials could occur through improper handling or use of hazardous materials or hazardous wastes particularly by untrained personnel, a transportation accident, environmentally unsound disposal methods, or fire, explosion, or other emergencies. The severity of potential effects varies with the activity conducted, the concentration and type of hazardous material or wastes present, and the proximity of sensitive receptors.

Construction

Proposed Project construction could expose construction workers and the public to temporary hazards related to the transport, use, and maintenance of construction materials (i.e., oil, diesel fuel, and transmission fluid), and/or handling/transport of demolition debris and import/export of soils. However, these activities would be short-term, and the materials used would not be in such quantities or stored in such a manner as to pose a significant safety hazard. Proposed Project construction activities would demonstrate compliance with the applicable laws and regulations governing the use, storage, and transportation of

hazardous materials/waste, ensuring that all potentially hazardous materials are used and handled in an appropriate manner.

A Phase I ESA was prepared for the proposed Project to assess the potential for Project implementation to result in impacts related to hazards and hazardous materials. The Phase I ESA identified a historic recognized environmental condition (HREC) related to soil and groundwater contamination from historic uses on site as well as potential environmental concerns including potential groundwater impacts from an off-site facility release, potential pesticide contamination, and an undocumented soil pile. An HREC refers to a past release that has been remediated to below "residential" standards and given regulatory closure with no use restrictions. Information in the following paragraphs is taken from the Phase I ESA (Northgate, 2015a) and the Addendum to the Phase I ESA (Northgate, 2015b) unless otherwise noted.

The Phase I ESA identified that the Project site was previously utilized as agricultural land from the 1930s to 1960s. A portion of the Project site located at 5980 Arcturus Avenue was later developed for chemical manufacturing processes, redeveloped in 1967 with a sodium silicate production area, and redeveloped again in 1969 as a polyester resin plant. A Voluntary Cleanup Agreement (VCA) with the Department of Toxic Substance Control (DTSC) for the site began on January 2, 2002. This portion of the site is historically known to use raw materials including bromine, styrene, maleic anhydride, and methylene chloride, which were previously stored in aboveground storage tanks (ASTs). Several recorded incidents of spills and releases are reported for this portion of the site as well as the principal waste streams of permitted wastewater discharges to the City of Oxnard's wastewater treatment plant, permitted air emissions, and off-site disposal of acid distillate and non-recycled resins. In addition, site assessment investigations for this portion of the site indicated that surface soil, shallow soil, and groundwater had been variously impacted with volatile organic compounds (VOCs) including ethylbenzene, chlorinated solvents, xylenes, and benzene. The results of the investigations indicated that the concentrations of VOCs have decreased over time in soil and groundwater and that biodegradation of VOCs has been occurring and is projected to continue to occur. Cadmium was also reported in shallow groundwater beneath this portion of the site above drinking water standards. However, no significant adverse risks to human health were noted as the groundwater is perched beneath the site, is not used for potable water, and the detected concentrations of contaminants in the groundwater are relatively low, localized, and not migrating off-site. A Human Health Risk Assessment was prepared which concluded that the potential for unacceptable adverse human health effects is not expected for future commercial and/or industrial land uses at this portion of the site from exposure to the contaminants of potential concern in soil, soil gas, and shallow groundwater. A no further action (NFA) letter was issued for this portion of the site on January 15, 2008; however, the implementation of a Land Use Covenant for commercial and or industrial land uses would be necessary per the requirements of the NFA.

The portion of the Project site located at 6000 Arcturus Avenue was developed with sodium silicate production uses in 1967 followed by the production of polyester resin beginning in

1969. The Phase I ESA indicated that sodium silicate glass was previously produced until July 1995. On-site soil was found to be impacted, and a VCA with DTSC for the site began on May 2, 1995. A NFA letter for this portion of the site dated February 27, 1997 indicates no land use restrictions. Historically, the remainder of the Project site at 5980 and 6000 Arcturus Avenue has been used for commercial agriculture prior to 1993 followed by vacant, undeveloped land after 1993.

The Phase I ESA identified the off-site Arcturus Manufacturing Corporation, located west of the Project site across Arcturus Avenue, as having potential to impact soil, groundwater, and/or soil vapor quality at the Project site. This site is also listed on the leaking underground storage tank (LUST) database for a release of diesel impacting groundwater that received regulatory closure in 2000. Based on the relative proximity to the Project site and the lack of available data showing the extent of the contamination plume, impacts to soil, groundwater, and/or soil vapor quality at the Project site due to this facility could not be ruled out in the Phase I ESA.

The Addendum to the Phase I ESA indicated the transportation for disposal of acetone, petroleum distillates, resin solution, styrene, and naphtha from the Project site. A Remediation of Diesel Impacted Soil report was prepared for the Project site on July 27, 2011 by URS. This report indicates that Cook Composites and Polymers Company, which previously occupied the site, was closed and the facilities were demolished as documented in a report by URS, dated May 3, 2011. During the removal of a concrete foundation, black, odorous soil was encountered in the southeastern portion of the site, near McWane Boulevard. Test borings and pits characterized total petroleum hydrocarbons as diesel (TPH-d) impacts in this portion of the site; however, the southern extents were not determined as the southernmost sample results still exceeded the action level of 100 milligrams per kilogram (mg/kg). The impacted soil (TPH-d concentrations greater than the action level of 100 mg/kg) was excavated and transported off-site for treatment and disposal. Based on discussion with the City of Oxnard Fire Department, URS conducted additional excavation in the vicinity of some previous samples that exceeded the TPH-d action level. Approximately 1,529 tons of impacted soil were removed, verbal approval was provided by the fire department, the excavation was stabilized due to the low depth to groundwater, and the excavation was back filled. No further work was proposed at the site for soil exploration or removal. Some diesel impacted soil is known to remain on site along the southern property line; however, URS concluded that no further removals were warranted as the remaining impacted area is predominately covered by concrete sidewalk and the pavement of McWane Boulevard, the impacts are limited to diesel range hydrocarbons, and the groundwater in the area is brackish or saline and not used for drinking water.

Due to the identified and possible contaminants on the Project site, potential exposure impacts during construction could be significant. The following mitigation measure is required to reduce the potential exposure impacts to identified and possible contaminants on site during construction:

Mitigation Measure HAZ-1: The Project Applicant shall abide by the requirements of the Soil and Groundwater Management Plan (SGMP), prepared by Northgate, to address all activities that disturb the soil at or below 5 feet bgs, including excavation, grading, removal, trenching, filling, earth movement, mining, or drilling. The procedures and protocols shall be followed during redevelopment activities at the Site, including excavation of soil, dewatering, and trenching for subsurface structures or utilities. The plan addresses monitoring and actions required should impact soil be encountered.

With implementation of **Mitigation Measure HAZ-1** as well as compliance with all applicable federal, State, and City regulations regarding their storage, on-site use, and off-site disposal, impacts related to the routine transport, use, or disposal of hazardous materials during proposed Project construction would be less than significant with mitigation incorporated.

Operation

The amount of hazardous materials used during proposed Project operation would not be substantial and would not pose a risk to the public or environment. Hazardous materials use and transport during proposed Project operation would comply with all applicable federal, State, and City regulations regarding their storage, on-site use, and off-site disposal. Compliance with applicable regulations would ensure that operational impacts would be less than significant.

b) **Less than Significant with Mitigation Incorporated.** As part of the Phase I ESA prepared for the Project site, regulatory databases were reviewed for the Project site and properties within the standard search radii pursuant to California Government Code Section 65962.5. The databases searched are known as the "Cortese List" and include EnviroStor, GeoTracker, and other lists compiled by the California Environmental Protection Agency (CalEPA). The Project site is identified in several listings within the regulatory database report, as described in additional detail under Response 3.8.d, below. Identification within these databases, which include listings of properties that have documented conditions related to hazardous materials, conditions, or contamination, may indicate a REC for the proposed Project and, therefore, a potentially significant impact.

Implementation of **Mitigation Measure HAZ-1** is required to reduce the potential exposure impacts to identified and possible contaminants on site during construction. In addition, during construction, all potentially hazardous materials encountered and used at the Project site would be used and stored in accordance with manufacturers' instructions and handled in compliance with applicable standards and regulations. This would ensure that potential risks associated with construction-related activities are minimized.

Therefore, with implementation of **Mitigation Measure HAZ-1**, impacts related to the creation of a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be less than significant with mitigation incorporated.

c) **Less than Significant Impact.** There are no existing or proposed schools within 0.25-mile of the Project site. The nearest school to the Project site is Art Haycox Elementary School, located approximately 0.76-mile northwest of the Project site. Since there are no schools within one-quarter mile of the Project site, construction and operational activities associated with the proposed Project are not expected to cause risk to the public or nearby attendees of schools. Therefore, impacts would be less than significant.

d) **Less than Significant with Mitigation Incorporated.** As discussed under Response 3.8.b, as part of the Phase I ESA prepared for the Project, regulatory databases were reviewed for the Project site and properties within the standard search radii as required by California Government Code Section 65962.5. The databases are known as the "Cortese List" and include EnviroStor, GeoTracker, and other lists compiled by the CalEPA. The Project site is identified on the NPDES, Emergency Response Notification System (ERNS), California Hazardous Materials Incident Report System, HAZNET, Voluntary Cleanup Program, Comprehensive Environmental Response, Compensation, and Liability Information System – No Further Remedial Action Planned, Resource Conservation and Recovery Act (RCRA) – Small Quantity Generator, RCRA – Large Quantity Generator, RCRA Administrative Action Tracking System, Historical Cortese, Historic Underground Storage Tanks, Notify 65, Waste Data System, Facility Index System, Emissions Inventory Data, and EnviroStor databases.

The Project's listing in these databases is associated with prior industrial uses on the Project site, including chemical manufacturing processes, a sodium silicate production area, and a polyester resin plant, as further discussed above under Response 3.8.a. Due to the identified and possible contaminants on the Project site, potential exposure impacts during construction could be significant. The following mitigation measure is required to reduce the potential exposure impacts to identified and possible contaminants on site during construction. Implementation of **Mitigation Measure HAZ-1** is required.

With implementation of **Mitigation Measure HAZ-1**, existing human health risk impacts on site would be reduced to a less than significant level, and the Project would not create a significant hazard to the public or environment, despite being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, impacts would be reduced to a less than significant level with mitigation incorporated.

e) **Less than Significant Impact.** The proposed Project includes a cold storage facility on vacant and undeveloped land east of Arcturus Avenue and north of McWane Boulevard. Surrounding uses include a mix of industrial to the north, east, and west and agricultural to the south. Slow-moving construction-related traffic along Arcturus Avenue and McWane Boulevard could reduce optimal traffic flows and could delay emergency vehicles traveling through the Project area. In addition, certain construction activities, such as roadway improvements, utility relocation or extensions, and drainage facility reconstruction, could require temporary lane closures. Such impacts would be short term and confined to the southern portion of Arcturus Avenue and eastern McWane Boulevard, but to prevent

construction-related traffic safety impacts, if required, the proposed Project's contractor would implement standard construction traffic management measures or undertake preparation of a construction traffic control plan prior to the initiation of any construction activities to ensure that access for all road users is maintained near the proposed Project.

Furthermore, the proposed Project would be subject to review and approval by all applicable City departments to ensure that the proposed Project complies with City requirements related to emergency response. As such, construction impacts would be less than significant.

The City's Emergency Operations efforts anticipate that all major streets and highways within the city would serve as evacuation routes. The major streets and highways within the city maintain minimum right of way widths and would continue to ensure that various evacuation routes are accessible to residents and businesses. As such, operation of the Project would not interfere with an adopted emergency response plan and/or the emergency evacuation plan. Operational impacts would be less than significant.

References

California Department of Forestry and Fire Protection (CAL FIRE). 2023. Communities at Risk. Available at: https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/fire-plan/communities-at-risk/?lang=zh-CN. Accessed on March 6, 2023.

Northgate Environmental Management, Inc. (Northgate), 2015a. Phase I Environmental Site Assessment: 5980 and 6000 Arcturus Avenue Oxnard, California. June 19, 2015.

Northgate Environmental Management, Inc. (Northgate), 2015b. Addendum to Phase I Environmental Site Assessment: 5980 and 6000 Arcturus Avenue Oxnard, California. July 14, 2015.

Ventura County Airport Land Use Commission. 2000. Airport Comprehensive Land Use Plan Update for Ventura County. https://vcportal.ventura.org/AIRPORTS/docs/document_library/Doc_Airport_LandUse_Plan.pdf. Accessed on February 2, 2023.

3.9 Hydrology and Water Quality

Issues:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project cause a violation of any adopted water quality standards or waste discharge or treatment requirements?	☐	☒	☐	☐
b) Would the project substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in on- or off-site flooding or exceed the capacity of existing or planned stormwater drainage systems?	☐	☐	☒	☐
d) Would the project place new structures within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☒	☐
e) Would the project impede or redirect flood flows such that it would increase on- or off-site flood potential?	☐	☐	☒	☐
f) Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
g) Would the project be exposed to a substantial risk related to inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐
h) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Discussion

The analysis in this section is based on the information provided in the Hydrology and Stormwater Quality Report prepared by RJR Engineering on August 23, 2023, and Erosion and Sediment Control Plan prepared by RJR Engineering on November 5, 2022, and Geotechnical Engineering Investigation Report and Report Update prepared by Krazan on December 4, 2015 and April 2, 2020, respectively. Both the Hydrology and Stormwater Quality Report and the Erosion and Sediment Control Plan are contained in Appendix F. The Geotechnical Engineering Investigation Report and Report Update are contained in Appendix E. The Soil and Groundwater Management Plan is contained in Appendix G.

a) **Less than Significant with Mitigation Incorporated.** Construction activities, such as earth moving, maintenance/operation of construction equipment, and handling/storage/disposal of materials, could contribute to pollutant loading in stormwater runoff from the construction site. In addition, exposed and stockpiled soils could be subject to wind and conveyance into nearby storm drains during storm events, and on-site water

activities for dust suppression purposes could contribute to pollutant loading in runoff from the construction site. The Project Applicant would be required to comply with the NPDES General Construction Permit, including the preparation of a SWPPP and implementation of BMPs to minimize soil erosion/sedimentation and other runoff from the Project site from entering the storm drains during the construction period. BMPs would include erosion and sediment control BMPs (RJR Engineering, 2022). Compliance with all applicable federal, State, and local requirements would reduce the potential for proposed Project construction to release contaminants into the groundwater that could affect existing contaminants, expand the area, or increase the level of groundwater contamination.

As discussed in Response 3.8.a, a portion of the Project site located at 5980 Arcturus Avenue contains groundwater that has been variously impacted with VOCs including ethylbenzene, chlorinated solvents, xylenes, and benzene. Cadmium was also reported in shallow groundwater beneath this portion of the site above drinking water standards. Construction of the Project would require excavation up to a maximum depth of 12 feet bgs, which would be at the groundwater level encountered at the Project site during the geotechnical investigation (Krazan 2015). Therefore, a potential significant groundwater contamination impact, that could lead to a violation of water quality standards or waste discharge requirements, could occur during construction activities.

Implementation of **Mitigation Measure HAZ-1** is required to reduce potential on-site groundwater contamination impacts during construction.

Compliance with applicable NPDES permitting requirements and LARWQCB waste discharge requirements as well as implementation of **Mitigation Measure HAZ-1** would ensure that potential impacts related to groundwater quality would be reduced to a less than significant level. Therefore, proposed Project construction activities would not violate any water quality standards or waste discharge requirements, and impacts would be less than significant with mitigation incorporated.

During operation, the proposed Project would generate stormwater runoff into the municipal storm drain system which may contain nutrients, pesticides, organic compounds, sediments, oil and grease, suspended solids, metals, gasoline, pathogens, and trash and debris. These pollutants most often originate from motor vehicle use and the associated deposition of fuel, oil and rubber on the ground surface, trash collection areas, landscape maintenance activities, pesticide and herbicide use, and general human activity.

The existing Project site does not contain any drainage facilities. Project site drainage currently sheet flows across the site towards McWane Boulevard and is then conveyed by the existing curb and gutter approximately 950 feet to the west where the stormwater is directed under the existing railroad tracks into open space (RJR Engineering, 2023).

During the proposed Project's operational phase, 13.81 acres, or 96 percent, of the 14.33-acre Project site would be developed with impervious surfaces, which would be a large increase from existing conditions as the site is currently undeveloped and largely pervious and thus, would increase stormwater runoff. As stated in the Hydrology and Drainage

Analysis, the proposed underground detention system, ribbon drain, and bioswales, which have been incorporated into the proposed Project's design, would reduce the increase of stormwater runoff while maintaining the existing drainage pattern. Runoff from the Project site would be treated by the bioswales and detained in the underground detention system, lifted with a pump station to another bioswale before runoff sheets flow to the street flow line in McWane Blvd, and conveyed via gravity flow along the street gutter flow line to the existing railroad tracks and then to the open space as dictated by the existing drainage patterns. Runoff will be filtered and controlled at a flow rate substantially less than existing conditions (RJR Engineering, 2023). Therefore, operation of the proposed Project would not violate water quality standard and discharge requirements or otherwise substantially degrade water quality. Operational impacts would be less than significant.

b) **Less than Significant Impact.** The Project site is currently undeveloped and largely pervious. All stormwater that encounters the Project site flows across the site towards McWane Boulevard and is then conveyed by the existing curb and gutter approximately 950 feet to the west where the stormwater is directed under the existing railroad tracks into open space (RJR Engineering, 2023). During construction, excavation would occur up to a maximum depth of 12 feet bgs, which would be at the groundwater level encountered at the Project site during the geotechnical investigation (Krazan 2015). If groundwater is encountered during proposed Project construction, temporary dewatering would be required and disposed of in accordance with the NPDES permit and requirements. During proposed Project operation, most of the Project site (96 percent) would be developed with impervious surfaces, and all stormwater would be directed toward BMP features and/or the local storm drain system. Dewatering would not be required during operation of the proposed Project. Therefore, the proposed Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Impacts related to groundwater recharge would be less than significant.

c) **Less than Significant Impact.** The existing Project site does not contain any drainage facilities. The site is generally flat and flows south and west towards McWane Boulevard to existing curb and gutter approximately 950 feet to the west where the stormwater is directed under the existing railroad tracks into open space (RJR Engineering, 2023). The proposed Project does not propose any alteration to a stream or river course. Additionally, the proposed Project's design would include an underground detention system, ribbon drain, and bioswales, which would reduce the increase of stormwater runoff while maintaining the existing drainage pattern. Therefore, the proposed Project would not contribute to off-site flooding or cause an exceedance of an existing or planned stormwater drainage system. Impacts related to stormwater drainage systems would be less than significant.

d) **Less than Significant Impact.** Based on a review of the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, the majority of the Project site is not located in a flood prone area. The northwestern corner of the Project site is within the 0.2 percent annual chance flood hazard zone (FEMA, 2021). The proposed Project includes the

construction and operation of a cold storage facility that would be located in the northeastern portion of the site, which has been designed to move flows to the southern and western portions of the site near McWane Boulevard to the proposed ribbon drain, bioswales, and underground detention system as well as the existing curb and gutter. As stated in the Hydrology and Drainage Analysis, the proposed Project's drainage design would reduce the increase of stormwater runoff while maintaining the existing drainage pattern. In the event of a storm exceeding the 100-year storm event or pump station malfunction, the flow would back up into the pipes connected to the detention system and would pond in the on-site bioswales. If further flooding occurs, the bioswales would be over topped, and the flow would sheet flow back to the existing gutters and exit the Project site similar to the existing drainage patterns. Furthermore, the parking lot would provide significant ponding in the event that the storm drain inlets were to clog or were inundated with water (RJR Engineering, 2023). Therefore, impacts related to flood hazards would be less than significant.

e) **Less than Significant Impact.** The Project site is currently vacant and undeveloped, but is surrounded by industrial uses to the north, east, and west and agricultural uses to the south. Existing stormwater infrastructure supports these uses. Although the proposed Project would largely increase the amount of impervious surfaces on site, the proposed Project's drainage design includes the underground detention system, ribbon drain, and bioswales which would reduce the increase of stormwater runoff while maintaining the existing drainage pattern. Runoff from the Project site would be treated by the bioswales and detained in the underground detention system, lifted with a pump station to another bioswale before runoff sheets flow to street flow line in McWane Blvd, and are conveyed via gravity flow along the street gutter flow line to the existing railroad tracks and then to the open space as dictated by the existing drainage patterns (RJR Engineering, 2023). In the event of a storm exceeding the 100-year storm event or pump station malfunction, the flow would back up into the pipes connected to the detention system and would pond in the on-site bioswales. If further flooding occurs, the bioswales would be over topped, and the flow would sheet flow back to the existing gutters and exit the Project site similar to the existing drainage patterns. Furthermore, the parking lot would provide significant ponding in the event that the storm drain inlets were to clog or were inundated with water (RJR Engineering, 2023). Additionally, construction of the proposed Project would be restricted to the site boundary and would not lead to on- or off-site siltation or erosion impeding or redirecting flood flow. Therefore, impacts would be less than significant.

f) **Less than Significant Impact.** Based on a review of the Ventura County Multi-Jurisdictional Hazard Mitigation Plan, the majority of the City of Oxnard, including portions of the Project site, is within a dam inundation area (Tetra Tech, 2022). Although portions of the Project site are subject to inundation due to a failure of a dam upstream along the Santa Clara River, the probability of dam failure inundation is not known but such an event would likely be the result of an extreme storm. The California Division of Safety and Dams periodically checks the conditions of dams so that the likelihood for a dam failure is further reduced. The existing levee along the Santa Clara River, located approximately 6.9 miles northwest of the Project site, is currently being evaluated to be

reconstructed to provide greater protection for urban uses. There is a potential for a breach of the levee prior to reconstruction of the levee. In the event of a pending flood or flooding due to the failure of the levee, on-site personnel would receive notification from the appropriate agency and would be able to leave the Project site to seek shelter. The notification would also allow for the relocation of on-site vehicles to other locations, if time and space permits. Therefore, the proposed Project would not expose people or structures to significant loss due to flooding. Project impacts related to flooding would be less than significant.

g) **Less than Significant Impact.** As stated in Response 3.9.d, the majority of the Project site is not located in a flood prone area. The northwestern corner of the Project site is within the 0.2 percent annual chance flood hazard zone (FEMA, 2021). The proposed Project includes the construction and operation of a cold storage facility that would be located in the northeastern portion of the site, which has been designed to move flows to the southern and western portions of the site near McWane Boulevard to the proposed ribbon drain, bioswales, and underground detention system as well as the existing curb and gutter. As stated in the Hydrology and Drainage Analysis, the proposed Project's drainage design would reduce the increase of stormwater runoff while maintaining the existing drainage pattern. In the event of a storm exceeding the 100-year storm event or pump station malfunction, the flow would back up into the pipes connected to the detention system and would pond in the on-site bioswales. If further flooding occurs, the bioswales would be over topped, and the flow would sheet flow back to the existing gutters and exit the Project site similar to the existing drainage patterns. Furthermore, the parking lot would provide significant ponding in the event that the storm drain inlets were to clog or were inundated with water (RJR Engineering, 2023). As discussed in Response 3.7.d, the Project site would not be subject to seiches or tsunamis. The Project site and surrounding area contain relatively flat terrain and are not subject to mudflows. Therefore, the proposed Project would not be exposed to substantial risk related to inundation by a seiche, tsunami or mudflow at the Project site.

h) **Less than Significant Impact.** As discussed above, the proposed Project would be required to comply with the NPDES General Construction Permit, including the preparation of a SWPPP and implementation of BMPs that would require the proposed Project to minimize soil erosion/sedimentation and other runoff from the Project Site from entering the storm drains during the construction period. The proposed Project would require water for on-site landscaping and would connect to existing City potable and recycled water lines, as applicable, but is not anticipated to deplete groundwater supplies through the consumption of the water. The proposed Project would not substantially decrease groundwater supplies within the city of Oxnard, as additional industrial growth was accounted for in the City's 2030 General Plan and 2020 Urban Water Management Plan. As such, the proposed Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed Project may impede sustainable groundwater management of the basin. Therefore, implementation of the proposed Project would result in less than significant impacts.

References

Federal Emergency Management Agency (FEMA). 2021. FEMA's Flood Map Service Center: Search by Address, 6000 Arcturus Avenue, Oxnard. Available at: https://msc.fema.gov/portal/search?AddressQuery=6000%20arcturus%20avenue%20oxnard#searchresultsanchor. Accessed on February 3, 2023.

Krazan and Associates, Inc. 2015. Geotechnical Engineering Investigation: Proposed Cold Storage Facility 5980 and 6000 Arcturus Avenue Oxnard, California. December 4, 2015.

RJR Engineering and Consulting, Inc. 2022. Erosion and Sediment Control Plan. November 5, 2022.

RJR Engineering and Consulting, Inc. 2023. Hydrology and Stormwater Quality Report. August 23, 2023.

Tetra Tech. 2022. Ventura County Multi-Jurisdictional Hazard Mitigation Plan. Available at: https://www.readyventuracounty.org/county-plans/. Accessed on February 6, 2023.

3.10 Land Use and Planning

Issues:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project conflict with an applicable land use plan, policy or regulation of the City or other agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating a significant environmental effect?	☐	☐	☒	☐
b) Would the project involve land uses that are not allowed under any applicable airport land use compatibility plan?	☐	☐	☒	☐
c) Would the project conflict with an applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
d) Would the project physically divide an established community?	☐	☐	☐	☒

Discussion

a) **Less than Significant Impact.** The proposed Project consists of a cold storage facility that would include the import/export and distribution of fresh produce and refrigerated food stuff. The site is designated under the 2030 General Plan as Light Industrial, and is zoned M-1, Light Manufacturing. As stated in the Oxnard City Code, cold storage facilities are a permitted use in the M-1 zoning district that are subject to the requirement for approval of a zone clearance. Additionally the new construction of the cold storage facility is subject to a Development Design Review (DDR) permit. Upon approval of the zone clearance and DDR permit, the proposed Project would not conflict with the Project site's zoning designation.

The applicable 2030 General Plan goals and policies include:

Goal CD-1: A balanced community consisting of residential, commercial, and employment uses consistent with the character, capacity, and vision of the City.

Goal CD-5: Development of industrial uses in appropriate areas, assistance in the location of new industry, retention and expansion of existing industry, and maintenance of the City's economic vitality.

Policy CD-5.1: Encourage the clustering of industrial uses into areas that have common needs and are compatible in order to maximize their efficiency**.**

Policy CD-5.2: Ensure adequate separation between sensitive land uses (residential, educational, open space, healthcare) to minimize land use incompatibility associated with noise, odors, and air pollutant emissions**.**

Policy CD-5.3: Encourage industrial activities to locate where municipal services are available including adequate storm drainage and water facilities, as well as easy access to multiple modes of transportation.

Policy CD-5.4: Seek to attract industrial development that avoids or minimizes substantial pollution, noise, glare, odor, use of hazardous materials, or other offensive activity and/or is a component of the emerging Green industry**.**

Policy CD-5.5: Guide industrial development to locate near transportation facilities capable of handling goods movements in an efficient manner without decreasing the level of service on the transportation network or dividing existing neighborhoods.

Goal CD-9: A high quality visual image and perception of the City.

Policy CD-9.2: As part of the City's redevelopment programs and planning, promote the revitalization of residential, commercial, and industrial properties that are deteriorated or detract from the visual quality of the City**.**

Goal ICS-4: A functional and balanced goods movement system that provides timely and efficient transport of goods generated by the Port of Hueneme and agricultural, industrial, and commercial areas.

Policy ICS-4.5: Enforce truck loading and unloading regulations in commercial and industrial areas and those adjacent to residential land uses**.**

The proposed Project would be consistent with Goal CD-5 and Policy CD-5.2 as the Project site is surrounded by industrial and agricultural uses and is not adjacent to any sensitive land uses. As discussed in Sections 3.1, *Aesthetics and Urban Design*, 3.3, *Air Quality*, 3.8, *Hazards and Hazardous Materials*, and 3.12, *Noise*, of this MND, implementation of the proposed Project would not result in substantial pollution, noise, glare, odor, or use of hazardous materials. In addition, the proposed Project would be considered a component of the emerging Green industry as the facility would be fitted with yard plugs that would allow for the on-board fuel powered refrigeration units to be transferred to electric power, assisting with the reduction of idle emissions. Therefore, the proposed Project would be consistent with Policy CD-5.4. Furthermore, the proposed Project would be consistent with Goals CD-9 and ICS-4 as well as Policies CD-9.2 and ICS-4.5 because the proposed Project would enforce truck loading and unloading regulations and would redevelop the existing vacant industrial site into a new cold storage facility, which would improve the visual quality of the city.

The proposed Project would conform to the applicable zoning ordinances outlined in the Oxnard City Code for the M-1 zoning district. The height of the proposed cold storage facility is 50 feet, which is below the maximum height of 55 feet allowed in the M-1 zoning district. The proposed Project would also provide a 115-foot front yard setback and a 50-foot rear yard setback, which would comply with the requirement of a 10-foot front yard setback and a rear setback that is equal to the height of the building. Compliance with the Oxnard City Code and General Plan would ensure consistency with applicable land use plans, policies and regulations adopted to avoid environmental effects. Therefore, the proposed Project would result in less than significant land use plans and policy impacts.

b) **Less than Significant Impact.** The Project site is located approximately 3.8 miles northwest of Naval Base Ventura County (NBVC)[14] Point Mugu and 4.3 miles southeast of the Oxnard Airport. As shown in Exhibit 3B of the Airport Comprehensive Land Use Plan (ACLUP) for Ventura County, the Project site is located outside of the Oxnard Airport Area (Ventura County Airport Land Use Commission, 2000). However, the Project site is located within the Military Influence Area for NBVC Point Mugu.

According to the Ventura County ACLUP, the Project site is outside the four noise and safety zones for NBVC Point Mugu. A portion of the Project site is within the Federal Aviation Regulation (FAR) Part 77 Airspace for NBVC Point Mugu, specifically the Transition Surface 7:1 (Matrix Design Group, 2015). The proposed Project is an acceptable use within the FAR Part 77 Airspace but is within a Height Restriction Zone due to its location within the Transition Surface. As such, the proposed Project is subject to Section 77.9(a), which requires that construction or alteration of development is below 200 feet in height. The proposed cold storage facility would be 50 feet in height, which would be considerably lower than the 200-foot height restriction and thus, would not be a hazard to air navigation or require Federal Aviation Administration notification. In addition, the proposed Project is a compatible land use that is not a noise-sensitive use with NBVC Point Mugu. Therefore, the proposed Project would not involve land uses that are not allowed under any applicable airport land use compatibility plan. Impacts would be less than significant.

c) **No Impact.** According to the City of Oxnard 2030 General Plan EIR, no established or planned Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan exists within the City of Oxnard (Matrix Design Group, 2009). However, the Coastal Conservancy, the City of Oxnard and The Nature Conservancy have been working to develop a restoration and access plan, the Ormond Beach Restoration and Public Access Project Plan, that balances habitat restoration and protection of sensitive plant and animal species with improved and increased public access. This site is located south of McWane Boulevard and has not yet been finalized. Therefore, the proposed Project would not result in any impact associated with these plans.

d) **No Impact.** The Project site is currently comprised of a vacant lot that is used to store shipping container chassis, and is surrounded by industrial uses, agricultural uses, and undeveloped land. The proposed light industrial use (cold storage facility) would be consistent with the existing industrial uses adjacent to the Project site's northern and eastern boundaries. Vehicle access to the site would be provided via three new driveways: two driveways along McWane Boulevard, one of which would be the main entrance, and one driveway along Arcturus Avenue. The proposed Project would not require the construction of any new infrastructure, such as an interstate highway or railroad tracks, that would divide an established community, and would not remove any means of access. Therefore, the proposed Project would not result in a physical division of an established community or adversely affect the continuity of land uses in the Project vicinity. No impact would occur.

[14] Naval Base Ventura County Point Mugu was previously identified as Naval Air Station (NAS) Point Mugu.

References

Matrix Design Group. 2009. City of Oxnard 2030 General Plan Program Environmental Impact Report. Available at: https://www.oxnard.org/city-department/community-development/planning/2030-general-plan/. Accessed on February 1, 2023.

Matrix Design Group. 2015. Naval Base Ventura County Joint Land Use Study. Available at: https://www.goventura.org/wp-content/uploads/2018/03/nbvc_jlus_final_report.pdf. Accessed on February 9, 2023.

Ventura County Airport Land Use Commission. 2000. Airport Comprehensive Land Use Plan Update for Ventura County. https://vcportal.ventura.org/AIRPORTS/docs/document_library/Doc_Airport_LandUse_Plan.pdf. Accessed on February 2, 2023.

3.11 Mineral Resources

Issues:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in the loss of availability of a known mineral resource of value to the region or state?	☐	☐	☐	☒
b) Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated in the 2030 General Plan or other adopted land use plan?	☐	☐	☐	☒

Discussion

a) **No Impact.** Based on a review of the City of Oxnard's General Plan Background Report, the Project site is designated as Mineral Resource Zone (MRZ) MRZ-3 (City of Oxnard, 2006). The MRZ-3 Zone includes areas containing mineral deposits, the significance of which cannot be evaluated from available data. Although the Project site could include significant mineral deposits, there are no mining activities within the Project site and the existing urban development within the Project area impedes the potential to economically mine in this area. Therefore, the proposed Project would not result in the loss of availability of an important mineral resource. No impacts to mineral resources would occur with the implementation of the proposed Project.

b) **No Impact.** The Project site is not designated as a locally-important mineral resource or a mineral resource recovery area (City of Oxnard, 2014). Therefore, the implementation of the proposed Project would not impact a locally-important mineral resource recovery site. No impacts to mineral resources would occur.

References

City of Oxnard. 2006. City of Oxnard General Plan: Draft Background Report. Available at: https://www.oxnard.org/city-department/community-development/planning/2030-general-plan/. Accessed on January 31. 2023.

City of Oxnard. 2014. City of Oxnard 2030 General Plan Map. Available at: https://www.oxnard.org/city-department/community-development/planning/2030-general-plan/. Accessed on January 31. 2023.

3.12 Noise

Issues:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project generate or expose persons to noise levels exceeding standards established in the Oxnard 2030 General Plan or Noise Ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Would the project generate or expose persons to excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) Would the project generate a substantial temporary or periodic increase in ambient noise in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) Would the project generate a substantial permanent increase in ambient noise in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within the airport land use plan for Oxnard Airport or within two miles of Naval Base, Ventura County at Point Mugu, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) Would the project expose non-human species to excessive noise?	☐	☒	☐	☐

Discussion

a) **Less than Significant Impact.** Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air). Noise is generally defined as unwanted sound (i.e., loud, unexpected, or annoying sound). Acoustics is defined as the physics of sound. In acoustics, the fundamental scientific model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions, or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. Acoustics addresses primarily the propagation and control of sound.

Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude, with audible frequencies of the sound spectrum ranging from 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound

frequency/sound power level spectrum. The typical human ear is not equally sensitive to this frequency range. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to these extremely low and extremely high frequencies. This method of frequency filtering, or weighting, is referred to as A-weighting, expressed in units of A-weighted decibels (dBA), which is typically applied to community noise measurements.

An individual's noise exposure is a measure of noise over a period of time; a noise level is a measure of noise at a given instant in time. However, noise levels rarely persist at one level over a long period of time. Rather, community noise varies continuously over a period of time with respect to the sound sources contributing to the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with many of the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources, such as changes in traffic volume. What makes community noise variable throughout a day, besides the slowly changing background noise, is the addition of short-duration, single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment change the community noise level from instant to instant, requiring the noise exposure to be measured over periods of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. The following noise descriptors are used to characterize environmental noise levels over time, which are applicable to the Project.

L_{eq}: The equivalent sound level, is used to describe noise over a specified period of time in terms of a single numerical value; the L_{eq} of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The L_{eq} may also be referred to as the average sound level.

L_{max}: The maximum, instantaneous noise level experienced during a given period of time.

L_{min}: The minimum, instantaneous noise level experienced during a given period of time.

L_x: The noise level exceeded a percentage of a specified time period. For instance, L_{50} and L_{90} represent the noise levels that are exceeded 50 percent and 90 percent of the time, respectively.

L_{dn}: The average A-weighted noise level during a 24-hour day, obtained after an addition of 10 dBA to measured noise levels between the hours of 10 p.m. to 7 a.m. to account nighttime noise sensitivity. The L_{dn} is also termed the day-night average noise level (DNL).

CNEL: The Community Noise Equivalent Level (CNEL) is the average A-weighted noise level during a 24-hour day that is obtained after an addition of 5 dBA to measured noise levels between the hours of 7 p.m. to 10 p.m. and after an addition of 10 dBA to noise levels between the hours of 10 p.m. to 7 a.m. to account for noise sensitivity in the evening and nighttime, respectively. CNEL and L_{dn} are close to each other, with CNEL being more stringent and generally 1 dBA higher than L_{dn}.

Noise is generally loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity that is a nuisance or disruptive. Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities.

With regard to the subjective effects, the responses of individuals to similar noise events are diverse and influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity. Overall, there is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction on people. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships generally occur (Caltrans, 2013):

- Except in carefully controlled laboratory experiments, a change of 1 dBA in ambient noise levels cannot be perceived.
- Outside of the laboratory, a 3 dBA change in ambient noise levels is considered to be a barely perceivable difference.
- A change in ambient noise levels of 5 dBA is considered to be a readily perceivable difference.
- A change in ambient noise levels of 10 dBA is subjectively heard as doubling of the perceived loudness.

These relationships occur in part because of the logarithmic nature of sound and the dB scale. The human ear perceives sound in a non-linear fashion; therefore, the dBA scale was developed. Because the dBA scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but rather logarithmically. Under the dBA scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two sources are each producing sound of the same loudness, the resulting sound level at a given distance would be approximately 3 dBA higher than one of the sources under the same conditions.

When noise propagates over a distance, the noise level decreases with distance depending on the type of noise source and the propagation path. Noise from a localized source (i.e., point source) propagates uniformly outward in a spherical pattern, referred to as "spherical spreading." Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (i.e., reduce) at a rate between 6 dBA, for acoustically "hard" sites, and 7.5 dBA for "soft" sites for each doubling of distance from the reference measurement, as the noise energy is continuously spread out over a spherical surface (e.g., for hard surfaces, 80 dBA at 50 feet attenuates to 74 at 100 feet, 68 dBA at 200 feet). Hard sites are those with a reflective surface between the source and the receiver, such as asphalt or concrete surfaces, or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the reduction in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees, provides an additional ground attenuation value of 1.5 dBA (per doubling distance), a geometric spreading (Caltrans, 2013).

Construction and operational activities associated with the proposed Project would result in increases in noise levels. Construction activities would include removing the existing driveways on McWane Boulevard and Arcturus Avenue, grading/excavating the site, pouring the mat concrete foundation, constructing the cold storage facility, landscaping, and undergrounding proposed Project utilities. Proposed Project construction would require the following equipment for each construction activity:

Demolition

- 2 Concrete/Industrial Saws
- 3 Tractors/Loaders/Backhoes

Grading/Excavation

- 2 Rollers
- 2 Scrapers
- 1 Street Sweeper
- 3 Tractors/Loaders/Backhoes
- 2 Other Equipment/Water Trucks

Mat Foundation

- 2 Concrete/Industrial Saws
- 2 Pumps
- 1 Street Sweeper
- 1 Tractor/Loader/Backhoe
- 2 Other Equipment/Laser Level/Screeds

Building Construction

- 5 Aerial/Person Lifts
- 2 Air Compressors
- 2 Concrete/Industrial Saws
- 2 Cranes
- 1 Scraper
- 1 Signal Board
- 1 Tractor/Loader/Backhoe
- 2 Trenchers
- 3 Welders

Paving

- 1 Signal Board
- 2 Surfacing Equipment
- 1 Tractor/Loader/Backhoe

Finishing/Painting

- 1 Aerial/Person Lift
- 1 Air Compressor

Table 3.12-1, *Construction Noise Level*, provides estimated construction noise levels at 50 feet. Construction noise levels at 100 feet, 200 feet, 400 feet, and 800 feet are also provided. The noise values represent maximum noise generation, or full-power operation of the equipment although typical operating cycles may involve 2 minutes of full-power operation, followed by 3 or 4 minutes at lower levels. As the distance between equipment increases, and/or the separation of areas with simultaneous construction activity, dispersion and distance attenuation reduce the effects of separate noise sources added together. Additionally, noise levels at the closest sensitive receptors, located approximately 2,100 feet northwest of the Project site, are further reduced due to the presence of intervening structures between the Project site and the sensitive receptors. The intervening structures block the line-of-sight and result in a reduction in overall noise levels. Noise levels from construction are based on a distance attenuation of 6 dBA for each doubling of distance from the source to a receiver point.

TABLE 3.12-1
CONSTRUCTION NOISE LEVEL[a]

	Noise Level, dBA Leq					
Activity	**At 50 Feet**	**At 100 Feet**	**At 200 Feet**	**At 400 Feet**	**At 800 Feet**	**At Closest Sensitive Receptor (2,100 ft)[b]**
Demolition	87	81	75	69	63	44
Grading/Excavation	85	79	73	67	61	43
Mat Foundation	88	82	75	69	63	45
Construction	90	84	78	72	66	48
Paving	85	79	73	67	61	43
Finishing/Painting	75	69	63	57	51	33

[a] Based on equipment identified above that was provided by the Project applicant.

[b] Noise level at sensitive receptor includes a 10 dBA reduction due to the presence of intervening structures between the Project site and the sensitive receptors. The intervening structures block the line-of-sight between the Project site and the sensitive receptors and result in lower noise levels.

SOURCE: Controlled Environments Construction, Inc. and ESA, 2023; Federal Highway Administration, 2017.

The nearest noise sensitive uses to the Project site are single- and multi-family residences, located approximately 0.4-mile (2,100 feet) to the northwest. At a distance of 2,100 feet, the noise level would attenuate to approximately 48 dBA L_{eq} based on a distance attenuation of 6 dBA per doubling of distance and assuming additional noise attenuation from intervening buildings, vegetation, or structures. Because the existing residences would be approximately 2,100 feet northwest from the proposed construction activities and based on a distance attenuation of 6 dBA for each doubling of distance, noise levels at these existing residences would not exceed the exterior noise level standard for residential buildings of 55 dBA L_{eq} (Oxnard City Code Chapter 7, Article XI).

Construction noise levels are considered significant if noise levels are not consistent with the City of Oxnard Noise Ordinance or are not consistent with the 2030 General Plan noise policies.

City of Oxnard Noise Ordinance

In accordance with Section 7-188 of the City's Municipal Code, sound sources associated with or created by construction, repair, remodeling or grading of any real property are exempt, provided the activities occur between the hours of 7:00 a.m. and 6:00 p.m. on weekdays, including Saturday. Because the proposed Project would include construction activities between the hours of 7:00 a.m. and 4:30 p.m. on weekdays, including Saturday, the construction noise levels are considered less than significant.

Primary noise generation during proposed Project operation would be from vehicular traffic from truckers and employees entering and exiting the Project site on Arcturus Avenue and McWane Boulevard. Generally speaking, a doubling of traffic volumes results

in a perceptible 3 dBA noise level increase over ambient conditions (Colorado Department of Transportation 2011). According to the Traffic Study, the Project trip distribution would travel along Hueneme Road and Edison Drive to reach the Project site (Associated Transportation Engineers [ATE], 2023). Daily existing traffic counts collected in 2018 reported 1,690 vehicles per peak hour traveled along Hueneme Road between Arcturus Avenue and Edison Drive and 225 vehicles per peak hour along Edison Drive in the vicinity of the Project site during peak hours (Associated Transportation Engineers [ATE], 2023). The Traffic Study conducted by ATE (Appendix H) concludes that the proposed Project would generate a maximum of 13 peak hour trips on the roadways surrounding the proposed Project site, which would increase existing traffic volumes on Arcturus Avenue by approximately three percent during peak hours. This would not result in a perceptible increase in noise levels in the Project area. Therefore, long-term operational activities associated with the proposed Project would result in less than significant noise impacts.

City of Oxnard Safety & Hazards Element

The Safety & Hazards Element includes noise policies. The applicable policies are related to construction and operational noise (City of Oxnard, 2022). The following noise policies are applicable to the proposed Project:

SH-6.1 Construction Noise Control – Provide best practices guidelines to developers for reducing potential noise impacts on surrounding land uses.

As described above, noise levels associated with construction activities at the nearest residences would be below the normally acceptable Community Noise Exposure standards for single- and multi-family residences. Therefore, construction activities would not require best practices to reduce anticipated construction noise.

SH-6.2 Limiting Construction Activities – Continue to limit construction activities to the hours of 7 am to 7 pm, Monday through Saturday. No construction shall occur after hours, on Sundays, or national holidays without permission from the city.

As described above, construction activities would be limited to the hours of 7:00 a.m. and 4:30 p.m. on weekdays, including Saturday. Therefore, the proposed Project would be consistent with this goal.

SH-6.4 New Development Noise Compatibility – Require that proposed development projects not generate more noise than that classified as "satisfactory" based on CEQA Thresholds of Significance on nearby property.

As described above, the increase in peak hour vehicle trips during operation of the proposed Project would not result in a perceptible increase in noise levels in the Project area. Therefore, the proposed Project would not generate more noise than that classified as "satisfactory" on nearby properties.

SH-6.5 Land Use Compatibility with Noise – Encourage non-noise sensitive land uses to locate in areas that are permanently committed to noise producing land uses, such as transportation corridors and industrial zones.

The proposed Project includes construction of a cold storage facility that would be constructed in an area consisting of industrial uses, agricultural uses, and undeveloped land. Additionally, the Project site is designated as Light Industrial (ILT) and is zoned Light Manufacturing (M-1). Therefore, the proposed Project would be consistent with this goal.

SH-6.9 Minimize Noise Exposure to Sensitive Receptors – Prohibit the development of new commercial, industrial, or other noise generating land uses adjacent to existing residential uses, and other sensitive noise receptors such as schools, child and daycare facilities, health care facilities, libraries, and churches if noise levels are expected to exceed 70 dBA.

As described above, the proposed Project includes construction of a cold storage facility that would be constructed in an area consisting of industrial uses, agricultural uses, and undeveloped land that is greater than 2,100 feet from the closest noise-sensitive receptor. Therefore, the proposed Project would not be developed adjacent to sensitive noise receptors, and the proposed Project would be consistent with this goal.

b) **Less than Significant Impact.** Vibration refers to groundborne noise and perceptible motion. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. The motion may be discernible outdoors, but without the effects associated with the shaking of a building, there is less adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by the occupants as the motion of building surfaces, the rattling of items moving on shelves or hanging on walls, or as a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings that are radiating sound waves.

Typical sources of groundborne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earth-moving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with groundborne vibration and noise from these sources are usually localized.

Groundborne vibration has the potential to disturb people as well as to damage buildings. Although it is very rare for mobile source-induced groundborne vibration to cause even cosmetic building damage, it is not uncommon for construction processes such as blasting and the pile driving to cause vibration of sufficient amplitudes to damage nearby buildings. Groundborne vibration is usually measured in terms of vibration velocity such as peak particle velocity (PPV).

Factors that influence groundborne vibration and noise include the following:

- **Vibration Source:** Vehicle/equipment suspension, wheel types and condition, track/roadway surface, track support system, speed, transit structure, and depth of vibration source
- **Vibration Path:** Soil type, rock layers, soil layering, depth to water table, and frost depth
- **Vibration Receiver:** Foundation type, building construction, and acoustical absorption

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of groundborne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock.

Experience with groundborne vibration shows that vibration propagation is more efficient in stiff clay soils than in loose sandy soils, and shallow rock seems to concentrate the vibration energy close to the surface, resulting in groundborne vibration problems at large distance from the source. Factors such as layering of the soil and depth to water table can have significant effects on the propagation of groundborne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.

The City of Oxnard does not have vibration criteria standards; however, Caltrans has established criteria for damage of structures as shown in **Table 3.12-2**, *Construction Vibration Damage Criteria*.

TABLE 3.12-2
CONSTRUCTION VIBRATION DAMAGE CRITERIA

	Maximum PPV (in/sec)	
Human Response	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

NOTES: PPV = peak particle velocity
SOURCE: Caltrans, 2020.

Human annoyance generally occurs within buildings with windows rattling and ground shaking. Receivers in an outdoor setting usually are less sensitive to vibration effect. Caltrans has identified a human response to noise vibration within the *Transportation and Construction Vibration Guidance Manual* (Caltrans, 2020). The human annoyance criteria are identified in **Table 3.12-3**, *Human Response to Vibration*.

TABLE 3.12-3
HUMAN RESPONSE TO VIBRATION

	Maximum PPV (in/sec)	
Human Response	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

NOTES: PPV = peak particle velocity
SOURCE: Caltrans, 2020.

Proposed Project construction equipment would generate ground vibration. As the nearest sensitive receivers are approximately 0.4-mile northwest of the Project site, vibration generated by heavy equipment would not cause significant impacts due to the rapid attenuation of vibration over distance. Additionally, proposed Project operation would not include use of heavy machinery or equipment that would generate significant vibration. During proposed Project operation, trucks and employee vehicles accessing the Project site would result in nominal increases in the typical vibration levels that are experienced from daily vehicles traveling along adjacent roadways. Therefore, the proposed Project would not generate excessive groundborne noise or vibration that would affect sensitive receivers and would have a less than significant impact.

c) **Less than Significant Impact.** The implementation of the proposed Project would result in temporary and periodic increases in noise levels. As discussed above, temporary noise levels would occur during construction activities associated with the proposed Project. As a worst-case assumption, noise levels at the nearest residence would not exceed the exterior noise level standard for residential buildings of 55 dBA L_{eq}, which would be considered less than significant for single- and multi-family residences (Oxnard City Code Chapter 7, Article XI). In addition, the City considers construction activities as significant if construction noise does not occur within the Noise Ordinance timing restriction. Because the proposed Project would include construction activities within the allowed times of day, the proposed Project would result in a less than significant temporary noise impact.

Primary noise generation during proposed Project operation would be from vehicular traffic from truckers and employees entering and exiting the Project site on Hueneme Road, Arcturus Avenue, Edison Drive, and McWane Boulevard. However, this traffic would

result in nominal increases in noise as Arcturus Avenue and McWane Boulevard are currently used by heavy-duty trucks traveling to the nearby Port of Hueneme and vehicles traveling through the Project area, which would be similar to the traffic noise generated by the proposed Project. In addition, as discussed above, the proposed Project would generate a total of 13 peak hour trips on the roadways surrounding the Project site, which would not result in a perceptible increase in noise levels in the Project area. Furthermore, traffic noise generated by the proposed Project would be restricted to the cold storage facility's operating hours of 6:00 a.m. to 10:00 p.m. Monday through Saturday. Therefore, operation of the proposed Project would result in nominal increases in noise and would be considered less than significant.

d) **Less than Significant Impact.** The primary off-site noise source in the Project area is motor vehicles.[15] Motor vehicle noise is a concern because it is characterized by a high number of individual events that often create sustained noise levels. Ambient noise levels are expected to be highest during the morning and afternoon rush hours unless congestion slows speeds substantially. To determine ambient noise levels in the Project area, the Oxnard General Plan Background Report was reviewed. The Community Noise Measurement Summary in the Safety and Hazard element provides the results of noise measurements taken along 13 heavily traveled roadway corridors in the city. The nearest recorded measurement to the Project site is Measurement 2, along Channel Island Boulevard, west of Saviers Road, which had a morning noise level of 69.6 dBA (City of Oxnard, 2006). This measurement was taken approximately 2 miles northwest of the Project site, and although it does not provide indicative information on ambient noise levels in the Project area, the measurement was taken in a considerably more built-up area than the Project site. As discussed above, the proposed Project would not result in significant operational noise impacts as the proposed Project would not create a significant source of traffic, and traffic noise generated by the proposed Project would be similar to the existing traffic noise on Hueneme Road, Arcturus Avenue, Edison Drive, and McWane Boulevard from vehicles and heavy-duty trucks. Therefore, the proposed Project would not generate a substantial permanent increase in ambient noise in the Project vicinity. Impacts would be less than significant.

e) **No Impact.** There are no public airports or private airstrips within two miles of the Project site. The Project site is located approximately 3.8 miles northwest of NBVC Point Mugu and 4.3 miles southeast of the Oxnard Airport. As discussed in Section 3.10, *Land Use and Planning*, the Project site is located outside of the Oxnard Airport Area. As the Project site is over two miles from the nearest airport, the proposed Project would not expose people to excessive airport noise levels. Therefore, no impact would occur.

[15] Noise and vibration are produced by train traffic on the railway adjacent to the Project site, but only intermittently, and the Project would not affect train traffic or noise and vibration levels from the adjacent railway.

f) **Less than Significant with Mitigation Incorporated.** As discussed in Section 3.4 a) above, construction activities from the implementation of the proposed Project could increase noise levels for nesting bird species in the Project vicinity. This increase in noise could result in a significant noise impact to nesting birds. With the implementation of **Mitigation Measure BIO-2** for nesting birds from Section 3.4 a), potential impacts to nesting birds would be reduced to less than significant.

References

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3.13 Population, Education, and Housing

Issues:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project involve a General Plan amendment that could result in an increase in population beyond that projected in the 2030 General Plan that may result in one or more significant physical environmental effects?	☐	☐	☐	☒
b) Would the project induce substantial growth on the project site or surrounding area, resulting in one or more significant physical environmental effects?	☐	☐	☐	☒
c) Would the project result in a substantial (15 single-family or 25 multi-family dwelling units – about one-half block) net loss of housing units through demolition, conversion, or other means that may necessitate the development of replacement housing?	☐	☐	☐	☒
d) Would the project result in a net loss of existing housing units affordable to very low- or low-income households (as defined by federal and/or City standards), through demolition, conversion, or other means that may necessitate the development of replacement housing?	☐	☐	☐	☒
e) Would the project cause an increase in enrollment at local public schools that would exceed capacity and necessitate the construction of new or expanded facilities?	☐	☐	☐	☒
f) Would the project directly or indirect interfere with the operation of an existing or planned school?	☐	☐	☐	☒

Discussion

a) **No Impact.** The proposed Project includes the construction of a cold storage facility on a site that is currently designated Light Industrial (ILT) within the 2030 General Plan (City of Oxnard, 2014). The construction of a cold storage facility does not require a General Plan amendment and would not increase population beyond that projected in the 2030 General Plan. Therefore, the proposed Project would result in no impact on population.

b) **No Impact.** The proposed Project includes the construction of a cold storage facility that would generate a total of 24 employees. The Southern California Association of Governments (SCAG) estimates that the population of Oxnard will increase by 32,100 residents and generate 15,000 new jobs between 2016 and 2045 (SCAG, 2020). Even in the unlikely event that all new jobs created by the proposed Project were to result in new residents to Oxnard, the Project would result in less than one percent of expected City population and employment growth. Therefore, the proposed Project would not induce substantial growth, and there would be no impact.

c) **No Impact.** Construction of the cold storage facility would not occur on a site that currently contains housing. Therefore, the implementation of the proposed Project would result in no impact on existing housing.

d) **No Impact.** As stated above, construction of the cold storage facility would occur on a site that does not contain any existing housing. Therefore, implementation of the proposed Project would result in no impact on existing housing, including existing affordable housing units.

e) **No Impact.** As stated above, construction of the cold storage facility would generate a total of 24 employees. Even in the unlikely event that all new jobs created by the proposed Project were to result in new residents to Oxnard, the proposed Project would result in less than one percent of expected City population and employment growth. Therefore, the proposed Project would not create a significant influx of new residents to the city requiring public services such as schools. As such, implementation of the proposed Project would not create a substantial increase in the demand for public schools or require new or expanded school facilities. No impact would occur.

f) **No Impact.** The nearest existing school to the Project site is the Art Haycox Elementary School, located approximately 0.76-mile northwest of the Project site. As stated above, the Project would not create a significant influx of new residents to the city requiring public services such as schools. Therefore, the proposed Project would not create a substantial increase in the demand for public schools or require new or expanded school facilities. As such, the proposed Project would not interfere with the operation of an existing or planned school, and no impact would occur.

References

City of Oxnard. 2014. City of Oxnard 2030 General Plan Map. Available at: https://www.oxnard.org/city-department/community-development/planning/2030-general-plan/. Accessed on January 31. 2023.

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3.14 Public Services and Recreation

Issues:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project increase demand for fire protection service such that new or expanded facilities would be needed to maintain acceptable service levels, the construction of which may have significant environmental effects?	☐	☐	☐	☒
b) Would the project increase demand for law enforcement service such that new or expanded facilities would be needed to maintain acceptable service levels, the construction of which may have significant environmental effects?	☐	☐	☐	☒
c) Would the project increase the use of existing park facilities such that substantial physical deterioration of the facilities would occur or be accelerated or that new or expanded park facilities would be needed to maintain acceptable service levels?	☐	☐	☐	☒
d) Would the project increase the need for or use of existing library or other community facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☐	☒

Discussion

a) **No Impact.** The proposed cold storage facility would be served by the City of Oxnard Fire Department Station 2, which is located approximately 0.9-mile northwest of the Project site (City of Oxnard, 2023a). As discussed in Section 3.13, *Population, Education, and Housing*, the proposed Project would generate a total of 24 employees, which would result in less than one percent of expected City population and employment growth. Therefore, the proposed Project would not create a significant influx of new residents to the city requiring public services and would not require the addition of a new fire station or modifications to an existing fire station to serve the Project site. Additionally, automatic fire sprinklers and two City fire hydrants would be provided on site as part of the proposed Project, which would enhance fire safety and support fire protection services. Therefore, the proposed Project would have no impact on fire protection services because no new or expanded facilities are required to serve the Project.

b) **No Impact.** The Project site is located approximately 4.1 miles southeast of the City of Oxnard Police Department Building and located within Neighborhood Policing Beat 42 (City of Oxnard, 2023b). As stated above, the proposed Project would generate a total of 24 employees, which would result in less than one percent of expected City population and employment growth. Therefore, the proposed Project would not create a significant influx of new residents to the city requiring public services and would not require the addition of a new police station or modifications to an existing police station to serve the Project site. Additionally, the proposed Project would incorporate alarm and video surveillance systems, which would ensure the safety of its employees and visitors. Therefore, the proposed Project would have no impact on police protection services because no new or expanded facilities are required to serve the Project.

c) **No Impact.** As stated above, the proposed Project would generate a total of 24 employees, which would result in less than one percent of expected City population and employment growth. Therefore, the proposed Project would not create a significant influx of new residents to the city requiring public services such as parks or create a substantial increase in the demand for park facilities. As such, the proposed Project would not result in the physical deterioration of existing park facilities or require new or expanded park facilities. No impact would occur.

d) **No Impact.** As stated above, the proposed Project would generate a total of 24 employees, which would result in less than one percent of expected City population and employment growth. Therefore, the proposed Project would not create a significant influx of new residents to the city requiring public services or create a substantial increase in the demand for libraries or other community facilities. As such, the proposed Project would not result in the physical deterioration of existing libraries or other community facilities. No impact would occur.

References

City of Oxnard. 2023a. City of Oxnard Fire Department, Fire Station Locations. Available at: https://www.oxnard.org/fire-station-locations-fire-department/. Accessed on February 1, 2023.

City of Oxnard. 2023b. Oxnard Police Department, Neighborhood Policing Beat Coordinator Map. Available at: https://sites.google.com/oxnardpd.org/2020-beat-map/police-beat-map. Accessed on February 1, 2023.

3.15 Transportation and Circulation

Issues:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Would the project result in inadequate emergency access?	☐	☐	☒	☐

Discussion

The analysis in this section is based on the information provided in the Traffic Study (TS) prepared by ATE in February 2023, and contained in Appendix H of this MND.

a) **Less than Significant Impact.** The proposed Project would not remove or interfere with any bicycle or pedestrian facilities. The nearest existing bicycle facility is the Pacific Coast Bikeway Route, located approximately 0.3-mile north of the Project site along Hueneme Road (Alta Planning and Design, 2011). The nearest transit stop to the Project site is the Hueneme and Courtland stop (approximately 0.6-mile to the northwest), which is served by Gold Coast Transit District Route 23. As discussed in the TS, the proposed Project would be consistent with the Ventura County General Plan by complying with terms of the "Reciprocal Traffic Mitigation Agreement" between the City of Oxnard and County of Ventura regarding traffic impact fee assessment associated with the development. Therefore, the proposed Project would be consistent with local plans and policies regarding the circulation system, and impacts would be less than significant.

b) **Less than Significant Impact.** Section 15064.3, which describes specific considerations for evaluating a project's transportation impacts under CEQA, was recently added to the State CEQA Guidelines. Section 15064.3(b) establishes vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts, shifting away from the use of Level of Service (LOS) analysis that evaluates a project's impacts on traffic conditions at nearby roadways and intersections. Section 15064.3(c) states that a lead agency shall be governed by the provisions of Section 15064.3 by July 1, 2020. The City of Oxnard has not yet established VMT-based criteria for measuring transportation impacts. As stated in the TS, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact. The proposed Project would generate a projected 50 passenger vehicle trips and a projected 173 daily truck trips. Per the TS, the 50 passenger vehicle trips were used for the VMT analysis as Section 15064.3 (a) of the CEQA Guidelines refers to VMT from 'automobile travel', with the term automobile relating to on-road passenger vehicles, specifically cars and light trucks. OPR has clarified in its Technical Advisory (OPR 2018) that heavy-duty truck VMT is not

required to be included in the estimation of a project's VMT. Therefore, given that the proposed Project would generate 50 average daily employee vehicle trips, which is below the 110-trip threshold, the proposed Project would not create a substantial increase in VMT or conflict or be inconsistent with CEQA Guidelines section 15064.3(b). Impacts would be less than significant.

c) **Less than Significant Impact.** The proposed Project does not include design features, such as sharp curves or dangerous intersections, or incompatible uses that would result in traffic safety hazards. Ingress and egress movements for the proposed Project would be facilitated via the main-entrance gated driveway near the center of the proposed Project's southern boundary along McWane Boulevard. Secondary emergency access would be provided by the proposed Project's other gated driveways, located near the Project's northwestern boundary along Arcturus Avenue and in the southeastern corner along McWane Boulevard. Vehicles would enter the Project site via McWane Boulevard. McWane Boulevard is a collector street that is approximately 40-feet wide and provides access to the adjacent light industrial uses and agricultural fields located to the south. McWane Boulevard has adequate capacity to accommodate the traffic generated by the proposed Project with access into and out of the Project site. The proposed Project would be subject to review and approval by the City of Oxnard Community Development and Public Works Departments. Access to the Project site would be required to comply with all City design standards, which would ensure adequate design and construction of proposed improvements. Therefore, implementation of the proposed Project would result in less than significant impacts.

d) **Less than Significant Impact.** Slow-moving construction-related traffic along Arcturus Avenue and McWane Boulevard could reduce optimal traffic flows and could delay emergency vehicles traveling through the Project area. In addition, certain construction activities, such as roadway improvements, utility relocation or extensions, and drainage facility reconstruction, could require temporary lane closures. However, this would not result in a significant impact on traffic flows because construction-related traffic would only occur during short periods of time during the day and would cease upon completion. In addition, prior to construction activities, a construction traffic control plan would be prepared for the proposed Project to ensure that adequate emergency access exists during construction. As such, construction impacts would be less than significant.

References

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3.16 Utilities and Energy

Issues:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project need new or expanded water supply entitlements that are not anticipated in the current Urban Water Management Plan?	☐	☐	☒	☐
b) Would additional wastewater conveyance or treatment capacity be required to serve project demand and existing commitments?	☐	☐	☒	☐
c) Would the project generate solid waste that would exceed the permitted capacity of a landfill serving the City?	☐	☐	☒	☐
d) Would the project conflict with federal, state, or local statutes or regulations related to solid waste?	☐	☐	☒	☐
e) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
f) Would the project involve wasteful, inefficient, or unnecessary consumption of energy during project construction, operation, maintenance, and/or removal?	☐	☐	☒	☐
g) Would the project require additional energy facilities, the provision of which may have a significant effect on the environment?	☐	☐	☐	☒
h) Would the project be inconsistent with existing energy standards?	☐	☐	☒	☐
i) Would the project preempt future energy development or future energy conservation, or inhibit the future use of renewable energy or energy storage?	☐	☐	☐	☒
j) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Discussion

a) **Less than Significant Impact.** The proposed Project would increase water demand compared to a vacant site; however, water use would be characteristic of an industrial cold storage facility with ornamental landscaping. According to the City's 2020 Urban Water Management Plan (UWMP), industrial water consumption in Oxnard is expected to increase from 2,227 acre-feet per year (AFY) in 2020 to 2,675 AFY in 2045; a 20 percent increase (448 AFY) in consumption (City of Oxnard, 2021). CalEEMod modeling for proposed Project operation was performed as part of the Air Quality and Climate Change and Greenhouse Gas Emissions analyses, and provides water use estimates for each land use included in proposed Project buildout (Appendix B). The proposed Project is expected to have an annual water demand of approximately 33.23 million gallons per year, or 102 AFY, at Project buildout (conservatively based on CalEEMod default water usage), which constitutes 22.8 percent of the projected increase in industrial water consumption in the city by 2045. The proposed Project's expected water demand is therefore within City

demand projections outlined in the 2020 UWMP. Therefore, the proposed Project would have a less than significant impact on available water supplies.

b) **Less than Significant Impact.** The Project site is currently connected to sewer lines managed by the City of Oxnard, which direct wastewater to the Oxnard Wastewater Treatment Plant (OWTP). The volume of wastewater processed at the OWTP averages 16 million gallons per day (MGD) for a population of approximately 200,050, which is well within the OWTP capacity for treating 31.7 MGD (City of Oxnard 2022; California Department of Finance 2022). The proposed Project would generate a relatively small amount of wastewater, as the industrial and office spaces would not be a large source of employment (approximately 25 employees), and land uses would not contain water intensive industrial activities. Conservatively assuming that wastewater generation would be approximately 100 percent of water demand, which is based on the CalEEMod modeling for proposed Project operation (Appendix B), the proposed Project would generate up to approximately 106,180 gallons of wastewater per day (assuming 313 work days per year and all water usage is treated as wastewater). The proposed Project's estimated daily wastewater generation would account for less than 0.33 percent of the OWTP's remaining daily capacity of approximately 31.7 million gallons. Therefore, the proposed Project would not require additional wastewater conveyance or treatment capacity to serve proposed Project demands. Impacts would be less than significant.

c) **Less than Significant Impact.** The City of Oxnard Environmental Resources Division provides waste pick-up and hauling services for residents and businesses. Waste is delivered to the Del Norte Regional Recycling and Transfer Station, which is permitted to process 2,779 tons of waste per day, with an average intake of approximately 970 tons of waste per day (City of Oxnard 2013, City of Oxnard 2022), which leaves an estimated remaining daily capacity of 1,809 tons of waste per day. CalEEMod modeling for proposed Project operation was performed as part of the Air Quality and Climate Change and Greenhouse Gas Emissions analyses and provides waste generation estimates for each land use included in Project buildout (Appendix B). The proposed Project would generate an estimated 0.21 tons of waste per day (assuming 313 work days per year and a 50 percent waste diversion rate per AB 939 requirements), which would not exceed the current estimated remaining daily capacity at Del Norte Regional Recycling and Transfer Station. In addition, the proposed Project's estimated generation of 0.21 tons of waste per day would constitute a less than one percent increase in the total waste processed per day at Del Norte Regional Recycling and Transfer Station. Therefore, the proposed Project would not generate waste in excess of local capacity, and impacts to the capacity of local infrastructure would be less than significant.

d) **Less than Significant Impact.** During construction and operation, the proposed Project would be required to comply with all federal, State, and local solid waste requirements, including AB 939 and the CALGreen Building Code. CALGreen stipulates that 65 percent of construction waste shall be diverted, while AB 939 specifies 50 percent. Compliance with all applicable statutes and regulations would ensure that Project impacts are less than significant.

e) **Less than Significant Impact.** The proposed Project would not generate a population increase requiring the expansion of utilities or services that could cause a significant environmental impact. As shown in Section 3.13, *Population, Education and Housing*, the proposed Project consists of a light industrial use that would not generate a large number of new jobs (approximately 25 employees) that would create a significant influx of new residents or employment to the city. Therefore, expansion of utilities and public services would not be necessary, and the proposed Project would have no environmental impact associated with the expansion or relocation of services. Impacts would be less than significant.

f) **Less than Significant Impact.** The proposed Project would consume energy during construction activities, primarily from on- and off-road vehicle fuel consumption in the form of diesel and gasoline, necessary to construct the facility. The Project's estimated construction energy demand is provided in **Table 3.16-1**, *Summary of Energy Demand During Project Construction*.

TABLE 3.16-1
SUMMARY OF ENERGY DEMAND DURING PROJECT CONSTRUCTION [a]

Energy Type	Total Quantity
Electricity	
Construction Office	13,490 kWh
Electricity from Water (Dust Control)	7,837 kWh
Total Electricity	**21,327 kWh**
Percent of SCE (Year 2024: 120,000,000,000 kWh)	**0.00002%**
Gasoline	
On-Road Construction Equipment	6,035 gallons
Off-Road Construction Equipment	0 gallons
Total Gasoline	**6,035 gallons**
Percent of Ventura County (303,000,000 gallons)	**0.002%**
Diesel	
On-Road Construction Equipment	27,699 gallons
Off-Road Construction Equipment	97,561 gallons
Total Diesel	**125,230 gallons**
Percent of Ventura County (62,893,082 gallons)	**0.20 %**

kWh = kilowatt-hours

[a] Detailed calculations are provided in Appendix B.

SOURCE: ESA, 2023.

Construction of the Project would utilize energy only for necessary on-site activities and to transport construction materials and soil to and from the Project site. As discussed in Section 3.3, *Air Quality*, the Project would comply with regulatory control measures including the CARB Air Toxics Control Measure that limits diesel powered equipment and

vehicle idling to no more than 5 minutes at a location. While this measure was adopted to reduce air pollutant emissions, it has co-benefits of also reducing transportation fuel consumption. Additionally, the Project would reuse soil cut from the site as on-site fill thereby reducing truck hauling and associated transportation fuel consumption. Therefore, construction of the Project would not result in the wasteful, inefficient, and unnecessary consumption of energy.

Operation of the proposed Project would consume energy in the form of purchased electricity and natural gas to provide power for facility equipment, lighting, and water conveyance. The Project would also consume transportation fuels for worker commute vehicles and truck trips and use of transportation refrigeration units (TRUs) for cold storage products. The Project's estimated operational energy demand is provided in **Table 3.16-2**, *Summary of Energy Demand During Project Operations*.

TABLE 3.16-2
SUMMARY OF ENERGY DEMAND DURING PROJECT OPERATIONS [a]

Energy Type	Annual Quantity [b]
Electricity	
Building and Equipment Electricity	2,588,116 kWh
Water Conveyance	432,739 kWh
Total Net Electricity	3,020,740 kWh
Percent of SCE (Year 2024: 120,000,000,000 kWh)	0.0025%
Natural Gas	
Building Natural Gas	247,963 cf
Percent of SoCalGas (Year 2024: 849,355,000,000 cf)	0.00003%
Transportation	
Gasoline	5,250 gallons
Percent of Ventura County (303,000,000 gallons)	0.0017%
Diesel	461,542 gallons
Percent of Ventura County (62,893,082 gallons)	0.734%

kWh = kilowatt-hours
cf = cubic feet
[a] Detailed calculations are provided in Appendix B.
[b] Totals may not add up exactly due to rounding of decimals.
SOURCE: ESA, 2023.

Operation of the proposed Project would comply with applicable City of Oxnard Municipal Code requirements for building energy efficiency and electrification and would adhere to applicable CALGreen (Title 24) requirements for energy efficiency and electrification of new buildings. Water fixtures would comply with applicable City of Oxnard Municipal Code requirements for water efficiency and would adhere to applicable CALGreen (Title 24) requirements for water efficiency.

The Project would include electric vehicle parking spaces equipped with Electric Vehicle Fast Charging Simplified (EVCS) stations to encourage the use of electric vehicles by employees. The Project would also provide 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area. The Project's design would support electrification and reduce transportation fuel demand, particularly with respect to diesel fuel, as electric model TRUs replace diesel-fueled models (the diesel fuel analysis in Table 3.16-2 assumes the use of diesel-fueled TRUs).

The Project would provide 67 parking spaces (53 standard, one van accessible, two standard accessible, one EVCS van accessible, seven carpool/vanpool, and three EVCS stall spaces) and 10 bicycle parking spaces (five short term and five long term spaces), which would be located adjacent to the building's western boundary and the Project site's southeastern boundary. The Project site is located approximately 0.3 miles from the nearest existing bicycle facility at the Pacific Coast Bikeway Route along Hueneme Road and approximately 0.6-miles from the Hueneme and Courtland transit stop, which is served by Gold Coast Transit District Route 23. The Project's design and location would provide options for and encourage the use of less polluting transportation alternatives and reduced vehicle miles traveled. Therefore, operation of the Project would not result in the wasteful, inefficient, and unnecessary consumption of energy.

g) **No Impact.** Implementation of proposed Project would not require additional energy facilities, beyond potential extensions of electricity lines to nearby existing electricity lines, to serve the Project. As shown in Table 3.16-1 and Table 3.16-2, the Project's energy demand would be minimal compared to available and projected supplies and within the available supply capabilities of the electricity and natural gas utilities and transportation fuel providers. Therefore, the Program would result in no impact.

h) **Less than Significant Impact.** The proposed Project would consume energy during construction activities, primarily from on- and off-road vehicle fuel consumption in the form of diesel and gasoline, necessary to construct the facility. As discussed in Section 3.3, *Air Quality*, the Project would comply with regulatory control measures including the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation that requires fleets to retire, replace, or repower of older, dirtier engines with newer emission-controlled models. While these measures were adopted to reduce air pollutant emissions, they have co-benefits of also increasing transportation fuel efficiency and reducing transportation fuel consumption.

Operation of the proposed Project would comply with applicable City of Oxnard Municipal Code requirements for building energy efficiency and electrification and would adhere to applicable CALGreen (Title 24) requirements for energy efficiency and electrification of new buildings. Water fixtures would comply with applicable City of Oxnard Municipal Code requirements for water efficiency and would adhere to applicable CALGreen (Title 24) requirements for water efficiency. In addition, the Project would include electric

vehicle parking spaces equipped with EVCS and would provide 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area. The Project's design would support electrification and reduce transportation fuel demand, particularly with respect to diesel fuel, as electric model TRUs replace diesel-fueled models.

Based on the above, the Project would not be inconsistent with existing energy standards.

i) **No Impact.** The implementation of the proposed Project would not preempt energy development or future energy conservation, or inhibit the future use of renewable energy or energy storage. Electricity in the region area (Ventura County) is provided by Southern California Edison (SCE). SCE is required to commit to the use of renewable energy sources for compliance with the Renewable Portfolio Standards (RPS). SCE met its requirement to procure at least 33 percent of its energy portfolio from renewable sources by 2020 with approximately 35 percent of its 2020 electric supply power mix from renewable power (SCE 2020). With the passage of SB 100 in September 2018, SCE will be required to update its long-term plans to demonstrate compliance including providing 44 percent by December 2024, 52 percent by December 2027, and 60 percent of its energy portfolio from renewable sources by December 31, 2030, and ultimately planning for 100 percent eligible renewable energy resources and zero-carbon resources by December 31, 2045. In 2022, approximately 39 percent of SCE's supply portfolio came from renewable sources eligible under California's RPS (SCE 2022). As discussed in Section 3.5, *Climate Change and Greenhouse Gas Emissions*, the land use sector will benefit from RPS because the electricity used in buildings will be increasingly carbon-free, but implementation does not depend (directly, at least) on how buildings are designed and built.

The Project will also incorporate sustainability features that would reduce operational energy demand and incorporate sustainable site development practices that would result in water savings and energy efficiency. The Project will install 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area. This will reduce TRU fuel demand. The Project will provide one EVCS van accessible parking space, seven carpool/vanpool parking spaces, and three EVCS stall parking spaces. This will also reduce transportation fuel demand. The Project will provide 10 bicycle parking spaces. This will encourage non-automotive transportation alternatives. The Project will include building energy efficient systems, which may include high efficiency heating and air conditioning systems, high efficiency lighting, natural ventilation and daylighting, and/or other energy efficient systems. This will reduce building energy demand. Thus, the Project would not preempt future energy development or future energy conservation or inhibit the future use of renewable energy or energy storage.

j) **Less than Significant Impact.** As discussed above, the Project would benefit from RPS because the electricity used in buildings will be increasingly carbon-free, but would not conflict with or obstruct utilities from meeting the RPS targets, which include planning for 100 percent eligible renewable energy resources and zero-carbon resources by December 31, 2045. Furthermore, as discussed in Section 3.5, *Climate Change and Greenhouse Gas*

Emissions, the proposed Project would not conflict with or obstruct the City's CAAP, which identifies seven areas under which the City can implement sustainable practices: clean energy, water conservation and reuse, green buildings, waste reduction and recycling, transportation, nature-based solutions, and land use. While the purpose of the CAAP is to reduce greenhouse gas emissions, these several areas would also have co-benefits of energy efficiency and reducing energy consumption. In addition, as discussed above and in Section 3.5, the Project would support transportation electrification, vehicle miles traveled Reduction, and building decarbonization. Thus, the Project would not conflict with applicable State of California 2022 Scoping Plan strategies. As such, the Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

References

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City of Oxnard. 2013. Staff Report: Del Norte Regional Recycling and Transfer Station Transition Plan. Available at: https://www.oxnard.org/wp-content/uploads/2016/03/CC-Staff-Report-Del-Norte-Regional-Recycling-and-Transfer-Station-Transition-Plan-2.pdf. Accessed on March 13, 2023.

City of Oxnard. 2021. 2020 Urban Water Management Plan. Available at: https://www.oxnard.org/city-department/public-works/water/uwmp/. Accessed on March 10, 2023.

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3.17 Wildfire

Issues:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Discussion

a - d) **Less than Significant Impact.** The proposed cold storage facility would be located in an urban area of the city of Oxnard. Based on a review of the FHSZs prepared as part of the CAL FIRE's Fire and Resource Assessment Program, the Project site is not located within or near an area that is designated as a Very High FHSZ (CAL FIRE, 2023). The nearest Very High FHSZ designated in a Local Responsibility Area is located approximately 5.3 miles southeast of the Project site, and the nearest Very High FHSZ designated in a State Responsibility Area is located approximately 5.8 miles southeast of the Project site. Due to the distance from a Very High FHSZ, the proposed Project would result in less than significant impacts related to wildfires.

References

California Department of Forestry and Fire Protection (CAL FIRE). 2023. FHSZ Viewer. Available at: egis.fire.ca.gov/FHSZ/. Accessed on January 31, 2023.

3.18 Mandatory Findings of Significance

Issues:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Would the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Would the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion

a) **Less than Significant with Mitigation Incorporated.** The implementation of the Project could cause impacts to sensitive wildlife species such as burrowing owl (*Athene cunicularia*) and California horned lark (*Eremophila alpestris actia*), which have a moderate potential to occur within the study area, as well as other nesting birds. The implementation of Mitigation Measures BIO-1 and BIO-2 would reduce these potential impacts to biological resources to less than significant.

In addition, the proposed Project could result in significant impacts to archaeological and tribal cultural resources. The implementation of Mitigation Measures CUL-1 to CUL-5 would reduce these potential resource impacts to less than significant.

Compliance with State law and the General Plan goals and policies identified within Sections 3.4 (Biological Resources) and 3.6 (Cultural Resources and Tribal Cultural Resources), and the implementation of the above mitigation measures would reduce the Project's potential impact on wildlife species and cultural and tribal cultural resources to less than significant.

b) **Less than Significant with Mitigation Incorporated.** As identified in Appendix H, Traffic Study, of this Initial Study, there are nine related projects within one mile of the Project site that have been approved or are pending decision. These projects are north and west of the Project site with the exception of one outdoor storage development that is directly west. These projects include residences, retail commercial, warehouse and outdoor storage. There is a potential for cumulative projects to result in significant environmental impacts. However, as discussed in Chapter 3 above, Project impacts associated with aesthetics and urban design, agricultural resources, climate change and greenhouse gas

emissions, geology and soils, land use and planning, mineral resources, noise, population/education/housing, public services and recreation, utilities and energy, and wildfire would result in less than significant or no impacts. As a result, the Project contribution to these potential cumulative impacts would be less than cumulatively considerable and thus less than significant.

The nine related projects in the vicinity of the Project site could also result in significant impacts related to air quality, biological resources, cultural resources, and hazards and hazardous materials. Because the Project could result in significant impacts related to air quality, biological resources, cultural resources, and hazards and hazardous materials, the Project could contribute to the cumulative impacts. This contribution could be cumulatively considerable and thus significant. With the implementation of the mitigation measures identified below, the Project's impact related to air quality, biological resources, cultural resources, and hazards and hazardous materials would be reduced to less than cumulatively considerable and thus less than significant.

Mitigation Measures

Implementation of Mitigation Measures AIR-1, AIR-2, AIR-3, AIR-4, AIR-5, AIR-6, BIO-1, BIO-2, CUL-1, CUL-2, CUL-3, CUL-4, CUL-5 and HAZ-1 is required.

c) **Less than Significant.** The Proposed Project would not cause substantial adverse effects on human beings, either directly or indirectly, according to the analysis contained within this Initial Study. Therefore, the Proposed Project would not directly or indirectly cause substantial adverse effects on human beings.

Appendix A
AB 52 Consultation

ESA

COMMUNITY DEVELOPMENT DEPARTMENT
PLANNING DIVISION
214 SOUTH C STREET
OXNARD, CALIFORNIA 93030
(805)385-7858
Fax (805) 385-7417

CITY OF OXNARD CALIFORNIA

August 1, 2023

Annette Ayala, Cultural Resource Chair
Barbareño/Ventureño Band of Mission Indians
188 South Santa Rosa
Ventura, California 93001

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Cultural Resource Chair Ayala,

The City of Oxnard has determined that a project application is complete for the Arcturus Warehouse LLC Project.

Below please find a description of the proposed project, a map showing the project location, and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d).

The Project includes the construction of a 105,383-square-foot public cold storage facility, which would include the import/export and distribution of fresh produce and refrigerated foodstuffs. The first floor would consist of 2,700 square feet of office space, 55,836 square feet of racked cold storage space, and 44,147 square feet for the controlled temperature loading docks, and the second floor would consist of 2,700 square feet of office use. The main entrance to the facility would be located along the building's western edge. The proposed facility would be two stories and up to 50 feet in height. The first floor would include a receiving dock, five cold storage rooms, shipping dock, maintenance shop, office area, restrooms, telecommunication room, main electrical room, fire pump room, lunch room, lobby, locker rooms, waiting area for truckers, and a shipping/receiving area. Truck dock apron space would be provided adjacent to both the receiving and shipping docks. The second floor would include a conference room, manager's office, lunch room, restrooms, telecommunication room, and open offices. Heating, ventilation, and air conditioning (HVAC) units would be located on the western portion of the roof. A 10-foot by 70-foot pit-type truck scale would be located west of the building, and a container stack rack system with the capacity for 90 containers would be located north of the building. The system would stack a maximum height of three containers. Two Southern California Edison (SCE) electrical service transformers would be provided on site: one near the building's northwestern edge and one near the Project's northwestern boundary within the trailer area. A guard check-in station, accessed from McWane Boulevard, would be located near the building's southwestern corner and would allow for on-site queuing. Two refrigeration chillers would be

located east of the building, and a covered trash enclosure would be provided near the Project's proposed driveway along McWane Boulevard. The Project site would include an eight foot tall decorative concrete block wall around the perimeter of the site.

The project is subject to the California Environmental Quality Act (CEQA) and the City of Oxnard is the lead agency under CEQA.

The Project site is located on a 14.33-acre (approximately 624,372 square feet) site located in the southern portion of the City of Oxnard within the County of Ventura. Specifically, the site is located at 5980 and 6000 Arcturus Avenue (APN 231-0-093-135 and 231-0-093-155). The Project site is currently comprised of a vacant lot in an industrial/agricultural area that is used to store shipping containers

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by CEQA lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

Your tribe's input is important to the City's planning process. We request that you advise us as early as possible if you wish to consult on the proposed project. Pursuant to PRC § 21080.3.1 (b), you have 30 days from the receipt of this letter to request consultation, in writing, with the City of Oxnard. If you require any additional information or have any questions, please contact me 805-385-3948 or via e-mail at Jay.Dobrowalski@oxnard.org. Thank you for your assistance.

Very Respectfully,

Jay Dobrowalski
Community Development Department
City of Oxnard

Enclosed:
Project Location Map and Site Plan



Path: U:\GIS\GIS\Projects\2020\xxx\D2022000387_04_Arcturus_Cold_Storage_ISMND\03_Project\IS_MND.aprx, sgeissler, 1/24/2023

SOURCE: ESRI

Arcturus Warehouse LLC IS/MND

Figure 1
Project Vicinity

ESA

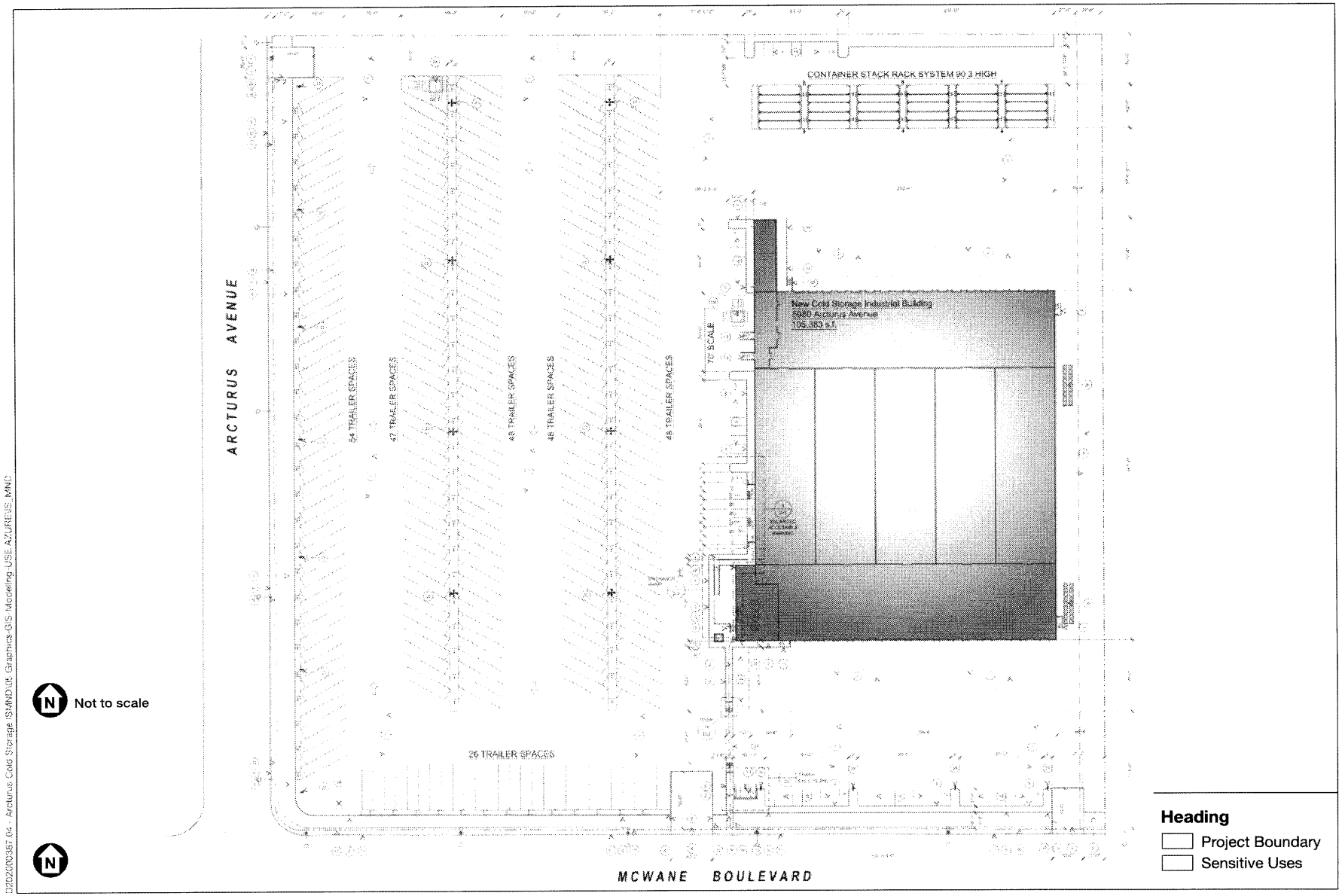


SOURCE: Mapbox, 2022 ESA, 2023

Arcturus Warehouse LLC IS/MND

Figure 2
Project Location

ESA



SOURCE: DRA Architects, 2022

Arcturus Warehouse LLC IS/MND

Figure 3
Project Site Plan

ESA PCR

0 2000
Feet

COMMUNITY DEVELOPMENT DEPARTMENT
PLANNING DIVISION
214 SOUTH C STREET
OXNARD, CALIFORNIA 93030
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CITY OF OXNARD CALIFORNIA

August 1, 2023

Dayna Barrios, Tribal Chairwoman
Barbareño/Ventureño Band of Mission Indians
Post Office Box 364
Ojai, California 93024

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Chairwoman Barrios,

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Below please find a description of the proposed project, a map showing the project location, and the name of our project point of contact, pursuant to PRC § 21080.3.1 (d).

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located east of the building, and a covered trash enclosure would be provided near the Project's proposed driveway along McWane Boulevard. The Project site would include an eight foot tall decorative concrete block wall around the perimeter of the site.

The project is subject to the California Environmental Quality Act (CEQA) and the City of Oxnard is the lead agency under CEQA.

The Project site is located on a 14.33-acre (approximately 624,372 square feet) site located in the southern portion of the City of Oxnard within the County of Ventura. Specifically, the site is located at 5980 and 6000 Arcturus Avenue (APN 231-0-093-135 and 231-0-093-155). The Project site is currently comprised of a vacant lot in an industrial/agricultural area that is used to store shipping containers

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by CEQA lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

Your tribe's input is important to the City's planning process. We request that you advise us as early as possible if you wish to consult on the proposed project. Pursuant to PRC § 21080.3.1 (b), you have 30 days from the receipt of this letter to request consultation, in writing, with the City of Oxnard. If you require any additional information or have any questions, please contact me 805-385-3948 or via e-mail at Jay.Dobrowalski@oxnard.org. Thank you for your assistance.

Very Respectfully,

Jay Dobrowalski
Community Development Department
City of Oxnard

Enclosed:
Project Location Map and Site Plan



Path: U:\GIS\GIS\Projects\2020xxx\2020600387_04_Arcturus_Cold_Storage_ISMND\03_Project\IS_MND.aprx, spleissler 1/24/2023

SOURCE: ESRI

Arcturus Warehouse LLC IS/MND

Figure 1
Project Vicinity

ESA

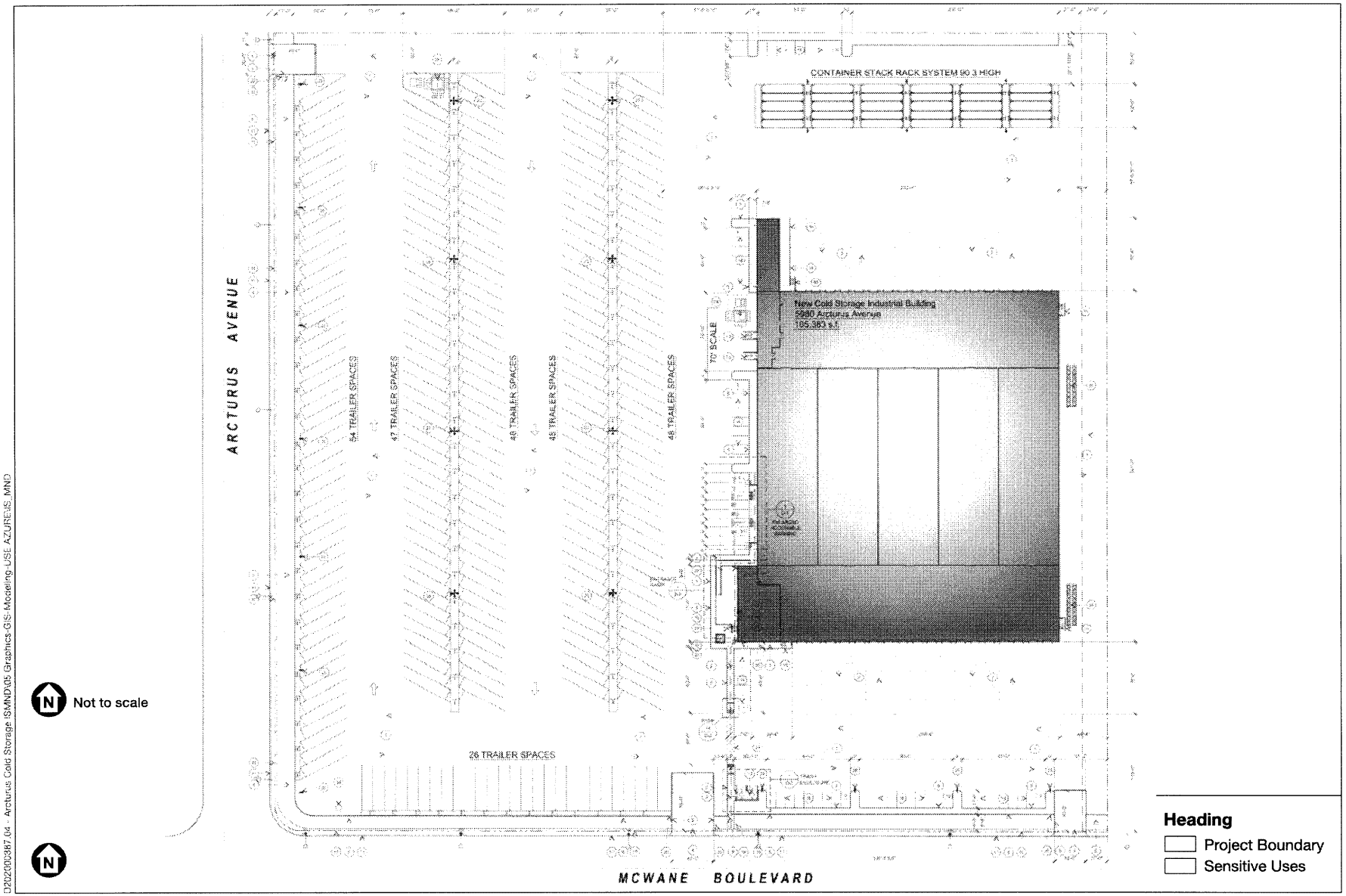


SOURCE: Mapbox, 2022 ESA, 2023

Arcturus Warehouse LLC IS/MND

Figure 2
Project Location

ESA



SOURCE: DRA Architects, 2022

Arcturus Warehouse LLC IS/MND

Figure 3
Project Site Plan

ESA PCR

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Feet

Appendix B

Air Quality and Greenhouse Gas Technical Report

ESA

ARCTURUS COLD STORAGE WAREHOUSE, CA

Air Quality and Greenhouse Gas Technical Report

Prepared for
City of Oxnard
Community Development Department
214 South C Street
Oxnard, California 93030
805.385.8272

August 2023

ESA

ARCTURUS COLD STORAGE WAREHOUSE, CA

Air Quality and Greenhouse Gas Technical Report

Prepared for
City of Oxnard
Community Development Department
214 South C Street
Oxnard, California 93030
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August 2023

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A Air Quality and Greenhouse Gas Emissions Calculations and Output Files

ACRONYMS AND ABBREVIATIONS

Acronym	Description
Air Basin	South Central Coast Air Basin
AQMP	Air Quality Management Plan
ATCM	Airborne Toxics Control Measure
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEUS	Commercial End-Use Survey
CEQA	California Environmental Quality Act
City	City of Oxnard
CO	Carbon monoxide
DPF	Diesel particulate filters
EMFAC	On-road vehicle emissions factor model
EV	Electric vehicle
GHG	Greenhouse gas
HAP	Hazardous air pollutant
hp	Horsepower
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NO	Nitric oxide
NO_2	Nitrogen dioxide
NO_X	Nitrogen oxides
OFFROAD	Off-road vehicle emissions model
OEHHA	Office of Environmental Health Hazard Assessment
Pb	Lead

Acronym	Description
PM2.5	Fine particulate matter
PM10	Respirable particulate matter
ppm	Parts per million
ROG	Reactive organic gas
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SCAG	Southern California Association of Governments
SIP	State Implementation Plan
SO_2	Sulfur dioxide
TAC	Toxic air contaminant
$\mu g/m^3$	Micrograms per cubic meter
USEPA	United States Environmental Protection Agency
VCAPCD	Ventura County Air Pollution Control District
VDECS	Verified Diesel Emission Control Strategies
VOC	Volatile organic compounds

EXECUTIVE SUMMARY

The Project includes the construction of a two-story, (50-foot-tall) 105,383-square-foot public cold storage facility, which would include the import/export and distribution of fresh produce and refrigerated food products. The first floor would consist of 2,700 square feet of office space, 55,836 square feet of racked cold storage space, and 44,147 square feet for the controlled temperature loading docks, and the second floor would consist of 2,700 square feet of office use.

The Project would be located at 5980 and 6000 Arcturus Avenue, Oxnard, California (Project site). The Project site is currently comprised of a vacant lot in an industrial/agricultural area that is used to store shipping containers and is bounded by commercial/industrial uses to the west, north, and east. To the south is vacant land. Workers in the existing buildings are located 70 to 130 feet from the Project site. The Project site is designated under the City of Oxnard 2030 General Plan as Light Industrial (ILT). The zoning designation for the proposed Project is Light Manufacturing (M-1). The nearest residence is approximately 2,100 feet to the northwest.

In accordance with the requirements under the California Environmental Quality Act (CEQA), this Air Quality and Greenhouse Gas Technical Report provides an estimate of air pollutant and greenhouse gas (GHG) emissions for the Project and the potential air quality and GHG impacts from associated construction and operational activities. More specifically, for air quality impacts, this Technical Report evaluates the potential for the Project to conflict with an applicable air quality plan, violate an air quality standard or threshold, result in a cumulatively net increase of criteria pollutant emissions, expose sensitive receptors to substantial pollutant concentrations, or create objectionable odors affecting a substantial number of people. For GHG impacts, this Technical Report evaluates the potential for the Project to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions or otherwise conflict with the state goal for reducing GHG emissions in California, or to contribute to or be subject to potential secondary effects of climate change (e.g., sea level rise, increase in fire hazard). The findings of the analyses are summarized as follows:

- The Project would not conflict with applicable air quality policies set forth by the Ventura County Air Pollution Control District (VCAPCD) in its Air Quality Management Plan (AQMP).
- The incremental increase in emissions from construction and operation of the Project would exceed the regional daily emission thresholds set forth by the VCAPCD. Thus, the Project would result in a regional violation of applicable air quality standards or jeopardize the timely attainment of such standards in the South-Central Coast Air Basin (Air Basin) and would result in cumulatively considerable non-attainment pollutant emissions. Implementation of mitigation measures would reduce the construction and operational emission impacts to less than significant.

- The Project would not expose offsite receptors to substantial levels of regulated air contaminants resulting in a less than significant impact.
- Emissions from the increase in traffic due to operation of the Project would not have a significant impact associated with exceedance of 1-hour or 8-hour local carbon monoxide (CO) concentrations.
- Project construction and operations would not result in significant levels of odors.
- The Project would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment and the Project would not conflict with an applicable plan, policy, or regulations adopted for the purpose of reducing GHG emissions or otherwise conflict with the state goal for reducing GHG emissions in California.
- The Project would not contribute or be subject to potential secondary effects of climate change (e.g., sea level rise, increase fire hazard) with implementation of mitigation measures.

SECTION 1
Introduction

The Project proposes to construct a two-story cold storage facility that would be used for the import, export, and distribution of fresh produce and refrigerated food products. The Project would be located at 5980 and 6000 Arcturus Avenue, Oxnard, California (Project site). The Project site's location is shown in **Figure 1,** *Project Vicinity*. ESA has prepared this Air Quality and Greenhouse Gas Technical Report to evaluate the potential for construction and operation of the Project to result in significant air quality or greenhouse gas (GHG) impacts.

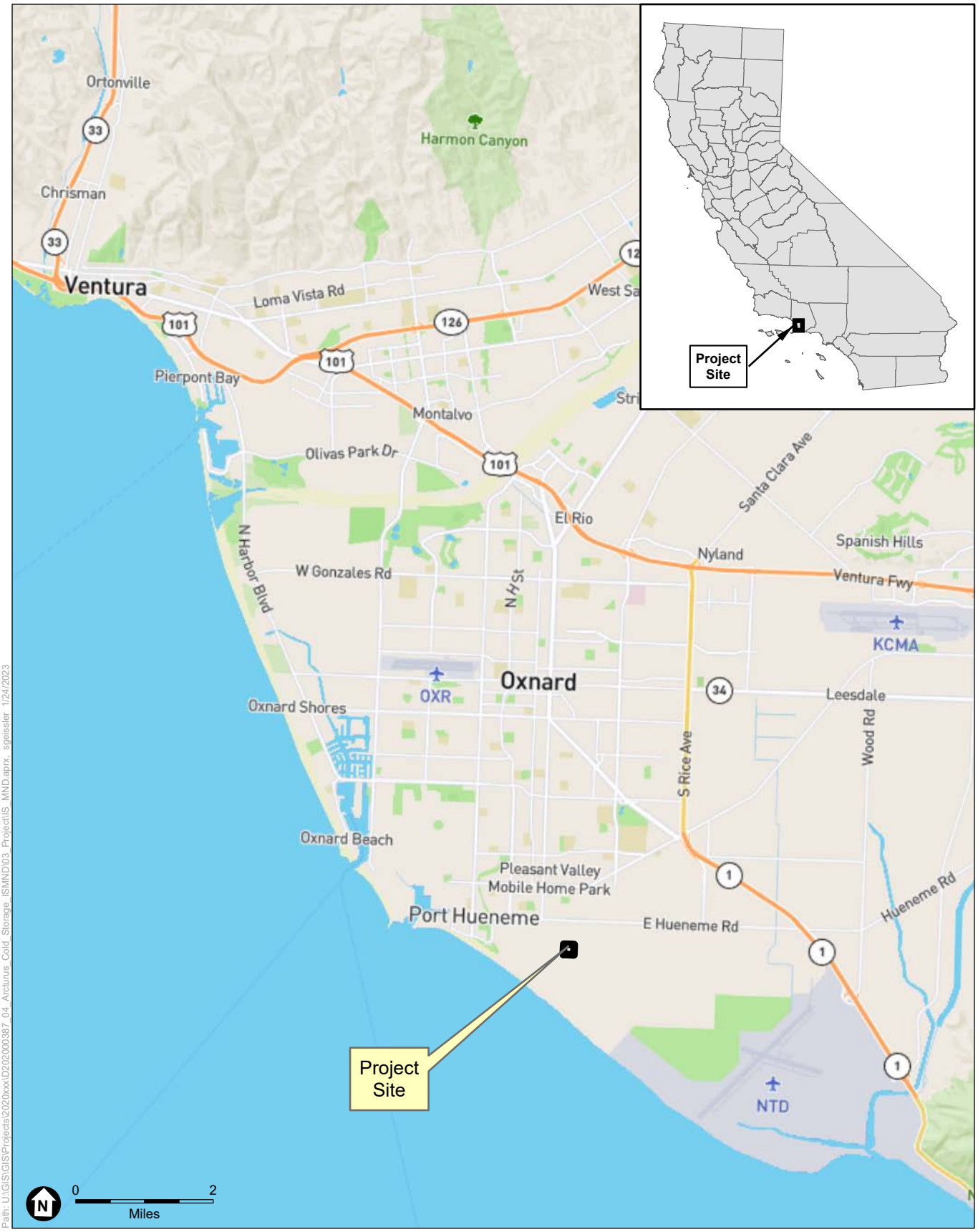
1.1 Existing Conditions

The area surrounding the Project site consists of a mix of industrial and commercial uses, agricultural uses, and undeveloped land. The Project site is bounded by a BMW Group engineering and vehicle emission testing facility to the north, with Hueneme Road beyond; metal fabricator to the east, with Edison Drive beyond; McWane Boulevard to the south, with agricultural land uses beyond; and Arcturus Avenue to the west, with industrial uses beyond.

The Project site is currently comprised of a vacant lot in an industrial/agricultural area that is used to store shipping containers. The eastern portion of the Project site previously included a railroad spur, which was removed in 2022. The Project site is designated under the City of Oxnard 2030 General Plan as Light Industrial (ILT). The zoning designation for the proposed Project is Light Manufacturing (M-1). The nearest transit stop to the Project site is the Hueneme and Courtland stop (approximately 0.6-mile to the northwest), which is served by Gold Coast Transit District Route 23. The nearest residence is approximately 2,100 feet to the northwest. **Figure 2**, *Project Location*, shows the Project site and surrounding land uses.

1.2 Project Description

The Project would operate as a public cold storage facility for the import/export and distribution of fresh produce and refrigerated food products. During operation, inbound product would arrive by truck or container and proceed through the facility, be federally inspected as required, and be directed to the outbound dock for distribution or placed in a container for export. Eight pallet jacks would be used for loading and unloading the trailers, and four electric forklifts would be used to store and retrieve the product from the pallet racking in the cold storage rooms. In addition, containers from the stack rack system would be loaded onto a chassis and transported to the shipping or receiving dock via three terminal trucks. The facility would have a total of 25 employees, with an average of 12 employees per shift.



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SOURCE: ESRI

Arcturus Warehouse LLC IS/MND

Figure 1
Project Vicinity

ESA



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SOURCE: Mapbox, 2022 ESA, 2023

Arcturus Warehouse LLC IS/MND

Figure 2
Project Location

ESA

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The proposed Project would provide 67 parking spaces (53 standard, one van accessible, two standard accessible, one Electric Vehicle Fast Charging Simplified (EVCS) van accessible, seven carpool/vanpool, and three EVCS stall spaces) and 10 bicycle parking spaces. In addition, 271 trailer spaces would be provided in the western portion of the Project site. Aided by a grant from the South Coast Air Quality Management District (SCAQMD), the facility would be fitted with electrical outlets ("yard plugs") that would allow for the on-board fuel powered transportation refrigeration units (TRUs) to be transferred to electric power, which would assist with reducing idle emissions. The Project site would include a total of 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area.

1.3 Sustainability Features

The Project will incorporate sustainability features that would reduce operational emissions and incorporate sustainable site development practices that would result in water savings, energy efficiency, green-oriented materials selection, and improved indoor environmental quality. The Project will incorporate the following operational sustainability features:

- The Project will install 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area. This will reduce TRU idling emissions.
- The Project will provide one EVCS van accessible parking space, seven carpool/vanpool parking spaces, and three EVCS stall parking spaces. This will encourage the use of cleaner transportation vehicles.
- The Project will provide 10 bicycle parking spaces. This will encourage non-automotive transportation alternatives.
- The Project will include building energy efficient systems, which may include high efficiency heating and air conditioning systems, high efficiency lighting, natural ventilation and daylighting, and/or other energy efficient systems that would achieve a 10 percent building energy efficiency improvement compared to the applicable Title 24 Building Energy Efficiency Standards (Part 6). This will reduce building energy-related emissions.
- The Project will include on-site recycling/waste diversion collection facilities and/or subscribe to a municipal solid waste (MSW) collection service that achieves the goal of Assembly Bill 939 to divert at least 50 percent of non-hazardous MSW. This will reduce solid waste-related emissions.
- The Project will use non-greenhouse gas refrigerants for refrigeration equipment. This will reduce fugitive greenhouse gas emissions.

1.4 Existing Site Emissions

Except for the occasional parking of storage containers onsite, the existing site does not generate on-going operational emissions. The site would be cleared of storage containers prior to construction of the Project. For the purposes of this analysis, the Project's emissions are considered all net new emissions and existing site emissions will not be calculated and subtracted from the Project's emissions.

1.5 Environmental Setting – Air Quality

1.5.1 Regional Air Quality

Criteria Pollutants

The Project site is located within the Ventura County portion of the South-Central Coast Air Basin (Air Basin). The topography and climate of Ventura County combine to make the Air Basin an area of high air pollution potential. Limited dispersion of emissions and increases in ambient air pollution levels result from the weak vertical and horizontal dispersion characteristics within Ventura County. Temperature inversions persist and prevent pollutants from rising and dispersing. The mountain ranges within Southern California inhibit horizontal dispersion of pollutants.

Air is recirculated in Ventura County as a result of the diurnal land and sea breeze pattern. In the early mornings, the land breeze pushes air pollutants toward the ocean, and in the afternoon, pollutants are pushed east by the sea breeze. This causes pollutants to remain in the Air Basin for several days. Ambient air pollution levels of ozone (a secondary pollutant formed in the atmosphere when oxides of nitrogen and reactive organic gases react in the presence of sunlight) increase due to emissions from the previous days reacting with new emissions and in the presence of sunlight. This effect is mostly observed from May through October, when air temperatures are higher and sunlight is more intense. Most of Ventura County's ozone standard exceedances occur during this 6-month period (VCAPCD 2003).

To protect human health and the environment, the USEPA has set "primary" and "secondary" maximum ambient limits for each of the criteria pollutants. Primary standards were set to protect human health, particularly with sensitive populations, such as children, the elderly, and individuals suffering from chronic lung conditions, such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent damage to animals, crops, vegetation, and buildings. Ozone (O_3) and nitrogen dioxide (NO_2) are considered regional pollutants because they (and their precursors) affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), sulfur dioxide (SO_2), and lead (Pb) are considered local pollutants that tend to accumulate in the air locally. Particulate matter (PM) is both a local and regional pollutant (USEPA 2016).

The pollutants of concern within the Air Basin, including the Project area, are O_3 (including oxides of nitrogen [NO_X] and reactive organic gases [ROG]), and particulate matter. The VCAPCD has not established quantitative thresholds for particulate matter for either construction or operations. However, VCAPCD indicates that a project that may be reasonably expected to generate fugitive dust emissions in such quantities as to cause injury, detriment, nuisance, or annoyance to any considerable number of people or to the public, or that may endanger the comfort, repose, health, or safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property, would have a significant

adverse air quality impact (VCAPCD 2003). Therefore, particulate matter is considered a pollutant of concern for the proposed Project. In the analysis, ROGs are used as a surrogate for reactive organic compounds (ROCs) regulated by VCAPCD. Principal characteristics surrounding these pollutants are discussed below. Toxic air contaminants (TACs) are also discussed, although no air quality standards exist for these pollutants.

Ozone (O_3): Ozone is a secondary pollutant formed by the chemical reaction of VOCs and nitrogen oxides (NO_X) in the presence of sunlight under favorable meteorological conditions, such as high temperature and stagnation episodes. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. According to the USEPA, ozone can cause the muscles in the airways to constrict, potentially leading to wheezing and shortness of breath.[1] Ozone can make it more difficult to breathe deeply and vigorously; cause shortness of breath and pain when taking a deep breath; cause coughing and sore or scratchy throat; inflame and damage the airways; aggravate lung diseases such as asthma, emphysema and chronic bronchitis; increase the frequency of asthma attacks; make the lungs more susceptible to infection; continue to damage the lungs even when the symptoms have disappeared; and cause chronic obstructive pulmonary disease.[2] Long-term exposure to ozone is linked to aggravation of asthma, and is likely to be one of many causes of asthma development and long-term exposures to higher concentrations of ozone may also be linked to permanent lung damage, such as abnormal lung development in children.[3] According to the CARB, inhalation of ozone causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms, and exposure to ozone can reduce the volume of air that the lungs breathe in and cause shortness of breath.[4] The USEPA states that people most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers.[5] Children are at greatest risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure.[6] According to CARB, studies show that children are no more or less likely to suffer harmful effects than adults; however, children and teens may be more susceptible to ozone and other pollutants because they spend nearly twice as much time outdoors and engaged in vigorous activities compared to adults.[7] Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults and are less likely than adults to notice their

1 United States Environmental Protection Agency (USEPA), Health Effects of Ozone Pollution, https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution, last updated October 10, 2018. Accessed May 2022.

2 USEPA, Health Effects of Ozone Pollution.

3 USEPA, Health Effects of Ozone Pollution.

4 California Air Resources Board (CARB), Ozone & Health, Health Effects of Ozone, https://ww2.arb.ca.gov/resources/ozone-and-health. Accessed May 2022.

5 USEPA, Health Effects of Ozone Pollution.

6 USEPA, Health Effects of Ozone Pollution.

7 CARB, Ozone & Health, Health Effects of Ozone.

own symptoms and avoid harmful exposures.[8] Further research may be able to better distinguish between health effects in children and adults.[9]

Reactive Organic Gases (ROG) and Volatile Organic Compounds (VOCs): ROG and VOCs are organic chemical compounds of carbon and are not "criteria" pollutants themselves; however, they contribute with NO_X to form ozone, and are regulated to prevent the formation of ozone.[10] According to CARB, some ROG and VOCs are highly reactive and play a critical role in the formation of ozone, other ROG and VOCs have adverse health effects, and in some cases, ROG and VOCs can be both highly reactive and have adverse health effects.[11] ROG and VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids, internal combustion associated with motor vehicle usage, and consumer products (e.g., architectural coatings, etc.).[12] For the purposes of this assessment ROG and VOC are used interchangeably.

Nitrogen Dioxide (NO_2) and Nitrogen Oxides (NO_X): NO_X is a term that refers to a group of compounds containing nitrogen and oxygen. The primary compounds of air quality concern include NO_2 and nitric oxide (NO). Ambient air quality standards have been promulgated for NO_2, which is a reddish-brown, reactive gas.[13] The principle form of NO_X produced by combustion is NO, but NO reacts quickly in the atmosphere to form NO_2, creating the mixture of NO and NO_2 referred to as NO_X.[14] Major sources of NO_X include emissions from cars, trucks and buses, power plants, and off-road equipment.[15] The terms NO_X and NO_2 are sometimes used interchangeably. However, the term NO_X is typically used when discussing emissions, usually from combustion-related activities, and the term NO_2 is typically used when discussing ambient air quality standards. Where NO_X emissions are discussed in the context of the thresholds of significance or impact analyses, the discussions are based on the conservative assumption that all NO_X emissions would oxidize in the atmosphere to form NO_2. According to the USEPA, short-term exposures to NO_2 can potentially aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms while longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections.[16] According to CARB, controlled human exposure studies show that NO_2 exposure can intensify responses to allergens in allergic asthmatics.[17] In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature

8 CARB, Ozone & Health, Health Effects of Ozone.

9 CARB, Ozone & Health, Health Effects of Ozone.

10 USEPA, Technical Overview of Volatile Organic Compounds, https://www.epa.gov/indoor-air-quality-iaq/technical-overview-volatile-organic-compounds, last updated April 12, 2017. Accessed May 2022.

11 CARB, Toxic Air Contaminants Monitoring, Volatile Organic Compounds, https://www.arb.ca.gov/aaqm/toxics.htm, last reviewed June 9, 2016. Accessed May 2022.

12 CARB, Toxic Air Contaminants Monitoring, Volatile Organic Compounds.

13 CARB, Nitrogen Dioxide & Health, https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health. Accessed May 2022.

14 CARB, Nitrogen Dioxide & Health.

15 USEPA, Nitrogen Dioxide (NO_2) Pollution, https://www.epa.gov/no2-pollution/basic-information-about-no2, last updated September 8, 2016. Accessed May 2022.

16 USEPA, Nitrogen Dioxide (NO_2) Pollution.

17 CARB, Nitrogen Dioxide & Health.

death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses.[18] Infants and children are particularly at risk from exposure to NO_2 because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease.[19] CARB states that much of the information on distribution in air, human exposure and dose, and health effects is specifically for NO_2 and there is only limited information for NO and NO_X, as well as large uncertainty in relating health effects to NO or NO_X exposure.[20]

Carbon Monoxide (CO): CO is primarily emitted from combustion processes and motor vehicles due to the incomplete combustion of fuel, such as natural gas, gasoline, or wood, with the majority of outdoor CO emissions from mobile sources.[21] According to the USEPA, breathing air with a high concentration of CO reduces the amount of oxygen that can be transported in the blood stream to critical organs like the heart and brain and at very high levels, which are possible indoors or in other enclosed environments, CO can cause dizziness, confusion, unconsciousness and death.[22] Very high levels of CO are not likely to occur outdoors; however, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease since these people already have a reduced ability for getting oxygenated blood to their hearts and are especially vulnerable to the effects of CO when exercising or under increased stress.[23] In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina.[24] According to CARB, the most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain.[25] For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress; inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance.[26] Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO.[27]

Sulfur Dioxide (SO_2): According to the USEPA, the largest source of SO_2 emissions in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities while smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy

18 CARB, Nitrogen Dioxide & Health.
19 CARB, Nitrogen Dioxide & Health.
20 CARB, Nitrogen Dioxide & Health.
21 CARB, Carbon Monoxide & Health, https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health. Accessed May 2022.
22 USEPA, Carbon Monoxide (CO) Pollution in Outdoor Air, https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution, last updated September 8, 2016. Accessed May 2022.
23 USEPA, Carbon Monoxide (CO) Pollution in Outdoor Air.
24 USEPA, Carbon Monoxide (CO) Pollution in Outdoor Air.
25 CARB, Carbon Monoxide & Health.
26 CARB, Carbon Monoxide & Health.
27 CARB, Carbon Monoxide & Health.

equipment that burn fuel with a high sulfur content.[28] In 2006, California phased in the ultra-low-sulfur diesel regulation limiting vehicle diesel fuel to a sulfur content not exceeding 15 parts per million, down from the previous requirement of 500 parts per million, substantially reducing emissions of sulfur from diesel combustion.[29] According to the USEPA, short-term exposures to SO_2 can harm the human respiratory system and make breathing difficult.[30] According to CARB, health effects at levels near the State one-hour standard are those of asthma exacerbation, including bronchoconstriction, accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath and chest tightness, especially during exercise or physical activity and exposure at elevated levels of SO_2 (above 1 part per million (ppm)) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.[31] Children, the elderly, and those with asthma, cardiovascular disease, or chronic lung disease (such as bronchitis or emphysema) are most likely to experience the adverse effects of SO_2.[32,33]

Particulate Matter (PM10 and PM2.5): Particulate matter air pollution is a mixture of solid particles and liquid droplets found in the air.[34] Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye while other particles are so small they can only be detected using an electron microscope.[35] Particles are defined by their diameter for air quality regulatory purposes: inhalable particles with diameters that are generally 10 micrometers and smaller (PM10); and fine inhalable particles with diameters that are generally 2.5 micrometers and smaller (PM2.5).[36] Thus, PM2.5 comprises a portion or a subset of PM10. Sources of PM10 emissions include dust from construction sites, landfills and agriculture, wildfires and brush/waste burning, industrial sources, and wind-blown dust from open lands.[37] Sources of PM2.5 emissions include combustion of gasoline, oil, diesel fuel, or wood.[38] PM10 and PM2.5 may be either directly emitted from sources (primary particles) or formed in the atmosphere through chemical reactions of gases (secondary particles) such as SO_2, NO_X, and certain organic compounds.[39] According to CARB, both PM10 and PM2.5 can be inhaled, with some depositing throughout the airways. PM10 is more likely to deposit on the surfaces of the larger airways of the upper region of the lung while PM2.5 is more likely to travel into and deposit on the surface of the deeper parts of the lung, which can induce tissue damage, and lung

28 USEPA, Sulfur Dioxide (SO_2) Pollution, https://www.epa.gov/so2-pollution/sulfur-dioxide-basics, last updated June 28, 2018. Accessed May 2022.

29 CARB, Final Regulation Order, Amendments to the California Diesel Fuel Regulations, Amend Section 2281, Title 13, California Code of Regulations, https://www.arb.ca.gov/regact/ulsd2003/fro2.pdf, approved July 15, 2004. Accessed March 2023.

30 USEPA, Sulfur Dioxide (SO_2) Pollution.

31 CARB, Sulfur Dioxide & Health, https://ww2.arb.ca.gov/resources/sulfur-dioxide-and-health. Accessed January 2022.

32 CARB, Sulfur Dioxide & Health.

33 USEPA, Sulfur Dioxide (SO_2) Pollution.

34 USEPA, Particulate Matter (PM) Pollution, https://www.epa.gov/pm-pollution/particulate-matter-pm-basics, last updated November 14, 2018. Accessed May 2022.

35 USEPA, Particulate Matter (PM) Pollution.

36 USEPA, Particulate Matter (PM) Pollution.

37 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10), https://www.arb.ca.gov/research/aaqs/common-pollutants/pm/pm.htm, last reviewed August 10, 2017. Accessed May 2022.

38 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).

39 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).

inflammation.[40] Short-term (up to 24 hours duration) exposure to PM10 has been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits.[41] The effects of long-term (months or years) exposure to PM10 are less clear, although studies suggest a link between long-term PM10 exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer.[42] Short-term exposure to PM2.5 has been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days and long-term exposure to PM2.5 has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children.[43] According to CARB, populations most likely to experience adverse health effects with exposure to PM10 and PM2.5 include older adults with chronic heart or lung disease, children, and asthmatics and children and infants are more susceptible to harm from inhaling pollutants such as PM10 and PM2.5 compared to healthy adults because they inhale more air per pound of body weight than do adults, spend more time outdoors, and have developing immune systems.[44]

Lead (Pb): Major sources of lead emissions include ore and metals processing, piston-engine aircraft operating on leaded aviation fuel, waste incinerators, utilities, and lead-acid battery manufacturers.[45] In the past, leaded gasoline was a major source of lead emissions; however, the removal of lead from gasoline has resulted in a decrease of lead in the air by 98 percent between 1980 and 2014.[46] Lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system, and affects the oxygen carrying capacity of blood.[47] The lead effects most commonly encountered in current populations are neurological effects in children, such as behavioral problems and reduced intelligence, anemia, and liver or kidney damage.[48] Excessive lead exposure in adults can cause reproductive problems in men and women, high blood pressure, kidney disease, digestive problems, nerve disorders, memory and concentration problems, and muscle and joint pain.[49]

Other Criteria Pollutants (California Only)

The California Ambient Air Quality Standards (CAAQS) regulate the same criteria pollutants as the National Ambient Air Quality Standards (NAAQS) but in addition, regulate State-identified criteria pollutants, including sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl

40 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).
41 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).
42 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).
43 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).
44 CARB, Inhalable Particulate Matter and Health (PM2.5 and PM10).
45 USEPA, Lead Air Pollution, https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution, last updated November 29, 2017. Accessed May 2022.
46 USEPA, Lead Air Pollution.
47 USEPA, Lead Air Pollution.
48 CARB, Lead & Health, https://ww2.arb.ca.gov/resources/lead-and-health. Accessed May 2022.
49 CARB, Lead & Health.

chloride.[50] With respect to the State-identified criteria pollutants (i.e., sulfates, hydrogen sulfide, visibility reducing particles, and vinyl chloride), the Project would either not emit them (i.e., hydrogen sulfide and vinyl chloride), or they would be accounted for as part of the pollutants estimated in this analysis (i.e., sulfates and visibility reducing particles). For example, visibility reducing particles are associated with particulate matter emissions and sulfates are associated with SO_X emissions. Both particulate matter and SO_X are included in the emissions estimates for the Project. A description of the health effects of the State-identified criteria air pollutants is provided below.

Sulfates (SO_4^{2-}): Sulfates in the environment occur as a result of SO_2 (sulfur dioxide) being converted to SO_4^{2-} compounds in the atmosphere where sulfur is first oxidized to SO_2 during the combustion process of sulfur containing, petroleum-derived fuels (e.g., gasoline and diesel fuel).[51] Exposure to SO_4^{2-}, which are part of PM2.5, results in health effects similar to those from exposure to PM2.5 including reduced lung function, aggravated asthmatic symptoms, and increased risk of emergency department visits, hospitalizations, and death in people who have chronic heart or lung diseases.[52] Population groups with higher risks of experiencing adverse health effects with exposure to SO_4^{2-} include children, asthmatics, and older adults who have chronic heart or lung diseases.[53]

Hydrogen Sulfide (H_2S): H_2S is a colorless gas with a strong odor of rotten eggs. The most common sources of H_2S emissions are oil and natural gas extraction and processing, and natural emissions from geothermal fields. Industrial sources of H_2S include petrochemical plants and kraft paper mills. H_2S is also formed during bacterial decomposition of human and animal wastes, and is present in emissions from sewage treatment facilities and landfills.[54] Exposure to H_2S can induce tearing of the eyes and symptoms related to overstimulation of the sense of smell, including headache, nausea, or vomiting; additional health effects of eye irritation have only been reported with exposures greater than 50 ppm, which is considerably higher than the odor threshold.[55] H_2S is regulated as a nuisance based on its odor detection level; if the standard were based on adverse health effects, it would be set at a much higher level.[56] According to CARB, there are insufficient data available to determine whether or not some groups are at greater risk than others.[57]

Visibility-Reducing Particles: Visibility-reducing particles come from a variety of natural and manmade sources and can vary greatly in shape, size and chemical composition. Visibility reduction is caused by the absorption and scattering of light by the particles in the atmosphere before it reaches the observer. Certain visibility-reducing particles are directly emitted to the air

50 CARB, California Ambient Air Quality Standards, https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards. Accessed May 2022.
51 CARB, Sulfate & Health, https://ww2.arb.ca.gov/resources/sulfate-and-health. Accessed May 2022.
52 CARB, Sulfate & Health.
53 CARB, Sulfate & Health.
54 CARB, Hydrogen Sulfide & Health, https://ww2.arb.ca.gov/resources/hydrogen-sulfide-and-health. Accessed May 2021.
55 CARB, Hydrogen Sulfide & Health.
56 CARB, Hydrogen Sulfide & Health.
57 CARB, Hydrogen Sulfide & Health.

such as windblown dust and soot, while others are formed in the atmosphere through chemical transformations of gaseous pollutants (e.g., sulfates, nitrates, organic carbon particles) which are the major constituents of particulate matter. As the number of visibility reducing particles increases, more light is absorbed and scattered, resulting in less clarity, color, and visual range.[58] Exposure to some haze-causing pollutants have been linked to adverse health impacts similar to PM10 and PM2.5 as discussed above.[59]

Vinyl Chloride: Vinyl chloride is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products and are generally emitted from industrial processes and other major sources of vinyl chloride have been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.[60] Short-term health of effects of exposure to high levels of vinyl chloride in the air include central nervous system effects, such as dizziness, drowsiness, and headaches while long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage and has been shown to increase the risk of angiosarcoma, a rare form of liver cancer in humans.[61] Most health data on vinyl chloride relate to carcinogenicity; thus, the people most at risk are those who have long-term exposure to elevated levels, which is more likely to occur in occupational or industrial settings; however, control methodologies applied to industrial facilities generally prevent emissions to the ambient air.[62]

Valley Fever

San Joaquin Valley Fever, also known simply as Valley Fever (formally known as *Coccidioidomycosis*) is an infectious disease caused by the fungus *Coccidioides immitis*. Infection is caused by inhalation of *Coccidioides immitis* spores that have become airborne when dry, dusty soil or dirt is disturbed by wind, construction, farming, or other activities. The Valley Fever fungus tends to be found at the base of hillsides in virgin undisturbed soil in the southwestern United States; it does not tend to occur in populous or urban areas because of a lack of enough undisturbed soil to support fungus growth.[63] It also is not typically found in areas under agricultural cultivation, as the application of fertilizers inhibits fungus growth.

In its primary form, symptoms appear as a mild upper respiratory infection, acute bronchitis, or pneumonia. The most common symptoms are flu-like fatigue, cough, chest pain, fever, rash, headache, and joint aches, although 60 percent of people infected are asymptomatic and do not seek medical attention. In the remaining 40 percent of people affected, symptoms can include fever, tiredness, cough, chest pain, muscle or joint aches, headaches, weight loss, night sweats or

58 CARB, Visibility-Reducing Particles and Health, last reviewed October 11, 2016, https://www.arb.ca.gov/research/aaqs/common-pollutants/vrp/vrp.htm. Accessed May 2022.

59 CARB, Visibility-Reducing Particles and Health.

60 CARB, Vinyl Chloride & Health, https://ww2.arb.ca.gov/resources/vinyl-chloride-and-health. Accessed January 2022.

61 CARB, Vinyl Chloride & Health.

62 CARB, Vinyl Chloride & Health.

63 Ventura County Air Pollution Control District, Ventura County Air Quality Assessment Guidelines, page 2-14 - 2-15, October 2003.

rash. Most people who get Valley Fever fully recover and are usually protected from getting it again.[64]

According to the County of Los Angeles Department of Public Health, the fungus that causes Valley Fever is most commonly found in areas of the Antelope Valley in Los Angeles County, Kern County, and Central California.[65] However, it can occur elsewhere in Southern California where conditions are conducive. According to an article in the journal, *Fungal Ecology*, the fungus "may be associated with alkaline soil that has a high salt content, rodent burrows and Amerindian middens at archeological sites;" however, "at finer scales, the ecology of the fungus remains obscure and environmental antecedents of the disease are largely unstudied."[66] In other words, alkaline soils with a high salt content, rodent burrows, and Amerindian middens at archaeological sites may increase the chance that the fungus is present, but does not mean with any certainty that it is actually present at a particular location.

A relatively large-scale outbreak of Valley Fever occurred in southern California when the 1994 Northridge earthquake triggered landslides that created mass quantities of airborne dust. The dust clouds were concluded to cause 243 new recorded cases of Valley Fever, the majority of which were in Simi Valley in Ventura County.[67]

Valley Fever's proliferation after the 1994 Northridge earthquake was an anomaly and was temporary. The average number of reported cases in Ventura County before 1994 was 40 per year. Since 1995, the number of reported cases in Ventura County returned to the pre-1994 average.[68]

Toxic Air Contaminants

Toxic air contaminants (TACs) is defined by California Health and Safety Code Section 39655:

> *"Toxic air contaminant" means an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412(b)) is a toxic air contaminant.*

Diesel particulate matter, which is emitted in the exhaust from diesel engines, was listed by the State as a toxic air contaminant in 1998. Most major sources of diesel emissions, such as ships, trains, and trucks operate in and around ports, railyards, and heavily traveled roadways. These areas are often located near highly populated areas resulting in greater health consequences for urban areas than rural areas.[69] Diesel particulate matter has historically been used as a surrogate

64 County of Los Angeles, FAQ about Valley Fever (Coccidioidomycosis), July 8, 2022, http://publichealth.lacounty.gov/hea/library/topics/valleyfever/CDCP-ACDC-0037-01.pdf. Accessed July 28, 2023.

65 County of Los Angeles, FAQ about Valley Fever (Coccidioidomycosis).

66 B.M. Barker, J.A. Tabor, L.F. Shubitz, R. Perrill, and M. J. Orbach, "Detection and phylogenetic analysis of *Coccidioides posadasii* in Arizona soil samples." *Fungus Ecology* (2011), doi:10.1016/j.funeco.2011.07.010.

67 Ventura County Air Pollution Control District, Ventura County Air Quality Assessment Guidelines, page 2-15.

68 Ventura County Air Pollution Control District, Ventura County Air Quality Assessment Guidelines, page 2-15.

69 CARB, Overview: Diesel Exhaust and Health, https://www.arb.ca.gov/research/diesel/diesel-health.htm. Accessed May 2022.

measure of exposure for all diesel exhaust emissions. Diesel particulate matter consists of fine particles (fine particles have a diameter <2.5 μm), including a subgroup of ultrafine particles (ultrafine particles have a diameter <0.1 μm). Collectively, these particles have a large surface area which makes them an excellent medium for absorbing organics. The visible emissions in diesel exhaust include carbon particles or "soot." Diesel exhaust also contains a variety of harmful gases and cancer-causing substances.

Exposure to diesel particulate matter may be a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Diesel particulate matter levels and resultant potential health effects may be higher in proximity to heavily traveled roadways with substantial truck traffic or near industrial facilities. According to CARB, diesel particulate matter exposure may lead to the following adverse health effects: (1) Aggravated asthma; (2) Chronic bronchitis; (3) Increased respiratory and cardiovascular hospitalizations; (4) Decreased lung function in children; (5) Lung cancer; and (6) Premature deaths for people with heart or lung disease.[70,71]

1.5.2 Local Air Quality

The VCAPCD currently operates six monitoring stations throughout the Air Basin. The closest monitoring station to the Project is the Rio Mesa School #2 - Air Monitoring Station located at 545 Central Avenue, El Rio, California, approximately 8 miles northeast of the Project site. The Rio Mesa School #2 - Air Monitoring Station monitors for ozone NOx, PM_{10} and $PM_{2.5}$. Currently, CO, SO_2, and lead are not monitored in Ventura County. The ambient air data for monitored criteria pollutants from this vicinity is shown in **Table 1,** *VCAPCD Air Quality Data Summary***,** for the five most recent years (2017 through 2021). Pollutant concentrations vary from year to year based on weather conditions and the changes to land use patterns.

TABLE 1
VCAPCD AIR QUALITY DATA SUMMARY

		Monitoring Data by Year				
Pollutant	**Standard[a]**	**2017**	**2018**	**2019**	**2020**	**2021**
Ozone – El Rio – Rio Mesa School #2 - Air Monitoring Station						
Highest 1-Hour Average (ppm) [b]		0.084	0.072	0.078	0.104	0.073
Days over State Standard	0.09 ppm	0	0	0	2	0
Highest 8-Hour Average (ppm)[b]		0.071	0.062	0.070	0.086	0.059
Days over National Standard	0.070 ppm	1	0	0	3	0
Days over State Standard	0.070 ppm	1	0	0	3	0

70 CARB, Diesel and Health Research, http://www.arb.ca.gov/research/diesel/diesel-health.htm. Accessed May 2022.

71 CARB, Diesel Particulate Matter Health Risk Assessment Study for the West Oakland Community: Preliminary Summary of Results, (2008), http://www.arb.ca.gov/ch/communities/ra/westoakland/documents/factsheet0308.pdf. Accessed March 2022.

Pollutant	Standard[a]	Monitoring Data by Year 2017	2018	2019	2020	2021
Nitrogen Dioxide – El Rio – Rio Mesa School #2 - Air Monitoring Station						
Highest 1-Hour Average (ppm) [b]		0.036	0.049	0.031	0.031	0.026
Days over National Standard	0.10 ppm	0	0	0	0	0
Days over State Standard	0.18 ppm	0	0	0	0	0
Annual Average (ppm)[b]		0.014	0.017	0.013	0.014	0.013
Days over National Standard	0.053 ppm	0	0	0	0	0
Days over State Standard	0.03 ppm	0	0	0	0	0
Particulate Matter (PM_{10}) – El Rio – Rio Mesa School #2 - Air Monitoring Station						
Highest 24-Hour Average ($\mu g/m^3$)[c]		287.9	209.0	187.9	200.7	125.0
Days over National Standard (measured)	150 $\mu g/m^3$	1	2	2	2	0
Days over State Standard (measured)	50 $\mu g/m^3$	31	22	14	21	10
Annual Average ($\mu g/m^3$)	20 $\mu g/m^3$	76.8	61.3	60.3	88.1	72.4
Particulate Matter ($PM_{2.5}$) – El Rio – Rio Mesa School #2 - Air Monitoring Station						
Highest 24-Hour Average ($\mu g/m^3$)[d]		81.3	41.2	25.5	58.7	31.7
Days over National Standard (measured)	35 $\mu g/m^3$	4	1	0	3	0
Annual Average ($\mu g/m^3$)	12 $\mu g/m^3$	22.7	19.6	13.5	20	16.3

NOTES: ppm = parts per million; µg/m3 = micrograms per cubic meter.

* Data is not available for that year.

a Generally, state standards and national standards are not to be exceeded more than once per year.

b The highest average reported is the 1st highest average for State and National. The days over standard for national and state are based on different criteria and therefore may be different even though the standards are the same.

c Concentrations and averages represent federal statistics. State and federal statistics may differ because of different sampling methods.

d Concentrations and averages represent state statistics. State and federal statistics may differ because of different sampling methods.

SOURCE: CARB 2022e, AQ2MIS.
https://www.arb.ca.gov/aqmis2/display.php?param=NO2&year=2020&units=007&report=SITE1YR&statistic=DMAX&site=2991&ptype=aqd

Both CARB and USEPA use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. Nonattainment designation refers to an area considered to have concentration of one or more criteria pollutants that exceed the National Ambient Air Quality Standards (NAAQS) and/or the California Ambient Air Quality Standards (CAAQS). The attainment designation refers to an area with concentrations of criteria pollutants that are below the levels established by the NAAQS and/or CAAQS. Unclassified is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment. The Air Basin (Ventura County portion) is currently classified as a federal nonattainment area for ozone and currently classified as a state nonattainment area for ozone and PM_{10}. The Air Basin is in attainment for all other criteria

pollutants. The current attainment status for the Air Basin is provided in **Table 2,** *Air Basin Attainment Status*.

TABLE 2
AIR BASIN ATTAINMENT STATUS

	Attainment Status	
Pollutant	**California Standards**	**Federal Standards**
South Central Coast Air Basin (Ventura County)		
Ozone	Nonattainment	Serious Nonattainment
NO_2	Attainment	Attainment/Unclassifiable
CO	Attainment	Attainment/Unclassifiable
SO_2	Attainment	Attainment/Unclassifiable
PM_{10}	Nonattainment	Unclassifiable
$PM_{2.5}$	Attainment	Attainment/Unclassifiable
Lead	Attainment	Attainment/Unclassifiable
SO_4^{2-}	Attainment	Not Applicable
H_2S	Unclassified	Not Applicable
Visibility Reducing Particles	Unclassified	Not Applicable
Vinyl Chloride [a]	Not Applicable	Not Applicable

NOTES:

[a] In 1990, the California Air Resources Board identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the California Air Resources Board does not monitor or make status designations for this pollutant.

SOURCES: CARB 2020; USEPA 2021b.

1.5.3 Sensitive Receptors

Certain population groups, such as children, elderly, and acutely and chronically ill persons (especially those with cardio-respiratory diseases), are considered more sensitive to the potential effects of air pollution than others. There are no sensitive land uses within 1,000 feet of the Project site. Only worker receptors are within a 1,000-foot radius at the surrounding industrial and agricultural uses. The nearest residence is approximately 2,100 feet to the northwest.

1.6 Environmental Setting – Greenhouse Gases

1.6.1 Greenhouse Effect

Certain gases in the Earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. GHG is any gas in the atmosphere that absorbs infrared radiation. As solar radiation enters the earth's atmosphere, a portion of the radiation is absorbed by the earth's surface, and a portion is reflected back through the atmosphere into space. The absorbed radiation is eventually emitted from the earth into the atmosphere, not as solar radiation, but as infrared radiation. Most solar radiation passes through GHGs; infrared radiation is selectively absorbed or "trapped" by GHGs as heat and then reradiated back toward the earth's surface,

warming the lower atmosphere and the earth's surface. This phenomenon, known as the "greenhouse effect," is beneficial for maintaining a habitable climate on the earth. As the atmospheric concentrations of GHGs rise, however, the average temperature of the lower atmosphere gradually increases, thereby increasing the potential for indirect effects such as a decrease in precipitation as snow, a rise in sea level, and changes to plant and animal species and habitat.

Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed globally. Although the exact lifetime of any particular GHG molecule depends on multiple variables and cannot be pinpointed, scientific evidence reveals that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 54 percent is sequestered through ocean uptake, uptake by northern hemisphere forest regrowth, and other terrestrial sinks within a year, whereas the remaining 46 percent of human-caused CO_2 emissions remains stored in the atmosphere. The quantity of GHGs that it takes to ultimately result in climate change is not known precisely, although scientific evidence strongly indicates no single project would be expected to contribute measurably to a noticeable incremental change in the global average temperature.

1.6.2 Greenhouse Gases and Global Warming Potential

GHGs are emitted by natural processes and human activities. Natural GHG sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Human activities known to emit GHGs include industrial manufacturing, utilities, transportation, residential, and agricultural activities. The GHGs that enter the atmosphere because of human activities are CO_2, CH_4, N_2O, fluorinated carbons (hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).

CO_2 is an odorless, colorless gas with both natural and anthropogenic sources. Examples of natural sources are respiration of bacteria, plants, and animals, evaporation from oceans, and decomposition of organic matter. Human activities that emit CO_2 include burning coal, oil, natural gas, and wood.

CH_4 is a flammable gas that is the main component of natural gas. When burned in the presence of oxygen, CO_2 and water are released. There are no direct health effects from exposure to CH_4. Sources of CH_4 include decay or organic material, natural gas fields, cattle, and landfills.

N_2O is a colorless gas that can cause euphoria, dizziness, and slight hallucinations when exposed to higher concentrations. Sources include agricultural sources (e.g., microbial processes in soil and water, fertilizer) and industrial processes (e.g., fossil fuel-fired power plants, vehicle emissions, nylon production).

Fluorinated Gases are synthetic and emitted from a variety of industrial processes.

> **HFCs** are man-made chemicals used as a substitute for CFCs (chlorofluorocarbons) for automobile air conditioners and refrigerants.
>
> **PFCs** are very stable and do not break down through the chemical processes in the lower atmosphere and they have long lifetimes (between 10,000 and 50,000 years). The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.
>
> **SF_6** is an inorganic, colorless, odorless, nontoxic, nonflammable gas used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
>
> **NF_3** is an inorganic, non-toxic, odorless, non-flammable gas. NF_3 is used in the manufacture of semi-conductors, as an oxidizer of high energy fuels, for the preparation of tetrafluorohydrazine, as an etchant gas in the electronic industry, and as a fluorine source in high power chemical lasers.

The Intergovernmental Panel on Climate Change (IPCC) developed the Global Warming Potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of one kilogram of a trace substance relative to that of one kilogram of a reference gas. The reference gas used is CO_2. The GWP of CO_2 is 1. Therefore, GWP-weighted emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e). The GWPs in the IPCC Fourth Assessment Report (AR4) are used by CARB for reporting Statewide GHG emissions inventories, consistent with international reporting standards. In the AR4, the GWP for CH_4 is 25, N_2O is 298, and SF_6 is 22,800.

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SECTION 2
Regulatory Framework

Multiple statutes, regulations, plans and policies have been adopted which address air quality concerns. The Project site and vicinity are subject to air quality regulations developed and implemented at the federal, State, and local levels. At the federal level, the USEPA is responsible for implementation of the Federal Clean Air Act (CAA). Some portions of the CAA (e.g., certain mobile source requirements and other requirements) are implemented directly by the USEPA. Other portions of the CAA (e.g., stationary source requirements) are implemented through delegation of authority to State and local agencies. Applicable plans and policies have been adopted by various agencies that address air quality concerns. Those plans and policies that are relevant to the Project are discussed below.

2.1 Federal

2.1.1 Clean Air Act

The Federal CAA was enacted in 1955 and has been amended numerous times in subsequent years, with the most recent amendments occurring in 1990.[72] The CAA is the comprehensive federal law that regulates air emissions in order to protect public health and welfare.[73] The USEPA is responsible for the implementation and enforcement of the CAA, which establishes federal NAAQS, specifies future dates for achieving compliance, and requires USEPA to designate areas as attainment, nonattainment, or maintenance. The CAA also mandates that each state submit and implement a State Implementation Plan (SIP) for each criteria pollutant for which the state has not achieved the applicable NAAQS. The SIP includes pollution control measures that demonstrate how the standards for those pollutants will be met. The sections of the CAA most applicable to the Project include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions).[74,75]

Title I requirements are implemented for the purpose of attaining NAAQS for criteria air pollutants. The NAAQS were amended in July 1997 to include an 8-hour standard for ozone and

72 42 United States Code §7401 et seq. (1970).

73 Summary of the Clean Air Act, https://www.epa.gov/laws-regulations/summary-clean-air-act. Accessed January 2022.

74 U.S. Environmental Protection Agency, Clean Air Act Overview, Clean Air Act Table of Contents by Title, Last Updated January 3, 2017, https://www.epa.gov/clean-air-act-overview/clean-air-act-text. Accessed May 2022. As shown therein, Title I addresses nonattainment areas and Title II addresses mobile sources.

75 Mobile sources include on-road vehicles (e.g., cars, buses, motorcycles) and non-road vehicles e.g. aircraft, trains, construction equipment). Stationary sources are comprised of both point and area sources. Point sources are stationary facilities that emit large amount of pollutants (e.g. municipal waste incinerators, power plants). Area sources are smaller stationary sources that alone are not large emitters, but combined can account for large amounts of pollutants (e.g., consumer products, residential heating, dry cleaners).

to adopt a NAAQS for PM2.5. The NAAQS were also amended in September 2006 to include an established methodology for calculating PM2.5, as well to revoke the annual PM10 threshold.

Title II requirements pertain to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have been strengthened in recent years to improve air quality. For example, the standards for NO_X emissions have been lowered substantially, and the specification requirements for cleaner burning gasoline are more stringent.

Table 3, *Ambient Air Quality Standards*, shows the NAAQS currently in effect for each criteria pollutant. The NAAQS and the CAAQS for the California criteria air pollutants (discussed below) have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including against decreased visibility and damage to animals, crops, vegetation, and buildings.[76] In addition to criteria pollutants, Title I also includes air toxics provisions which require USEPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112, USEPA establishes National Emission Standards for Hazardous Air Pollutants. The list of hazardous air pollutants (HAPs), or air toxics, includes specific compounds that are known or suspected to cause cancer or other serious health effects.

TABLE 3
AMBIENT AIR QUALITY STANDARDS

		California Standards[a]		National Standards[b]		
Pollutant	**Average Time**	**Concentration[c]**	**Method[d]**	**Primary[c,e]**	**Secondary [c,f]**	**Method[g]**
O_3[h]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
NO_2[i]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m^3)	None	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		53 ppb (100 µg/m^3)	Same as Primary Standard	
CO	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10mg/m^3)		9 ppm (10 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	

76 USEPA, NAAQS Table, https://www.epa.gov/criteria-air-pollutants/naaqs-table. Accessed January 2022.

Pollutant	Average Time	California Standards[a]		National Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary [c,f]	Method[g]
SO_2[j]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)9
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)j	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) j	—	
PM10[k]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
PM2. [k]	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3 k	15 µg/m^3	
Lead[l,m]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)m	Same as Primary Standard	
	Rolling 3-Month Average [m]	--		0.15 µg/m^3		
Visibility Reducing Particles [n]	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of 10 miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates (SO_4)	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [l]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Pollutant	Average Time	California Standards[a]		National Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary [c,f]	Method[g]

[a] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 micrograms/per cubic meter ($\mu g/m^3$) is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] Any equivalent procedure which can be shown to the satisfaction of the California Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[g] Reference method as described by the USEPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the USEPA.

[h] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[i] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[j] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[k] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$.

[l] The California Air Resources Board has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[m] The national standard for lead was revised on October 15, 2008 to a rolling three-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[n] In 1989, the California Air Resources Board converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: California Air Resources Board, Ambient Air Quality Standards (5/4/16). Available https://ww2.arb.ca.gov/resources/documents/ambient-air-quality-standards-0. Accessed May 2022.

In Massachusetts v. Environmental Protection Agency (2007) 549 U.S. 497, the U.S. Supreme Court held that USEPA has statutory authority under Section 202 of the federal Clean Air Act to regulate GHGs. The court did not hold that USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act. USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Clean Air Act Section 202(a)(1) consistently with the U.S. Supreme Court decision. USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle

engines are contributing to air pollution, which is endangering public health and welfare. These findings do not, by themselves, impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

2.1.2 Corporate Average Fuel Efficiency Standards

On September 15, 2009, the National Highway Traffic Safety Administration (NHTSA) and USEPA announced a proposed joint rule that would explicitly tie fuel economy to GHG emissions reductions requirements. In April 2020, USEPA and NHTSA amended the Corporate Average Fuel Economy (CAFE) and GHG emissions standards for passenger cars and light trucks and established new less stringent standards, covering model years 2021 through 2026 (Part Two of the Safer Affordable Fuel-Efficient [SAFE] Vehicles Rule). The CAFE and CO2 emissions standards will increase in stringency at 1.5 percent per year from model year 2020 levels over model years 2021 through 2026. USEPA's standards are projected to require, on an average industry fleet-wide basis, 201 grams per mile of CO2 in model year 2030, while NHTSA's standards are projected to require, on an average industry fleetwide basis, 40.5 miles per gallon in model year 2030 (Federal Register Volume 85, page 24174). California, 22 other states, and the District of Columbia filed a petition for review of the final rule on May 27, 2020. Also, on January 20, 2021, President Joe Biden signed Executive Order (EO) 13990, directing the government to revise fuel economy standards with the goal of further reducing emissions.

On April 22, 2021, NHTSA proposed to formally roll back portions of the SAFE Vehicles Rule, thereby restoring California's right to set more stringent fuel efficiency standards. NHTSA also issued a new rule to increase the national fuel economy standard for light duty vehicles beyond those in Part Two of the SAFE Vehicles Rule (Federal Register Volume 86, page 24236). Moreover, on August 5, 2021, President Biden signed an executive order that targets making half of all new vehicles sold in 2030 zero-emissions vehicles, including battery electric, plug-in hybrid electric, or fuel cell electric vehicles (White House Briefing Room 2021a).

2.1.3 Greenhouse Gas Emissions Reporting

In September 2009, USEPA finalized a GHG reporting and monitoring system that began on January 1, 2010. In general, this national reporting requirement provides USEPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons (MT) or more of CO_2 per year. This new program covers approximately 85 percent of the nation's GHG emissions and applies to approximately 10,000 facilities.

2.1.4 Energy Independence and Security Act

The Energy Independence and Security Act of 2007 (Clean Air Act Section 211[c][4][B]) facilitates the reduction of national GHG emissions by requiring the following actions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for

consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

- Require approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; and require approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020.
- While superseded by the USEPA and NHTSA actions described above, (i) establish miles-per-gallon targets for cars and light trucks and (ii) direct NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of the Energy Independence and Security Act address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs.[3]

2.2 State

2.2.1 California Clean Air Act

The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practical date. The CAAQS are established to protect the health of the most sensitive groups and apply to the same criteria pollutants as the federal Clean Air Act and also includes State-identified criteria pollutants, which are sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride.[77] CARB has primary responsibility for ensuring the implementation of the California Clean Air Act,[78] responding to the federal Clean Air Act planning requirements applicable to the state, and regulating emissions from motor vehicles and consumer products within the state.

2.2.2 California Code of Regulations

The California Code of Regulations (CCR) is the official compilation and publication of regulations adopted, amended or repealed by the state agencies pursuant to the Administrative Procedure Act. The CCR includes regulations that pertain to air quality emissions. Specifically, Section 2485 in Title 13 of the CCR states that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes at any location. In addition, Section 93115 in Title 17 of the CCR states that operations of any stationary, diesel-fueled, compression-ignition engines shall meet specified fuel and fuel additive requirements and emissions standards.

2.2.3 California Green Building Standard Code

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The CALGreen Code is intended to encourage more sustainable and environmentally friendly building practices, require low-pollution emitting

77 CARB, California Ambient Air Quality Standards (CAAQS), last reviewed August 10, 2017.

78 Chapter 1568 of the Statutes of 1988.

substances that cause less harm to the environment, conserve natural resources, and promote the use of energy-efficient materials and equipment.

Since 2011, the CALGreen Code has been mandatory for all new residential and non-residential buildings constructed in the state. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code was most recently updated in 2022 to include new mandatory measures for residential and non-residential uses.

2.2.4 California Air Resources Board

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of California to achieve and maintain the CAAQS. CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets the CAAQS, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts. The SIP is required for the state to take over implementation of the federal CAA from USEPA. CARB is also responsible for implementation of AB 32 *California Global Warming Solutions Act of 2006* and for state emissions reductions.

2.2.5 CARB On-Road and Off-Road Vehicle Rules

On-Road Light-Duty Vehicles

AB 1493 (Chapter 200, Statutes of 2002), enacted on July 22, 2002, required CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. In January 2012, CARB approved greenhouse gas emission regulations which require further reductions in passenger greenhouse gas emissions for 2017 and subsequent vehicle model years. In 2018, the USEPA proposed the Safer Affordable Fuel-Efficient Vehicles Rule (SAFE), which would roll back fuel economy standards and revoke California's waiver (i.e., ability to enact regulations for tailpipe emissions standards under the CAA). On September 27, 2019, the USEPA withdrew the waiver it had previously provided to California for the State's GHG and ZEV programs under Section 209 of the Clean Air Act.[79] The withdrawal of the waiver was effective November 26, 2019. In response, several states including California filed a lawsuit challenging the withdrawal of the USEPA waiver.[80] On March 14, 2022, the USEPA issued a notice of decision to reinstate California's Clean

[79] 84 FR 51310.

[80] United States District Court for the District Court of Columbia, State of California vs. Chao, Case 1:19-cv-02826, 2019.

Air Act waiver for its Advanced Clean Car regulations, restoring California's ability under the CAA to set more stringent fuel efficiency standards compared to federal standards.[81]

On-Road Heavy-Duty Diesel Vehicles (In Use) Regulation

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling to reduce public exposure to diesel PM and other TACs (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given time.

In 2008 CARB approved the Truck and Bus regulation to reduce NO_X, PM10, and PM2.5 emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The requirements were amended to apply to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. For the largest trucks in the fleet, those with a GVWR greater than 26,000 pounds, all must be equipped with diesel particulate filters (DPFs) from 2014 and onward and must have 2010 model year engines by January 1, 2023. For trucks and buses with a GVWR of 14,001 to 26,000 pounds, those with engine model years 14 to 20 years or older must be replaced with 2010 model year engines in accordance with the schedule specified in the regulation. Other public fleets, solid-waste collection trucks, and transit buses are already subject to other regulations and are not part of the truck and bus regulation.

On January 1, 2012, the regulation implemented phase-in requirements for heavier trucks to reduce particulate matter emissions with exhaust retrofit filters that capture pollutants before they are emitted to the air or by replacing vehicles with newer vehicles that are originally equipped with PM filters. Starting on January 1, 2015, lighter trucks with a GVWR of 14,001 to 26,000 pounds with engines that are 20 years or older would need to be replaced with newer trucks. Starting January 1, 2020, all remaining trucks and buses would need to be replaced so that they would all have 2010 model year engines or equivalent emissions by 2023.

Off-Road Diesel Fleet Regulation

In addition to limiting exhaust from idling trucks, CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and cranes, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by the CARB on July 26, 2007, reduces emissions by requiring the installation of diesel soot filters and the retirement, replacement, or repowering of older, dirtier engines with newer emission control models (13 CCR, Section 2449). Implementation is staggered based on fleet size (which is the total of all off-road horsepower under common ownership or control), with the largest fleets to begin compliance in 2014, medium fleets in 2017, and small fleets in 2019. Each fleet must demonstrate compliance through one of two methods. The compliance schedule

[81] California State Motor Vehicle Pollution Control Standards; Advanced Clean Car Program; Reconsideration of a Previous Withdrawal of a Waiver of Preemption; Notice of Decision, 87 Fed. Reg. 14,332 (Mar. 14, 2022).

requires fleets to fully meet emissions standards by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

In June 2020, the Advanced Clean Trucks (ACT) regulation was approved by CARB, which mandates zero-emission vehicle (ZEV) sales requirements for truck manufacturers and a one-time reporting requirement for large entities and fleets.[82] The regulation is designed to accelerate widespread adoption of ZEVs in the medium- and heavy-duty truck sector to reduce on-road mobile source emissions on the path to carbon neutrality by 2045 (EO B-55-18).

Starting in 2024, zero-emission powertrain certification will be required. Vehicle classes separate vehicles by their GVWR, maximum weight, and classes range from 1 to 8. However, in the context of ACT, Class 2b–3 group includes on-road vehicles with a GVWR that is 8,501 pounds up to 14,000 pounds; Class 4–8 group includes on-road vehicles with a GVWR that is 14,001 pounds and above, including "yard tractors"; and Class 7–8 group includes on-road vehicles that have a GVWR 26,001 pounds and above, including vehicles defined as "tractors".[83]

The ACT has different truck sales requirements for the different vehicle groups. Manufacturers will need to increase their percentage of ZEVs in order to achieve 55 percent of Class 2b–3 truck sales, 75 percent of Class 4–8 Vocational straight truck sales, and 40 percent of Class 7–8 Tractor sales by 2035. Currently, there are over 70 different models of ZE vans, trucks, and buses commercially available.[84] Most recently, in September 2020, Governor Gavin Newsom announced Executive Order N-79-20 stating that 100 percent of new passenger cars and 100 percent of operations for drayage trucks and off-road vehicles and equipment shall be ZE by 2035. By 2045, 100 percent of operations of medium- and heavy-duty vehicles shall be ZE.[85]

Low Carbon Fuel Standards

In January 2007, Governor Brown signed EO S-01-07, which mandates the following actions: (1) establish a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and (2) adopt a Low Carbon Fuel Standard for transportation fuels in California. CARB identified the Low Carbon Fuel Standard as one of the nine discrete early actions in the Climate Change Scoping Plan. In 2018, CARB amended the Low Carbon Fuel Standard to strengthen and smooth the carbon intensity benchmarks through 2030 in line with California's 2030 GHG emissions reduction target enacted through SB 32.

2.2.6 Senate Bill 375

The Legislature enacted SB 375 in 2008. SB 375 provides for a planning process to coordinate land use planning and regional transportation plans (RTPs) to help California meet the GHG

82 CARB, Advanced Clean Trucks, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks. Accessed February 2023.

83 CARB, Advanced Clean Trucks Regulation. https://ww3.arb.ca.gov/regact/2019/act2019/fro2.pdf. Accessed February 2023.

84 CARB, Advanced Clean Trucks, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks. Accessed February 2023.

85 JD Supra 2020. A First Look at California's Executive Order Banning Fuel-Burning Vehicles and Imposing Other Greenhouse Gas Reducing Restrictions, https://www.jdsupra.com/legalnews/a-first-look-at-california-s-executive-17672/. Accessed February 2023.

emissions reductions established in AB 32. SB 375 requires RTPs prepared by metropolitan planning organizations (MPOs) to incorporate a sustainable communities strategy (SCS) in their RTPs that demonstrates how the region would achieve GHG emission reduction targets set by CARB. Under SB 375, CARB is required, in consultation with the state's MPOs, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. The proposed reduction targets explicitly exclude emission reductions expected from the AB 1493 and Low Carbon Fuel Standard regulations.

In 2011, CARB adopted GHG emissions reduction targets for SCAG, the MPO that includes Ventura County. In 2018, CARB updated the SB 375 targets to require an 8 percent reduction by 2020 and a 19 percent reduction by 2035 in per-capita passenger vehicle GHG emissions.

2.2.7 California Department of Justice - Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act

In carrying out its duty to enforce laws across California, the California Attorney General's Bureau of Environmental Justice (Bureau) regularly reviews proposed warehouse projects for compliance with the California Environmental Quality Act (CEQA) and other laws. When necessary, the Bureau submits comment letters to lead agencies, and in rare cases the Bureau has filed litigation to enforce CEQA. The guidance document builds upon the Bureau's comment letters, collecting knowledge gained from the Bureau's review of hundreds of warehouse projects across the state. It is meant to help lead agencies pursue CEQA compliance and promote environmentally-just development as they confront warehouse project proposals.[86] While CEQA analysis is necessarily project-specific, this document provides information on feasible best practices and mitigation measures, the overwhelming majority of which have been adapted from actual warehouse projects in California.

Warehouse Siting and Design Considerations

The most important consideration when planning a logistics facility is its location. Warehouses located in residential neighborhoods or near other sensitive receptors expose community residents and those using or visiting sensitive receptor sites to the air pollution, noise, traffic, and other environmental impacts they generate. Therefore, placing facilities away from sensitive receptors significantly reduces their environmental and quality of life harms on local 5 communities. The suggested best practices for siting and design of warehouse facilities does not relieve lead agencies' responsibility under CEQA to conduct a project-specific analysis of the project's impacts and evaluation of feasible mitigation measures and alternatives; lead agencies' incorporation of the best practices must be part of the impact, mitigation and alternatives analyses

[86] California Department of Justice - Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act. https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/warehouse-best-practices.pdf. Accessed February 2023.

to meet the requirements of CEQA. Examples of best practices when siting and designing warehouse facilities include:

- Per CARB guidance, siting warehouse facilities so that their property lines are at least 1,000 feet from the property lines of the nearest sensitive receptors.80
- Creating physical, structural, and/or vegetative buffers that adequately prevent or substantially reduce pollutant dispersal between warehouses and any areas where sensitive receptors are likely to be present, such as homes, schools, daycare centers, hospitals, community centers, and parks.
- Providing adequate areas for on-site parking, on-site queuing, and truck check-in that prevent trucks and other vehicles from parking or idling on public streets.
- Placing facility entry and exit points from the public street away from sensitive receptors, e.g., placing these points on the north side of the facility if sensitive receptors are adjacent to the south side of the facility.
- Locating warehouse dock doors and other onsite areas with significant truck traffic and noise away from sensitive receptors, e.g., placing these dock doors on the north side of the facility if sensitive receptors are adjacent to the south side of the facility.
- Screening dock doors and onsite areas with significant truck traffic with physical, structural, and/or vegetative barriers that adequately prevent or substantially reduce pollutant dispersal from the facility towards sensitive receptors.
- Posting signs clearly showing the designated entry and exit points from the public street for trucks and service vehicles.
- Posting signs indicating that all parking and maintenance of trucks must be conducted within designated on-site areas and not within the surrounding community or public streets.

Air Quality and Greenhouse Gas Emissions Analysis and Mitigation

Emissions of air pollutants and greenhouse gases are often among the most substantial environmental impacts from new warehouse facilities. CEQA compliance demands a proper accounting of the full air quality and greenhouse gas impacts of logistics facilities and adoption of all feasible mitigation of significant impacts. Although efforts by CARB and other authorities to regulate the heavy-duty truck and off-road diesel fleets have made excellent progress in reducing the air quality impacts of logistics facilities, the opportunity remains for local jurisdictions to further mitigate these impacts at the project level. Lead agencies and developers should also consider designing projects with their long-term viability in mind. Constructing the necessary infrastructure to prepare for the zero-emission future of goods movement not only reduces a facility's emissions and local impact now, but it can also save money as regulations tighten and demand for zero-emission infrastructure grows. In planning new logistics facilities, the Bureau strongly encourages developers to consider the local, statewide, and global impacts of their projects' emissions. Examples of best practices when studying air quality and greenhouse gas impacts include:

- Fully analyzing all reasonably foreseeable project impacts, including cumulative impacts. In general, new warehouse developments are not ministerial under CEQA because they involve public officials' personal judgment as to the wisdom or manner of carrying out the project,

even when warehouses are permitted by a site's applicable zoning and/or general plan land use designation. CEQA Guidelines § 15369.

- When analyzing cumulative impacts, thoroughly considering the project's incremental impact in combination with past, present, and reasonably foreseeable future projects, even if the project's individual impacts alone do not exceed the applicable significance thresholds.
- Preparing a quantitative air quality study in accordance with local air district guidelines.
- Preparing a quantitative health risk assessment in accordance with California Office of Environmental Health Hazard Assessment and local air district guidelines.
- Refraining from labeling compliance with CARB or air district regulations as a mitigation measure—compliance with applicable regulations is a baseline expectation.
- Fully analyzing impacts from truck trips. CEQA requires full public disclosure of a project's anticipated truck trips, which entails calculating truck trip length based on likely truck trip destinations, rather than the distance from the facility to the edge of the air basin. Emissions beyond the air basin are not speculative, and, because air pollution is not static, may contribute to air basin pollution. Moreover, any contributions to air pollution outside the local air basin should be quantified and their significance should be considered.
- Accounting for all reasonably foreseeable greenhouse gas emissions from the project, without discounting projected emissions based on participation in California's Cap-and-Trade Program. Examples of measures to mitigate air quality and greenhouse gas impacts from construction are below. To ensure mitigation measures are enforceable and effective, they should be imposed as permit conditions on the project where applicable.
- Requiring off-road construction equipment to be zero-emission, where available, and all diesel-fueled off-road construction equipment, to be equipped with CARB Tier IV-compliant engines or better, and including this requirement in applicable bid documents, purchase orders, and contracts, with successful contractors demonstrating the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities.
- Prohibiting off-road diesel-powered equipment from being in the "on" position for more than 10 hours per day.
- Requiring on-road heavy-duty haul trucks to be model year 2010 or newer if diesel-fueled.
- Providing electrical hook ups to the power grid, rather than use of diesel-fueled generators, for electric construction tools, such as saws, drills and compressors, and using electric tools whenever feasible.
- Limiting the amount of daily grading disturbance area.
- Prohibiting grading on days with an Air Quality Index forecast of greater than 100 for particulates or ozone for the project area.
- Forbidding idling of heavy equipment for more than two minutes.
- Keeping onsite and furnishing to the lead agency or other regulators upon request, all equipment maintenance records and data sheets, including design specifications and emission control tier classifications.
- Conducting an on-site inspection to verify compliance with construction mitigation and to identify other opportunities to further reduce construction impacts.

- Using paints, architectural coatings, and industrial maintenance coatings that have volatile organic compound levels of less than 10 g/L.
- Providing information on transit and ridesharing programs and services to construction employees.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations for construction employees. Examples of measures to mitigate air quality and greenhouse gas impacts from operation include:
- Requiring that all facility-owned and operated fleet equipment with a gross vehicle weight rating greater than 14,000 pounds accessing the site meet or exceed 2010 model-year emissions equivalent engine standards as currently defined in California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.5, Section 2025. Facility operators shall maintain records on-site demonstrating compliance with this requirement and shall make records available for inspection by the local jurisdiction, air district, and state upon request.
- Requiring all heavy-duty vehicles entering or operated on the project site to be zero-emission beginning in 2030.
- Requiring on-site equipment, such as forklifts and yard trucks, to be electric with the necessary electrical charging stations provided.
- Requiring tenants to use zero-emission light- and medium-duty vehicles as part of business operations.
- Forbidding trucks from idling for more than two minutes and requiring operators to turn off engines when not in use.
- Posting both interior- and exterior-facing signs, including signs directed at all 8 dock and delivery areas, identifying idling restrictions and contact information to report violations to CARB, the air district, and the building manager.
- Installing and maintaining, at the manufacturer's recommended maintenance intervals, air filtration systems at sensitive receptors within a certain radius of facility for the life of the project.
- Installing and maintaining, at the manufacturer's recommended maintenance intervals, an air monitoring station proximate to sensitive receptors and the facility for the life of the project, and making the resulting data publicly available in real time. While air monitoring does not mitigate the air quality or greenhouse gas impacts of a facility, it nonetheless benefits the affected community by providing information that can be used to improve air quality or avoid exposure to unhealthy air.
- Constructing electric truck charging stations proportional to the number of dock doors at the project.
- Constructing electric plugs for electric transport refrigeration units at every dock door, if the warehouse use could include refrigeration.
- Constructing electric light-duty vehicle charging stations proportional to the number of parking spaces at the project.
- Installing solar photovoltaic systems on the project site of a specified electrical generation capacity, such as equal to the building's projected energy needs.
- Requiring all stand-by emergency generators to be powered by a non-diesel fuel.

- Requiring facility operators to train managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of trucks.
- Requiring operators to establish and promote a rideshare program that discourages single-occupancy vehicle trips and provides financial incentives for alternate modes of transportation, including carpooling, public transit, and biking.
- Meeting CALGreen Tier 2 green building standards, including all provisions related to designated parking for clean air vehicles, electric vehicle charging, and bicycle parking.
- Achieving certification of compliance with LEED green building standards.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations.
- Posting signs at every truck exit driveway providing directional information to the truck route.
- Improving and maintaining vegetation and tree canopy for residents in and around the project area.
- Requiring that every tenant train its staff in charge of keeping vehicle records in diesel technologies and compliance with CARB regulations, by attending CARB approved courses. Also require facility operators to maintain records on-site demonstrating compliance and make records available for inspection by the local jurisdiction, air district, and state upon request.
- Requiring tenants to enroll in the United States Environmental Protection Agency's SmartWay program and requiring tenants to use carriers that are SmartWay carriers.
- Providing tenants with information on incentive programs, such as the Carl Moyer Program and Voucher Incentive Program, to upgrade their fleets.

2.2.8 Toxic Air Contaminants

The Health and Safety Code defines TACs as air pollutants that may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. The State Air Toxics Program was established in 1983 under AB 1807 (Tanner). A total of 243 substances have been designated TACs under California law, including the 189 (Federal) Hazardous Air Pollutants.

The greatest potential for TAC emissions during construction would be related to diesel particulate matter (DPM) emissions associated with heavy-duty equipment during demolition, excavation and grading activities. Construction activities associated with the proposed Project would be sporadic, transitory, and short term in nature.

The OEHHA is responsible for developing and revising guidelines for performing health risk assessments (HRAs) under the State's Air Toxics "Hot Spots" Program Risk Assessment regulation. In March 2015, OEHHA adopted revised guidelines that update the previous guidance by incorporating advances in risk assessment with consideration of infants and children using age-sensitivity factors (ASF) (OEHHA 2015). The analysis of potential construction TAC impacts considers the OEHHA revised guidelines as well as the duration of construction, level of construction activity, scale of the proposed Project, and compliance with regulations that would minimize construction TAC emissions. In the risk management step, CARB reviews emission

sources of an identified TAC to determine whether regulatory action is needed to reduce risk. Based on the results of that review, CARB has promulgated a number of ATCMs, both for mobile and stationary sources (see discussion of On-road and Off-Road Vehicle Rules, above).

The AB 1807 program is supplemented by the AB 2588 Air Toxics "Hot Spots" program, which was established by the California Legislature in 1987. Under this program, facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks if present. In 1992, the AB 2588 program was amended by Senate Bill (SB) 1731 to require facilities that pose a significant health risk to the community to reduce their risk through implementation of a risk management plan.

2.2.9 Greenhouse Gas Executive Orders

Executive Order S-1-07

EO S-1-07 proclaims that the transportation sector is California's main source of GHG emissions, generating more than 40 percent of statewide emissions. It established a goal to reduce the carbon intensity of transportation fuels sold in California by at least 10 percent by 2020. This order also directed CARB to determine whether the Low Carbon Fuel Standard could be adopted as a discrete early-action measure, as part of the effort to meet AB 32 mandates.

Executive Order S-3-05

EO S-3-05 set forth the following targets for progressively reducing statewide GHG emissions (Office of the Governor of California 2005):

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The executive order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The Secretary is also mandating that biannual reports be submitted to the California Governor and Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The first CAT Report to the Governor and the Legislature in 2006 contained recommendations and strategies to help meet the targets in EO S-3-05. The most recent 2020 State Agency Greenhouse Gas Reduction Report Card documents the effectiveness of measures to reduce GHG emissions in California and GHG emissions from state agencies' operations (CalEPA 2020). This report card documents reductions of 76 MMTCO2e that occurred in 2019. In 2016, GHG emissions were 429 MMTCO2e,4 showing that California reached its 2020 emissions target (431 MMTCO2e) four years early, and emissions are continuing to decline.

Executive Order B-30-15

In 2015, EO B-30-15 promulgated the following targets and measures (Office of the Governor of California 2015):

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

Executive Order B-55-18

EO B-55-18 was signed by Governor Edmund G. Brown Jr. on September 10, 2018 (Office of the Governor of California 2018). The order establishes an additional statewide policy to achieve carbon neutrality by 2045 and maintain net negative emissions thereafter. As per EO B-55-18, CARB is directed to work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal and to ensure future Climate Change Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

2.2.10 Global Warming Solutions Act

In 2006, the California Legislature adopted AB 32 (Health and Safety Code Division 25.5), also known as the California Global Warming Solutions Act of 2006, with a focus on reducing GHG emissions in California to 1990 levels by 2020. This act defines GHGs as CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. The California Global Warming Solutions Act assigned CARB the primary responsibility for reducing GHG emissions, by adopting rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020. As required by the California Global Warming Solutions Act, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020 of 431 MMTCO2e.

In 2016, the California Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197. SB 32 and AB 197 amended Health and Safety Code Division 25.5 and established a new climate pollution reduction target of 40 percent below 1990 levels by 2030, with provisions included to ensure that the benefits of state climate policies reach into vulnerable communities. The 2022 Scoping Plan, adopted by CARB in December 2022, expands on prior Scoping Plans and responds to more recent legislation by outlining a technologically feasible, cost-effective, and equity-focused path to achieve the state's climate target of reducing anthropogenic emissions to 85 percent below 1990 levels and achieving carbon neutrality by 2045 or earlier (CARB 2022a).

2.2.11 Climate Change Scoping Plan

The 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) outlines the strategies the state will implement to achieve carbon neutrality by reducing GHGs to meet the anthropogenic target and by expanding actions to capture and store carbon through the state's natural and working lands and using a variety of mechanical approaches. The major element of the 2022 Scoping plan is the decarbonization of every sector of the economy.

This requires rapidly moving to zero-emission transportation for cars, buses, trains, and trucks; phasing out the use of fossil gas for heating; clamping down on chemicals and refrigerants; providing communities with sustainable options such as walking, biking, and public transit to reduce reliance on cars; continuing to build out solar arrays, wind turbine capacity, and other resources to provide clean, renewable energy to displace fossil-fuel fired electrical generation; scaling up new options such as renewable hydrogen for hard-to-electrify end uses and biomethane where needed. "Successfully achieving the outcomes called for in the Scoping Plan would reduce demand for liquid petroleum by 94 percent and total fossil fuel by 86 percent by 2045 relative to 2022" (CARB 2022a).

Despite these efforts, some amount of residual emissions will remain from hard-to-abate industries such as cement, internal combustion vehicles still on the road, and other sources of GHGs, including high global warming chemicals used as refrigerants. The 2022 Scoping Plan addresses the remaining emissions by re-envisioning natural and working lands−forests, shrublands/chaparral, croplands, wetlands, and other lands−to ensure they incorporate and store as much carbon as possible. Since working lands will not provide enough sequestration or carbon storage on their own to address the residual emissions, additional methods of capturing, removing, and storing carbon dioxide need to be explored, developed and deployed.

The 2022 Scoping Plan "is the most comprehensive and far-reaching Scoping Plan developed to date" and "modeling for this Scoping Plan shows that this decade must be one of transformation on a scale never seen before to set us up for success in 2045" (CARB 2022a). The 2022 Scoping Plan includes the Scoping Plan Scenario, which "builds on and integrates efforts already underway to reduce the state's GHG, criteria pollutant, and toxic air contaminant emissions by identifying the clean technologies and fuels that should be phased in as the state transitions away from combustion of fossil fuels." (CARB 2022a).

The 2022 Scoping Plan also discusses the role of local governments in meeting the state's GHG reductions goals because local governments have jurisdiction and land use authority related to community-scale planning and permitting processes, local codes and actions, outreach and education programs, and municipal operations. Furthermore, local governments make critical decisions on how and when to deploy transportation infrastructure and can choose to support transit, walking, bicycling, and neighborhoods that allow people to transition away from cars; they can adopt building ordinances that exceed statewide building code requirements; and they play a critical role in facilitating the rollout of ZEV infrastructure (CARB 2022a). The 2022 Scoping Plan encourages local governments to take ambitious, coordinated climate action at the community scale; action that is consistent with and supportive of the state's climate goals (CARB 2022a).

2.2.12 Assembly Bill 1279, The California Climate Crisis Act

The Legislature enacted AB 1279 on September 16, 2022. AB 1279 establishes the policy of the State to achieve net zero greenhouse gas emissions, carbon neutrality, as soon as possible, but no later than 2045 and achieve and maintain net negative greenhouse gas emissions thereafter. Additionally, AB 1279 ensures that by 2045 Statewide anthropogenic greenhouse gas emissions are reduced at least 85 percent below 1990 levels. SB 1279 also requires CARB to ensure that the Scoping Plan identifies and recommends measures to achieve carbon neutrality, and to identify and implement policies and strategies for carbon dioxide removal solutions and carbon capture, utilization, and storage technologies. It also requires CARB to submit an annual report.

2.2.13 Renewable Energy Standards

The State of California has adopted regulations that establishes the Renewables Portfolio Standard (RPS) to increase the proportion of electricity from renewable sources. On September 10, 2018, Governor Brown signed SB 100, which increased the RPS to require 50 percent renewable resources by December 31, 2026, and 60 percent by December 31, 2030, while requiring retail sellers and local publicly owned electric utilities to meet interim targets of 44 percent of retail sales by December 31, 2024, and 52 percent by December 31, 2027. SB 100 also states that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by December 31, 2045.

Senate Bill 1020, approved September 16, 2022, revises SB 100, and instead requires that renewable energy resources and zero-carbon resources supply 90 percent of all retail sales of electricity to end use customers by December 31, 2035, 95 percent of all retail sales to end users by December 31, 2040, and 100 percent of all retail sales to end users by December 31, 2045, and 100 percent of electricity procured to serve all state agencies by December 31, 2035.

On September 16, 2022, Governor Newsome signed SB 1075 which requires CARB, CEC, California Public Utilities Commission (CPUC), and the California Workforce Development Board to conduct an evaluation on hydrogen by June 1, 2024, including policy recommendations to accelerate the production and use of hydrogen, and specifically green hydrogen, and its role in decarbonizing the electrical and transportation sectors.

2.2.14 Cap-and-Trade Program

The Climate Change Scoping Plan identifies a cap-and-trade program as a key strategy CARB will employ to help California meet its GHG emissions reduction targets for 2020 and 2030, and ultimately achieve an 80 percent reduction from 1990 levels by 2050. Pursuant to its authority under AB 32, CARB has designed and adopted the California Cap-and-Trade Program to reduce GHG emissions from major sources (deemed “covered entities”) by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32’s emissions reduction mandate of returning to 1990 levels of emissions by 2020 (17 CCR Sections 95800–96023).

The Cap-and-Trade Program establishes an overall limit for GHG emissions from capped sectors (e.g., electricity generation, petroleum refining, cement production, and large industrial facilities that emit more than 25,000 MTCO2e per year) and declines over time, and facilities subject to the cap may trade permits to emit GHGs. The statewide cap for GHG emissions from the capped sectors commenced in 2013 and declines over time, achieving GHG emissions reductions throughout the program's duration (17 CCR Sections 95811 and 9512). On July 17, 2017, the California Legislature enacted AB 398, extending the Cap-and-Trade Program through 2030.

The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 statewide emissions limit will not be exceeded. An inherent feature of the Cap-and-Trade Program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. In other words, because climate change is a global occurrence and the impacts of GHG emissions are considered cumulative, a focus on aggregate GHG emissions reductions, rather than source-specific reductions, is warranted.

With the passage of AB 1279, the state has a statutory target to achieve carbon neutrality by 2045 and it is clear that additional GHG reductions will be required over this decade to achieve the accelerated 2030 target (CARB 2022a). This will require changes to all major programs to increase their stringency between now and 2030 resulting in reductions in GHG emissions. As these GHG reductions increase, there will be less reliance on the Cap-and-Trade Program to "fill the gap" to meet the accelerated 2030 reduction target (CARB 2022a). Since the timing of major program changes is uncertain, the Cap-and-Trade Program must continue to be able to scale across a range of possibilities, including potential program design and annual cap changes (CARB 2022a).

2.3 Regional

2.3.1 Ventura County Air Pollution Control District

VCAPCD attains and maintains air quality conditions in the Air Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of VCAPCD includes preparation of plans for attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. VCAPCD also inspects stationary sources of air pollution and responds to citizen complaints; monitors ambient air quality and meteorological conditions; and implements programs and regulations required by the CAA, Clean Air Act Amendments (CAAA), and CCAA. Air quality plans applicable to the proposed Project are discussed below.

Air Quality Management Plan

Ventura County is a nonattainment area for the 2015 federal 8-hour ozone standard. The Ventura County 8-hour ozone nonattainment area includes all of mainland Ventura County (including ocean areas out to three miles from the mainland shore) but excludes Anacapa and San Nicolas Islands. Under state law, the VCAPCD is required to prepare a plan for air quality improvement

for pollutants for which the District is in non-compliance. The 2022 Ventura County AQMP was adopted by the Ventura County Air Pollution Control Board on December 13, 2022. On January 26, 2023, CARB adopted Resolution 23-1, which directs the CARB Executive Officer to submit the 2022 AQMP as adopted by the VCAPCD and the relevant portions of the CARB Staff Report to the USEPA for inclusion in the California SIP to be effective upon approval by the USEPA. USEPA approval of the 2022 AQMP has not yet occurred.

The 2022 AQMP presents Ventura County's: 1) strategy to attain the 2015 federal 8-hour ozone standard of 70 parts per billion (ppb) as required by the federal Clean Air Act Amendments of 1990 and applicable USEPA clean air regulations; 2) attainment demonstration for the federal 8-hour ozone standard; and 3) reasonable further progress demonstration for the federal 8-hour ozone standard. The 2022 AQMP control strategy consists of a local component implemented by the VCAPCD and a combined state and federal component implemented by the CARB and CEPA. The local strategy includes emission control measures carried forward from previous Ventura County AQMPs, plus new and further study emission control measures. It also includes a transportation conformity budget that sets the maximum amount of on-road motor vehicle emissions produced while continuing to demonstrate progress towards attainment. No control measures from previous AQMPs were deleted from the 2022 AQMP if deletion would slow the county's progress towards attaining either the federal 8-hour ozone standard or the state ozone standards, and several obsolete or ineffective measures were removed.[87] The 2022 AQMP incorporates emissions reduction measures from the CARB 2022 SIP and 2020 Reasonably Available Control Technology State Implementation Plan (2020 RACT SIP), which has been approved by the VCAPCD, that Ventura County needs to attain the federal 8-hour ozone standard and continue progress to the state ozone standard. These SIPs contain comprehensive emission reduction programs that focus on reducing emissions from mobile sources, consumer products, and pesticides to substantially improve air quality. Photochemical air quality modeling (including the photochemical modeling protocol, photochemical modeling performance analysis, unmonitored area analysis, and supporting analyses) completed as part of the supplemental Weight of Evidence (WOE) evaluation, indicated that Ventura County can expect to attain the 2015 federal 8-hour ozone standard by 2027, the attainment date for serious ozone nonattainment areas.

Rules and Regulations

VCAPCD has adopted rules to limit cancer and non-cancer health risks from facilities located within its jurisdiction. The Project may be subject to the following VCAPCD rules and regulations:

> **Rule 15 – Standards for Permit Issuance -** requires District staff to deny a permit application unless the applicant shows that the emissions units that are the subject of the application will comply with all applicable requirements including Rule 51 – Nuisance.

87 Ventura County Air Pollution Control Board, 2022 Ventura County Air Quality Management Plan, December 2022.

Rule 17 - Disclosure of Air Toxics Information - incorporates the requirements of the AB 2588 program, including implementation of risk reduction plans for significant risk facilities.

Rule 36 – New Source Review – Hazardous Air Pollutants - requires District staff to conduct a case-by-case maximum achievable control technology determination for any facility that is a major source of federal hazardous air pollutants (HAP). For Rule 36, a major source is defined as one that emits 10 tons per year or more of a single HAP or 25 tons per year or more of a combination of HAP.

Rule 50 – Opacity: This rule states that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, or of such opacity as to obscure an observer's view.

Rule 51 – Nuisance: This rule states that A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endangers the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. Pursuant to California Health and Safety Code Section 41705, this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or raising of fowl or animals. Rule 51 has been interpreted by District Staff to consider an excessive additional health risk due to the emissions of toxic air pollutants for a new or modified facility to be a violation of the Nuisance Rule.

Rule 55 – Fugitive Dust: No person shall cause or allow the emissions of fugitive dust from any applicable source such that the dust remains visible beyond the midpoint (width) of a public street or road adjacent to the property line of the emission source or beyond 50 feet from the property line if there is not an adjacent public street or road. In addition, no person shall cause or allow the emissions of fugitive dust from any applicable source such that the dust causes 20 percent opacity or greater during each observation and the total duration of such observations (not necessarily consecutive) is a cumulative 3 minutes or more in any one (1) hour. Also, track out material is limited.

Rule 74.2 – Architectural Coatings: This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

Rule 55.1 –Paved Roads and Public Unpaved Roads: This rule applies to owners and operators of paved and unpaved roads. The rule is intended to reduce PM10 emissions by requiring the cleanup of material deposited onto paved roads, use of certified street sweeping equipment, and treatment of high-use unpaved roads.

Air Quality Guidance

The VCAPCD published the *Ventura County Air Quality Assessment Guidelines in October 2003* to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts.[88] The *Ventura County Air Quality Assessment Guidelines* provides standards,

88 VCAPCD, Ventura County Air Quality Assessment Guidelines, 2003. http://www.vcapcd.org/pubs/Planning/VCAQGuidelines.pdf. Accessed February 7, 2023.

methodologies, and procedures for conducting air quality analyses in EIRs and was used extensively in the preparation of this analysis. For land use emissions, the VCAPCD recommends using the CalEEMod software, which is a model developed for California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California Air Districts. CalEEMod is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects.

Greenhouse Gas Emissions Guidance

The VCAPCD has not yet adopted significance thresholds for GHG emissions applicable to the Project. At its September 13, 2011 Board meeting, the Ventura County Air Pollution Control Board requested that VCAPCD staff report on possible GHG significance thresholds for evaluating GHG impacts of land use projects in Ventura County under CEQA. In response, VCAPCD staff prepared the Greenhouse Gas Thresholds of Significance Options for Land Use Development Projects in Ventura County (November 8, 2011) report, which presented options for setting GHG significance thresholds and analyzed some of the adopted thresholds as well as others that were currently under consideration by other air districts in California. The report concluded that establishing local CEQA significance thresholds for global-scale environmental concerns is a major challenge, and that each of the numerous approaches and options that have been put forth to assess GHG emissions from land use development projects for CEQA purposes has their own set of advantages and disadvantages. While the report did not establish a specific approach that would be used by the VCAPCD to analyze GHG impacts under CEQA, it indicated that because Ventura County is adjacent to the SCAQMD's jurisdiction and is a part of the SCAG region, it would be most desirable for the VCAPCD to set local GHG emission thresholds of significance for land use development projects at levels consistent with those set by the SCAQMD. Therefore, based on the Report recommendations, the VCAPCD would continue to evaluate and develop suitable interim GHG threshold options for Ventura County with preference for GHG threshold consistency with the SCAQMD and the SCAG region.

A GHG Significance Threshold Working Group was formed by the SCAQMD to evaluate potential GHG significance thresholds.[89] In 2008, the Working Group released draft guidance regarding interim CEQA GHG significance thresholds.[90,91,92] On December 5, 2008, the SCAQMD Governing Board adopted the SCAQMD staff proposal for an interim GHG significance threshold of 10,000 $MTCO_2e$ for stationary source/industrial projects where the SCAQMD is the Lead Agency. The SCAQMD has not adopted a GHG significance threshold for analysis under CEQA for land use development projects. The Working Group has been inactive

89 SCAQMD, 2021, Greenhouse Gases CEQA Significance Thresholds, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds, accessed June 2021.

90 SCAQMD, 2008a, *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*, Attachment E, October 2008.

91 SCAQMD, 2008b, Board Meeting, December 5, 2008, Agenda No. 31, http://www3.aqmd.gov/hb/2008/December/0812ag.html, accessed June 2021.

92 SCAQMD, 2008c, *Greenhouse Gases, CEQA Significance Thresholds, Board Letter – Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans*, December 5, 2008.

since 2011 and the SCAQMD has not formally adopted any GHG significance threshold for land use development projects.

2.3.2 Southern California Association of Governments

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the federally designated MPO for the majority of the Southern California region and is the largest MPO in the nation. Pursuant to Health & Safety Code Section 40460, SCAG is responsible for preparing regional demographic projections and integrated regional land use, housing, employment and transportation programs, measures and strategies.[93]

On September 3, 2020, the SCAG Regional Council adopted the 2020-2045 *Regional Transportation Plan/Sustainable Communities Strategy* (2020-2045 RTP/SCS), which is an update to the previous 2016-2040 RTP/SCS.[94] SCAG's RTP/SCS is "built on a foundation of contributions from communities, cities, counties and other local agencies" and "based on local general plans as well as input from local governments."[95] SCAG's 2020-2045 RTP/SCS provides specific strategies for implementation. These strategies include supporting projects that encourage a diverse job opportunities for a variety of skills and education, recreation and cultures and a full-range of shopping, entertainment and services all within a relatively short distance; encouraging employment development around current and planned transit stations and neighborhood commercial centers; encouraging the implementation of a "Complete Streets" policy that meets the needs of all users of the streets, roads and highways including bicyclists, children, persons with disabilities, motorists, electric vehicles, movers of commercial goods, pedestrians, users of public transportation, and seniors; and supporting alternative fueled vehicles.[96] Like the 2016-2040 RTP/SCS, the 2020-2045 RTP/SCS overall land use pattern reinforces the trend of focusing new development and employment in the region's high quality transit areas (HQTAs), which SCAG defines as an area within a one-half mile of a well-serviced transit stop.[97]

2.4 Local

Local jurisdictions, such as the City of Oxnard (City), have the authority and responsibility to reduce air pollution through its police power and decision-making authority. The City reviews project plans for consistency with environmental regulations and other conditions applicable to proposed development. The City is also responsible for the implementation of transportation control measures as outlined in the AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA, the City

93 VCAPCD, 2022 Ventura County Air Quality Management Plan. http://www.vcapcd.org/pubs/Planning/AQMP/2022/Final-2022-AQMP-without-appendices.pdf. Accessed February 2023.

94 Southern California Association of Governments (SCAG), 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS), May 2020.

95 SCAG, 2020-2045 RTP/SCS, May 2020.

96 SCAG, 2020-2045 RTP/SCS, May 2020.

97 SCAG, 2020-2045 RTP/SCS, May 2020.

has the authority to obtain input from other local agencies and may consult with any person with special expertise relating to the Project's environmental impacts to assess air quality impacts of new development projects. If significant impacts are found, the City has the authority to require mitigation of potentially significant air quality impacts by conditioning discretionary permits and monitors and enforces implementation of such mitigation measures.

2.4.1 Oxnard 2030 General Plan

The City of Oxnard adopted the Oxnard 2030 General Plan (General Plan) in 2011. Since adoption of the 2030 General Plan in 2011, there have been amendments to the 2011 Goals and Policies document as the City grew in population and physical development. The current General Plan includes an Air Quality Resources Element (Goal ER-14, Improved air quality and minimized adverse effects of air pollution on human health and the economy.) The goals and policies related to air quality resources that are applicable to the proposed project include the following:

> **Goal ER-14:** Improved air quality and minimized adverse effects of air pollution on human health and the economy.
>
> > **Policy ER-14.1, Incorporate Ventura County AQMP Mitigations:** Incorporate construction and operation mitigation measures recommended or required by the current Ventura County Air Quality Management Plan (AQMP) when preparing CEQA reviews, as appropriate.
> >
> > **Policy ER-14.4, Emission Control Devices:** Require all construction equipment to be maintained and tuned to meet appropriate EPA [United States Environmental Protection Agency], CARB [California Air Resources Board], and VCAPCD emissions requirements and when new emission control devices or operational modifications are found to be effective, such devices or operational modifications are required on construction equipment.
> >
> > **Policy ER-14.5, Reducing Construction Impacts during Smog Season:** Require that the construction period be lengthened to minimize the number of vehicles and equipment operating at the same time during smog season (May through October).
> >
> > **Policy ER-14.6, Minimizing Dust and Air Emissions through Permitting Requirements:** Continue to require mitigation measures as a condition of obtaining building or use permits to minimize dust and air emissions impacts from construction.
> >
> > **Policy ER-14.7, Mitigation Monitoring:** Ensure that projects with identified air quality impacts in their respective EIRs are subject to effective mitigation monitoring as required by AB [Assembly Bill] 3180.
> >
> > **Policy ER-14.10, Consultation with Ventura County Air Pollution Control District:** Consult with the Ventura County Air Pollution Control District (VCAPCD) during CEQA review for projects that require air quality impact analysis and ensure that the VCAPCD is on the distribution list for all CEQA documents.
> >
> > **Policy ER-14.12, Use VCAPCD Air Quality Assessment Guidelines:** Use the VCAPCD Air Quality Assessment Guidelines and recommended analytical tools for determining and mitigating project air quality impacts and related thresholds of

significance for use in environmental documents. The City shall continue to cooperate with the VCAPCD in the review of development proposals.

2.4.2 Oxnard Climate Action and Adaptation Plan

The City formally adopted their Climate Action and Adaptation Plan (CAAP) on December 7, 2022. The City's CAAP identifies seven areas under which the City can reduce GHG emissions: clean energy, water conservation and reuse, green buildings, waste reduction and recycling, transportation, nature-based solutions, and land use.[98] However, the CAAP does not contain a formalized threshold of significance for GHG analysis and is not a qualified CAAP, as defined in CEQA Guidelines section 15183.5(b), for CEQA purposes.

98 City of Oxnard, Climate Action and Adaptation Plan, December 7, 2022.

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SECTION 3
Thresholds of Significance

3.1 Air Quality

The air quality significance thresholds below are derived from the Environmental Checklist question in Appendix G of the *State CEQA Guidelines* and in the City of Oxnard CEA Guidelines (May 2017). Accordingly, a significant air quality impact would occur if the Project would:

Threshold AIR-1: Conflict with population or other growth forecasts contained in the Ventura County AQMP or otherwise obstruct implementation of the Ventura County AQMP;

Threshold AIR-2: Violate any federal or state air quality standard or contribute substantially to an existing or projected air quality standard violation;

Threshold AIR-3: Result in a net increase of any criteria pollutant in excess of quantitative thresholds recommended by the VCAPCD;

Threshold AIR-4: Expose sensitive receptors to substantial pollutant concentrations exceeding state or federal standards or in excess of applicable health risk criteria for toxic air contaminants; or

Threshold AIR-5: Create objectionable odors affecting a substantial number of people.

Pursuant to the CEQA Guidelines (Section 15064.7), a lead agency may consider using, when available, significance thresholds established by the applicable air quality management district or air pollution control district when making determinations of significance. As provided in the Environmental Checklist question listed above, for purposes of this analysis, the City has determined to assess the potential air quality impacts of the Project in accordance with the thresholds adopted by the VCAPCD.

3.1.1 Conflicts with or Obstruction of the Ventura County Air Quality Management Plan

Evaluating whether the Project would conflict with or obstruct implementation of the applicable air quality plan is based on the Project's general consistency with applicable control measures and policies adopted for the purpose of reducing air pollutant emissions and associated impacts.

3.1.2 Air Quality Standard Violation and Net Increase of Any Criteria Pollutant in Excess of Thresholds

The VCAPCD has developed significance thresholds to help lead agencies determine whether a project may have a significant air quality impact. Projects whose emissions are expected to produce or exceed the emissions amounts of the recommended significance criteria would have a potentially significant adverse impact on air quality (air quality impact thresholds AIR-2 and AIR-3). **Table 4,** *VCAPCD Thresholds of Significance,* presents the applicable VCAPCD thresholds of significance.

TABLE 4
VCAPCD THRESHOLDS OF SIGNIFICANCE

Pollutant	Construction Phase	Operational Phase
Oxides of nitrogen (NO_X)	25 lbs/day	25 lbs/day
ROG (VOC)	25 lbs/day	25 lbs/day

SOURCE: VCAPCD 2003.

According to the VCAPCD *Ventura County Air Quality Assessment Guidelines*, construction-related emissions of ROG and NO_X are not counted towards the significance thresholds, since these emissions are temporary. However, the VCAPCD recommends that construction-related emissions should be mitigated if estimates of ROG and NO_X emissions from the heavy-duty construction equipment exceed the numeric values in Table 4.

The emissions thresholds above are not applicable to equipment or operations required to have VCAPCD permits (Authority to Construct or Permit to Operate) that are generally required for stationary and portable (non-vehicular) equipment or operations that may emit air pollutants (VCAPCD 2003). The VCAPCD permit system is separate from CEQA and involves reviewing equipment design, followed by inspections, to ensure that the equipment will be built and operated in compliance with applicable VCAPCD regulations.

VCAPCD has not established quantitative thresholds for particulate matter for either operation or construction. However, VCAPCD indicates that a project that may generate fugitive dust emissions in such quantities as to cause injury, detriment, nuisance, or annoyance to any considerable number of persons, or which may endanger the comfort, repose, health, or safety of any such person, or which may cause or have a natural tendency to cause injury or damage to business or property, would have a significant air quality impact. The VCAPCD *Ventura County Air Quality Assessment Guidelines* recommends implementing practices to minimize fugitive dust for all dust-generating activities. Such measures include minimizing the project disturbance area, watering the site prior to commencement of ground-disturbing activities, covering all truck loads, and limiting on-site vehicle speeds to 15 miles per hour or less. Additionally, the proposed Project would be required to comply with VCAPCD Rule 55 for controlling fugitive dust emissions. Although, the VCAPCD does not require quantifying fugitive dust emissions, particulate matter emissions will be calculated during construction and all earth moving activities and presented for disclosure purposes only. Neither CO or SO_X have established quantitative thresholds but will also be presented for disclosure purposes only.

3.1.3 Substantial Pollutant Concentrations

With respect to the formation of CO hotspots, Project impacts would be considered significant if the following were to occur:

- The Project would cause or contribute to an exceedance of the CAAQS one-hour or eight-hour CO standards of 20 or 9.0 ppm, respectively within one-quarter mile of a sensitive receptor.[99]

Based on criteria set forth by the VCAPCD, the Project would expose sensitive receptors to substantial concentrations of toxic air contaminants (TACs) if any of the following were to occur:[100]

- The Project would expose sensitive receptors to substantial concentrations of TACs if it emits carcinogenic materials or TACs that exceed the maximum incremental cancer risk of 10 in one million or an acute or chronic hazard index of 1.0.

3.1.4 Objectionable Odors

With respect to emissions leading to objectionable odors, the Project would be considered significant if it created other emissions such as objectionable odors affecting a substantial number of people.

3.2 Greenhouse Gas Emissions

The GHG emissions significance thresholds below are derived from the Environmental Checklist question in Appendix G of the *State CEQA Guidelines* and in the City of Oxnard CEA Guidelines (May 2017). Accordingly, a significant air quality impact would occur if the Project would:

Threshold GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment;

Threshold GHG-2: Conflict with an applicable plan, policy, or regulations adopted for the purpose of reducing the emissions of greenhouse gases or otherwise conflict with the state goal for reducing greenhouse gas emissions in California; or

Threshold GHG-3: Contribute or be subject to potential secondary effects of climate change (e.g., sea level rise, increase fire hazard).

3.2.1 GHG Emissions and Conflicts with GHG Reduction Goals, Plans, Policies, and Regulations

The City of Oxnard acknowledges that the VCAPCD has not adopted a numerical threshold to use in performing quantitative analyses under CEQA, but recognizes that there are several methods of analyzing quantified GHG emissions applied by various agencies throughout California. Although the City of Oxnard does not recommend a specific numerical threshold, it

[99] The CAAQS are more conservative than the NAAQS (35 ppm for one-hour CO and 9.0 ppm for eight-hour CO).

[100] Ventura County Air Quality Assessment Guidelines, 2003. p.3-5. http://www.vcapcd.org/pubs/Planning/VCAQGuidelines.pdf. Accessed February 2023.

does recommend that GHG emissions be quantified, and development projects assessed for consistency with policies aimed to reduce GHG emissions. The City of Oxnard specifically recommends performing a qualitative assessment of the degree of consistency with applicable policies aimed to reduce GHG emissions should form the basis for assessing GHG emissions. Therefore, the significance determinations for impacts related to the Project GHG emissions are based on the Project's consistency with applicable policies aimed to reduce GHG emissions (GHG impact thresholds GHG-1 and GHG-2). Applicable policies include CARB's 2022 Scoping Plan and the City of Oxnard CAAP. In addition, for informational purposes, Project-related GHG emissions have been quantified for construction and operational emissions.

3.2.2 Secondary Effects of Climate Change

In 2009, California adopted a Statewide Climate Adaptation Strategy (CAS) that summarizes climate change impacts and recommends adaptation strategies across seven sectors: Public Health, Biodiversity and Habitat, Oceans and Coastal Resources, Water, Agriculture, Forestry, and Transportation and Energy. The California Natural Resources Agency will be updating the CAS and is responsible for preparing reports to the Governor on the status of the CAS. The Natural Resources Agency has produced climate change assessments which detail impacts of global warming in California.[101] These include:

- Sea level rise, coastal flooding and erosion of California's coastlines would increase, as well as sea water intrusion.
- The Sierra snowpack would melt earlier and all at once. Earlier and larger releases of water could overwhelm California's water storage facilities, creating risk of floods and water shortages.
- Higher risk of forest fires and wildfires resulting from increasing temperatures and making forests and brush drier. Climate change will affect tree survival and growth.
- Damage to agriculture caused by drought, higher temperatures, saltwater contamination through rising sea levels, flooding, and increased risk of pests. Agriculture production declines could lead to food shortages and higher prices.
- Public health impacts could result from climate change. Attainment of air quality standards would be impeded by increasing emissions, accelerating chemical processes, and raising inversion temperatures during stagnation episodes resulting in public health impacts.
- Habitat destruction and loss of ecosystems due to climate change affecting plant and wildlife habitats.

To determine significance, an evaluation was completed to determine if the Project would contribute or be subjected to the secondary effects of climate change expected to occur in California.

[101] State of California, Department of Justice, Office of the Attorney General, Climate Change Impacts in California, https://oag.ca.gov/environment/impact, accessed July 13, 2023.

SECTION 4
Methodology

The methodology to evaluate potential impacts to regional and local air quality that may result from the construction and long-term operations of the Project is described below, with detailed modeling calculations provided in **Exhibit A** of this Technical Report.

4.1 Air Quality

4.1.1 Consistency with Air Quality Management Plan (AIR-1)

The AQMP was prepared to accommodate growth, reduce the high levels of pollutants within the areas under the jurisdiction of VCAPCD, return clean air to the region, and minimize the impact on the economy. To that end, VCAPCD has developed significance thresholds for projects that, when included in the regional emissions profile, is not anticipated to increase emission levels within the Air Basin to exceed or exacerbate, State and Federal AAQS. The Air Basin is the boundary for cumulative emissions, therefore, if a project is less than significant with respect to project-level impacts, it would not be anticipated to result in a cumulatively significant impact when added to the Air Basin's existing or future emissions profile. The VCAPCD has approved the 2022 AQMP, although it is noted that USEPA approval of the 2022 AQMP has not yet occurred.

4.1.2 Construction Emissions (AIR-2, AIR-3)

Construction of the Project has the potential to generate temporary criteria pollutant emissions through the use of heavy-duty construction equipment, such as excavators, and through vehicle trips generated from workers and haul trucks traveling to and from the Project site. Exhaust emissions would be generated as a result of fuel combustion from heavy-duty construction equipment, heavy-duty trucks, and construction employee vehicles. In addition, fugitive dust emissions would result from demolition and various soil-handling activities. Evaporative emissions of ROG would result from asphalt paving activity and the application of architectural coatings. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions. Construction phasing would include site preparation and grading, building construction, paving, and the application of architectural coatings.

Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0. CalEEMod calculates the construction equipment exhaust emissions based on CARB's OFFROAD model emission and load factors, on-road vehicle emissions from CARB's EMFAC model emission factors, and calculates fugitive dust, including

from ground disturbance and vehicle travel, using factors from the USEPA's AP-42, *Compilation of Air Emissions Factors*. Inputs to the model include square footage of the buildings and parking on-site, and the estimated project schedule. Reasonable project assumptions obtained from the Applicant and CalEEMod default settings were used to estimate criteria air pollutant and ozone precursor emissions. On-road mobile exhaust emissions were estimated outside of CalEEMod using emissions factors obtained from the latest version of the CARB on-road emission model, EMFAC2021. Emissions from TRUs were estimated using emission factors from the OFFROAD2021 model.

The input values used in this analysis were adjusted to be Project-specific based on equipment types and the construction schedule. For modeling purposes, construction emissions were modeled with construction beginning in 2023, with full build-out occurring in 2024, with approximately 12 months of construction. If construction commences at a later date, construction emissions would be lower than those estimated in this Technical Report due to the use of a more energy-efficient and cleaner burning construction vehicle fleet mix, pursuant to State regulations that require vehicle fleet operators to phase-in less polluting trucks. As a result, should Project construction commence at a later date than analyzed in this Technical Report, air quality impacts would be lower than the impacts disclosed herein.

Project construction would include the removal of approximately 30 cubic yards of hardscape debris. In addition, the Project would import approximately 7,331 cubic yards of soil. Debris materials would be disposed of at the Toland Road Landfill, which is located approximately 27 miles from the Project Site (a round trip would be approximately 54 miles). Import hauling is estimated at approximately 25 miles (a round trip would be approximately 50 miles). Foundation concrete would be delivered by concrete trucks at a rate of approximately 500 cubic yards of concrete per day from nearby concrete suppliers for approximately six days. Worker trip distance and other vendor truck trip estimates were based on calculation methodologies in CalEEMod and EMFAC2021 emission factors.

The maximum daily regional emissions from Project construction are compared to the VCAPCD significance thresholds. The maximum daily regional emissions are predicted values for the worst-case day and do not represent the emissions that would occur for every day of Project construction.

As stated above, fugitive dust emissions would result from demolition and various soil-handling activities during construction of the Project. Construction contractors are required to comply with the applicable provision of VCAPCD Rule 55 (Fugitive Dust). Rule 55 requires construction activities to control fugitive dust emissions during construction by complying with best available control measures, such as ensuring sufficient freeboard height for haul vehicles, covering loose material on haul vehicles, applying water or non-toxic soil stabilizers in sufficient quantities to prevent the generation of visible dust plumes on disturbed or unpaved road surfaces, and limiting vehicle speeds to 15 miles per hour on unpaved surfaces. Applicable fugitive dust control measures are incorporated into the construction emissions modeling within the VCAPCD-approved CalEEMod software.

4.1.3 Operational Emissions (AIR-2, AIR-3)

Operation of the Project has the potential to generate criteria pollutant emissions through vehicle trips traveling to and from the Project Site. In addition, emissions would result from on-site sources such as natural gas combustion, landscaping equipment, and use of consumer products. Additional operational emissions include electricity usage for truck transportation refrigeration unit (TRU) operations, and water and space heating.

During operation, inbound produce would arrive by truck or container and proceed through the facility, be federally inspected as required, and be directed to the outbound dock for distribution or placed in a container for export. Carriers would check in by cell phone and would be directed by the guard to their assigned parking slot or dock station. The storage capacity of the facility would allow for short-term hold on products to organize and consolidate loads for internal distribution or export. Eight pallet jacks would be used for loading and unloading the trailers, and four electric forklifts would be used to store and retrieve the products from the pallet racking in the cold storage rooms. In addition, containers from the stack rack system would be loaded onto a chassis and transported to the shipping or receiving dock via three terminal trucks. The facility would operate six days a week for 16 hours per day. A total of 24 employees would be generated under the Project, with an average of 12 employees per shift.

Operational emissions for project buildout were estimated using CalEEMod version 2020.4.0 based on the proposed land uses (for area and stationary source emissions), with default trip generation rates provided by CalEEMod. Similar to construction, on-road, mobile source emissions were calculated outside of CalEEMod using EMFAC2021. Mobile source emissions also utilized daily trip rates from the Project's Transportation Study.[102] Area source emissions, including landscaping equipment and consumer products, such as solvents used in non-industrial applications which emit VOCs during their product use and cleaning supplies, were calculated using the CalEEMod software. Energy source emissions are based on natural gas combustion (building heating and water heaters). Natural gas usage factors in CalEEMod are based on the CEUS data set, which provides energy demand by building type and climate zone.[103]

The input values used in this analysis were adjusted to be Project-specific. Operational impacts were assessed for the Project buildout year (for the purposes of this assessment, modeled as year 2024). The land use designations selected in the model included industrial to represent the proposed truck warehousing operations and parking lot. Building operations would adhere to the applicable codes including the 2022 Title 24 Building Energy Efficiency Standards and California Green Building (CALGreen) Code. Truck and TRU emissions were calculated based on the estimated number of trucks and TRUs that would travel to and from the Project, the estimated average distances the trucks and TRUs would travel, and truck and TRU idling times while loading or unloading on the Project Site.

[102] Associated Transportation Engineers. Arcturus Avenue Cold Storage Facility, Oxnard, California, Revised Traffic Study, Table 2, p. 9, February 21, 2023.

[103] California Energy Commission, California Commercial End-Use Survey, http://capabilities.itron.com/CeusWeb/Chart.aspx. Accessed January 2022.

Operational air quality impacts are assessed based on the incremental increase in emissions compared to baseline conditions. As discussed previously, the Project Site is currently an undeveloped flat lot. Therefore, the Project's operational emissions analysis subtracts the existing site's emissions (zero) to estimate the total net new emissions from the Project. The maximum daily net emissions from operation of the Project are compared to the VCAPCD daily regional significance thresholds for ROG and NO_X.

4.1.4 Substantial Pollutant Concentrations (AIR-4)

The potential for the Project's construction and operational emissions to expose sensitive receptors to substantial pollutant concentrations of fugitive dust, carbon monoxide, naturally occurring asbestos, Valley Fever, or other TACs of concern (including DPM) is evaluated based on the Project emissions, locations of sensitive receptors, and compliance with regulatory and other emission control requirements. Sensitive receptors are individuals who are considered more sensitive to air pollutants than others. The reasons for greater than average sensitivity may include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered as relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. The nearest sensitive receptors to the Project Site are residential uses located approximately 2,100 feet to the of the Project Site.

4.1.5 Odors (AIR-5)

The potential for objectional odor impacts are evaluated qualitatively based on regulatory compliance and land use compatibility between the Project's uses and off-site sensitive uses.

4.2 Greenhouse Gas Emissions

4.2.1 GHG Emissions and Conflicts with GHG Reduction Goals, Plans, Policies, and Regulations (GHG-1, GHG-2)

A consistency analysis is provided and describes the Project's compliance with applicable portions of CARB's 2022 Scoping Plan and the City of Oxnard 2030 General Plan. In addition to the evaluation of the Project's consistency with plans adopted for the purpose of reducing and/or mitigating GHG emissions, for informational purposes, the analysis also calculates the amount of GHG emissions that would be attributable to the Project using recommended air quality models, as described in Section 4.1 above. The primary purpose of quantifying the Project's GHG emissions is to satisfy CEQA Guidelines Section 15064.4(a), which requires a good-faith effort by the lead agency to describe and calculate emissions. The significance of the Project's GHG emissions impacts is not based on the amount of GHG emissions resulting from the Project, and is evaluated solely on the basis of consistency with GHG reduction plans, policies, and regulations.

The California Climate Action Registry (Climate Registry) has prepared the General Reporting Protocol for calculating and reporting GHG emissions from a number of general and industry-specific activities.[104] The GHG emissions provided in this report are consistent with the General Reporting Protocol framework. The General Reporting Protocol recommends separating GHG emissions into three categories that reflect different aspects of ownership or control over emissions. They include the following:

- Scope 1: Direct, on-site combustion of fossil fuels (e.g., natural gas, propane, gasoline, and diesel).
- Scope 2: Indirect, off-site emissions associated with purchased electricity or purchased steam.
- Scope 3: Indirect emissions associated with other emissions sources, such as third-party vehicles and embodied energy.[105]

CARB recommends consideration of indirect emissions to provide a more complete picture of the GHG footprint of a facility: "As facilities consider changes that would affect their emissions – addition of a cogeneration unit to boost overall efficiency even as it increases direct emissions, for example – the relative impact on total (direct plus indirect) emissions by the facility should be monitored. Annually reported indirect energy usage also aids the conservation awareness of the facility and provides information" to CARB to be considered for future strategies by the industrial sector.[106] For these reasons, CARB has proposed requiring the calculation of direct and indirect GHG emissions as part of the AB 32 reporting requirements. Additionally, the Office of Planning and Research (OPR) directs lead agencies to "make a good-faith effort, based on available information, to calculate, model, or estimate…GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and construction activities."[107] Therefore, direct and indirect emissions have been calculated for the Project.

A fundamental challenge in the analysis of GHG emissions is the global nature of the existing and cumulative future conditions. Changes in GHG emissions can be difficult to attribute to a particular project because the project may cause a shift in the locale for some type of GHG emissions, rather than simply causing "new" GHG emissions. As a result, there is a lack of clarity as to whether a project's GHG emissions represent a net global increase, reduction, or no change in GHGs that would exist if the project were not implemented. Therefore, the analysis of the Project's GHG emissions is conservative in that it assumes the GHG emissions are new additions to the atmosphere.

It is considered reasonable and consistent with criteria pollutant calculations to consider those GHG emissions resulting from Project-related incremental (net) increases from emissions sources mentioned in the scope categories above, such as emissions from the use of on-road mobile

[104] The Climate Registry, General Reporting Protocol Version 2.1, 2016.

[105] Embodied energy includes energy required for water pumping and treatment for end-uses. Third-party vehicles include vehicles used by residents, visitors, and employees traveling to and from the Project Site.

[106] California Air Resources Board, Staff Report: Initial Statement of Reasons for Rulemaking, Revisions to the Regulation for Mandatory Reporting of Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (AB 32), 2010, page 27.

[107] Governor's Office of Planning and Research, Technical Advisory – CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review, 2008, page 5.

vehicles, electricity, and natural gas, compared to existing conditions. This includes Project construction activities such as demolition, hauling, and construction worker trips. This analysis also considers indirect GHG emissions from water conveyance, wastewater generation, and solid waste handling. Since potential impacts resulting from GHG emissions are long-term rather than acute, GHG emissions are calculated on an annual basis.

GHG emissions are estimated using CalEEMod and EMFAC2021. GHG emissions from construction were estimated using the same approach as described above for air quality and have been amortized (i.e., averaged annually) over a Project lifetime, defined for the purposes of this analysis as 30 years.[108] Therefore, the Project's total construction GHG emissions were divided by 30 to determine an annual construction emissions estimate comparable to operational emissions.

Operational GHG emissions are also estimated using CalEEMod and EMFAC2021 as described above for air quality. CalEEMod was used to estimate GHG emissions from building energy, solid waste, water and wastewater, and landscaping equipment. Mobile source GHG emissions are calculated using EMFAC2021. Emissions from TRUs were estimated using emission factors from the OFFROAD2021 model.

Additionally, GHG emissions are associated with fugitive emissions of SF_6 from gas-insulated switchgear equipment, such as the high voltage circuit breakers at the on-site substation. The SF_6 global warming equivalence is 22,800 times that of CO_2. The Project would have up to two high-voltage circuit breakers, each with up to 160 pounds of SF_6 for a total of up to 320 pounds, and a maximum leak rate of 0.1% per year.[109] Emissions of CO_2e resulting from SF_6 gas leakage is estimated by the following equation:

$$CO2_e \text{ Emissions} = SF_6 \text{ gas contained in equipment (lbs) x 0.1\% leak rate per year x 0.0004536 MT/lb x 22,800}$$

There are challenges in determining consumption-based GHG emissions for embodied GHG emissions, such as the production of construction materials and consumer goods and services, as many require elongated supply chains. Therefore, the data necessary to accurately quantify embodied emissions may not be readily available due to the fact that other jurisdictions (particularly outside California or outside the United States) may not track GHG emissions in sufficient detail. Furthermore, as discussed in the Draft Association of Environmental Professionals (AEP) White Paper: Production, Consumption and Lifecycle Greenhouse Gas Inventories: Implications for CEQA and Climate Action Plans, "CEQA admonishes lead agencies to avoid speculation in completing their analyses and making conclusions. Moreover, CEQA does not require a lead agency to complete every study possible, but rather to fully disclose impacts based on reasonably available data. Developing project-specific estimates of embedded GHG emissions for all construction materials, or future consumed goods and services that are related to

[108] South Coast Air Quality Management District, Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, December 5, 2008, page 5.

[109] USEPA, SF6 Leak Rates from High Voltage Circuit Breakers - U.S. EPA Investigates Potential Greenhouse Gas Emissions Source, https://www.epa.gov/sites/default/files/2016-02/documents/leakrates_circuitbreakers.pdf. Accessed August 2023.

complex supply chains, would require extensive research and may not be able to accurately identify GHG emissions for many consumed items without substantial uncertainty."[110]

In addition, the State addressed embodied (lifecycle) GHG emissions in the Final Statement of Reasons for Regulatory Action, prepared for the amendment to Appendix F of the CEQA Guidelines pursuant to SB 97:

> *The amendments to Appendix F remove the term ―lifecycle. No existing regulatory definition of ―lifecycle exists. In fact, comments received during OPR's public workshop process indicate a wide variety of interpretations of that term. (Letter from Terry Rivasplata et al. to OPR, February 2, 2009, at pp. 5, 12 and Attachment; Letter from Center for Biological Diversity et al. to OPR, February 2, 2009, at pp. 17.) Thus, retention of the term ―lifecycle in Appendix F could create confusion among lead agencies regarding what Appendix F requires. Moreover, even if a standard definition of the term ―lifecycle existed, requiring such an analysis may not be consistent with CEQA. As a general matter, the term could refer to emissions beyond those that could be considered ―indirect effects of a project as that term is defined in section 15358 of the State CEQA Guidelines. Depending on the circumstances of a particular project, an example of such emissions could be those resulting from the manufacture of building materials. (CAPCOA White Paper, pp. 50–51.) CEQA only requires analysis of impacts that are directly or indirectly attributable to the project under consideration. (State CEQA Guidelines, § 15064(d).) In some instances, materials may be manufactured for many different projects as a result of general market demand, regardless of whether one particular project proceeds. Thus, such emissions may not be caused by the project under consideration. Similarly, in this scenario, a lead agency may not be able to require mitigation for emissions that result from the manufacturing process. Mitigation can only be required for emissions that are actually caused by the project. (CEQA Guidelines Section 15126.4(a)(4).)*[111]

Therefore, embodied GHG emissions were not considered in this analysis as they are not consistent with generally recommended GHG emissions analysis methodology under CEQA.

4.2.2 Secondary Effects of Climate Change (GHG-3)

The determination of whether the Project would contribute or be subjected to the secondary effects of climate change expected to occur in California is based on an analysis of the following factors: sea level rise, coastal flooding and coastal erosion; losses to the Sierra snowpack and water supply; forestry and higher risk of fires; damage to agriculture; public health impacts; and habitat destruction and loss of ecosystems.

[110] Association of Environmental Professionals, Draft AEP White Paper - Production, Consumption and Lifecycle Greenhouse Gas Inventories: Implications for CEQA and Climate Action Plans, 2017, page 5-3.

[111] California Natural Resources Agency, Final Statement of Reasons for Regulatory Action – Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 397, page 71.

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SECTION 5
Environmental Impacts

5.1 Air Quality Impact Analysis

Threshold AIR-1: Conflict with population or other growth forecasts contained in the Ventura County AQMP or otherwise obstruct implementation of the Ventura County AQMP.

Impact AIR-1: Implementation of the Project would not conflict with population or other growth factors or obstruct implementation of the Ventura County AQMP. (*Less than Significant*)

The most recent Clean Air Plan for the Air Basin is the 2022 AQMP, adopted by the VCAPCD in December 2022. The primary objective of the AQMP is to provide continuous air pollutant emission reductions over time, with the goal of attaining the federal and state standards. The VCAPCD's AQMP establishes a comprehensive air pollution control program leading to the attainment of state and federal air quality standards in the Basin, which is in non-attainment for ozone and PM10. The AQMP also addresses the requirements set forth in the state and federal Clean Air Acts.

Projects that are consistent with the regional population, housing, and employment forecasts identified by the Ventura Council of Governments (VCOG) are deemed consistent with the AQMP growth projections, since the forecast assumptions by VCOG forms the basis of the land use and transportation control portions of the AQMP. Additionally, because VCOG's regional growth forecasts are based upon, among other things, land uses designated in general plans, a project that is consistent with the land use designated in a general plan would also be consistent with the VCOG's regional forecast projections, and thus also with the AQMP growth projections.

Construction

Control Strategies

During its construction phase, the Project would ensure compliance with CARB's requirements to minimize short-term emissions from on-road and off-road diesel equipment, and with VCAPCD's regulations such as Rule 55 for controlling fugitive dust and Rule 74.2 for controlling VOC emissions from architectural coatings. Compliance with these features and requirements would be consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities.

Growth Projections

The Project would generate short-term construction jobs, but these jobs would not necessarily bring new construction workers or their families into the region, since construction workers are

typically drawn from an existing regional pool who travel among construction sites within the region. Construction workers are not typically brought from other regions to work on developments such as the Project. Moreover, these jobs would be relatively small in number and temporary in nature. Therefore, the Project's construction jobs would not conflict with the long-term employment or population projections upon which the 2022 AQMP is based.

Operations

Control Strategies and Policies

The Environmental Resources Chapter of the 2030 General Plan contains goals and policies related to air quality resources. The Air Quality Resources Element (Goal ER-14, Improved air quality and minimized adverse effects of air pollution on human health and the economy) includes policies relevant and applicable to the Project. **Table 5**, *Air Quality Resources Element Policies*, lists the policies relevant and applicable to the Project and assess the potential for the Project to conflict with the policies. As shown in Table 5, the Project would not conflict with the relevant and applicable policies.

TABLE 5
AIR QUALITY RESOURCES ELEMENT POLICIES

Policy		Project Assessment
ER-14.1	Incorporate Ventura County AQMP Mitigations	**No Conflict.** The Project's air quality impacts are evaluated with respect to the VCAPCD thresholds of significance and if potentially significant impacts are identified, mitigation measures are provided and would be monitored and enforced through a mitigation monitoring plan as required by CEQA.
ER-14.4	Emission Control Devices	**No Conflict.** The Project would utilize construction equipment that would comply with the CARB fleet rule to reduce NOX, PM10, and PM2.5 emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). In addition, construction equipment would comply with the CARB adopted ATCM that limits heavy-duty diesel motor vehicle idling to reduce public exposure to diesel PM and other TACs (Title 13 California Code of Regulations [CCR], Section 2485). Furthermore, the project would include electric vehicle parking spaces equipped with EVCS and, aided by a grant from the SCAQMD, the facility would be fitted with electrical outlets ("yard plugs") that would allow for the on-board fuel powered TRUs to be transferred to electric power, which would assist with reducing idle emissions.
ER-14.5	Reducing Construction Impacts during Smog Season	**No Conflict.** Refer to discussions in ER-14.1 and ER-14.4.
ER-14.6	Minimizing Dust and Air Emissions through Permitting Requirements	**No Conflict.** During its construction phase, the Project would ensure compliance with VCAPCD's regulations such as Rule 55 for controlling fugitive dust.
ER-14.7	Mitigation Monitoring	**No Conflict.** Refer to discussion in ER-14.1.
ER-14.10	Consultation with the VCAPCD	**No Conflict.** The Project's air quality impacts are evaluated with respect to the VCAPCD thresholds of significance and if potentially significant impacts are identified, mitigation measures are provided and would be monitored and enforced through a mitigation monitoring plan as required by CEQA. The CEQA analysis is provided to the VCAPCD for review and comment.
ER-14.11	Support Regional Attainment Plans	**No Conflict.** Refer to discussions in ER-14.1, ER-14.4, and ER-14.6.

Policy		Project Assessment
ER-14.12	Use VCAPCD Air Quality Assessment Guidelines	**No Conflict.** Refer to discussion in ER-14.1.

SOURCE: City of Oxnard, 2030 General Plan Goals and Policies, 2011; ESA, 2023.

Growth Projections

The proposed Project includes the construction of a cold storage facility on a site that is currently designated ILT within the 2030 General Plan (City of Oxnard, 2014). The construction of a cold storage facility does not require a general plan amendment and would not increase population beyond that projected in the 2030 General Plan. The proposed Project would generate a total of 24 employees. The Southern California Association of Governments (SCAG) estimates that the population of Oxnard will increase by 32,100 residents and generate 15,000 new jobs between 2016 and 2045 (SCAG, 2020). Even in the unlikely event that all new jobs created by the proposed Project were to result in new residents to Oxnard, the Project would result in less than one percent of expected City population and employment growth. Therefore, the proposed Project would not result population growth that would exceed the regional forecast and the Project would not conflict with the VCAPCD's AQMP and impacts would be less than significant.

Based on the above, the Project would not conflict with or obstruct implementation of the Ventura County AQMP and impacts would be less than significant.

Threshold AIR-2: Violate any federal or state air quality standard or contribute substantially to an existing or projected air quality standard violation.

Threshold AIR-3: Result in a net increase of any criteria pollutant in excess of quantitative thresholds recommended by the VCAPCD.

Impact AIR-2: Implementation of the Project would not violate any federal or state air quality standard or contribute substantially to an existing or projected air quality standard violation. (*Less than Significant with Mitigation Incorporated*)

Impact AIR-3: Implementation of the Project would not result increase of any criteria pollutant in excess of quantitative thresholds recommended by the VCAPCD. (*Less than Significant with Mitigation Incorporated*)

The Project would contribute to local and regional air pollutant emissions during construction (short-term or temporary) and occupancy (long-term). The analysis of Project construction and operational emissions to violate any federal or state air quality standard or contribute substantially to an existing or projected air quality standard violation and to increase any criteria pollutant in excess of quantitative thresholds recommended by the VCAPCD is provided below. Detailed emissions calculations are provided in **Exhibit A** of this Technical Report.

Construction Emissions

Construction of the Project has the potential to generate temporary regional criteria pollutant emissions through the use of heavy-duty construction equipment, such as backhoes and cranes, through vehicle trips generated by workers and haul trucks traveling to and from the Project Site, and through building activities such as the application of paint and other surface coatings. In addition, fugitive dust emissions would result from demolition and various soil-handling activities. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions.

The maximum daily construction emissions for the Project were estimated for each construction phase. The maximum daily emissions are predicted values for a representative worst-case day, and do not represent the actual emissions that would occur for every day of construction, which would likely be lower on many days.

The results of the criteria pollutant calculations are presented in **Table 6**, *Estimated Unmitigated Construction Emissions.* As previously stated, within CalEEMod, fugitive dust emissions include the application of water as a control measure consistent with VCAPCD Rule 55. Therefore, emissions include dust control measures as required by VCAPCD Rule 55 (Control of Fugitive Dust). Emissions also include fugitive ROG control measures to be implemented by architectural coating emission factors required by VCAPCD Rule 74.2 (Architectural Coatings). As shown in Table 6, construction-related daily emissions would exceed the VCAPCD significance thresholds and mitigation measures would be required.

TABLE 6
ESTIMATED UNMITIGATED CONSTRUCTION EMISSIONS (POUNDS PER DAY)[a]

Construction Phases	ROG	NO_X	CO	SO_2	PM10[b]	PM2.5[b]
Demolition	1.1	10.4	14.6	<0.1	0.6	0.5
Grading and Excavation	3.1	35.4	34.4	0.1	2.9	1.5
Foundations	2.3	23.9	30.5	0.1	2.3	1.2
Building Construction	4.2	40.3	42.4	0.1	2.8	1.8
Paving	1.1	6.0	6.2	<0.1	0.3	0.2
Architectural Coatings	2.5	1.8	3.2	<0.1	0.1	0.1
Overlapping Phases						
Building Construction + Paving + Architectural Coating	7.9	48.0	51.8	0.1	3.3	2.1
Maximum Daily Construction Emissions[c]	**7.9**	**48.0**	**51.8**	**0.1**	**3.3**	**2.1**
VCAPCD Significance Threshold	25	25	NA	NA	NA	NA
Exceeds Threshold?	No	**Yes**	NA	NA	NA	NA

NA – Not Applicable.

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Exhibit A.

[b] Emissions include fugitive dust control measures consistent with VCAPCD Rule 55 (Fugitive Dust).

SOURCE: ESA 2023

Operational Emissions

Operational criteria pollutant emissions were calculated for mobile, area, and stationary sources. Operational emission estimates include compliance with VCAPCD Rule 74.2 (Architectural Coatings), which limits the VOC content of architectural coatings. The results of the regional criteria pollutant emission calculations for VOC, NO_X, CO, SO_2, PM10, and PM2.5 are presented in **Table 7,** *Estimated Unmitigated Operational Emissions.* The Project's operational-related daily emissions would exceed the VCAPCD significance thresholds and mitigation measures would be required.

TABLE 7
ESTIMATED UNMITIGATED OPERATIONAL EMISSIONS (POUNDS PER DAY)[a]

Source	ROC	NO_X	CO	SO_2	PM10	PM2.5
Area (Consumer Products, Landscaping)	3.6	<0.1	<0.1	<0.1	<0.1	<0.1
Energy (Natural Gas)	<0.1	0.1	0.1	<0.1	<0.1	<0.1
Mobile Sources – Light-Duty Vehicles	0.2	0.1	1.3	<0.1	0.1	<0.1
Mobile Sources – Heavy-Duty Vehicles	0.9	34.2	12.6	0.2	2.7	0.9
Transportation Refrigeration Units	68.9	65.8	7.5	0.2	1.9	1.8
Forklifts (Electric)	–	–	–	–	–	–
Project Maximum Daily Operational Emissions	**73.6**	**100.2**	**21.5**	**0.4**	**4.7**	**2.7**
VCAPCD Significance Threshold	25	25	NA	NA	NA	NA
Exceeds Thresholds?	**Yes**	**Yes**	NA	NA	NA	NA

NA – Not Applicable.

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Exhibit A.

[b] Operational mobile source emissions calculated outside of CalEEMod.

SOURCE: ESA 2023

Mitigation Measures

As shown in Table 6 and Table 7, Project emissions would exceed the VCAPCD significance threshold for NO_X during construction and for ROG and NO_X during operations. For a Project that emits more than 25 pounds of ROG or NO_X, the VCAPCD requires implementation of feasible mitigation measures. The following mitigation measures are required to reduce the Project's construction and operational emissions.

> **Mitigation Measure AIR-1: Construction Fugitive Dust Control.** The Project developer shall implement fugitive dust control measures throughout all phases of construction. The Project developer shall include in construction contracts the control measures required and recommended by the Ventura County APCD at the time of development. These measures, like all EIR mitigation measures, are binding on subsequent parties and developers. Examples of the types of measures currently required and recommended include the following:
>
> - Minimize the area disturbed on a daily basis by clearing, grading, earthmoving, and/or excavation operations.

- Pre-grading/excavation activities shall include watering the area to be graded or excavated before the commencement of grading or excavation operations. Application of water should penetrate sufficiently to minimize fugitive dust during these activities.
- All trucks shall be required to cover their loads as required by California Vehicle Code §23114.
- All graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved onsite roadways, shall be treated to prevent fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally-safe soil stabilization materials, and/or roll-compaction as appropriate. Watering shall be done as often as necessary.
- Material stockpiles shall be enclosed, covered, stabilized, or otherwise treated, to prevent blowing fugitive dust off site.
- Graded and/or excavated inactive areas of the construction site shall be monitored by a City-designated monitor at least weekly for dust stabilization. Soil stabilization methods, such as water and roll-compaction, and environmentally-safe control materials, shall be periodically applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area should be seeded and watered until grass growth is evident, or periodically treated with environmentally-safe dust suppressants, to prevent excessive fugitive dust.
- Signs shall be posted on the site limiting onsite traffic to 15 miles per hour or less.
- During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), all clearing, grading, earth moving, and excavation operations shall be curtailed to the degree necessary to prevent fugitive dust created by onsite activities and operations from being a nuisance or hazard, either off site or on site. The site superintendent/supervisor shall use his/her discretion in conjunction with the Ventura County APCD in determining when winds are excessive.
- Adjacent streets and roads shall be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.
- Personnel involved in grading operations, including contractors and subcontractors should be advised to wear respiratory protection in accordance with California Division of Occupational Safety and Health regulations.

Mitigation Measure AIR-2: Construction Equipment Emissions Control. The Project developer shall implement measures to reduce the emissions of pollutants generated by heavy-duty diesel-powered equipment operating at the Project Site throughout the Project construction phases. The Project developer shall include in construction contracts the control measures required and recommended by the Ventura County Air Pollution Control District at the time of development. Required measures shall include the following:

- The Project shall utilize off-road diesel-powered construction equipment that meets or exceeds the California Air Resources Board (CARB) and United States Environmental Protection Agency Tier 4 Final off-road emissions standards or equivalent for equipment rated at 50 horsepower (hp) or greater during Project construction where available within the Ventura County region. Such equipment shall be outfitted with Best Available Control Technology, which means a CARB certified Level 3 Diesel Particulate Filter or equivalent.

- Maintain all construction equipment in good condition and in proper tune in accordance with manufacturer's specifications.
- Limit truck and equipment idling time to five minutes or less.
- Minimize the number of vehicles and equipment operating at the same time during the smog season (May through October).
- Use alternatively fueled construction equipment, such as compressed natural gas, liquefied natural gas, or electric, to the extent feasible.

Mitigation Measure AIR-3: Building Energy. The Project developer shall include in construction and building management contracts the requirement to install and use solar or low-emission water heaters in new buildings where feasible and as in common practice in similar new construction in the Oxnard area, or other measure shown to be equally effective.

Mitigation Measure AIR-4: Rooftop. The Project developer shall include in construction and building management contracts the requirement that new buildings shall be designed with roof systems capable of supporting equipment that generates electricity from sunlight and/or wind if economically feasible and subject to review by the Fire Department. The roof systems may be designed to service the building and/or enter into a commercially reasonable public or private utility agreement for purposes of generating energy or transmission.

Mitigation Measure AIR-5: Landscaping. The Project developer shall include in building management contracts the requirement that commercial landscapers providing services at the common areas of Project Site use electric or battery-powered equipment, or other internal combustion equipment that is either certified by the California Air Resources Board or is three years old or less at the time of use, to the extent that such equipment is reasonably available and competitively priced in Ventura County (meaning that the equipment can be easily purchased at stores in Ventura County and the cost of the equipment is not more than 20 percent greater than the cost of standard equipment).

Mitigation Measure AIR-6: Mitigation Fund. The Project developer shall contribute to a cumulative impacts mitigation "buy-down" fund managed by the City based on the Ventura County Air Pollution Control District fee schedule effective at the time a building permit is issued. The City shall consider transit and traffic demand management improvements and other programs suggested by the Project developer, in excess of those otherwise required, as credits against the fee and/or to be funded from the fee fund.

Mitigated construction emissions are shown in **Table 8**, *Estimated Mitigated Construction Emissions*, and mitigated operational emissions are shown in **Table 9**, *Estimated Mitigated Operational Emissions*. As shown in Table 8, with the incorporation of Mitigation Measures AIR-1 and AIR-2, the Project's construction emissions would be reduced to below the VCAPCD thresholds of significance. As shown in Table 9, with the incorporation of Mitigation Measures AIR-3, AIR-4, and AIR-5, the Project's operational emissions would continue to exceed the VCAPCD thresholds of significance. However, as required by Mitigation Measure AIR-6, the Project would be required to contribute to a cumulative impacts mitigation "buy-down" fund. The City will determine the specific amount to be contributed by the Project. The Project's anticipated contributions to the mitigation "buy-down" fund would offset the operational emissions.

Therefore, with implementation of mitigation measures, the Project would not violate an air quality standard or contribute substantially to an existing or projected air quality violation and would not result in a net increase of any criteria pollutant in excess of quantitative thresholds recommended by the VCAPCD. This impact would be less than significant with the incorporation of mitigation.

TABLE 8
ESTIMATED MITIGATED CONSTRUCTION EMISSIONS (POUNDS PER DAY)[a]

Construction Phases	ROG	NO_X	CO	SO_2	PM10[b]	PM2.5[b]
Demolition	0.2	1.6	15.3	<0.1	0.2	0.1
Grading and Excavation	0.8	9.5	37.7	0.1	1.6	0.4
Foundations	0.6	8.0	33.1	0.1	0.8	0.2
Building Construction	1.7	15.6	46.1	0.1	0.9	0.4
Paving	0.8	1.3	9.2	<0.1	0.1	0.1
Architectural Coatings	2.4	1.1	3.4	<0.1	0.1	<0.1
Overlapping Phases						
Building Construction + Paving + Architectural Coating	4.9	18.0	58.7	0.1	1.1	0.5
Maximum Daily Construction Emissions[c]	**4.9**	**18.0**	**58.7**	**0.1**	**1.6**	**0.5**
VCAPCD Significance Threshold	25	25	NA	NA	NA	NA
Exceeds Threshold?	No	No	NA	NA	NA	NA

NA – Not Applicable.

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Exhibit A.

[b] Emissions include fugitive dust control measures consistent with VCAPCD Rule 55 (Fugitive Dust).

SOURCE: ESA 2023

TABLE 9
ESTIMATED MITIGATED OPERATIONAL EMISSIONS (POUNDS PER DAY)[a]

Source	ROC	NO_X	CO	SO_2	PM10	PM2.5
Area (Consumer Products, Landscaping)	3.6	<0.1	<0.1	<0.1	<0.1	<0.1
Energy (Natural Gas)	<0.1	0.1	0.1	<0.1	<0.1	<0.1
Mobile Sources – Light-Duty Vehicles	0.2	0.1	1.3	<0.1	0.1	<0.1
Mobile Sources – Heavy-Duty Vehicles	0.9	34.2	12.6	0.2	2.7	0.9
Transportation Refrigeration Units	68.9	65.8	7.5	0.2	1.9	1.8
Forklifts (Electric)	–	–	–	–	–	–
Reductions from Mitigation Measures	**(48.7)**	**(75.3)**	–	–	–	–
Project Maximum Daily Operational Emissions	**24.9**	**24.9**	**21.5**	**0.4**	**4.7**	**2.7**
VCAPCD Significance Threshold	25	25	NA	NA	NA	NA
Exceeds Thresholds?	No	No	NA	NA	NA	NA

NA – Not Applicable.

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Exhibit A.

[b] Operational mobile source emissions calculated outside of CalEEMod.

SOURCE: ESA 2023

Cumulative Impacts

The VCAPCD's approach for assessing cumulative impacts related to operations or long-term implementation is based on attainment of ambient air quality standards in accordance with the requirements of the CAA and California Clean Air Act. As discussed earlier, the VCAPCD has developed a comprehensive plan, the AQMP, which addresses the region's cumulative air quality condition.

A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or California non-attainment pollutant. Because Ventura County is currently in non-attainment area for ozone and PM_{10}, cumulative projects could exceed an air quality standard or contribute to an existing or projected air quality exceedance. Cumulative impacts to air quality are evaluated under two sets of thresholds for CEQA and the VCAPCD. In particular, Section 15064(h)(3) of the CEQA Guidelines provides guidance in determining the significance of cumulative impacts. Specifically, Section 15064(h)(3) states in part that:

> *A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency.*

For purposes of the cumulative air quality analysis with respect to CEQA Guidelines Section 15064(h)(3), the Project's incremental contribution to cumulative air quality impacts is determined based on compliance with the VCAPCD adopted AQMP. The Project would not conflict with or obstruct implementation of AQMP and would be consistent with the growth projections in the AQMP.

Nonetheless, VCAPCD no longer recommends relying solely upon consistency with the AQMP as an appropriate methodology for assessing cumulative air quality impacts. The VCAPCD recommends that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality. As shown in Table 8 and Table 9, the Project's mitigated emissions would be below VCAPCD significance thresholds for ROG and NO_X, both ozone precursors.

The formation of ground-level ozone is a complex process due to photochemical reactions of precursor pollutants (i.e., ROG and NO_X emissions) in the atmosphere in the presence of sunlight. Meteorological factors, such as wind, would result in dispersive effects of pollutants, including ozone precursor and particulate matter emissions, that are dispersed horizontally downwind and through vertical mixing. Accounting for this, the Project's emissions would not exceed the VCAPCD significance thresholds with implementation of mitigation measures AIR-1 through AIR-6. **Therefore, the Project's incremental contribution to long-term emissions of non-attainment pollutants and ozone precursors, considered together with cumulative projects,**

would not be cumulatively considerable, and therefore the cumulative impact of the Project would be less than significant with mitigation incorporated.

Threshold AIR-4: Expose sensitive receptors to substantial pollutant concentrations exceeding state or federal standards or in excess of applicable health risk criteria for toxic air contaminants.

Impact AIR-4: Implementation of the Project would not expose sensitive receptors to substantial pollutant concentrations. (*Less than Significant with Mitigation Incorporated*)

This impact evaluates the potential for the Project's construction and operational emissions to expose sensitive receptors to substantial pollutant concentrations of carbon monoxide, naturally occurring asbestos, Valley Fever, or other TACs of concern (including DPM). Sensitive receptors are individuals who are considered more sensitive to air pollutants than others. The reasons for greater than average sensitivity may include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered as relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. The nearest sensitive receptors to the Project Site are residential uses located approximately 2,100 feet to the of the Project Site. This analysis examines potential exposure of off-site sensitive receptors from the development of the Project.

Construction Fugitive Dust

Construction of the Project would generate fugitive dust (primarily PM10 fugitive dust) from site grading and earth-moving activities. Fugitive dust emissions are primarily associated with earth disturbance and grading activities, and vary as a function of soil silt content, soil moisture, wind speed, acreage of disturbance area, and miles traveled by construction vehicles on- and off-site. The majority of this fugitive dust will remain localized and will be deposited near the Project Site. The VCAPCD does not have a quantitative significance threshold for fugitive dust. The VCAPCD's Air Quality Guidelines recommend minimizing the generation of fugitive dust, especially during grading and excavation operations, rather than requiring the quantification of fugitive dust emissions. The Project would be required to implement applicable fugitive dust control through regulatory compliance for VCAPCD Rule 55 (Fugitive Dust), which includes requirements for controlling visible dust beyond the property line, track-out of dust, stabilizing material and soil while hauling, minimizing dust from equipment and vehicle travel on unpaved roads, stabilizing storage piles, and various record keeping requirements to document compliance. Furthermore, Mitigation Measure AIR-1 for fugitive dust control provides specific requirements supportive of and in line with VCAPCD Rule 55 (Fugitive Dust) requirements. **Regulatory compliance and implementation of Mitigation Measure AIR-1 would reduce fugitive dust impacts to less than significant.**

Naturally Occurring Asbestos

Construction in areas of rock formations that contain naturally occurring asbestos could release asbestos into the air and pose a health hazard. A review of the United States Geological Survey *Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California*, which includes a map containing areas more likely to have rock formations containing naturally occurring asbestos in California, indicates that there are no areas likely containing naturally occurring asbestos in the Project area.[112] Therefore, the Project would not expose sensitive receptors to naturally occurring asbestos during construction. **Project impacts to air quality related to naturally occurring asbestos would be less than significant.**

Valley Fever

Soil conditions on the Project Site do not generally meet the Ventura County Air Quality Assessment Guidelines criteria for potential presence of Valley Fever fungus, which include the disturbance of undeveloped topsoil, the presence of dry, alkaline soils, or the disturbance of virgin undisturbed soil in non-urban areas.

The Project Site is an existing vacant industrial site that has been disturbed by tractor trailers traveling and parking on the site. Therefore, the implementation of the Project would have a low probability of the site having valley fever growth sites and exposure to the spores from disturbed soil. The Project would minimize the generation of fugitive dust during construction activities by complying with the VCAPCD Rule 55 (Fugitive Dust). As discussed above, Mitigation Measure AIR-1 for fugitive dust control provides specific requirements supportive of and in line with VCAPCD Rule 55 (Fugitive Dust) requirements. **Therefore, with regulatory compliance and implementation of Mitigation Measure AIR-1, combined with the relatively low probability of the presence of Coccidioides immitis spores, would reduce Valley fever impacts during the construction period to a less than significant level**.

During operations, dust emissions are anticipated to be negligible, because most of the project area would be occupied by a cold storage facility, pavement, and landscaped areas. This condition would preclude the possibility of providing habitat suitable for Coccidioides immitis and for generating fugitive dust that may contribute to Valley fever exposure. **Project operational impacts to air quality related to Valley Fever would be less than significant.**

Carbon Monoxide Hotspots

The SCAQMD generally experiences higher concentrations of carbon monoxide (CO) than the VCAPCD. In past years, busy intersections would have the potential create CO Hotspots due to vehicular emissions of CO. As cars have become cleaner, this has become rare. The SCAQMD demonstrated that CO Hotspots are no longer to be anticipated even when applying worst case intersection data, prior studies, and existing background CO concentrations. This conclusion is also applicable within the VCAPCD.

[112] United States Geological Survey, Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California, 2011.

The SCAQMD study demonstrates that the Project would not cause or contribute considerably to the formation of CO hotspots, that CO concentrations at Project-impacted intersections would remain well below the threshold one-hour and eight-hour ambient air quality standards (CAAQS) of 20 or 9.0 parts per million (ppm), respectively within one-quarter mile of a sensitive receptor, and that no further CO analysis is warranted or required.

The SCAQMD conducted CO modeling for the 2003 AQMP for the four worst-case intersections in the Air Basin. These include: (a) Wilshire Boulevard and Veteran Avenue; (b) Sunset Boulevard and Highland Avenue; (c) La Cienega Boulevard and Century Boulevard; and (d) Long Beach Boulevard and Imperial Highway. In the 2003 AQMP CO attainment demonstration, the SCAQMD notes that the intersection of Wilshire Boulevard and Veteran Avenue is the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day.[113] This intersection is located near the on- and off-ramps to Interstate 405 in West Los Angeles. The evidence provided in Table 4-10 of Appendix V of the 2003 AQMP shows that the peak modeled CO concentration due to vehicle emissions (i.e., excluding background concentrations) at these four intersections was 4.6 ppm (one-hour average) and 3.2 ppm (eight-hour average) at Wilshire Boulevard and Veteran Avenue.[114] Therefore, projects that result in traffic at any intersection of less than 100,000 vehicles per day would be considered to be less than significant.

Based on the Project's Transportation Study, the maximum traffic volume would be approximately 223 average daily trips (50 passenger vehicle trips and 173 truck trips per day).[115] As the Project does not result in 100,000 vehicles per day at any study area intersection, this comparison demonstrates that the Project would not contribute to the formation of CO hotspots and that no further CO analysis is required. **The Project would not contribute to the formation of CO hotspots and no further CO analysis is required. Therefore, the Project would result in less than significant impacts with respect to CO hotspots.**

Toxic Air Contaminants

Construction

Temporary TAC emissions associated with DPM emissions from heavy construction equipment would occur during construction activities. According to OEHHA and the VCAPCD Air Quality Assessment Guidelines,[116] health effects from TACs are described in terms of individual cancer risk based on a lifetime (i.e., 70-year) resident exposure duration. Given the temporary and short-term construction schedule (approximately 12 months), the Project would not result in a long-term (i.e., lifetime or 70-year) exposure as a result of construction activities.

The Project would be generally consistent with the applicable 2022 AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. The Project would comply with regulatory control measures including the CARB Air Toxics Control Measure

[113] SCAQMD, 2003 AQMP, Appendix V: Modeling and Attainment Demonstrations, page V-4-24.

[114] The eight-hour average is based on a 0.7 persistence factor, as recommended by the SCAQMD.

[115] Associated Transportation Engineers. Arcturus Avenue Cold Storage Facility, Oxnard, California, Revised Traffic Study, Table 2, p. 9, February 21, 2023.

[116] VCAPCD, Ventura County Air Quality Assessment Guidelines, October 2003, http://www.vcapcd.org/pubs/Planning/VCAQGuidelines.pdf. Accessed February 2023.

that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation that requires fleets to retire, replace, or repower of older, dirtier engines with newer emission-controlled models; compliance with these would minimize emissions of TACs during construction. In addition, the Project would implement Mitigation Measure AIR-2 to reduce NO_X emissions, which would also have co-benefits of reducing construction TAC emissions (diesel particulate matter) and reducing the potential for TAC impacts.

Although, sensitive receptors (residential uses) are located to the northwest of the Project Site, the downwind concentration and associated cancer risk at 2,100 feet (642 meters, 0.4 miles) away would be very small. The short-term duration of construction activity anticipated at approximately 12 months, along with regulatory compliance to reduce diesel particulate matter emissions, and the distance to sensitive receptors (2,100 feet and more) would not create conditions that result in a significant health risk to sensitive receptors. Impacts from construction TACs would be less than significant. **Thus, construction activities would not expose sensitive receptors to substantial toxic air contaminant concentrations, and construction-related health impacts would be less than significant.**

Operation

The Project Traffic Study[117] indicates that the Project would generate 223 total average daily trips, of which 173 would be truck trips and 50 would be passenger vehicle trips per day. The Project would provide 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area. This would reduce TRU idling emissions.

As previously discussed, the Project would comply with the anti-idling regulation that would limit truck idling to five minutes at a location. The truck fleet would also be required to comply with the applicable provisions of the CARB 13 CCR, Section 2025 (Truck and Bus regulation) to minimize and reduce PM10, PM2.5, and NO_X emissions from diesel-fueled trucks. Therefore, Project operations would not be considered a substantial source of diesel particulates.

The CARB Air Quality Land Use Handbook indicates that there is a 70-percent drop off in particulate pollution levels at 500 feet.[118] Although vehicle trips generated by the Project may come within 500 feet of nearby sensitive receptors, emissions from vehicles would be dispersed along roadways. Considering the distance from the Project site (where emissions could reasonably be assumed to be the most concentrated) to the nearest sensitive receptors (2,100 feet and more), operational Project-related TAC exposure impacts to these off-site sensitive receptors would be below the established thresholds during operation of the project.

The Project does not include industrial manufacturing processes, paint spray operations, or other emission sources. The Project's cold storage and office land uses would not include installation of industrial-sized paint booths or require extensive use of commercial or household cleaning products.

[117] Associated Transportation Engineers. Arcturus Avenue Cold Storage Facility, Oxnard, California, Revised Traffic Study, Table 2, p. 9, February 21, 2023.

[118] CARB, Air Quality and Land Use Handbook, p. 6, April 2005.

Project operations would only result in minimal emissions of TAC from maintenance or other ongoing activities, such as from the use of architectural coatings and other products. Based on the uses expected on the Project Site, potential long-term operational impacts associated with the release of TACs would be minimal, regulated, and controlled, and would not be expected to exceed VCAPCD toxic emissions thresholds. **Thus, operation of the Project would not expose sensitive receptors to substantial toxic air contaminant concentrations and operational impacts would be less than significant.**

Threshold AIR-5: Create objectionable odors affecting a substantial number of people.

Impact AIR-5: Implementation of the Project would not create objectionable odors affecting a substantial number of people. (Less than Significant)

Construction

Potential activities that may emit odors during construction include the use of architectural coatings and solvents, as well as the combustion of diesel fuel in on-and off-road equipment. VCAPCD Rule 74.2 would limit the amount of VOCs in architectural coatings and solvents. In addition, the Project would comply with the applicable provisions of the CARB Air Toxics Control Measure regarding idling limitations for diesel trucks. Through mandatory compliance with VCAPCD Rules, no construction activities or materials are expected to create objectionable odors affecting a substantial number of people. **Therefore, construction activities would result in less than significant impacts with respect to odors.**

Operations

According to the 2003 Ventura County Air Quality Assessment Guidelines, land uses associated with odor complaints typically include:

- Wastewater treatment facilities
- Sanitary landfills
- Transfer stations
- Composting facilities
- Asphalt batch plants
- Painting and coating operations
- Fiberglass operations
- Food processing facilities
- Feed lots/ dairies
- Petroleum extraction, transfer
- processing, and refining operations
- Chemical manufacturing operations
- Rendering plants

The Project does not include any uses identified by the VCAPCD as being associated with substantial odors. As a result, the Project is not expected to discharge contaminants into the air in quantities that would cause a nuisance, injury, or annoyance to the public or property pursuant to VCAPCD Rule 51 (Public Nuisance). **Therefore, operation of the Project would result in less than significant impacts with respect to odors.**

5.2 Greenhouse Gas Emissions

Threshold GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Threshold GHG-2: Conflict with an applicable plan, policy, or regulations adopted for the purpose of reducing the emissions of greenhouse gases or otherwise conflict with the state goal for reducing greenhouse gas emissions in California.

Impact GHG-1: Implementation of the Project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. (*Less than Significant)*

Impact GHG-2: Implementation of the Project would not conflict with an applicable plan, policy, or regulations adopted for the purpose of reducing the emissions of greenhouse gases or otherwise conflict with the state goal for reducing greenhouse gas emissions in California. (*Less than Significant)*

Construction Emissions

Construction emissions would be associated with vehicle engine exhaust from construction equipment and vehicles, vendor trips, and construction worker commuting trips. Construction-related GHG emissions are considered temporary and short term. **Table 10**, *Construction Greenhouse Gas Emissions*, shows construction GHG emissions amortized over 30 years.

TABLE 10
CONSTRUCTION GREENHOUSE GAS EMISSIONS

Emission Source	CO_2e (Metric Tons) [a,b]
Demolition	13.3
Grading and Excavation	102.0
Foundations	11.3
Building Construction	708.8
Paving	39.5
Architectural Coatings	21.2
Construction Office Trailer and Watering	6.9
Total	**858.3**
Amortized Over 30 Years	28.6

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Exhibit A.
[b] Construction mobile source emissions calculated outside of CalEEMod using EMFAC2021.
SOURCE: ESA, 2023.

Operational Emissions

Operation of the Project would generate GHG emissions through motor vehicle trips to and from the Project Site, energy use, and potential leakage from gas-insulated circuit breakers (area source). The CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section 4.2. Additionally, GHG emissions associated with SF_6-insulated circuit breakers at the on-site substation were calculated based on up to 320 pounds of SF_6 contained in equipment, an annual leak rate of 0.1%, and a GWP of 22,800.[119] **Table 11**, *Annual Operational Greenhouse Gas Emissions,* shows the Project's estimated annual operational GHG emissions.

TABLE 11
ANNUAL OPERATIONAL GREENHOUSE GAS EMISSIONS

Emission Source	CO_2e (Metric Tons) [a,b]
Mobile Sources – Light-Duty Vehicles	55.1
Mobile Sources – Heavy-Duty Vehicles	3,820.8
Transportation Refrigeration Units	1,643.2
Area	<0.1
Insulated circuit breakers (SF_6)	3.3
Electricity	410.5
Natural Gas	13.8
Water and Wastewater Treatment	113.1
Solid Waste	33.5
Forklifts (Electric)	42.3
Construction (Amortized)	28.6
Total	**6,164.2**

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Exhibit A.
[b] Construction mobile source emissions calculated outside of CalEEMod using EMFAC2021.
SOURCE: ESA, 2023.

Greenhouse Gas Reduction Plans, Policies, and Regulations

2022 Scoping Plan

The 2022 Scoping Plan presents a non-exhaustive list of impactful GHG reduction strategies that can be implemented by local governments within the three priority areas (Priority GHG Reduction Strategies for Local Government Climate Action Priority Areas).[120] A detailed assessment of goals, plans, policies implemented by the City which would support the GHG reduction strategies in the three priority areas is provided below. In addition, further details are provided regarding the correlation between these reduction strategies and applicable actions included in Table 2-1 (page 72) of the Scoping Plan (Actions for the Scoping Plan Scenario).

[119] CO_2e Emissions = 320 lbs SF_6 x 0.1% leak rate per year x 0.0004536 metric ton/lb x 22,800 GWP = 3.3 $MTCO_2e$/year

[120] CARB, 2022 Scoping Plan for Achieving Climate Neutrality, Table 1 of Appendix D, November 2022.

Based on the discussions below, the Project would not conflict with applicable 2022 Scoping Plan strategies and regulations to reduce GHG emissions.

Transportation Electrification

The priority GHG reduction strategies for local government climate action related to transportation electrification are discussed below and would support the Scoping Plan action to have 100 percent of all new passenger vehicles to be zero-emission by 2035 (see Table 2-1 of the Scoping Plan).

The CARB approved the Advanced Clean Cars II rule which codifies Executive Order N-79-20 and requires 100 percent of new cars and light trucks sold in California be zero-emission vehicles by 2035. The State has also adopted AB 2127, which requires the CEC to analyze and examine charging needs to support California's EVs in 2030 and to support decision-makers allocation of resources to install new EV chargers where they are needed most.

The Project would include electric vehicle parking spaces equipped with EVCS and, aided by a grant from the SCAQMD, the facility would be fitted with electrical outlets ("yard plugs") that would allow for the on-board fuel powered TRUs to be transferred to electric power, which would assist with reducing idle emissions. The Project would provide 67 parking spaces (53 standard, one van accessible, two standard accessible, one EVCS van accessible, seven carpool/vanpool, and three EVCS stall spaces) and 10 bicycle parking spaces (five short term and five long term spaces), which would be located adjacent to the building's western boundary and the Project site's southeastern boundary. The Project would provide 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area. This would support the electrification of transportation-related sources of emissions and would reduce vehicle and equipment emissions. Thus, the Project would not conflict with this strategy.

Vehicle Miles Traveled Reduction

The priority GHG reduction strategies for local government climate action related to vehicle miles travelde (VMT) reduction are discussed below and would support the Scoping Plan action to reduce VMT per capita 25 percent below 2019 levels by 2030 and 30 percent below 2019 levels by 2045.

The proposed Project would generate 50 average daily employee vehicle trips, and as such, would not create a substantial increase in VMT. Furthermore, ss stated in the Transportation Study, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less than significant transportation impact.[121] Additionally, the Project site is located approximately 0.3 miles from the nearest existing bicycle facility at the Pacific Coast Bikeway Route along Hueneme Road and approximately 0.6-miles from the Hueneme and Courtland transit stop, which is served by Gold Coast Transit District Route 23. The Project would not remove or interfere with any bicycle or pedestrian facilities. The Project would also provide 67 parking spaces (53 standard, one van accessible, two standard accessible, one EVCS van accessible, seven carpool/vanpool, and three EVCS stall spaces) and 10 bicycle parking spaces

[121] Associated Transportation Engineers. 2023. Revised Traffic Study. February 21, 2023.

(five short term and five long term spaces), which would be located adjacent to the building's western boundary and the Project site's southeastern boundary. As such, the Project would not conflict with this strategy.

Building Decarbonization

The priority GHG reduction strategies for local government climate action related to electrification are discussed below and would support the Scoping Plan actions regarding meeting increased demand for electrification without new fossil gas-fire resources and all electric appliances beginning in 2026 (residential) and 2029 (commercial) (see Table 2-1 of the 2022 Scoping Plan).

California's transition away from fossil fuel–based energy sources will bring the project's GHG emissions associated with building energy use down to zero as our electric supply becomes 100 percent carbon free. California has committed to achieving this goal by 2045 through SB 100, the 100 Percent Clean Energy Act of 2018. SB 100 strengthened the State's Renewables Portfolio Standard (RPS) by requiring that 60 percent of all electricity provided to retail users in California come from renewable sources by 2030 and that 100 percent come from carbon-free sources by 2045. The land use sector will benefit from RPS because the electricity used in buildings will be increasingly carbon-free, but implementation does not depend (directly, at least) on how buildings are designed and built.

Although this GHG reduction measure is aimed primarily at jurisdictions and not individual projects, the Project would be required to comply with applicable City of Oxnard Municipal Code requirements for building energy efficiency and electrification and would adhere to applicable CALGreen (Title 24) requirements for energy efficiency and electrification of new buildings. As previously stated, the Project would include electric vehicle parking spaces equipped with EVCS and would provide 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area. This would support the electrification of the Project. Thus, the Project would not conflict with this strategy.

City of Oxnard Climate Action and Adaptation Plan

The City's CAAP identifies seven areas under which the City can reduce GHG emissions: clean energy, water conservation and reuse, green buildings, waste reduction and recycling, transportation, nature-based solutions, and land use.

The proposed Project would comply with applicable City of Oxnard Municipal Code requirements for building energy efficiency and electrification and would adhere to applicable CALGreen (Title 24) requirements for energy efficiency and electrification of new buildings. The Project would also include electric vehicle parking spaces equipped with EVCS and would provide 397 yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area. The Project's design would support electrification and not conflict with California's ability to achieve clean electrification goals via SB 100, which strengthened the State's Renewables Portfolio Standard (RPS) by requiring that 60 percent of all electricity provided to retail users in California come from renewable sources by 2030 and that 100 percent come from carbon-free sources by 2045.

The proposed Project would increase water demand compared to a vacant site; however, water use would be characteristic of an industrial cold storage facility with ornamental landscaping. The proposed Project would connect to existing City potable and recycled water lines, as applicable, but is not anticipated to deplete groundwater supplies through the consumption of the water. The proposed Project would not substantially decrease groundwater supplies within the city of Oxnard, as additional industrial growth was accounted for in the City's 2030 General Plan and 2020 Urban Water Management Plan. Water would be used in limited quantities for the ornamental landscaping as well as incidental use from building operations and hygienic purposes such as employee restrooms, breakrooms, cleaning, and other typical workplace usage. Water fixtures would comply with applicable City of Oxnard Municipal Code requirements for water efficiency and would adhere to applicable CALGreen (Title 24) requirements for water efficiency.

The City of Oxnard Environmental Resources Division provides waste pick-up and hauling services for residents and businesses. Waste would be delivered to the Del Norte Regional Recycling and Transfer Station. Waste would be generated in limited quantities from building operations such as from employee office activities, breakrooms, cleaning, and other typical workplace waste disposal. Waste would be managed, diverted and recycled, as applicable, at the Del Norte Regional Recycling and Transfer Station.

The proposed Project would generate 50 average daily employee vehicle trips, and as such, would not create a substantial increase in VMT. Additionally, the Project site is located approximately 0.3 miles from the nearest existing bicycle facility at the Pacific Coast Bikeway Route along Hueneme Road and approximately 0.6-miles from the Hueneme and Courtland transit stop, which is served by Gold Coast Transit District Route 23. The Project would not remove or interfere with any bicycle or pedestrian facilities. The Project would also provide 67 parking spaces (53 standard, one van accessible, two standard accessible, one EVCS van accessible, seven carpool/vanpool, and three EVCS stall spaces) and 10 bicycle parking spaces (five short term and five long term spaces), which would be located adjacent to the building's western boundary and the Project site's southeastern boundary.

The proposed Project would include a total of 41 trees and the ornamental landscaping would be designed to comply with Chapter 2, Article XIII (Landscape Water Conservation Standards) of the City's Code of Ordinances. The Project would result in the removal, impact, and/or replacement of approximately four ornamental trees. Thus, the net new trees would sequester carbon dioxide from net new tree growth.

Based on the above, the proposed Project would not conflict with the City's CAAP.

Threshold GHG-3: Contribute or be subject to potential secondary effects of climate change (e.g., sea level rise, increase fire hazard).

Impact GHG-3: Implementation of the Project would not contribute or be subject to potential secondary effects of climate change. (*Less than Significant with Mitigation Incorporated*)

Climate change may result in a number of secondary effects, including a reduction in the quality and supply of water from the Sierra snowpack, increased risk of large wildfires, reductions in the quality and quantity of certain agricultural products, exacerbation of air quality problems, increase in temperature and extreme weather events, and a decrease in the health and productivity of California's forests.[122]

An individual project, such as the Arctic Cold Storage project, cannot generate enough GHG emissions to effect a discernible change in global climate. However, the Project contributes to the potential for global climate change by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on global climate change. To determine significance, an evaluation was completed to determine if the Project would contribute or be subjected to the secondary effects of climate change expected to occur in California, as shown in **Table 12**, *Secondary Effects of Climate Change*. As described in the evaluation, the project would not contribute or be subject to potential secondary effects of climate change. Implementation of mitigation measures AIR-1 through AIR-6 would help reduce air pollutant emissions and mitigation measures AIR-2 through AIR-6 would also have co-benefits or reducing GHG emissions associated with the Project. Project impacts related to climate change and greenhouse gases would be less than significant with the implementation of mitigation.

[122] State of California, Department of Justice, Office of the Attorney General, Climate Change Impacts in California, https://oag.ca.gov/environment/impact, accessed July 13, 2023.

TABLE 12
SECONDARY EFFECTS OF CLIMATE CHANGE

Consequences of Climate Change in California	Project Evaluation
Sea Level Rise, Flooding, Coastal Erosion. Sea level rise, coastal flooding and erosion of California's coastlines would increase, as well as sea water intrusion.	**The Project would not contribute or be subject to this potential secondary effect of climate change.** The Project site is approximately 0.65 miles inland. According to the California Office of Emergency Services, the Project is not in a tsunami hazard zone and not in (but is near to) a flood hazard zone. The proposed Project includes the construction and operation of a cold storage facility that would be located in the northeastern portion of the site, which has been designed to move flows to the southern and western portions of the site near McWane Boulevard to the proposed ribbon drain, vegetated swales, and underground detention system as well as the existing curb and gutter. As stated in the Project's Hydrology and Drainage Analysis, the proposed Project's drainage design would reduce the increase of stormwater runoff while maintaining the existing drainage pattern. In the event of a storm exceeding the 100-year storm event or pump station malfunction, the flow would back up into the pipes connected to the detention system and would pond in the on-site vegetation swales. If further flooding occurs, the vegetation swales would be over topped, and the flow would sheet flow back to the existing gutters and exit the Project site similar to the existing drainage patterns. Furthermore, the parking lot would provide significant ponding in the event that the storm drain inlets were to clog or were inundated with water.[123] The Project contains design features that would reduce the potential for impacts and would not result in the displacement of coastal businesses and residences.
Reduction in the Quality and Supply of Water from the Sierra Snowpack. The Sierra snowpack would melt earlier and all at once. Earlier and larger releases of water could overwhelm California's water storage facilities, creating risk of floods and water shortages.	**The Project would not contribute or be subject to this potential secondary effect of climate change.** Existing climate change models are designed for large-scale projects and are not precise enough to accurately predict changes on a watershed level. Therefore, it would be highly speculative to quantify the impacts of climate change on water supplies on a project-level basis. Development and operation of the Project would result in the need for water service. However the Project site is designated under the 2030 General Plan as Light Industrial, and is zoned M-1, Light Manufacturing. As stated in the Oxnard City Code, cold storage facilities are permitted uses in the M-1 zoning district that are subject to the requirement for approval of a zone clearance. Upon approval of the zone clearance, the proposed Project would not conflict with the Project site's zoning designation. Thus, the General Plan has anticipated development of the Project site and the demand of water service for typical industrial developments. The Proposed industrial development is consistent with the light industrial land use designation of the 2030 General Plan. As a cold storage facility, the Project would not place demands on water services above those planned for by the City of Oxnard.

[123] RJR Engineering and Consulting, Inc. 2022c. Hydrology and Drainage Analysis. October 20, 2022.

Consequences of Climate Change in California	Project Evaluation
Forest Fires and Wildfires. Higher risk of forest fires and wildfires resulting from increasing temperatures and making forests and brush drier. Climate change will affect tree survival and growth.	**The Project would not contribute or be subject to this potential secondary effect of climate change.** The Project site is not forested and development of the site would not contribute to a change in the health and productivity of forested land. Based on a review of the California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Severity Zones (FHSZs) prepared as part of the CAL FIRE's Fire and Resource Assessment Program, the Project site is not located within or near an area that is designated as a Very High FHSZ.[124] The nearest Very High FHSZ designated in a Local Responsibility Area is located approximately 5.3 miles southeast of the Project site, and the nearest Very High FHSZ designated in a State Responsibility Area is located approximately 5.8 miles southeast of the Project site. Development and operations of the Project would not result in an increase in wildfire, nor would it enhance insect populations or establish non-native species, resulting in a decrease in the health or productivity of California's forests.
Reductions in the Quality and Quantity of Certain Agricultural Products. Damage to agriculture caused by drought, higher temperatures, saltwater contamination through rising sea levels, flooding, and increased risk of pests. Agriculture production declines could lead to food shortages and higher prices.	**The Project would not contribute or be subject to this potential secondary effect of climate change.** This secondary effect relates to agricultural production. The Project is industrial in nature and would not engage in the production of agricultural products. The Project Site is currently comprised of a vacant lot in an industrial/agricultural area that is used to store shipping containers. The eastern portion of the Project Site previously included a railroad spur, which was removed in 2022. Thus, it is not used for agriculture production under existing conditions. Furthermore, the Project's incremental contribution to climate change would not have a measurable impact on the reduction of quality or quantity of agricultural commodities produced in California.
Public Health and Air Quality Impacts. Climate change could result in public health and air quality problems. Attainment of air quality standards would be impeded by increasing emissions, accelerating chemical processes, and raising inversion temperatures during stagnation episodes resulting in public health impacts.	**The Project would not contribute or be subject to this potential secondary effect of climate change.** Health effects from air quality problems that would be exacerbated by an increase in temperature would more commonly occur at a local level. As discussed in Section 5.1, the project would not expose sensitive receptors to substantial pollutant concentrations. Implementation of mitigation measures AIR-1 through AIR-6 would help reduce air pollutant emissions (mitigation measures AIR-2 through AIR-6 would also have co-benefits or reducing GHG emissions) associated with the Project.
Habitat destruction and loss of ecosystems due to climate change affecting plant and wildlife habitats.	**The Project would not contribute or be subject to this potential secondary effect of climate change.** The Project site is currently comprised of a vacant lot in an industrial/agricultural area that is used to store shipping containers. The eastern portion of the Project site previously included a railroad spur, which was removed in 2022. Under the Federal Endangered Species Act (FESA), to the extent feasible, the USFWS and National Marine Fisheries Service (NMFS) are required to designate critical habitat for endangered and threatened species. Critical habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. The USFWS Critical Habitat Portal indicates that critical habitat does not occur within the Project site. Furthermore, the Project's incremental contribution to climate change would not have a measurable impact on habitat destruction and loss in California.

SOURCES: State of California, Department of Justice, Office of the Attorney General, Climate Change Impacts in California, https://oag.ca.gov/environment/impact, accessed July 13, 2023. ESA 2023.

[124] California Department of Forestry and Fire Protection (CAL FIRE). 2023. Communities at Risk. Available at: https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/fire-plan/communities-at-risk/?lang=zh-CN. Accessed on March 6, 2023.

Exhibit A

Air Quality and Greenhouse Gas Emissions Calculations and Output Files

A-1 CalEEMod Files

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Arcturus Warehouse

Ventura County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	5.40	1000sqft	0.12	5,400.00	0
Refrigerated Warehouse-No Rail	99.98	1000sqft	2.30	99,983.00	0
Unrefrigerated Warehouse-No Rail	37.04	1000sqft	0.85	37,044.00	0
Parking Lot	67.00	Space	0.60	26,800.00	0
Parking Lot	271.00	Space	10.46	366,360.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	348.64	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE CO2 Intensity in 2024: CalEEMod Forecasted 2024 factors.

Land Use - 55,836 sf racked cold storage + 44,147, sf controlled temp loading docks = 99,983 sf total refrigerated. Outdoor storage rack footprint is 42'x294'. Area=12,348 SF x 3 high=37,044 sf. Parking area based on estimated area.

Construction Phase - Estimated 12-month construction duration (begining as early as late-2023).

Off-road Equipment - Finishing/Coating Equipment: 1 aerial lift, 1 air compressor.

Off-road Equipment - Building Construction Equipment: 5 aerial lifts, 2 air compressors, 2 concrete/industrial saws, 2 cranes, 1 scraper, 1 signal board, 1 tractor/loader/backhoe, 2 trenchers, 3 welders.

Off-road Equipment - Demolition Equipment: 2 concrete/industrial saws, 3 tractors/loaders/backhoes.

Off-road Equipment - Grading/Excavation Equipment: 2 rollers, 2 scrapers, 1 street sweeper, 3 tractors/loaders/backhoes, 2 other.

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Mat Foundation Equipment: 2 concrete/industrial saws, 2 pumps, 1 street sweeper, 1 tractor/loader/backhoe, 2 other.

Off-road Equipment - Paving Equipment: 1 signal board, 2 surfacing equipment, 1 tractor/loader/backhoe.

Trips and VMT - Mobile sources calculated outside of CalEEMod using EMFAC2021.

Demolition - 1 CY= 860 lbs concrete. (30 CY) (860 lbs/CY) (1 ton/2000 lbs) = approximately 13 tons

Grading - 7,331 cy of import.

Architectural Coating - 91% interior pre-painted. Conservatively modeled 90% pre-painted. 213,641 sqft x 0.10 = 21,364.1 painted.
95% exterior pre-painted. Conservatively modeled 90% pre-painted. 71,214 x 0.10 = 7,121.4 sqft painted.

Vehicle Trips - Mobile sources modeled outside of CalEEMod using EMFAC2021.

Area Coating -

Energy Use -

Sequestration - Project would include 41 trees with removal, impact and/or replacement of 4 trees. Modeled as 37 net new trees.

Construction Off-road Equipment Mitigation - Dust control per VCAPCD Fugitive Dust Rule (regulatory compliance). Tier 4 Final control equipment applied to engines >50 HP (mitigation).

Energy Mitigation - Project will exceed Title 24 by 10% (project design). Non-GHG refrigeration system.

Waste Mitigation - Waste diversion of at least 50% per Assembly Bill 939 (see Section 3.16, Utilities and Energy, Subsection (d) (regulatory compliance).

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	71,214.00	7,121.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	213,641.00	21,364.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	14.00
tblConstructionPhase	NumDays	30.00	39.00
tblConstructionPhase	NumDays	300.00	6.00
tblConstructionPhase	NumDays	300.00	229.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	20.00	105.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblGrading	MaterialImported	0.00	7,331.00
tblLandUse	LandUseSquareFeet	99,980.00	99,983.00
tblLandUse	LandUseSquareFeet	37,040.00	37,044.00
tblLandUse	LandUseSquareFeet	108,400.00	366,360.00
tblLandUse	LotAcreage	2.44	10.46
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Architectural Coatings
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Mat Foundation
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Mat Foundation
tblOffRoadEquipment	PhaseName		Grading and Excavation
tblOffRoadEquipment	PhaseName		Mat Foundation
tblOffRoadEquipment	PhaseName		Grading and Excavation
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Grading and Excavation
tblOffRoadEquipment	PhaseName		Mat Foundation
tblOffRoadEquipment	PhaseName		Paving

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	PhaseName		Building Construction
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	702.44	348.64
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblSequestration	NumberOfNewTrees	0.00	37.00
tblTripsAndVMT	HaulingTripNumber	1.00	0.00
tblTripsAndVMT	HaulingTripNumber	916.00	0.00
tblTripsAndVMT	VendorTripNumber	88.00	0.00
tblTripsAndVMT	VendorTripNumber	88.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	25.00	0.00
tblTripsAndVMT	WorkerTripNumber	224.00	0.00
tblTripsAndVMT	WorkerTripNumber	224.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	45.00	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	2.12	0.00
tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	2.12	0.00
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	2.12	0.00
tblVehicleTrips	WD_TR	1.74	0.00

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.0312	30.2932	32.1068	0.0591	2.1474	1.3903	3.5377	0.2330	1.2791	1.5121	0.0000	5,718.7323	5,718.7323	1.8496	0.0000	5,764.9711
2024	7.8372	44.2913	47.7857	0.0939	2.1474	1.9462	3.4228	0.2330	1.8397	1.8397	0.0000	8,889.9943	8,889.9943	2.1131	0.0000	8,942.8210
Maximum	**7.8372**	**44.2913**	**47.7857**	**0.0939**	**2.1474**	**1.9462**	**3.5377**	**0.2330**	**1.8397**	**1.8397**	**0.0000**	**8,889.9943**	**8,889.9943**	**2.1131**	**0.0000**	**8,942.8210**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	0.7556	4.4272	35.3560	0.0591	0.8375	0.0966	0.9341	0.0909	0.0966	0.1875	0.0000	5,718.7323	5,718.7323	1.8496	0.0000	5,764.9711
2024	4.7916	14.2736	54.6643	0.0939	0.8375	0.3022	0.9341	0.0909	0.3022	0.3022	0.0000	8,889.9943	8,889.9943	2.1131	0.0000	8,942.8210
Maximum	**4.7916**	**14.2736**	**54.6643**	**0.0939**	**0.8375**	**0.3022**	**0.9341**	**0.0909**	**0.3022**	**0.3022**	**0.0000**	**8,889.9943**	**8,889.9943**	**2.1131**	**0.0000**	**8,942.8210**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**48.96**	**74.93**	**-12.68**	**0.00**	**61.00**	**88.05**	**73.16**	**61.00**	**87.21**	**85.39**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.5834	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1051	0.1051	2.7000e-004		0.1120
Energy	8.3900e-003	0.0763	0.0641	4.6000e-004		5.8000e-003	5.8000e-003		5.8000e-003	5.8000e-003		91.5248	91.5248	1.7500e-003	1.6800e-003	92.0687
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.5918**	**0.0767**	**0.1130**	**4.6000e-004**	**0.0000**	**5.9700e-003**	**5.9700e-003**	**0.0000**	**5.9700e-003**	**5.9700e-003**		**91.6299**	**91.6299**	**2.0200e-003**	**1.6800e-003**	**92.1807**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.5834	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1051	0.1051	2.7000e-004		0.1120
Energy	7.5800e-003	0.0689	0.0579	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.7211	82.7211	1.5900e-003	1.5200e-003	83.2127
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.5910**	**0.0694**	**0.1069**	**4.1000e-004**	**0.0000**	**5.4100e-003**	**5.4100e-003**	**0.0000**	**5.4100e-003**	**5.4100e-003**		**82.8263**	**82.8263**	**1.8600e-003**	**1.5200e-003**	**83.3247**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.02**	**9.57**	**5.46**	**10.87**	**0.00**	**9.38**	**9.38**	**0.00**	**9.38**	**9.38**	**0.00**	**9.61**	**9.61**	**7.92**	**9.52**	**9.61**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2023	12/16/2023	6	14	
2	Grading and Excavation	Grading	12/17/2023	1/31/2024	6	39	
3	Mat Foundation	Building Construction	2/1/2024	2/7/2024	6	6	
4	Building Construction	Building Construction	2/8/2024	10/31/2024	6	229	
5	Paving	Paving	8/1/2024	9/30/2024	6	52	
6	Architectural Coatings	Architectural Coating	8/1/2024	11/30/2024	6	105	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 78

Acres of Paving: 11.06

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 21,364; Non-Residential Outdoor: 7,121; Striped Parking Area: 23,590 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading and Excavation	Excavators	0	8.00	158	0.38
Grading and Excavation	Graders	0	8.00	187	0.41
Grading and Excavation	Other Material Handling Equipment	2	8.00	168	0.40
Grading and Excavation	Rollers	2	8.00	80	0.38
Grading and Excavation	Rubber Tired Dozers	0	8.00	247	0.40
Grading and Excavation	Scrapers	2	8.00	367	0.48
Grading and Excavation	Sweepers/Scrubbers	1	8.00	64	0.46

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading and Excavation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Mat Foundation	Concrete/Industrial Saws	2	8.00	81	0.73
Mat Foundation	Cranes	0	7.00	231	0.29
Mat Foundation	Forklifts	0	8.00	89	0.20
Mat Foundation	Generator Sets	0	8.00	84	0.74
Mat Foundation	Other Construction Equipment	2	8.00	172	0.42
Mat Foundation	Pumps	2	8.00	84	0.74
Mat Foundation	Sweepers/Scrubbers	1	8.00	64	0.46
Mat Foundation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Mat Foundation	Welders	0	8.00	46	0.45
Building Construction	Aerial Lifts	5	8.00	63	0.31
Building Construction	Air Compressors	2	8.00	78	0.48
Building Construction	Concrete/Industrial Saws	2	8.00	81	0.73
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Scrapers	1	8.00	367	0.48
Building Construction	Signal Boards	1	8.00	6	0.82
Building Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Trenchers	2	8.00	78	0.50
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Paving	Signal Boards	1	8.00	6	0.82
Paving	Surfacing Equipment	2	8.00	263	0.30
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coatings	Aerial Lifts	1	8.00	63	0.31
Architectural Coatings	Air Compressors	1	6.00	78	0.48

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading and Excavation	10	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Mat Foundation	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	19	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coatings	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0201	0.0000	0.0201	3.0500e-003	0.0000	3.0500e-003			0.0000			0.0000
Off-Road	1.1215	9.7755	14.0087	0.0219		0.4840	0.4840		0.4658	0.4658		2,090.0609	2,090.0609	0.3510		2,098.8361
Total	**1.1215**	**9.7755**	**14.0087**	**0.0219**	**0.0201**	**0.4840**	**0.5041**	**3.0500e-003**	**0.4658**	**0.4688**		**2,090.0609**	**2,090.0609**	**0.3510**		**2,098.8361**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.8500e-003	0.0000	7.8500e-003	1.1900e-003	0.0000	1.1900e-003			0.0000			0.0000
Off-Road	0.2391	1.0360	14.7435	0.0219		0.0319	0.0319		0.0319	0.0319	0.0000	2,090.0609	2,090.0609	0.3510		2,098.8361
Total	**0.2391**	**1.0360**	**14.7435**	**0.0219**	**7.8500e-003**	**0.0319**	**0.0397**	**1.1900e-003**	**0.0319**	**0.0331**	**0.0000**	**2,090.0609**	**2,090.0609**	**0.3510**		**2,098.8361**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading and Excavation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1474	0.0000	2.1474	0.2330	0.0000	0.2330			0.0000			0.0000
Off-Road	3.0312	30.2932	32.1068	0.0591		1.3903	1.3903		1.2791	1.2791		5,718.7323	5,718.7323	1.8496		5,764.9711
Total	**3.0312**	**30.2932**	**32.1068**	**0.0591**	**2.1474**	**1.3903**	**3.5377**	**0.2330**	**1.2791**	**1.5121**		**5,718.7323**	**5,718.7323**	**1.8496**		**5,764.9711**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8375	0.0000	0.8375	0.0909	0.0000	0.0909			0.0000			0.0000
Off-Road	0.7556	4.4272	35.3560	0.0591		0.0966	0.0966		0.0966	0.0966	0.0000	5,718.7323	5,718.7323	1.8496		5,764.9711
Total	**0.7556**	**4.4272**	**35.3560**	**0.0591**	**0.8375**	**0.0966**	**0.9341**	**0.0909**	**0.0966**	**0.1875**	**0.0000**	**5,718.7323**	**5,718.7323**	**1.8496**		**5,764.9711**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading and Excavation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1474	0.0000	2.1474	0.2330	0.0000	0.2330			0.0000			0.0000
Off-Road	2.9095	28.2778	31.7989	0.0591		1.2754	1.2754		1.1734	1.1734		5,717.3175	5,717.3175	1.8491		5,763.5449
Total	**2.9095**	**28.2778**	**31.7989**	**0.0591**	**2.1474**	**1.2754**	**3.4228**	**0.2330**	**1.1734**	**1.4064**		**5,717.3175**	**5,717.3175**	**1.8491**		**5,763.5449**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8375	0.0000	0.8375	0.0909	0.0000	0.0909			0.0000			0.0000
Off-Road	0.7556	4.4272	35.3560	0.0591		0.0966	0.0966		0.0966	0.0966	0.0000	5,717.3175	5,717.3175	1.8491		5,763.5449
Total	**0.7556**	**4.4272**	**35.3560**	**0.0591**	**0.8375**	**0.0966**	**0.9341**	**0.0909**	**0.0966**	**0.1875**	**0.0000**	**5,717.3175**	**5,717.3175**	**1.8491**		**5,763.5449**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Mat Foundation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1997	19.2836	26.6389	0.0433		0.9431	0.9431		0.9041	0.9041		4,138.1099	4,138.1099	0.6631		4,154.6878
Total	**2.1997**	**19.2836**	**26.6389**	**0.0433**		**0.9431**	**0.9431**		**0.9041**	**0.9041**		**4,138.1099**	**4,138.1099**	**0.6631**		**4,154.6878**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5051	3.3416	29.2288	0.0433		0.0632	0.0632		0.0632	0.0632	0.0000	4,138.1099	4,138.1099	0.6631		4,154.6878
Total	**0.5051**	**3.3416**	**29.2288**	**0.0433**		**0.0632**	**0.0632**		**0.0632**	**0.0632**	**0.0000**	**4,138.1099**	**4,138.1099**	**0.6631**		**4,154.6878**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1923	36.6259	39.0964	0.0720		1.6402	1.6402		1.5521	1.5521		6,786.0802	6,786.0802	1.5186		6,824.0458
Total	**4.1923**	**36.6259**	**39.0964**	**0.0720**		**1.6402**	**1.6402**		**1.5521**	**1.5521**		**6,786.0802**	**6,786.0802**	**1.5186**		**6,824.0458**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6022	11.9534	42.7915	0.0720		0.2542	0.2542		0.2542	0.2542	0.0000	6,786.0802	6,786.0802	1.5186		6,824.0458
Total	**1.6022**	**11.9534**	**42.7915**	**0.0720**		**0.2542**	**0.2542**		**0.2542**	**0.2542**	**0.0000**	**6,786.0802**	**6,786.0802**	**1.5186**		**6,824.0458**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5736	5.9203	5.7864	0.0173		0.2360	0.2360		0.2182	0.2182		1,659.8462	1,659.8462	0.5260		1,672.9962
Paving	0.5573					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1308**	**5.9203**	**5.7864**	**0.0173**		**0.2360**	**0.2360**		**0.2182**	**0.2182**		**1,659.8462**	**1,659.8462**	**0.5260**		**1,672.9962**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2623	1.2476	8.7659	0.0173		0.0413	0.0413		0.0413	0.0413	0.0000	1,659.8462	1,659.8462	0.5260		1,672.9962
Paving	0.5573					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8196**	**1.2476**	**8.7659**	**0.0173**		**0.0413**	**0.0413**		**0.0413**	**0.0413**	**0.0000**	**1,659.8462**	**1,659.8462**	**0.5260**		**1,672.9962**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coatings - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.2987					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2154	1.7451	2.9029	4.6500e-003		0.0700	0.0700		0.0693	0.0693		444.0679	444.0679	0.0684		445.7790
Total	**2.5141**	**1.7451**	**2.9029**	**4.6500e-003**		**0.0700**	**0.0700**		**0.0693**	**0.0693**		**444.0679**	**444.0679**	**0.0684**		**445.7790**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.2987					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0711	1.0726	3.1069	4.6500e-003		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	444.0679	444.0679	0.0684		445.7790
Total	**2.3698**	**1.0726**	**3.1069**	**4.6500e-003**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**444.0679**	**444.0679**	**0.0684**		**445.7790**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.548670	0.058343	0.171689	0.130773	0.027316	0.007545	0.011806	0.006161	0.000681	0.000392	0.029028	0.000637	0.006958
Parking Lot	0.548670	0.058343	0.171689	0.130773	0.027316	0.007545	0.011806	0.006161	0.000681	0.000392	0.029028	0.000637	0.006958
Refrigerated Warehouse-No Rail	0.548670	0.058343	0.171689	0.130773	0.027316	0.007545	0.011806	0.006161	0.000681	0.000392	0.029028	0.000637	0.006958
Unrefrigerated Warehouse-No Rail	0.548670	0.058343	0.171689	0.130773	0.027316	0.007545	0.011806	0.006161	0.000681	0.000392	0.029028	0.000637	0.006958

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.5800e-003	0.0689	0.0579	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.7211	82.7211	1.5900e-003	1.5200e-003	83.2127
NaturalGas Unmitigated	8.3900e-003	0.0763	0.0641	4.6000e-004		5.8000e-003	5.8000e-003		5.8000e-003	5.8000e-003		91.5248	91.5248	1.7500e-003	1.6800e-003	92.0687

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	133.89	1.4400e-003	0.0131	0.0110	8.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003		15.7518	15.7518	3.0000e-004	2.9000e-004	15.8454
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	249.273	2.6900e-003	0.0244	0.0205	1.5000e-004		1.8600e-003	1.8600e-003		1.8600e-003	1.8600e-003		29.3262	29.3262	5.6000e-004	5.4000e-004	29.5005
Unrefrigerated Warehouse-No Rail	394.798	4.2600e-003	0.0387	0.0325	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4468	46.4468	8.9000e-004	8.5000e-004	46.7228
Total		**8.3900e-003**	**0.0763**	**0.0641**	**4.6000e-004**		**5.8000e-003**	**5.8000e-003**		**5.8000e-003**	**5.8000e-003**		**91.5248**	**91.5248**	**1.7500e-003**	**1.6800e-003**	**92.0687**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.121315	1.3100e-003	0.0119	9.9900e-003	7.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004		14.2724	14.2724	2.7000e-004	2.6000e-004	14.3572
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0.225989	2.4400e-003	0.0222	0.0186	1.3000e-004		1.6800e-003	1.6800e-003		1.6800e-003	1.6800e-003		26.5869	26.5869	5.1000e-004	4.9000e-004	26.7449
Unrefrigerated Warehouse-No Rail	0.355825	3.8400e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003		41.8618	41.8618	8.0000e-004	7.7000e-004	42.1106
Total		**7.5900e-003**	**0.0689**	**0.0579**	**4.1000e-004**		**5.2300e-003**	**5.2300e-003**		**5.2300e-003**	**5.2300e-003**		**82.7211**	**82.7211**	**1.5800e-003**	**1.5200e-003**	**83.2127**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.5834	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1051	0.1051	2.7000e-004		0.1120
Unmitigated	3.5834	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1051	0.1051	2.7000e-004		0.1120

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3917					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1872					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5200e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1051	0.1051	2.7000e-004		0.1120
Total	**3.5834**	**4.4000e-004**	**0.0490**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.1051**	**0.1051**	**2.7000e-004**		**0.1120**

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3917					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1872					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5200e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1051	0.1051	2.7000e-004		0.1120
Total	**3.5834**	**4.4000e-004**	**0.0490**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.1051**	**0.1051**	**2.7000e-004**		**0.1120**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

Arcturus Warehouse - Ventura County APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Arcturus Warehouse

Ventura County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	5.40	1000sqft	0.12	5,400.00	0
Refrigerated Warehouse-No Rail	99.98	1000sqft	2.30	99,983.00	0
Unrefrigerated Warehouse-No Rail	37.04	1000sqft	0.85	37,044.00	0
Parking Lot	67.00	Space	0.60	26,800.00	0
Parking Lot	271.00	Space	10.46	366,360.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	348.64	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE CO2 Intensity in 2024: CalEEMod Forecasted 2024 factors.

Land Use - 55,836 sf racked cold storage + 44,147, sf controlled temp loading docks = 99,983 sf total refrigerated. Outdoor storage rack footprint is 42'x294'. Area=12,348 SF x 3 high=37,044 sf. Parking area based on estimated area.

Construction Phase - Estimated 12-month construction duration (begining as early as late-2023).

Off-road Equipment - Finishing/Coating Equipment: 1 aerial lift, 1 air compressor.

Off-road Equipment - Building Construction Equipment: 5 aerial lifts, 2 air compressors, 2 concrete/industrial saws, 2 cranes, 1 scraper, 1 signal board, 1 tractor/loader/backhoe, 2 trenchers, 3 welders.

Off-road Equipment - Demolition Equipment: 2 concrete/industrial saws, 3 tractors/loaders/backhoes.

Off-road Equipment - Grading/Excavation Equipment: 2 rollers, 2 scrapers, 1 street sweeper, 3 tractors/loaders/backhoes, 2 other.

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Mat Foundation Equipment: 2 concrete/industrial saws, 2 pumps, 1 street sweeper, 1 tractor/loader/backhoe, 2 other.

Off-road Equipment - Paving Equipment: 1 signal board, 2 surfacing equipment, 1 tractor/loader/backhoe.

Trips and VMT - Mobile sources calculated outside of CalEEMod using EMFAC2021.

Demolition - 1 CY= 860 lbs concrete. (30 CY) (860 lbs/CY) (1 ton/2000 lbs) = approximately 13 tons

Grading - 7,331 cy of import.

Architectural Coating - 91% interior pre-painted. Conservatively modeled 90% pre-painted. 213,641 sqft x 0.10 = 21,364.1 painted.
95% exterior pre-painted. Conservatively modeled 90% pre-painted. 71,214 x 0.10 = 7,121.4 sqft painted.

Vehicle Trips - Mobile sources modeled outside of CalEEMod using EMFAC2021.

Area Coating -

Energy Use -

Sequestration - Project would include 41 trees with removal, impact and/or replacement of 4 trees. Modeled as 37 net new trees.

Construction Off-road Equipment Mitigation - Dust control per VCAPCD Fugitive Dust Rule (regulatory compliance). Tier 4 Final control equipment applied to engines >50 HP (mitigation).

Energy Mitigation - Project will exceed Title 24 by 10% (project design). Non-GHG refrigeration system.

Waste Mitigation - Waste diversion of at least 50% per Assembly Bill 939 (see Section 3.16, Utilities and Energy, Subsection (d) (regulatory compliance).

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	71,214.00	7,121.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	213,641.00	21,364.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	14.00
tblConstructionPhase	NumDays	30.00	39.00
tblConstructionPhase	NumDays	300.00	6.00
tblConstructionPhase	NumDays	300.00	229.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	20.00	105.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblGrading	MaterialImported	0.00	7,331.00
tblLandUse	LandUseSquareFeet	99,980.00	99,983.00
tblLandUse	LandUseSquareFeet	37,040.00	37,044.00
tblLandUse	LandUseSquareFeet	108,400.00	366,360.00
tblLandUse	LotAcreage	2.44	10.46
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Architectural Coatings
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Mat Foundation
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Mat Foundation
tblOffRoadEquipment	PhaseName		Grading and Excavation
tblOffRoadEquipment	PhaseName		Mat Foundation
tblOffRoadEquipment	PhaseName		Grading and Excavation
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Grading and Excavation
tblOffRoadEquipment	PhaseName		Mat Foundation
tblOffRoadEquipment	PhaseName		Paving

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	PhaseName		Building Construction
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	702.44	348.64
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblSequestration	NumberOfNewTrees	0.00	37.00
tblTripsAndVMT	HaulingTripNumber	1.00	0.00
tblTripsAndVMT	HaulingTripNumber	916.00	0.00
tblTripsAndVMT	VendorTripNumber	88.00	0.00
tblTripsAndVMT	VendorTripNumber	88.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	25.00	0.00
tblTripsAndVMT	WorkerTripNumber	224.00	0.00
tblTripsAndVMT	WorkerTripNumber	224.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	45.00	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	2.12	0.00
tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	2.12	0.00
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	2.12	0.00
tblVehicleTrips	WD_TR	1.74	0.00

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	3.0312	30.2932	32.1068	0.0591	2.1474	1.3903	3.5377	0.2330	1.2791	1.5121	0.0000	5,718.7323	5,718.7323	1.8496	0.0000	5,764.9711
2024	7.8372	44.2913	47.7857	0.0939	2.1474	1.9462	3.4228	0.2330	1.8397	1.8397	0.0000	8,889.9943	8,889.9943	2.1131	0.0000	8,942.8210
Maximum	**7.8372**	**44.2913**	**47.7857**	**0.0939**	**2.1474**	**1.9462**	**3.5377**	**0.2330**	**1.8397**	**1.8397**	**0.0000**	**8,889.9943**	**8,889.9943**	**2.1131**	**0.0000**	**8,942.8210**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	0.7556	4.4272	35.3560	0.0591	0.8375	0.0966	0.9341	0.0909	0.0966	0.1875	0.0000	5,718.7323	5,718.7323	1.8496	0.0000	5,764.9711
2024	4.7916	14.2736	54.6643	0.0939	0.8375	0.3022	0.9341	0.0909	0.3022	0.3022	0.0000	8,889.9943	8,889.9943	2.1131	0.0000	8,942.8210
Maximum	**4.7916**	**14.2736**	**54.6643**	**0.0939**	**0.8375**	**0.3022**	**0.9341**	**0.0909**	**0.3022**	**0.3022**	**0.0000**	**8,889.9943**	**8,889.9943**	**2.1131**	**0.0000**	**8,942.8210**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**48.96**	**74.93**	**-12.68**	**0.00**	**61.00**	**88.05**	**73.16**	**61.00**	**87.21**	**85.39**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.5834	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1051	0.1051	2.7000e-004		0.1120
Energy	8.3900e-003	0.0763	0.0641	4.6000e-004		5.8000e-003	5.8000e-003		5.8000e-003	5.8000e-003		91.5248	91.5248	1.7500e-003	1.6800e-003	92.0687
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.5918**	**0.0767**	**0.1130**	**4.6000e-004**	**0.0000**	**5.9700e-003**	**5.9700e-003**	**0.0000**	**5.9700e-003**	**5.9700e-003**		**91.6299**	**91.6299**	**2.0200e-003**	**1.6800e-003**	**92.1807**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.5834	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1051	0.1051	2.7000e-004		0.1120
Energy	7.5800e-003	0.0689	0.0579	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.7211	82.7211	1.5900e-003	1.5200e-003	83.2127
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.5910**	**0.0694**	**0.1069**	**4.1000e-004**	**0.0000**	**5.4100e-003**	**5.4100e-003**	**0.0000**	**5.4100e-003**	**5.4100e-003**		**82.8263**	**82.8263**	**1.8600e-003**	**1.5200e-003**	**83.3247**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.02**	**9.57**	**5.46**	**10.87**	**0.00**	**9.38**	**9.38**	**0.00**	**9.38**	**9.38**	**0.00**	**9.61**	**9.61**	**7.92**	**9.52**	**9.61**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2023	12/16/2023	6	14	
2	Grading and Excavation	Grading	12/17/2023	1/31/2024	6	39	
3	Mat Foundation	Building Construction	2/1/2024	2/7/2024	6	6	
4	Building Construction	Building Construction	2/8/2024	10/31/2024	6	229	
5	Paving	Paving	8/1/2024	9/30/2024	6	52	
6	Architectural Coatings	Architectural Coating	8/1/2024	11/30/2024	6	105	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 78

Acres of Paving: 11.06

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 21,364; Non-Residential Outdoor: 7,121; Striped Parking Area: 23,590 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading and Excavation	Excavators	0	8.00	158	0.38
Grading and Excavation	Graders	0	8.00	187	0.41
Grading and Excavation	Other Material Handling Equipment	2	8.00	168	0.40
Grading and Excavation	Rollers	2	8.00	80	0.38
Grading and Excavation	Rubber Tired Dozers	0	8.00	247	0.40
Grading and Excavation	Scrapers	2	8.00	367	0.48
Grading and Excavation	Sweepers/Scrubbers	1	8.00	64	0.46

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading and Excavation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Mat Foundation	Concrete/Industrial Saws	2	8.00	81	0.73
Mat Foundation	Cranes	0	7.00	231	0.29
Mat Foundation	Forklifts	0	8.00	89	0.20
Mat Foundation	Generator Sets	0	8.00	84	0.74
Mat Foundation	Other Construction Equipment	2	8.00	172	0.42
Mat Foundation	Pumps	2	8.00	84	0.74
Mat Foundation	Sweepers/Scrubbers	1	8.00	64	0.46
Mat Foundation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Mat Foundation	Welders	0	8.00	46	0.45
Building Construction	Aerial Lifts	5	8.00	63	0.31
Building Construction	Air Compressors	2	8.00	78	0.48
Building Construction	Concrete/Industrial Saws	2	8.00	81	0.73
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Scrapers	1	8.00	367	0.48
Building Construction	Signal Boards	1	8.00	6	0.82
Building Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Trenchers	2	8.00	78	0.50
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Paving	Signal Boards	1	8.00	6	0.82
Paving	Surfacing Equipment	2	8.00	263	0.30
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coatings	Aerial Lifts	1	8.00	63	0.31
Architectural Coatings	Air Compressors	1	6.00	78	0.48

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading and Excavation	10	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Mat Foundation	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	19	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coatings	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0201	0.0000	0.0201	3.0500e-003	0.0000	3.0500e-003			0.0000			0.0000
Off-Road	1.1215	9.7755	14.0087	0.0219		0.4840	0.4840		0.4658	0.4658		2,090.0609	2,090.0609	0.3510		2,098.8361
Total	**1.1215**	**9.7755**	**14.0087**	**0.0219**	**0.0201**	**0.4840**	**0.5041**	**3.0500e-003**	**0.4658**	**0.4688**		**2,090.0609**	**2,090.0609**	**0.3510**		**2,098.8361**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.8500e-003	0.0000	7.8500e-003	1.1900e-003	0.0000	1.1900e-003			0.0000			0.0000
Off-Road	0.2391	1.0360	14.7435	0.0219		0.0319	0.0319		0.0319	0.0319	0.0000	2,090.0609	2,090.0609	0.3510		2,098.8361
Total	**0.2391**	**1.0360**	**14.7435**	**0.0219**	**7.8500e-003**	**0.0319**	**0.0397**	**1.1900e-003**	**0.0319**	**0.0331**	**0.0000**	**2,090.0609**	**2,090.0609**	**0.3510**		**2,098.8361**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading and Excavation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1474	0.0000	2.1474	0.2330	0.0000	0.2330			0.0000			0.0000
Off-Road	3.0312	30.2932	32.1068	0.0591		1.3903	1.3903		1.2791	1.2791		5,718.7323	5,718.7323	1.8496		5,764.9711
Total	**3.0312**	**30.2932**	**32.1068**	**0.0591**	**2.1474**	**1.3903**	**3.5377**	**0.2330**	**1.2791**	**1.5121**		**5,718.7323**	**5,718.7323**	**1.8496**		**5,764.9711**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8375	0.0000	0.8375	0.0909	0.0000	0.0909			0.0000			0.0000
Off-Road	0.7556	4.4272	35.3560	0.0591		0.0966	0.0966		0.0966	0.0966	0.0000	5,718.7323	5,718.7323	1.8496		5,764.9711
Total	**0.7556**	**4.4272**	**35.3560**	**0.0591**	**0.8375**	**0.0966**	**0.9341**	**0.0909**	**0.0966**	**0.1875**	**0.0000**	**5,718.7323**	**5,718.7323**	**1.8496**		**5,764.9711**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading and Excavation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1474	0.0000	2.1474	0.2330	0.0000	0.2330			0.0000			0.0000
Off-Road	2.9095	28.2778	31.7989	0.0591		1.2754	1.2754		1.1734	1.1734		5,717.3175	5,717.3175	1.8491		5,763.5449
Total	**2.9095**	**28.2778**	**31.7989**	**0.0591**	**2.1474**	**1.2754**	**3.4228**	**0.2330**	**1.1734**	**1.4064**		**5,717.3175**	**5,717.3175**	**1.8491**		**5,763.5449**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8375	0.0000	0.8375	0.0909	0.0000	0.0909			0.0000			0.0000
Off-Road	0.7556	4.4272	35.3560	0.0591		0.0966	0.0966		0.0966	0.0966	0.0000	5,717.3175	5,717.3175	1.8491		5,763.5449
Total	**0.7556**	**4.4272**	**35.3560**	**0.0591**	**0.8375**	**0.0966**	**0.9341**	**0.0909**	**0.0966**	**0.1875**	**0.0000**	**5,717.3175**	**5,717.3175**	**1.8491**		**5,763.5449**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Mat Foundation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1997	19.2836	26.6389	0.0433		0.9431	0.9431		0.9041	0.9041		4,138.1099	4,138.1099	0.6631		4,154.6878
Total	**2.1997**	**19.2836**	**26.6389**	**0.0433**		**0.9431**	**0.9431**		**0.9041**	**0.9041**		**4,138.1099**	**4,138.1099**	**0.6631**		**4,154.6878**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5051	3.3416	29.2288	0.0433		0.0632	0.0632		0.0632	0.0632	0.0000	4,138.1099	4,138.1099	0.6631		4,154.6878
Total	**0.5051**	**3.3416**	**29.2288**	**0.0433**		**0.0632**	**0.0632**		**0.0632**	**0.0632**	**0.0000**	**4,138.1099**	**4,138.1099**	**0.6631**		**4,154.6878**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1923	36.6259	39.0964	0.0720		1.6402	1.6402		1.5521	1.5521		6,786.0802	6,786.0802	1.5186		6,824.0458
Total	**4.1923**	**36.6259**	**39.0964**	**0.0720**		**1.6402**	**1.6402**		**1.5521**	**1.5521**		**6,786.0802**	**6,786.0802**	**1.5186**		**6,824.0458**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6022	11.9534	42.7915	0.0720		0.2542	0.2542		0.2542	0.2542	0.0000	6,786.0802	6,786.0802	1.5186		6,824.0458
Total	**1.6022**	**11.9534**	**42.7915**	**0.0720**		**0.2542**	**0.2542**		**0.2542**	**0.2542**	**0.0000**	**6,786.0802**	**6,786.0802**	**1.5186**		**6,824.0458**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5736	5.9203	5.7864	0.0173		0.2360	0.2360		0.2182	0.2182		1,659.8462	1,659.8462	0.5260		1,672.9962
Paving	0.5573					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1308**	**5.9203**	**5.7864**	**0.0173**		**0.2360**	**0.2360**		**0.2182**	**0.2182**		**1,659.8462**	**1,659.8462**	**0.5260**		**1,672.9962**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2623	1.2476	8.7659	0.0173		0.0413	0.0413		0.0413	0.0413	0.0000	1,659.8462	1,659.8462	0.5260		1,672.9962
Paving	0.5573					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8196**	**1.2476**	**8.7659**	**0.0173**		**0.0413**	**0.0413**		**0.0413**	**0.0413**	**0.0000**	**1,659.8462**	**1,659.8462**	**0.5260**		**1,672.9962**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coatings - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.2987					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2154	1.7451	2.9029	4.6500e-003		0.0700	0.0700		0.0693	0.0693		444.0679	444.0679	0.0684		445.7790
Total	**2.5141**	**1.7451**	**2.9029**	**4.6500e-003**		**0.0700**	**0.0700**		**0.0693**	**0.0693**		**444.0679**	**444.0679**	**0.0684**		**445.7790**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	2.2987					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0711	1.0726	3.1069	4.6500e-003		6.7200e-003	6.7200e-003		6.7200e-003	6.7200e-003	0.0000	444.0679	444.0679	0.0684		445.7790
Total	**2.3698**	**1.0726**	**3.1069**	**4.6500e-003**		**6.7200e-003**	**6.7200e-003**		**6.7200e-003**	**6.7200e-003**	**0.0000**	**444.0679**	**444.0679**	**0.0684**		**445.7790**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.548670	0.058343	0.171689	0.130773	0.027316	0.007545	0.011806	0.006161	0.000681	0.000392	0.029028	0.000637	0.006958
Parking Lot	0.548670	0.058343	0.171689	0.130773	0.027316	0.007545	0.011806	0.006161	0.000681	0.000392	0.029028	0.000637	0.006958
Refrigerated Warehouse-No Rail	0.548670	0.058343	0.171689	0.130773	0.027316	0.007545	0.011806	0.006161	0.000681	0.000392	0.029028	0.000637	0.006958
Unrefrigerated Warehouse-No Rail	0.548670	0.058343	0.171689	0.130773	0.027316	0.007545	0.011806	0.006161	0.000681	0.000392	0.029028	0.000637	0.006958

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.5800e-003	0.0689	0.0579	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003		82.7211	82.7211	1.5900e-003	1.5200e-003	83.2127
NaturalGas Unmitigated	8.3900e-003	0.0763	0.0641	4.6000e-004		5.8000e-003	5.8000e-003		5.8000e-003	5.8000e-003		91.5248	91.5248	1.7500e-003	1.6800e-003	92.0687

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	133.89	1.4400e-003	0.0131	0.0110	8.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003		15.7518	15.7518	3.0000e-004	2.9000e-004	15.8454
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	249.273	2.6900e-003	0.0244	0.0205	1.5000e-004		1.8600e-003	1.8600e-003		1.8600e-003	1.8600e-003		29.3262	29.3262	5.6000e-004	5.4000e-004	29.5005
Unrefrigerated Warehouse-No Rail	394.798	4.2600e-003	0.0387	0.0325	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003		46.4468	46.4468	8.9000e-004	8.5000e-004	46.7228
Total		**8.3900e-003**	**0.0763**	**0.0641**	**4.6000e-004**		**5.8000e-003**	**5.8000e-003**		**5.8000e-003**	**5.8000e-003**		**91.5248**	**91.5248**	**1.7500e-003**	**1.6800e-003**	**92.0687**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.121315	1.3100e-003	0.0119	9.9900e-003	7.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004		14.2724	14.2724	2.7000e-004	2.6000e-004	14.3572
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0.225989	2.4400e-003	0.0222	0.0186	1.3000e-004		1.6800e-003	1.6800e-003		1.6800e-003	1.6800e-003		26.5869	26.5869	5.1000e-004	4.9000e-004	26.7449
Unrefrigerated Warehouse-No Rail	0.355825	3.8400e-003	0.0349	0.0293	2.1000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003		41.8618	41.8618	8.0000e-004	7.7000e-004	42.1106
Total		**7.5900e-003**	**0.0689**	**0.0579**	**4.1000e-004**		**5.2300e-003**	**5.2300e-003**		**5.2300e-003**	**5.2300e-003**		**82.7211**	**82.7211**	**1.5800e-003**	**1.5200e-003**	**83.2127**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.5834	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1051	0.1051	2.7000e-004		0.1120
Unmitigated	3.5834	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1051	0.1051	2.7000e-004		0.1120

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3917					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1872					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5200e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1051	0.1051	2.7000e-004		0.1120
Total	**3.5834**	**4.4000e-004**	**0.0490**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.1051**	**0.1051**	**2.7000e-004**		**0.1120**

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3917					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1872					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5200e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1051	0.1051	2.7000e-004		0.1120
Total	**3.5834**	**4.4000e-004**	**0.0490**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.1051**	**0.1051**	**2.7000e-004**		**0.1120**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

Arcturus Warehouse - Ventura County APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Arcturus Warehouse - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Arcturus Warehouse

Ventura County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	5.40	1000sqft	0.12	5,400.00	0
Refrigerated Warehouse-No Rail	99.98	1000sqft	2.30	99,983.00	0
Unrefrigerated Warehouse-No Rail	37.04	1000sqft	0.85	37,044.00	0
Parking Lot	67.00	Space	0.60	26,800.00	0
Parking Lot	271.00	Space	10.46	366,360.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	348.64	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE CO2 Intensity in 2024: CalEEMod Forecasted 2024 factors.

Land Use - 55,836 sf racked cold storage + 44,147, sf controlled temp loading docks = 99,983 sf total refrigerated. Outdoor storage rack footprint is 42'x294'. Area=12,348 SF x 3 high=37,044 sf. Parking area based on estimated area.

Construction Phase - Estimated 12-month construction duration (begining as early as late-2023).

Off-road Equipment - Finishing/Coating Equipment: 1 aerial lift, 1 air compressor.

Off-road Equipment - Building Construction Equipment: 5 aerial lifts, 2 air compressors, 2 concrete/industrial saws, 2 cranes, 1 scraper, 1 signal board, 1 tractor/loader/backhoe, 2 trenchers, 3 welders.

Off-road Equipment - Demolition Equipment: 2 concrete/industrial saws, 3 tractors/loaders/backhoes.

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Off-road Equipment - Grading/Excavation Equipment: 2 rollers, 2 scrapers, 1 street sweeper, 3 tractors/loaders/backhoes, 2 other.

Off-road Equipment - Mat Foundation Equipment: 2 concrete/industrial saws, 2 pumps, 1 street sweeper, 1 tractor/loader/backhoe, 2 other.

Off-road Equipment - Paving Equipment: 1 signal board, 2 surfacing equipment, 1 tractor/loader/backhoe.

Trips and VMT - Mobile sources calculated outside of CalEEMod using EMFAC2021.

Demolition - 1 CY= 860 lbs concrete. (30 CY) (860 lbs/CY) (1 ton/2000 lbs) = approximately 13 tons

Grading - 7,331 cy of import.

Architectural Coating - 91% interior pre-painted. Conservatively modeled 90% pre-painted. 213,641 sqft x 0.10 = 21,364.1 painted.
95% exterior pre-painted. Conservatively modeled 90% pre-painted. 71,214 x 0.10 = 7,121.4 sqft painted.

Vehicle Trips - Mobile sources modeled outside of CalEEMod using EMFAC2021.

Area Coating -

Energy Use -

Sequestration - Project would include 41 trees with removal, impact and/or replacement of 4 trees. Modeled as 37 net new trees.

Construction Off-road Equipment Mitigation - Dust control per VCAPCD Fugitive Dust Rule (regulatory compliance). Tier 4 Final control equipment applied to engines >50 HP (mitigation).

Energy Mitigation - Project will exceed Title 24 by 10% (project design). Non-GHG refrigeration system.

Waste Mitigation - Waste diversion of at least 50% per Assembly Bill 939 (see Section 3.16, Utilities and Energy, Subsection (d) (regulatory compliance).

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	71,214.00	7,121.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	213,641.00	21,364.00
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	14.00
tblConstructionPhase	NumDays	30.00	39.00
tblConstructionPhase	NumDays	300.00	6.00
tblConstructionPhase	NumDays	300.00	229.00
tblConstructionPhase	NumDays	20.00	52.00
tblConstructionPhase	NumDays	20.00	105.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

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tblConstructionPhase	NumDaysWeek	5.00	6.00
tblGrading	MaterialImported	0.00	7,331.00
tblLandUse	LandUseSquareFeet	99,980.00	99,983.00
tblLandUse	LandUseSquareFeet	37,040.00	37,044.00
tblLandUse	LandUseSquareFeet	108,400.00	366,360.00
tblLandUse	LotAcreage	2.44	10.46
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Architectural Coatings
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Mat Foundation
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Mat Foundation
tblOffRoadEquipment	PhaseName		Grading and Excavation
tblOffRoadEquipment	PhaseName		Mat Foundation
tblOffRoadEquipment	PhaseName		Grading and Excavation
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Grading and Excavation
tblOffRoadEquipment	PhaseName		Mat Foundation

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tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Building Construction
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	702.44	348.64
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblSequestration	NumberOfNewTrees	0.00	37.00
tblTripsAndVMT	HaulingTripNumber	1.00	0.00
tblTripsAndVMT	HaulingTripNumber	916.00	0.00
tblTripsAndVMT	VendorTripNumber	88.00	0.00
tblTripsAndVMT	VendorTripNumber	88.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	25.00	0.00
tblTripsAndVMT	WorkerTripNumber	224.00	0.00
tblTripsAndVMT	WorkerTripNumber	224.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	45.00	0.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	ST_TR	2.12	0.00
tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	SU_TR	2.12	0.00
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	9.74	0.00
tblVehicleTrips	WD_TR	2.12	0.00
tblVehicleTrips	WD_TR	1.74	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0260	0.2502	0.2907	5.1000e-004	0.0420	0.0117	0.0538	4.5700e-003	0.0109	0.0155	0.0000	44.4002	44.4002	0.0123	0.0000	44.7076
2024	0.6873	4.8788	5.2886	9.8600e-003	0.0419	0.2177	0.2595	4.5400e-003	0.2056	0.2101	0.0000	846.4704	846.4704	0.1979	0.0000	851.4169
Maximum	**0.6873**	**4.8788**	**5.2886**	**9.8600e-003**	**0.0420**	**0.2177**	**0.2595**	**4.5700e-003**	**0.2056**	**0.2101**	**0.0000**	**846.4704**	**846.4704**	**0.1979**	**0.0000**	**851.4169**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	6.2100e-003	0.0338	0.3153	5.1000e-004	0.0164	8.0000e-004	0.0172	1.7800e-003	8.0000e-004	2.5800e-003	0.0000	44.4001	44.4001	0.0123	0.0000	44.7075
2024	0.3409	1.5272	5.8556	9.8600e-003	0.0163	0.0320	0.0484	1.7700e-003	0.0320	0.0338	0.0000	846.4694	846.4694	0.1979	0.0000	851.4159
Maximum	**0.3409**	**1.5272**	**5.8556**	**9.8600e-003**	**0.0164**	**0.0320**	**0.0484**	**1.7800e-003**	**0.0320**	**0.0338**	**0.0000**	**846.4694**	**846.4694**	**0.1979**	**0.0000**	**851.4159**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**51.34**	**69.56**	**-10.61**	**0.00**	**61.00**	**85.69**	**79.08**	**61.03**	**84.84**	**83.88**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	12-1-2023	2-29-2024	1.1526	0.2503
2	3-1-2024	5-31-2024	1.6094	0.5345
3	6-1-2024	8-31-2024	1.7597	0.6077
4	9-1-2024	9-30-2024	0.6702	0.2451
		Highest	1.7597	0.6077

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6536	4.0000e-005	4.4100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5800e-003	8.5800e-003	2.0000e-005	0.0000	9.1400e-003
Energy	1.5300e-003	0.0139	0.0117	8.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003	0.0000	424.4132	424.4132	0.0390	4.9700e-003	426.8709
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	27.1643	0.0000	27.1643	1.6054	0.0000	67.2983
Water						0.0000	0.0000		0.0000	0.0000	10.3570	68.2557	78.6126	1.0702	0.0259	113.0865
Total	**0.6551**	**0.0140**	**0.0161**	**8.0000e-005**	**0.0000**	**1.0800e-003**	**1.0800e-003**	**0.0000**	**1.0800e-003**	**1.0800e-003**	**37.5212**	**492.6774**	**530.1986**	**2.7146**	**0.0309**	**607.2648**

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Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6536	4.0000e-005	4.4100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5800e-003	8.5800e-003	2.0000e-005	0.0000	9.1400e-003
Energy	1.3800e-003	0.0126	0.0106	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	421.8745	421.8745	0.0389	4.9300e-003	424.3173
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	13.5821	0.0000	13.5821	0.8027	0.0000	33.6491
Water						0.0000	0.0000		0.0000	0.0000	10.3570	68.2557	78.6126	1.0702	0.0259	113.0865
Total	**0.6549**	**0.0126**	**0.0150**	**8.0000e-005**	**0.0000**	**9.8000e-004**	**9.8000e-004**	**0.0000**	**9.8000e-004**	**9.8000e-004**	**23.9391**	**490.1387**	**514.0778**	**1.9118**	**0.0308**	**571.0621**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.02**	**9.60**	**6.96**	**0.00**	**0.00**	**9.26**	**9.26**	**0.00**	**9.26**	**9.26**	**36.20**	**0.52**	**3.04**	**29.57**	**0.13**	**5.96**

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2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	26.1960
Total	**26.1960**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2023	12/16/2023	6	14	
2	Grading and Excavation	Grading	12/17/2023	1/31/2024	6	39	
3	Mat Foundation	Building Construction	2/1/2024	2/7/2024	6	6	
4	Building Construction	Building Construction	2/8/2024	10/31/2024	6	229	
5	Paving	Paving	8/1/2024	9/30/2024	6	52	
6	Architectural Coatings	Architectural Coating	8/1/2024	11/30/2024	6	105	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 78

Acres of Paving: 11.06

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 21,364; Non-Residential Outdoor: 7,121; Striped Parking Area: 23,590 (Architectural

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OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading and Excavation	Excavators	0	8.00	158	0.38
Grading and Excavation	Graders	0	8.00	187	0.41
Grading and Excavation	Other Material Handling Equipment	2	8.00	168	0.40
Grading and Excavation	Rollers	2	8.00	80	0.38
Grading and Excavation	Rubber Tired Dozers	0	8.00	247	0.40
Grading and Excavation	Scrapers	2	8.00	367	0.48
Grading and Excavation	Sweepers/Scrubbers	1	8.00	64	0.46
Grading and Excavation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Mat Foundation	Concrete/Industrial Saws	2	8.00	81	0.73
Mat Foundation	Cranes	0	7.00	231	0.29
Mat Foundation	Forklifts	0	8.00	89	0.20
Mat Foundation	Generator Sets	0	8.00	84	0.74
Mat Foundation	Other Construction Equipment	2	8.00	172	0.42
Mat Foundation	Pumps	2	8.00	84	0.74
Mat Foundation	Sweepers/Scrubbers	1	8.00	64	0.46
Mat Foundation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Mat Foundation	Welders	0	8.00	46	0.45
Building Construction	Aerial Lifts	5	8.00	63	0.31
Building Construction	Air Compressors	2	8.00	78	0.48
Building Construction	Concrete/Industrial Saws	2	8.00	81	0.73
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Building Construction	Scrapers	1	8.00	367	0.48
Building Construction	Signal Boards	1	8.00	6	0.82
Building Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Trenchers	2	8.00	78	0.50
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Paving	Signal Boards	1	8.00	6	0.82
Paving	Surfacing Equipment	2	8.00	263	0.30
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coatings	Aerial Lifts	1	8.00	63	0.31
Architectural Coatings	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading and Excavation	10	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Mat Foundation	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	19	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coatings	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4000e-004	0.0000	1.4000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.8500e-003	0.0684	0.0981	1.5000e-004		3.3900e-003	3.3900e-003		3.2600e-003	3.2600e-003	0.0000	13.2725	13.2725	2.2300e-003	0.0000	13.3282
Total	**7.8500e-003**	**0.0684**	**0.0981**	**1.5000e-004**	**1.4000e-004**	**3.3900e-003**	**3.5300e-003**	**2.0000e-005**	**3.2600e-003**	**3.2800e-003**	**0.0000**	**13.2725**	**13.2725**	**2.2300e-003**	**0.0000**	**13.3282**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6700e-003	7.2500e-003	0.1032	1.5000e-004		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	13.2725	13.2725	2.2300e-003	0.0000	13.3282
Total	**1.6700e-003**	**7.2500e-003**	**0.1032**	**1.5000e-004**	**5.0000e-005**	**2.2000e-004**	**2.7000e-004**	**1.0000e-005**	**2.2000e-004**	**2.3000e-004**	**0.0000**	**13.2725**	**13.2725**	**2.2300e-003**	**0.0000**	**13.3282**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading and Excavation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0419	0.0000	0.0419	4.5400e-003	0.0000	4.5400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0182	0.1818	0.1926	3.5000e-004		8.3400e-003	8.3400e-003		7.6700e-003	7.6700e-003	0.0000	31.1277	31.1277	0.0101	0.0000	31.3794
Total	**0.0182**	**0.1818**	**0.1926**	**3.5000e-004**	**0.0419**	**8.3400e-003**	**0.0502**	**4.5400e-003**	**7.6700e-003**	**0.0122**	**0.0000**	**31.1277**	**31.1277**	**0.0101**	**0.0000**	**31.3794**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0163	0.0000	0.0163	1.7700e-003	0.0000	1.7700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5300e-003	0.0266	0.2121	3.5000e-004		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	31.1276	31.1276	0.0101	0.0000	31.3793
Total	**4.5300e-003**	**0.0266**	**0.2121**	**3.5000e-004**	**0.0163**	**5.8000e-004**	**0.0169**	**1.7700e-003**	**5.8000e-004**	**2.3500e-003**	**0.0000**	**31.1276**	**31.1276**	**0.0101**	**0.0000**	**31.3793**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading and Excavation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0419	0.0000	0.0419	4.5400e-003	0.0000	4.5400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0393	0.3818	0.4293	8.0000e-004		0.0172	0.0172		0.0158	0.0158	0.0000	70.0200	70.0200	0.0227	0.0000	70.5861
Total	**0.0393**	**0.3818**	**0.4293**	**8.0000e-004**	**0.0419**	**0.0172**	**0.0591**	**4.5400e-003**	**0.0158**	**0.0204**	**0.0000**	**70.0200**	**70.0200**	**0.0227**	**0.0000**	**70.5861**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0163	0.0000	0.0163	1.7700e-003	0.0000	1.7700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.0598	0.4773	8.0000e-004		1.3000e-003	1.3000e-003		1.3000e-003	1.3000e-003	0.0000	70.0199	70.0199	0.0227	0.0000	70.5860
Total	**0.0102**	**0.0598**	**0.4773**	**8.0000e-004**	**0.0163**	**1.3000e-003**	**0.0176**	**1.7700e-003**	**1.3000e-003**	**3.0700e-003**	**0.0000**	**70.0199**	**70.0199**	**0.0227**	**0.0000**	**70.5860**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Mat Foundation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.6000e-003	0.0579	0.0799	1.3000e-004		2.8300e-003	2.8300e-003		2.7100e-003	2.7100e-003	0.0000	11.2621	11.2621	1.8000e-003	0.0000	11.3072
Total	**6.6000e-003**	**0.0579**	**0.0799**	**1.3000e-004**		**2.8300e-003**	**2.8300e-003**		**2.7100e-003**	**2.7100e-003**	**0.0000**	**11.2621**	**11.2621**	**1.8000e-003**	**0.0000**	**11.3072**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5200e-003	0.0100	0.0877	1.3000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	11.2621	11.2621	1.8000e-003	0.0000	11.3072
Total	**1.5200e-003**	**0.0100**	**0.0877**	**1.3000e-004**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**11.2621**	**11.2621**	**1.8000e-003**	**0.0000**	**11.3072**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Arcturus Warehouse - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4800	4.1937	4.4765	8.2400e-003		0.1878	0.1878		0.1777	0.1777	0.0000	704.8882	704.8882	0.1577	0.0000	708.8317
Total	**0.4800**	**4.1937**	**4.4765**	**8.2400e-003**		**0.1878**	**0.1878**		**0.1777**	**0.1777**	**0.0000**	**704.8882**	**704.8882**	**0.1577**	**0.0000**	**708.8317**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1835	1.3687	4.8996	8.2400e-003		0.0291	0.0291		0.0291	0.0291	0.0000	704.8873	704.8873	0.1577	0.0000	708.8309
Total	**0.1835**	**1.3687**	**4.8996**	**8.2400e-003**		**0.0291**	**0.0291**		**0.0291**	**0.0291**	**0.0000**	**704.8873**	**704.8873**	**0.1577**	**0.0000**	**708.8309**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0149	0.1539	0.1505	4.5000e-004		6.1400e-003	6.1400e-003		5.6700e-003	5.6700e-003	0.0000	39.1505	39.1505	0.0124	0.0000	39.4606
Paving	0.0145					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0294**	**0.1539**	**0.1505**	**4.5000e-004**		**6.1400e-003**	**6.1400e-003**		**5.6700e-003**	**5.6700e-003**	**0.0000**	**39.1505**	**39.1505**	**0.0124**	**0.0000**	**39.4606**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.8200e-003	0.0324	0.2279	4.5000e-004		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	39.1504	39.1504	0.0124	0.0000	39.4606
Paving	0.0145					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0213**	**0.0324**	**0.2279**	**4.5000e-004**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**39.1504**	**39.1504**	**0.0124**	**0.0000**	**39.4606**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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3.7 Architectural Coatings - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1207					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.0916	0.1524	2.4000e-004		3.6800e-003	3.6800e-003		3.6400e-003	3.6400e-003	0.0000	21.1497	21.1497	3.2600e-003	0.0000	21.2312
Total	**0.1320**	**0.0916**	**0.1524**	**2.4000e-004**		**3.6800e-003**	**3.6800e-003**		**3.6400e-003**	**3.6400e-003**	**0.0000**	**21.1497**	**21.1497**	**3.2600e-003**	**0.0000**	**21.2312**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1207					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7300e-003	0.0563	0.1631	2.4000e-004		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	21.1497	21.1497	3.2600e-003	0.0000	21.2312
Total	**0.1244**	**0.0563**	**0.1631**	**2.4000e-004**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**21.1497**	**21.1497**	**3.2600e-003**	**0.0000**	**21.2312**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

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Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.548670	0.058343	0.171689	0.130773	0.027316	0.007545	0.011806	0.006161	0.000681	0.000392	0.029028	0.000637	0.006958
Parking Lot	0.548670	0.058343	0.171689	0.130773	0.027316	0.007545	0.011806	0.006161	0.000681	0.000392	0.029028	0.000637	0.006958
Refrigerated Warehouse-No Rail	0.548670	0.058343	0.171689	0.130773	0.027316	0.007545	0.011806	0.006161	0.000681	0.000392	0.029028	0.000637	0.006958
Unrefrigerated Warehouse-No Rail	0.548670	0.058343	0.171689	0.130773	0.027316	0.007545	0.011806	0.006161	0.000681	0.000392	0.029028	0.000637	0.006958

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	408.1791	408.1791	0.0386	4.6800e-003	410.5406
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	409.2602	409.2602	0.0387	4.7000e-003	411.6279
NaturalGas Mitigated	1.3800e-003	0.0126	0.0106	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	13.6954	13.6954	2.6000e-004	2.5000e-004	13.7768
NaturalGas Unmitigated	1.5300e-003	0.0139	0.0117	8.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003	0.0000	15.1530	15.1530	2.9000e-004	2.8000e-004	15.2430

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	48870	2.6000e-004	2.4000e-003	2.0100e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.6079	2.6079	5.0000e-005	5.0000e-005	2.6234
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	90984.5	4.9000e-004	4.4600e-003	3.7500e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8553	4.8553	9.0000e-005	9.0000e-005	4.8841
Unrefrigerated Warehouse-No Rail	144101	7.8000e-004	7.0600e-003	5.9300e-003	4.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.0000	7.6898	7.6898	1.5000e-004	1.4000e-004	7.7355
Total		**1.5300e-003**	**0.0139**	**0.0117**	**8.0000e-005**		**1.0600e-003**	**1.0600e-003**		**1.0600e-003**	**1.0600e-003**	**0.0000**	**15.1530**	**15.1530**	**2.9000e-004**	**2.8000e-004**	**15.2430**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	44280	2.4000e-004	2.1700e-003	1.8200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.3630	2.3630	5.0000e-005	4.0000e-005	2.3770
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	82486	4.4000e-004	4.0400e-003	3.4000e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	4.4018	4.4018	8.0000e-005	8.0000e-005	4.4279
Unrefrigerated Warehouse-No Rail	129876	7.0000e-004	6.3700e-003	5.3500e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.9307	6.9307	1.3000e-004	1.3000e-004	6.9719
Total		**1.3800e-003**	**0.0126**	**0.0106**	**7.0000e-005**		**9.5000e-004**	**9.5000e-004**		**9.5000e-004**	**9.5000e-004**	**0.0000**	**13.6954**	**13.6954**	**2.6000e-004**	**2.5000e-004**	**13.7768**

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	72846	11.5199	1.0900e-003	1.3000e-004	11.5866
Parking Lot	128226	20.2777	1.9200e-003	2.3000e-004	20.3950
Parking Lot	9380	1.4834	1.4000e-004	2.0000e-005	1.4919
Refrigerated Warehouse-No Rail	2.22562e+006	351.9608	0.0333	4.0400e-003	353.9970
Unrefrigerated Warehouse-No Rail	151880	24.0184	2.2700e-003	2.8000e-004	24.1574
Total		**409.2602**	**0.0387**	**4.7000e-003**	**411.6279**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	70572.6	11.1604	1.0600e-003	1.3000e-004	11.2250
Parking Lot	128226	20.2777	1.9200e-003	2.3000e-004	20.3950
Parking Lot	9380	1.4834	1.4000e-004	2.0000e-005	1.4919
Refrigerated Warehouse-No Rail	2.22302e+006	351.5497	0.0333	4.0300e-003	353.5835
Unrefrigerated Warehouse-No Rail	149917	23.7080	2.2400e-003	2.7000e-004	23.8451
Total		**408.1791**	**0.0386**	**4.6800e-003**	**410.5406**

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6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6536	4.0000e-005	4.4100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5800e-003	8.5800e-003	2.0000e-005	0.0000	9.1400e-003
Unmitigated	0.6536	4.0000e-005	4.4100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5800e-003	8.5800e-003	2.0000e-005	0.0000	9.1400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0715					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5817					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.1000e-004	4.0000e-005	4.4100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5800e-003	8.5800e-003	2.0000e-005	0.0000	9.1400e-003
Total	**0.6536**	**4.0000e-005**	**4.4100e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**8.5800e-003**	**8.5800e-003**	**2.0000e-005**	**0.0000**	**9.1400e-003**

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Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0715					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5817					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.1000e-004	4.0000e-005	4.4100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5800e-003	8.5800e-003	2.0000e-005	0.0000	9.1400e-003
Total	**0.6536**	**4.0000e-005**	**4.4100e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**8.5800e-003**	**8.5800e-003**	**2.0000e-005**	**0.0000**	**9.1400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	78.6126	1.0702	0.0259	113.0865
Unmitigated	78.6126	1.0702	0.0259	113.0865

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.959762 / 0.588241	3.3143	0.0316	7.7000e-004	4.3336
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	23.1204 / 0	54.9433	0.7579	0.0183	79.3542
Unrefrigerated Warehouse-No Rail	8.5655 / 0	20.3551	0.2808	6.7900e-003	29.3987
Total		**78.6126**	**1.0702**	**0.0259**	**113.0865**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.959762 / 0.588241	3.3143	0.0316	7.7000e-004	4.3336
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	23.1204 / 0	54.9433	0.7579	0.0183	79.3542
Unrefrigerated Warehouse-No Rail	8.5655 / 0	20.3551	0.2808	6.7900e-003	29.3987
Total		**78.6126**	**1.0702**	**0.0259**	**113.0865**

Arcturus Warehouse - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	13.5821	0.8027	0.0000	33.6491
Unmitigated	27.1643	1.6054	0.0000	67.2983

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	5.02	1.0190	0.0602	0.0000	2.5246
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	93.98	19.0771	1.1274	0.0000	47.2627
Unrefrigerated Warehouse-No Rail	34.82	7.0682	0.4177	0.0000	17.5110
Total		**27.1643**	**1.6054**	**0.0000**	**67.2983**

Arcturus Warehouse - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	2.51	0.5095	0.0301	0.0000	1.2623
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	46.99	9.5386	0.5637	0.0000	23.6313
Unrefrigerated Warehouse-No Rail	17.41	3.5341	0.2089	0.0000	8.7555
Total		**13.5821**	**0.8027**	**0.0000**	**33.6491**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

Arcturus Warehouse - Ventura County APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	26.1960	0.0000	0.0000	26.1960

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	37	26.1960	0.0000	0.0000	26.1960
Total		**26.1960**	**0.0000**	**0.0000**	**26.1960**

A-2 EMFAC2021 and OFFROAD 2021 Files

Arcturus Warehouse

Total On-Road Emissions

	314	Max construction days per year			
Construction Phase	**Daily One-Way Trips**	**Haul Days per Phase (days)**	**Work Hours per Day (hours/day)**	**One-Way Trip Distance per Day (miles)**	**Idling per Day (minutes)**
Demolition	2023			(Source: Applicant and CalEEMod)	
Total Haul Trips	6				
Hauling	2	4	8	27	15
Vendor	6	14	8	7.3	15
Worker	12	14	8	10.8	0
					Total:
Grading and Excavation	2023				
Total Haul Trips	406				
Hauling	34	12	8	25	15
Vendor	6	12	8	7.3	15
Worker	16	12	8	10.8	0
					Total:
Grading and Excavation	2024				
Total Haul Trips	642				
Hauling	34	19	8	25	15
Vendor	6	27	8	7.3	15
Worker	16	27	8	10.8	0
					Total:
Mat Foundation	2024				
Total Haul Trips	0				
Hauling	0	6	8	25	15
Vendor	112	6	8	7.3	15
Worker	50	6	8	10.8	0
					Total:
Building Construction	2024				
Total Haul Trips	0				
Hauling	0	229	8	25	15
Vendor	88	229	8	7.3	15
Worker	50	229	8	10.8	0
					Total:
Paving	2024				
Total Haul Trips	0				
Hauling	0	52	8	25	15
Vendor	0	52	8	7.3	15
Worker	20	52	8	10.8	0
					Total:
Architectural Coating	2024				
Total Haul Trips	0				
Hauling	0	105	8	25	15
Vendor	0	105	8	7.3	15
Worker	14	105	8	10.8	0
					Total:

Overlapping: Building Construction, Paving, Architectural Coating — Overlapping Total:

Arcturus Warehouse

Total On-Road Emissions

Construction Phase	Regional Emissions (pounds/day)										(MT/yr)
	ROG	NOX	CO	SO2	PM10 Dust	PM10 Exh	Total PM10	PM2.5 Dust	PM2.5 Exh	Total PM2.5	Total CO2e
Demolition											
Total Haul Trips											
Hauling	0.00	0.30	0.11	0.00	0.03	0.00	0.04	0.01	0.00	0.01	0.38
Vendor	0.00	0.25	0.15	0.00	0.02	0.00	0.03	0.01	0.00	0.01	1.01
Worker	0.01	0.03	0.30	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.56
	0.01	0.58	0.55	0.00	0.11	0.01	0.12	0.02	0.00	0.03	1.95
Grading and Excavation											
Total Haul Trips											
Hauling	0.03	4.81	1.76	0.03	0.53	0.04	0.58	0.12	0.04	0.16	18.14
Vendor	0.00	0.25	0.15	0.00	0.02	0.00	0.03	0.01	0.00	0.01	0.87
Worker	0.01	0.04	0.39	0.00	0.07	0.00	0.07	0.01	0.00	0.01	0.64
	0.04	5.10	2.30	0.03	0.63	0.05	0.67	0.13	0.05	0.18	19.65
Grading and Excavation											
Total Haul Trips											
Hauling	0.03	4.60	1.75	0.03	0.53	0.04	0.58	0.12	0.04	0.16	28.23
Vendor	0.00	0.24	0.15	0.00	0.02	0.00	0.03	0.01	0.00	0.01	1.93
Worker	0.01	0.03	0.36	0.00	0.07	0.00	0.07	0.01	0.00	0.01	1.40
	0.04	4.88	2.26	0.03	0.63	0.05	0.67	0.13	0.04	0.18	31.55
Mat Foundation											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.05	4.55	2.72	0.03	0.46	0.03	0.49	0.09	0.03	0.13	7.99
Worker	0.02	0.10	1.14	0.00	0.22	0.00	0.22	0.04	0.00	0.04	0.97
	0.07	4.65	3.85	0.03	0.67	0.03	0.71	0.13	0.03	0.16	8.96
Building Construction											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.04	3.58	2.13	0.02	0.36	0.03	0.38	0.07	0.02	0.10	239.51
Worker	0.02	0.10	1.14	0.00	0.22	0.00	0.22	0.04	0.00	0.04	37.15
	0.06	3.67	3.27	0.02	0.57	0.03	0.60	0.11	0.03	0.14	276.66
Paving											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.04	0.46	0.00	0.09	0.00	0.09	0.01	0.00	0.01	3.37
	0.01	0.04	0.46	0.00	0.09	0.00	0.09	0.01	0.00	0.01	3.37
Architectural Coating											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.03	0.32	0.00	0.06	0.00	0.06	0.01	0.00	0.01	4.77
	0.01	0.03	0.32	0.00	0.06	0.00	0.06	0.01	0.00	0.01	4.77
Overlapping: Building Const	0.07	3.74	4.05	0.03	0.72	0.03	0.75	0.13	0.03	0.16	284.81

Arcturus Warehouse
Total On-Road Emissions

314 Max construction days per year

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Idling per Day (minutes)
Demolition	2023				
Total Haul Trips	6				
Hauling	2	4	8	27	15
Vendor	6	14	8	7.3	15
Worker	12	14	8	10.8	0
Grading and Excavation	2023				
Total Haul Trips	406				
Hauling	34	12	8	25	15
Vendor	6	12	8	7.3	15
Worker	16	12	8	10.8	0
Grading and Excavation	2024				
Total Haul Trips	642				
Hauling	34	19	8	25	15
Vendor	6	27	8	7.3	15
Worker	16	27	8	10.8	0
Mat Foundation	2024				
Total Haul Trips	0				
Hauling	0	6	8	25	15
Vendor	112	6	8	7.3	15
Worker	50	6	8	10.8	0
Building Construction	2024				
Total Haul Trips	0				
Hauling	0	229	8	25	15
Vendor	88	229	8	7.3	15
Worker	50	229	8	10.8	0
Paving	2024				
Total Haul Trips	0				
Hauling	0	52	8	25	15
Vendor	0	52	8	7.3	15
Worker	20	52	8	10.8	0
Architectural Coating	2024				
Total Haul Trips	0				
Hauling	0	105	8	25	15
Vendor	0	105	8	7.3	15
Worker	14	105	8	10.8	0

Arcturus Warehouse
Total On-Road Emissions

Construction Phase	Regional Emissions (Tons/year)										(MT/yr)
	ROG	NOX	CO	SO2	PM10 Dust	PM10 Exh	Total PM10	PM2.5 Dust	PM2.5 Exh	Total PM2.5	Total CO2e
Demolition											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56
Grading and Excavation											
Total Haul Trips											
Hauling	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
Grading and Excavation											
Total Haul Trips											
Hauling	0.00	0.04	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	28.23
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.93
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40
Mat Foundation											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.99
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97
Building Construction											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.41	0.24	0.00	0.04	0.00	0.04	0.01	0.00	0.01	239.51
Worker	0.00	0.01	0.13	0.00	0.02	0.00	0.03	0.00	0.00	0.00	37.15
Paving											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.37
Architectural Coating											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.77

Arcturus Warehouse
Running Emissions

	Running Emissions Factor (grams/mile)					
	ROG	NOX	CO	SO2	PM10	PM2.5
2023Hauling Hauling	0.01669989	2.010964979	0.29554181	0.01477817	0.02354778	0.0225266
2023Vendor Vendor	0.02179621	1.493511463	0.29830679	0.01280748	0.01802433	0.01724111
2023Worker Worker	0.01893439	0.092250753	1.03253517	0.00301715	0.00162126	0.00149291
2024Hauling Hauling	0.01587278	1.907364586	0.29233715	0.01451249	0.02317881	0.02217373
2024Vendor Vendor	0.01957177	1.397861389	0.27286931	0.01263691	0.01718482	0.01643804
2024Worker Worker	0.01696863	0.083060516	0.95737181	0.00294917	0.00153591	0.0014141
2025Hauling Hauling	0.01508057	1.812154136	0.28603788	0.01421998	0.02269913	0.02171492
2025Vendor Vendor	0.01753002	1.306125661	0.24959737	0.01242943	0.01631378	0.01560478
2025Worker Worker	0.01528431	0.07521309	0.89198291	0.00288149	0.00146277	0.0013466
2026Hauling Hauling	0.01431716	1.726981502	0.27706355	0.01392268	0.02235734	0.02138803
2026Vendor Vendor	0.01577746	1.223363874	0.2293693	0.01221355	0.01560616	0.01492786
2026Worker Worker	0.0138057	0.068473369	0.83476175	0.0028192	0.00138839	0.00127793
GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10	PM2.5
Demolition	2023									
Total Haul Trips	6									
Hauling	2	4	8	27	0.00	0.24	0.04	0.00	0.00	0.00
Vendor	6	14	8	7.3	0.00	0.14	0.03	0.00	0.00	0.00
Worker	12	14	8	10.8	0.01	0.03	0.30	0.00	0.00	0.00
Grading and Excavation	2023									
Total Haul Trips	406									
Hauling	34	12	8	25	0.03	3.77	0.55	0.03	0.04	0.04
Vendor	6	12	8	7.3	0.00	0.14	0.03	0.00	0.00	0.00
Worker	16	12	8	10.8	0.01	0.04	0.39	0.00	0.00	0.00
Grading and Excavation	2024									
Total Haul Trips	642									
Hauling	34	19	8	25	0.03	3.57	0.55	0.03	0.04	0.04
Vendor	6	27	8	7.3	0.00	0.13	0.03	0.00	0.00	0.00
Worker	16	27	8	10.8	0.01	0.03	0.36	0.00	0.00	0.00
Mat Foundation	2024									
Total Haul Trips	0									
Hauling	0	6	8	25	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	112	6	8	7.3	0.04	2.52	0.49	0.02	0.03	0.03
Worker	50	6	8	10.8	0.02	0.10	1.14	0.00	0.00	0.00
Building Construction	2024									
Total Haul Trips	0									
Hauling	0	229	8	25	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	88	229	8	7.3	0.03	1.98	0.39	0.02	0.02	0.02
Worker	50	229	8	10.8	0.02	0.10	1.14	0.00	0.00	0.00
Paving	2024									
Total Haul Trips	0									
Hauling	0	52	8	25	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	52	8	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	20	52	8	10.8	0.01	0.04	0.46	0.00	0.00	0.00
Architectural Coating	2024									
Total Haul Trips	0									
Hauling	0	105	8	25	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	105	8	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	14	105	8	10.8	0.01	0.03	0.32	0.00	0.00	0.00

Arcturus Warehouse
Running Emissions

	Running Emissions Factor (grams/mile)		
	CO2	CH4	N2O
2023Hauling Hauling	1592.54077	0.03221402	0.25237881
2023Vendor Vendor	1364.31867	0.01771184	0.2024336
2023Worker Worker	305.228743	0.00445321	0.00744312
2024Hauling Hauling	1565.28549	0.03057891	0.24811833
2024Vendor Vendor	1346.7804	0.01661912	0.19973786
2024Worker Worker	298.349988	0.00403756	0.00690498
2025Hauling Hauling	1535.00138	0.02901911	0.24337022
2025Vendor Vendor	1325.26222	0.01561056	0.19649245
2025Worker Worker	291.501523	0.00367532	0.00643591
2026Hauling Hauling	1503.98358	0.02749981	0.23849366
2026Vendor Vendor	1302.73641	0.0146747	0.19309072
2026Worker Worker	285.198909	0.00335439	0.00603387
GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Demolition	2023							
Total Haul Trips	6							
Hauling	2	4	8	27	0.34	0.00	0.02	0.36
Vendor	6	14	8	7.3	0.84	0.00	0.04	0.87
Worker	12	14	8	10.8	0.55	0.00	0.00	0.56
Grading and Excavation	2023							
Total Haul Trips	406							
Hauling	34	12	8	25	16.24	0.01	0.75	17.00
Vendor	6	12	8	7.3	0.72	0.00	0.03	0.75
Worker	16	12	8	10.8	0.63	0.00	0.00	0.64
Grading and Excavation	2024							
Total Haul Trips	642							
Hauling	34	19	8	25	25.28	0.01	1.16	26.45
Vendor	6	27	8	7.3	1.59	0.00	0.07	1.66
Worker	16	27	8	10.8	1.39	0.00	0.01	1.40
Mat Foundation	2024							
Total Haul Trips	0							
Hauling	0	6	8	25	0.00	0.00	0.00	0.00
Vendor	112	6	8	7.3	6.61	0.00	0.28	6.89
Worker	50	6	8	10.8	0.97	0.00	0.01	0.97
Building Construction	2024							
Total Haul Trips	0							
Hauling	0	229	8	25	0.00	0.00	0.00	0.00
Vendor	88	229	8	7.3	198.12	0.06	8.52	206.71
Worker	50	229	8	10.8	36.89	0.01	0.25	37.15
Paving	2024							
Total Haul Trips	0							
Hauling	0	52	8	25	0.00	0.00	0.00	0.00
Vendor	0	52	8	7.3	0.00	0.00	0.00	0.00
Worker	20	52	8	10.8	3.35	0.00	0.02	3.37
Architectural Coating	2024							
Total Haul Trips	0							
Hauling	0	105	8	25	0.00	0.00	0.00	0.00
Vendor	0	105	8	7.3	0.00	0.00	0.00	0.00
Worker	14	105	8	10.8	4.74	0.00	0.03	4.77

Arcturus Warehouse
Idling Emissions

	Idling Emissions Factor (grams/minute)					
	ROG	NOX	CO	SO2	PM10	PM2.5
2023Hauling Hauling	0.00037552	0.92774866	1.07084236	0.00163081	0.00063894	0.00061105
2023Vendor Vendor	0.00284985	0.556697662	0.60076169	0.00097066	0.00056815	0.00054344
2023Worker Worker	0	0	0	0	0	0
2024Hauling Hauling	0.00068904	0.916457227	1.07087897	0.00159712	0.00059554	0.0005695
2024Vendor Vendor	0.00287589	0.548488405	0.60028983	0.00095289	0.00050504	0.00048305
2024Worker Worker	0	0	0	0	0	0
2025Hauling Hauling	0.00140052	0.905229083	1.06905354	0.00156176	0.00055915	0.00053468
2025Vendor Vendor	0.00310691	0.540279338	0.59876149	0.00093364	0.00044966	0.00043007
2025Worker Worker	0	0	0	0	0	0
2026Hauling Hauling	0.0022908	0.894246596	1.06591695	0.00152639	0.0005263	0.00050324
2026Vendor Vendor	0.00344438	0.532393117	0.59656429	0.00091415	0.00040215	0.00038461
2026Worker Worker	0	0	0	0	0	0
GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10	PM2.5
Demolition	2023									
Total Haul Trips	6									
Hauling	2	4	8	15	0.00	0.06	0.07	0.00	0.00	0.00
Vendor	6	14	8	15	0.00	0.11	0.12	0.00	0.00	0.00
Worker	12	14	8	0	0.00	0.00	0.00	0.00	0.00	0.00
Grading and Excavation	2023									
Total Haul Trips	406									
Hauling	34	12	8	15	0.00	1.04	1.20	0.00	0.00	0.00
Vendor	6	12	8	15	0.00	0.11	0.12	0.00	0.00	0.00
Worker	16	12	8	0	0.00	0.00	0.00	0.00	0.00	0.00
Grading and Excavation	2024									
Total Haul Trips	642									
Hauling	34	19	8	15	0.00	1.03	1.20	0.00	0.00	0.00
Vendor	6	27	8	15	0.00	0.11	0.12	0.00	0.00	0.00
Worker	16	27	8	0	0.00	0.00	0.00	0.00	0.00	0.00
Mat Foundation	2024									
Total Haul Trips	0									
Hauling	0	6	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	112	6	8	15	0.01	2.03	2.22	0.00	0.00	0.00
Worker	50	6	8	0	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	2024									
Total Haul Trips	0									
Hauling	0	229	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	88	229	8	15	0.01	1.60	1.75	0.00	0.00	0.00
Worker	50	229	8	0	0.00	0.00	0.00	0.00	0.00	0.00
Paving	2024									
Total Haul Trips	0									
Hauling	0	52	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	52	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Worker	20	52	8	0	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	2024									
Total Haul Trips	0									
Hauling	0	105	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	105	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Worker	14	105	8	0	0.00	0.00	0.00	0.00	0.00	0.00

Arcturus Warehouse
Idling Emissions

	Idling Emissions Factor (grams/minute)		
	CO2	CH4	N2O
2023Hauling Hauling	177.931904	0.01594938	0.0282978
2023Vendor Vendor	105.342068	0.00826727	0.01666387
2023Worker Worker	0	0	0
2024Hauling Hauling	174.557523	0.01570671	0.02777465
2024Vendor Vendor	103.557424	0.00813692	0.01638988
2024Worker Worker	0	0	0
2025Hauling Hauling	170.966384	0.01546462	0.0272155
2025Vendor Vendor	101.596944	0.00800618	0.01608717
2025Worker Worker	0	0	0
2026Hauling Hauling	167.323053	0.01519489	0.02664572
2026Vendor Vendor	99.5853169	0.00786275	0.01577485
2026Worker Worker	0	0	0
GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Demolition	2023							
Total Haul Trips	6							
Hauling	2	4	8	15	0.02	0.00	0.00	0.02
Vendor	6	14	8	15	0.13	0.00	0.01	0.14
Worker	12	14	8	0	0.00	0.00	0.00	0.00
Grading and Excavation	2023							
Total Haul Trips	406							
Hauling	34	12	8	15	1.09	0.00	0.05	1.14
Vendor	6	12	8	15	0.11	0.00	0.01	0.12
Worker	16	12	8	0	0.00	0.00	0.00	0.00
Grading and Excavation	2024							
Total Haul Trips	642							
Hauling	34	19	8	15	1.69	0.00	0.08	1.77
Vendor	6	27	8	15	0.25	0.00	0.01	0.26
Worker	16	27	8	0	0.00	0.00	0.00	0.00
Mat Foundation	2024							
Total Haul Trips	0							
Hauling	0	6	8	15	0.00	0.00	0.00	0.00
Vendor	112	6	8	15	1.04	0.00	0.05	1.09
Worker	50	6	8	0	0.00	0.00	0.00	0.00
Building Construction	2024							
Total Haul Trips	0							
Hauling	0	229	8	15	0.00	0.00	0.00	0.00
Vendor	88	229	8	15	31.30	0.06	1.44	32.80
Worker	50	229	8	0	0.00	0.00	0.00	0.00
Paving	2024							
Total Haul Trips	0							
Hauling	0	52	8	15	0.00	0.00	0.00	0.00
Vendor	0	52	8	15	0.00	0.00	0.00	0.00
Worker	20	52	8	0	0.00	0.00	0.00	0.00
Architectural Coating	2024							
Total Haul Trips	0							
Hauling	0	105	8	15	0.00	0.00	0.00	0.00
Vendor	0	105	8	15	0.00	0.00	0.00	0.00
Worker	14	105	8	0	0.00	0.00	0.00	0.00

Arcturus Warehouse
Road Dust, Break Wear, and Tire wear Emissions

	Emission Factors (grams/mile)					
	PM10			PM2.5		
	RD	BW	TW	RD	BW	TW
2023Hauling Hauling	1.67E-01	0.08243642	0.03490472	2.50E-02	0.02885275	0.00872618
2023Vendor Vendor	1.67E-01	0.062371812	0.02345236	2.50E-02	0.02183013	0.00586309
2023Worker Worker	1.67E-01	0.007641575	0.008	2.50E-02	0.00267455	0.002
2024Hauling Hauling	1.67E-01	0.082139552	0.03490685	2.50E-02	0.02874884	0.00872671
2024Vendor Vendor	1.67E-01	0.062189881	0.02345343	2.50E-02	0.02176646	0.00586336
2024Worker Worker	1.67E-01	0.007594873	0.008	2.50E-02	0.00265821	0.002
2025Hauling Hauling	1.67E-01	0.082008076	0.03490967	2.50E-02	0.02870283	0.00872742
2025Vendor Vendor	1.67E-01	0.062062947	0.02345484	2.50E-02	0.02172203	0.00586371
2025Worker Worker	1.67E-01	0.007572737	0.008	2.50E-02	0.00265046	0.002
2026Hauling Hauling	1.67E-01	0.082240272	0.03491297	2.50E-02	0.0287841	0.00872824
2026Vendor Vendor	1.67E-01	0.062103533	0.02345649	2.50E-02	0.02173624	0.00586412
2026Worker Worker	1.67E-01	0.007553244	0.008	2.50E-02	0.00264364	0.002

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					PM10			PM2.5		
					RD	BW	TW	RD	BW	TW
Demolition	2023									
Total Haul Trips	6									
Hauling	2	4	8	27	0.02	0.01	0.00	0.00	0.00	0.00
Vendor	6	14	8	7.3	0.02	0.01	0.00	0.00	0.00	0.00
Worker	12	14	8	10.8	0.05	0.00	0.00	0.01	0.00	0.00
Grading and Excavation	2023									
Total Haul Trips	406									
Hauling	34	12	8	25	0.31	0.15	0.07	0.05	0.05	0.02
Vendor	6	12	8	7.3	0.02	0.01	0.00	0.00	0.00	0.00
Worker	16	12	8	10.8	0.06	0.00	0.00	0.01	0.00	0.00
Grading and Excavation	2024									
Total Haul Trips	642									
Hauling	34	19	8	25	0.31	0.15	0.07	0.05	0.05	0.02
Vendor	6	27	8	7.3	0.02	0.01	0.00	0.00	0.00	0.00
Worker	16	27	8	10.8	0.06	0.00	0.00	0.01	0.00	0.00
Mat Foundation	2024									
Total Haul Trips	0									
Hauling	0	6	8	25	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	112	6	8	7.3	0.30	0.11	0.04	0.05	0.04	0.01
Worker	50	6	8	10.8	0.20	0.01	0.01	0.03	0.00	0.00
Building Construction	2024									
Total Haul Trips	0									
Hauling	0	229	8	25	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	88	229	8	7.3	0.24	0.09	0.03	0.04	0.03	0.01
Worker	50	229	8	10.8	0.20	0.01	0.01	0.03	0.00	0.00
Paving	2024									
Total Haul Trips	0									
Hauling	0	52	8	25	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	52	8	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	20	52	8	10.8	0.08	0.00	0.00	0.01	0.00	0.00
Architectural Coating	2024									
Total Haul Trips	0									
Hauling	0	105	8	25	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	105	8	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	14	105	8	10.8	0.06	0.00	0.00	0.01	0.00	0.00

Arcturus Warehouse
Road Dust

Paved Road Dust Emission Factors

County_Air District: Ventura VEN UPDATE ME

Formula: $EF_{Dust,P} = (k\ (sL)^{0.91} \times (W)^{1.02}) \times (1\text{-}P/4N)$

Where:

$EF_{Dust,P}$ =	Paved Road Dust Emission Factor (having the same units as k)
k =	particle size multiplier
sL =	road surface silt loading (g/m^2) weighted average silt loading factor used
W =	average fleet vehicle weight (tons) (CARB uses 2.4 tons as a fleet average vehicle weight factor)
P =	number of "wet" days, when at least one site per county received at least 0.01 inch of precipitation during the annual averaging period Table 5 of CARB Miscellaneous Process Methodology 7.9 for Los Angeles County
N =	the number of days in the annual averaging period (default = 365)

Emission Factor (grams per VMT)	PM10	PM2.5	
k	1.0000	0.1500	
sL	0.05416	0.05416	
W	2.4	2.4	
P	43	43	CARB Miscellaneous Process Methodology 7.9
N	365	365	
$EF_{Dust,P}$	0.1669	0.0250	

Silt Loading Factor

Source: CARB, 2021.

Table 3: California Default Statewide and Local Silt Loading Values

Silt Loadings (g/m2)			
Freeway	**Major**	**Collector**	**Local**
0.015	0.032	0.032	0.32

Table 2: Roadway Travel Fractions

2017 HPMS Travel Fractions			
0.24	0.57	0.11	0.09

Unpaved Road Dust Emission Factors (Assumes No Precipitation)

Formula: $EF_{Dust,U} = (k\ (s / 12)^{1} \times (Sp / 30)^{0.5} / (M / 0.5)^{0.2}) - C)$

Where:

$EF_{Dust,U}$ =	Unpaved Road Dust Emission Factor (having the same units as k)
k =	particle size multiplier
s =	surface material silt content (%)
Sp =	mean vehicle speed (mph)
M =	surface material moisture content (%)
C =	Emission Factor for 1980s vehicle fleet exhaust, brake wear, and tire wear

Emission Factor (grams per VMT)	PM10	PM2.5
k	816.47	81.65
s	4.3%	4.3%
Sp	15	15
M	0.5%	0.5%
C	0.00047	0.00036
$EF_{Dust,U}$	5.20E+00	5.19E-01

Sources:

CalEEMod User Guide, version 2020.4.0

California Air Resources Board (CARB), Miscellaneous Process Methodology 7.9 — Entrained Road Travel, Paved Road Dust. Revised and updated March 2021, https://ww3.arb.ca.gov/ei/areasrc/fullpdf/2021_paved_roads_7_9.pdf

USEPA, *AP-42* , Fifth Edition, Volume I, Chapter 13.2.1 - Paved Roads, (2011).

USEPA, *AP-42* , Fifth Edition, Volume I, Chapter 13.2.2 - Unpaved Roads, (2011).

Arcturus Cold Storage Warehouse Project
Air Quality Assessment
Greenhouse Gas Emissions
Proposed Project Operational Mobile Emissions

							Criteria Pollutant Emission Factors (lb/mile)									GHG Emissions (metric tons/mile)			
	Year	Work Days per Year	Trips/Day	Trip Distance (mile)	Daily VMT	Annual VMT	ROG	NOx	CO	SOx	PM10 Road Dust	PM10	PM10 Total	PM2_5 Road Dust	PM2_5	PM2.5 Total	CO2	CH4	N2O	CO2e
Project-Workers	2024	313	50	9.5	475	148,675	3.16E-04	2.29E-04	2.67E-03	6.85E-06	1.48E-04	3.77E-05	1.86E-04	2.22E-05	1.34E-05	3.57E-05	3.14E-04	1.27E-08	1.02E-08	3.18E-04
Project-Trucks	2024	313	173	40	6,920	2,165,960	1.35E-04	4.94E-03	1.81E-03	2.99E-05	1.48E-04	2.36E-04	3.85E-04	2.22E-05	1.02E-04	1.24E-04	1.45E-03	2.42E-08	2.18E-07	1.51E-03

				Hours/Trip	Daily Hours	Annual Hours	Criteria Pollutant Emission Factors (lb/hour)									GHG Emissions (metric tons/hour)			
Project-TRUs	2024	313	173	4	692	216,596	9.95E-02	9.51E-02	1.08E-02	2.49E-04		2.75E-03			2.53E-03		7.21E-03		7.59E-03

(For TRUs, assume CO2 is 95% of COe2.)

							Criteria Pollutant Emissions (pounds/day)									GHG Emissions (metric tons/year)			
	Year	Work Days per Year	Trips/Day	Trip Distance (mile)	Daily VMT	Annual VMT	ROG	NOx	CO	SOx	PM10 Road Dust	PM10	PM10 Total	PM2_5 Road Dust	PM2_5	PM2.5 Total	CO2	CH4	N2O	CO2e
																	1	*25*	*298*	
Project-Workers	2024	313	50	9.5	475	148,675	0.2	0.1	1.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0	54.47	0.00	0.00	55.1
Project-Trucks	2024	313	173	40	6,920	2,165,960	0.9	34.2	12.6	0.2	1.0	1.6	2.7	0.2	0.7	0.9	3,655.45	0.06	0.55	3,820.8

				Hours/Trip	Daily Hours	Annual Hours														
Project-TRUs	2024	313	173	4	692	216,596	68.9	65.8	7.5	0.2		1.9	1.9		1.8	1.8	1,561.1			1,643.2

Source: EMFAC2021 (emission factors for Ventura County). OFFROAD2021 (TRU emission factors for Ventura County)

CalEEMod Appendix E defines trucks for warehouses as including "HHDT", "MHDT", and "LHDT1". All other classifications for warehouses are identified as "LDA". For emissons modeling purposes and to be conservative, worker vehicles were defined as including all passenger vehicle classifications (i.e., LDA, LDT1, LDT2, and MDV), consistent with the definitions included in ARB's Pavley I + LCFS Postprocessor (Version 1.0) User's Guide. For emissions modeling purposes, heavy-duty trucks were defined as including MHDT and HHDT vehicle classifications. Worker vehicle trip distances were based on CalEEMod defaults. Heavy-duty truck trip distances were based on SCAQMD's High Cube Warehouse Trip Generation Analysis recommended 39.9-mile trip length for HDT warehouse facilities and information provided by the traffic engineers for this project.

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: County
Region: Ventura
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Vehicle Category	(Multiple Items)	LDA, LDT1, LDT2, MDV								
	US Tons/Day	US Tons/Day	US Tons/Day	US Tons/Day	US Tons/Day	US Tons/Day	US Tons/Day	US Tons/Day	US Tons/Day	Miles/Day
Row Labels	**Sum of ROG_TOTAL**	**Sum of NOx_TOTEX**	**Sum of CO_TOTEX**	**Sum of SOx_TOTEX**	**Sum of PM10_TOTAL**	**Sum of PM2.5_TOTAL**	**Sum of CO2_TOTEX**	**Sum of CH4_TOTEX**	**Sum of N2O_TOTEX**	**Sum of Total VMT**
2024	2.985281879	2.162452109	25.23419489	0.064701332	0.355870271	0.127032708	6546.469448	0.264426488	0.213203907	18901896.78
Grand Total	**2.985281879**	**2.162452109**	**25.23419489**	**0.064701332**	**0.355870271**	**0.127032708**	**6546.469448**	**0.264426488**	**0.213203907**	**18901896.78**

	lbs/mi	lbs/mi	lbs/mi	lbs/mi	lbs/mi	lbs/mi	MT/mi	MT/mi	MT/mi	
	Sum of ROG_TOTAL	Sum of NOx_TOTEX	Sum of CO_TOTEX	Sum of SOx_TOTEX	Sum of PM10_TOTAL	Sum of PM2.5_TOTAL	Sum of CO2_TOTEX	Sum of CH4_TOTEX	Sum of N2O_TOTEX	Sum of Total VMT
2024	0.000315871	0.000228808	0.002670017	6.84601E-06	3.76545E-05	1.34413E-05	0.000314194	1.2691E-08	1.02326E-08	18901896.78

Vehicle Category	(Multiple Items)	MHDT, HHDT

Row Labels	**Sum of ROG_TOTAL**	**Sum of NOx_TOTEX**	**Sum of CO_TOTEX**	**Sum of SOx_TOTEX**	**Sum of PM10_TOTAL**	**Sum of PM2.5_TOTAL**	**Sum of CO2_TOTEX**	**Sum of CH4_TOTEX**	**Sum of N2O_TOTEX**	**Sum of Total VMT**
2024	0.043846909	1.600584339	0.588420826	0.009688946	0.076695487	0.033013317	1034.786731	0.017324177	0.155577039	648640.9822
Grand Total	**0.043846909**	**1.600584339**	**0.588420826**	**0.009688946**	**0.076695487**	**0.033013317**	**1034.786731**	**0.017324177**	**0.155577039**	**648640.9822**

	lbs/mi	lbs/mi	lbs/mi	lbs/mi	lbs/mi	lbs/mi	MT/mi	MT/mi	MT/mi	
	Sum of ROG_TOTAL	Sum of NOx_TOTEX	Sum of CO_TOTEX	Sum of SOx_TOTEX	Sum of PM10_TOTAL	Sum of PM2.5_TOTAL	Sum of CO2_TOTEX	Sum of CH4_TOTEX	Sum of N2O_TOTEX	Sum of Total VMT
2024	0.000135196	0.004935193	0.001814319	2.98746E-05	0.000236481	0.000101792	0.001447246	2.42295E-08	2.17589E-07	648640.9822

Arcturus Cold Storage Warehouse Project
Road Dust Emission Factors

Paved Road Dust Emission Factors

Formula: $EF_{Dust,P} = (k\ (sL)^{0.91} \times (W)^{1.02}) \times (1-P/4N)$

Where:

$EF_{Dust,P}$ = Paved Road Dust Emission Factor (having the same units as k)
k = particle size multiplier
sL = road surface silt loading (g/m^2)
W = average fleet vehicle weight (tons) (CARB uses 2.4 tons as a fleet average vehicle weight factor)
P = number of "wet" days, when at least one site per county received at least 0.01 inch of precipitation during the annual averaging period
N = the number of days in the annual averaging period (default = 365)

	Emission Factor (grams per VMT)		
	PM10	PM2.5	
k	1.0000	0.1500	
sL	0.0200	0.0200	weighted average silt loading factor used
W	2.4	2.4	
P	46	46	Table 5 of CARB Miscellaneous Process Methodology 7.9 for Los Angeles County
N	365	365	
$EF_{Dust,P}$	0.0672	0.0101	← use in off-model calculation as EF

Unpaved Road Dust Emission Factors (Assumes No Precipitation)

Formula: $EF_{Dust,U} = (k\ (\ s / 12)^{1} \times (Sp / 30)^{0.5} / (M / 0.5)^{0.2}) - C)$

Where:

$EF_{Dust,U}$ = Unpaved Road Dust Emission Factor (having the same units as k)
k = particle size multiplier
s = surface material silt content (%)
Sp = mean vehicle speed (mph)
M = surface material moisture content (%)
C = Emission Factor for 1980s vehicle fleet exhaust, brake wear, and tire wear

	Emission Factor (grams per VMT)	
	PM10	PM2.5
k	816.47	81.65
s	4.3%	4.3%
Sp	15	15
M	0.5%	0.5%
C	0.00047	0.00036
$EF_{Dust,U}$	5.20E+00	5.19E-01

Sources:
CalEEMod User Guide, November 2017.
California Air Resources Board (CARB), Miscellaneous Process Methodology 7.9 — Entrained Road Travel, Paved Road Dust.
Revised and updated March 2021, https://ww3.arb.ca.gov/ei/areasrc/fullpdf/2021_paved_roads_7_9.pdf
USEPA, *AP-42* , Fifth Edition, Volume I, Chapter 13.2.1 - Paved Roads, (2011).
USEPA, *AP-42* , Fifth Edition, Volume I, Chapter 13.2.2 - Unpaved Roads, (2011).

Model Output: OFFROAD2021 (v1.0.5) Emissions Inventory
Region Type: County
Region: Ventura
Calendar Year: 2024
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2021 Equipment Types
Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Row Labels	Sum of ROG_tpd	Sum of NOx_tpd	Sum of CO_tpd	Sum of SOx_tpd	Sum of PM10_tpd	Sum of PM2.5_tpd	Sum of CO2_tpd	Sum of Total_Activity_hpy	Sum of Fuel Consumption
2024	0.15391988	0.147134515	0.016748906	0.000385814	0.004260403	0.00392093	24.5762335	1129106.11	799385.51
Grand Total	**0.15391988**	**0.147134515**	**0.016748906**	**0.000385814**	**0.004260403**	**0.00392093**	**24.5762335**	**1129106.11**	**799385.51**

*SOx factor corrected from e+4 to e-4

TRU Emission Factors (lb/hr) (metric ton/hour)

	ROG	NOx	CO	SOx	PM10	PM2.5	CO2	Sum of Total_Activity_hpy	Sum of Fuel Consumption
2024	0.099513687	0.095126751	0.010828656	0.00024944	0.002754475	0.002534996	0.007207205	1129106.11	799385.51



California Emissions Estimator Model®

Appendix E
Technical Source Documentation

Prepared for:
California Air Pollution Control Officers Association (CAPCOA)

Prepared by:

ENVIRON International Corporation and the California Air Districts

Revised: July 2013
CalEEMod v. 2013.2
(Previous version: February 2011)

http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixe.pdf

of warehouses can be expected to operate at varying levels of service, including some warehouses experiencing temporary partial or complete vacancy.

Fleet Mix

The fleet mix used in the URBEMIS model is derived from the regional average distribution of trips obtained from the EMFAC model. While this fleet mix may be appropriate for the majority of land uses, it may not be appropriate for specialized uses such as warehouses. For example, as reported in the ITE 8th Edition Trip Generation manual, truck trips may account for 9 to 29 percent of total trips. Five of the seven studies analyzed here did not report specific truck traffic data, though some generally reported similar rates. The Inland Empire study (#6) found that trucks accounted for 28 to 65 percent of total trips for the ten warehouses in the study, with an average of 48%. The Fontana study (#7) found that trucks make up approximately 20% of total trips for the four warehouses evaluated. This study also broke down the trip distribution among 2, 3, and 4+ axle trucks (3.46%, 4.64%, 12.33%, respectively). In order to avoid underestimating the number of trucks visiting warehouse facilities, AQMD staff recommends that lead agencies conservatively assume that an average of 40% of total trips are truck trips [(0.48*10 + 0.2*4)/(10+4)=0.4)]. Without more project-specific data (such as detailed trip rates based on a known tenant schedule), this average rate of 40% provides a reasonably conservative value based on currently available data.

The fleet mix from the Fontana study as quoted above may be used to determine the distribution of truck type. In order to convert the axle based fleet mix to the vehicle classes utilized by EMFAC, one of two methods may be used.

1. 4+ axles=HHDT, 3 axles=MHDT, 2 axles=LHDT1, all others=LDA
2. Caltrans *Transportation Project-Level Carbon Monoxide Protocol* Appendix B (illustrated below).
   %HDGT = 0.50(%2-axle) + 0.25(%3-axle) + 0.10(%4 axle)
   %HDDT = 0.50(%2-axle) + 0.75(%3-axle) + 0.90(%4-axle) + 1.0(%5-axle)
   All others=LDA

Pavley I + Low Carbon Fuel Standard Postprocessor
Version 1.0

User's Guide

California Environmental Protection Agency
AIR RESOURCES BOARD

https://ww3.arb.ca.gov/cc/sb375/tools/pavleylcfs-userguide.pdf

Pavley I + LCFS Postprocessor – Version 1.0

User's Guide

ARB staff has developed this tool for Metropolitan Planning Agencies (MPO) to use as they estimate the greenhouse gas reductions (GHG) from local land use strategies when those strategies are combined with California's vehicle and fuel standards. In 2007, ARB adopted the Pavley clean-car standards to reduce GHG emission from passenger vehicles. In 2009, ARB adopted a Low Carbon Fuel Standard (LCFS) to reduce the carbon intensity of vehicle fuel. Now, under SB 375, MPOs and local governments are developing plans to reduce our driving needs as our communities grow. This tool allows the MPOs to estimate how the three strategies work together to reduce emissions.

MPOs will take the information about vehicle use (e.g., miles driven and speeds) coming out of their alternative planning scenarios and use that as input to ARB's existing vehicle emission model EMFAC. The MPOs will then put the EMFAC output into this tool to estimate future GHG emissions with the Pavley and LCFS benefits. ARB will use the same tool when it sets the GHG emission reduction targets required by SB 375.

The Pavley I + LCFS Postprocessor (Version 1.0) was developed to adjust the carbon dioxide (CO_2) emissions from the EMFAC 2007 Ver2.3 output to account for the reductions from the adopted Pavley I regulation and Low Carbon Fuel Standard (LCFS) on the light duty fleet – Passenger Cars [Light Duty Automobiles (LDA)], Light Duty Trucks [0 – 3,750 lbs (LDT1)], Light Duty Trucks [3,751 – 5,750 lbs (LDT1)], and Medium-Duty Trucks [5,751 – 8,500 (MDV)]. The postprocessor is designed to work as a stand-alone Microsoft Windows-based program that is applied to the EMFAC Burden output (".bdn" extension) to calculate the adjusted CO_2 emissions.

The Postprocessor is coded as a Microsoft® Office Excel Macro to automate the calculations. In order to make the postprocessor user friendly, a simple Visual Basic interface has been added so that users can execute the macro as a Windows program. First time users will need to install the program on their computers. Once installed, the program can be directly executed from either the Start menu or a Desktop icon for subsequent assessment. This User's Guide details the step-by-step procedure to install and execute the program.

Background

Since the last version of EMFAC (EMFAC2007 Ver2.3) was released in 2007, it does not reflect the new regulations adopted by ARB after 2007. In particular, ARB has adopted two regulations that significantly affect the CO_2 emissions:

- Pavley I: A clean-car standard to reduce greenhouse gas (GHG) emissions from new passenger vehicles (LDA-MDV) from 2009 through 2016 (reduction factors are presented in Table 1)

A-3 Other Greenhouse Gas Emissions

Arcturus Cold Storage Warehouse
Construction Energy Analysis

Temporary Construction Trailer - Electricity				Electricity Intensity Factors				GHG Emissions (MTCO2e)
Land Use	**Square Feet**	**Energy Use per year (kWh)**	**Total Energy Use (kWh)**	**CO2**	**CH4**	**N2O**	**CO2e**	**CO2e**
General Office	1,000	13,490	13,490	348.6	0.033	0.004	350.657	2.1
Note: CalEEMod 2020.4.0 used to estimate energy use for temporary construction office.								

Arcturus Cold Storage Warehouse
Construction Energy Analysis

Construction Water Energy Estimates

Project Acres 14.33

Source	Duration (Days)	Construction Water Use per Day (Mgal)	Total Construction Water Use (Mgal)	Total Electricity Demand from water Demand (kWh)	Annual Electricity Demand from water Demand (kWh)	Electricity Intensity Factors CO2	CH4	N2O	CO2e	GHG Emissions (MTCO2e) CO2e
Project Demolition	14	0.043	0.602	7,837	7,837	348.64	0.033	0.004	350.657	1.2
Project Grading	39	0.043	1.677	21,831	21,831	348.64	0.033	0.004	350.657	3.5

CalEEMod Water Electricity Factors		Electricity Intensity Factor To Supply (kWh/Mgal)	Electricity Intensity Factor To Treat (kWh/Mgal)	Electricity Intensity Factor To Distribute (kWh/Mgal)	Electricity Intensity Factor For Wastewater Treatment (kWh/Mgal)
Project		9727	111	1272	1911

Sources:

Electricity Intensity Factors - California Emissions Estimator Model (CalEEMod).

Estimated construction water use assumed to be generally equivalent to landscape irrigation, based on a factor of 20.94 gallons per year per square foot of landscaped area within the Los Angeles area (Mediterranean climate), which assumes high water demand landscaping materials and an irrigation system efficiency of 85%. Factor is therefore (20.94 GAL/SF/year) x (43,560 SF/acre) / (365 days/year) / (0.85) = 2,940 gallons/acre/day, rounded up to 3,000 gallons/acre/day. (U.S. Department of Energy, Energy Efficiency & Renewable Energy, Federal Energy Management Program. “Guidelines for Estimating Unmetered Landscaping Water Use." July 2010. Page 12, Table 4 - Annual Irrigation Factor – Landscaped Areas with High Water Requirements).

Arcturus Cold Storage Warehouse
Greenhouse Gas Emissions
Forklifts - Electric

Operating Hours 6:00 AM 10:00 PM (16 hours per day)
Monday through Saturday (313 days per year)

	(CalEEMod)		(CalEEMod)					Intensity (lb/MWh) (CalEEMod)				**Metric Ton/Year**
	Number	Horsepower (HP)	kilowatt (kW)	Load Factor (LF)	Hours/Day	Days/Year	kWh/year	MWh/year	CO2	CH4	N2O	CO2e	**CO2e**
Forklifts (electric)	4	89	66.37	0.20	16	313	265,893.90	265.89	348.64	0.033	0.004	350.657	**42.3**

Appendix C
Biological Resources

ESA

C1 Database Results

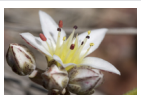
California Native Plant Society

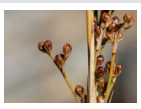
Search Results

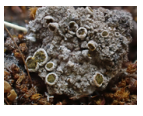
41 matches found. Click on scientific name for details

Search Criteria: Quad is one of [3411922:3411933:3411932:3411931:3411921:3411911]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Abronia maritima	red sand-verbena	Nyctaginaceae	perennial herb	Feb-Nov	None	None	G4	S3?	4.2		1994-01-01	 ©2003 Christopher L. Christie
Aphanisma blitoides	aphanisma	Chenopodiaceae	annual herb	Feb-Jun	None	None	G3G4	S2	1B.2		1980-01-01	 © 2010 Larry Sward
Astragalus brauntonii	Braunton's milk-vetch	Fabaceae	perennial herb	Jan-Aug	FE	None	G2	S2	1B.1	Yes	1974-01-01	 © 2009 Thomas Stoughton
Astragalus didymocarpus var. *milesianus*	Miles' milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G5T2	S2	1B.2	Yes	2001-01-01	No Photo Available
Astragalus pycnostachyus var. *lanosissimus*	Ventura Marsh milk-vetch	Fabaceae	perennial herb	(Jun)Aug-Oct	FE	CE	G2T1	S1	1B.1	Yes	1974-01-01	No Photo Available
Atriplex coulteri	Coulter's saltbush	Chenopodiaceae	perennial herb	Mar-Oct	None	None	G3	S1S2	1B.2		1994-01-01	No Photo Available
Atriplex pacifica	south coast saltscale	Chenopodiaceae	annual herb	Mar-Oct	None	None	G4	S2	1B.2		1994-01-01	No Photo Available
Atriplex serenana var. *davidsonii*	Davidson's saltscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G5T1	S1	1B.2		1994-01-01	No Photo Available
Baccharis plummerae ssp. *plummerae*	Plummer's baccharis	Asteraceae	perennial deciduous shrub	May-Oct	None	None	G3T3	S3	4.3	Yes	1980-01-01	No Photo Available
Calochortus catalinae	Catalina mariposa lily	Liliaceae	perennial bulbiferous herb	(Feb)Mar-Jun	None	None	G3G4	S3S4	4.2	Yes	1974-01-01	No Photo Available

Calochortus clavatus var. *gracilis*	slender mariposa-lily	Liliaceae	perennial bulbiferous herb	Mar-Jun(Nov)	None	None	G4T2T3	S2S3	1B.2	Yes	1994-01-01	No Photo Available
Calochortus fimbriatus	late-flowered mariposa-lily	Liliaceae	perennial bulbiferous herb	Jun-Aug	None	None	G3	S3	1B.3	Yes	1994-01-01	No Photo Available
Calochortus plummerae	Plummer's mariposa-lily	Liliaceae	perennial bulbiferous herb	May-Jul	None	None	G4	S4	4.2	Yes	1994-01-01	No Photo Available
Calystegia peirsonii	Peirson's morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	None	None	G4	S4	4.2	Yes	1974-01-01	No Photo Available
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	Asteraceae	annual herb	Jan-Aug	None	None	G5T1T2	S1	1B.1		2001-01-01	No Photo Available
Chloropyron maritimum ssp. *maritimum*	salt marsh bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct(Nov)	FE	CE	G4?T1	S1	1B.2		1974-01-01	No Photo Available
Cistanthe maritima	seaside cistanthe	Montiaceae	annual herb	(Feb)Mar-Jun(Aug)	None	None	G3G4	S3	4.2		1980-01-01	No Photo Available
Convolvulus simulans	small-flowered morning-glory	Convolvulaceae	annual herb	Mar-Jul	None	None	G4	S4	4.2		1994-01-01	No Photo Available
Corethrogyne leucophylla	branching beach aster	Asteraceae	perennial herb	May-Dec	None	None	G3Q	S3	3.2	Yes	1974-01-01	No Photo Available
Dichondra occidentalis	western dichondra	Convolvulaceae	perennial rhizomatous herb	(Jan)Mar-Jul	None	None	G3G4	S3S4	4.2		1974-01-01	No Photo Available
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	Crassulaceae	perennial herb	Apr-Jun	None	None	G3T2	S2	1B.1		1974-01-01	 © 2011 Aaron E. Sims
Dudleya verityi	Verity's dudleya	Crassulaceae	perennial herb	May-Jun	FT	None	G1	S1	1B.1	Yes	1984-01-01	No Photo Available
Eleocharis parvula	small spikerush	Cyperaceae	perennial herb	(Apr)Jun-Aug(Sep)	None	None	G5	S3	4.3		1980-01-01	 ©2018 Ron Vanderhoff
Eriogonum crocatum	conejo buckwheat	Polygonaceae	perennial herb	Apr-Jul	None	CR	G1	S1	1B.2	Yes	1974-01-01	No Photo Available

Erysimum insulare	island wallflower	Brassicaceae	perennial herb	Mar-Jul	None	None	G3	S3	1B.3	Yes	1974-01-01	No Photo Available
Erysimum suffrutescens	suffrutescent wallflower	Brassicaceae	perennial herb	Jan-Jul(Aug)	None	None	G3	S3	4.2	Yes	1980-01-01	No Photo Available
Juglans californica	Southern California black walnut	Juglandaceae	perennial deciduous tree	Mar-Aug	None	None	G4	S4	4.2	Yes	1994-01-01	 © 2020 Zoya Akulova
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	Juncaceae	perennial rhizomatous herb	(Mar)May-Jun	None	None	G5T5	S4	4.2		1988-01-01	 © 2019 Belinda Lo
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	None	None	G4T2	S2	1B.1		1994-01-01	© 2013 Keir Morse
Lepechinia fragrans	fragrant pitcher sage	Lamiaceae	perennial shrub	Mar-Oct	None	None	G3	S3	4.2	Yes	1974-01-01	 © 2014 Debra L. Cook
Malacothrix similis	Mexican malacothrix	Asteraceae	annual herb	Apr-May	None	None	G2G3	SH	2A		2007-04-05	No Photo Available
Monardella hypoleuca ssp. *hypoleuca*	white-veined monardella	Lamiaceae	perennial herb	(Apr)May-Aug(Sep-Dec)	None	None	G4T3	S3	1B.3	Yes	2013-01-03	No Photo Available
Monardella sinuata ssp. *gerryi*	Gerry's curly-leaved monardella	Lamiaceae	annual herb	Apr-Jun	None	None	G3T1	S1	1B.1	Yes	2015-08-31	No Photo Available
Navarretia ojaiensis	Ojai navarretia	Polemoniaceae	annual herb	May-Jul	None	None	G2	S2	1B.1	Yes	2008-05-15	No Photo Available
Polygala cornuta var. *fishiae*	Fish's milkwort	Polygalaceae	perennial deciduous shrub	May-Aug	None	None	G5T4	S4	4.3		1974-01-01	No Photo Available
Pseudognaphalium leucocephalum	white rabbit-tobacco	Asteraceae	perennial herb	(Jul)Aug-Nov(Dec)	None	None	G4	S2	2B.2		2006-11-03	No Photo Available
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	None	None	G3	S2	2B.2		1994-01-01	No Photo Available
Suaeda californica	California seablite	Chenopodiaceae	perennial evergreen shrub	Jul-Oct	FE	None	G1	S1	1B.1	Yes	1988-01-01	No Photo Available

Suaeda esteroa	estuary seablite	Chenopodiaceae	perennial herb	(Jan-May)Jul-Oct	None	None	G3	S2	1B.2	1984-01-01	No Photo Available
Suaeda taxifolia	woolly seablite	Chenopodiaceae	perennial evergreen shrub	Jan-Dec	None	None	G4	S4	4.2	1994-01-01	No Photo Available
Texosporium sancti-jacobi	woven-spored lichen	Caliciaceae	crustose lichen (terricolous)		None	None	G3	S2	3	2014-03-01	 ©2021 Scot Loring

Showing 1 to 41 of 41 entries

Suggested Citation:
California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 13 June 2023].

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Project information

NAME

Arcturus Warehouse LLC

LOCATION

Ventura County, California



DESCRIPTION

Some(The Project located at 5980/6000 Arcturus Ave. will operate as a Public Cold Storage facility with the primary goal of import/export and distribution of fresh produce and refrigerated food stuff. Designed as a modified “Cross Dock” the inbound product will

arrive via truck or container and proceed through the facility, in many instances federally inspected, and directed to the out bound dock for distribution or placed in container for export. The import of products arrives via container, again inspected as required and transferred to outbound transportation.

1. Acreage: 14.1
2. Building footprint: 103,705 sf.
3. Truck/container staging area: 270 spaces & 158,685 sf.
4. Total container plug in spots: 396
5. Parking spaces required 56 /Parking Spaces provided 67
6. Primary ingress/egress McWane Blvd.
7. Primary route Hueneme Rd. to Edison DR.
8. Hours of Operation 16hr. per day/6 days per week
9. Employees by classification: Management 2/ General Office 2/ Customer Service 4/ Warehouse 8 - Maintenance 1/ Sanitation 1/ Drivers 5 /Security 2)

Local office

Ventura Fish And Wildlife Office

(805) 644-1766
(805) 644-3958
FW8VenturaSection7@FWS.Gov

2493 Portola Road, Suite B
Ventura, CA 93003-7726

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Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of

NOT FOR CONSULTATION

Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
California Least Tern Sterna antillarum browni Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered
Least Bell's Vireo Vireo bellii pusillus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered
Light-footed Clapper Rail Rallus longirostris levipes Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6035	Endangered
Marbled Murrelet Brachyramphus marmoratus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4467	Threatened
Southwestern Willow Flycatcher Empidonax traillii extimus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6749	Endangered
Western Snowy Plover Charadrius nivosus nivosus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo Coccyzus americanus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

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Fishes

NAME	STATUS
Tidewater Goby *Eucyclogobius newberryi* Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
Riverside Fairy Shrimp *Streptocephalus woottoni* Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8148	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
California Orcutt Grass *Orcuttia californica* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4923	Endangered

NOT FOR CONSULTATION

Gambel's Watercress Rorippa gambellii — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4201

Marsh Sandwort Arenaria paludicola — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/2229

Salt Marsh Bird's-beak Cordylanthus maritimus ssp. maritimus — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6447

Spreading Navarretia Navarretia fossalis — Threatened
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/1334

Ventura Marsh Milk-vetch Astragalus pycnostachyus var. lanosissimus — Endangered
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/1160

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Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

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NAME	BREEDING SEASON
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15

Bald Eagle Haliaeetus leucocephalus — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Belding's Savannah Sparrow Passerculus sandwichensis beldingi — Breeds Apr 1 to Aug 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8

Black Oystercatcher Haematopus bachmani — Breeds Apr 15 to Oct 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9591

Black Skimmer Rynchops niger — Breeds May 20 to Sep 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5234

Black Turnstone Arenaria melanocephala — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Bullock's Oriole Icterus bullockii — Breeds Mar 21 to Jul 25

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

California Gull Larus californicus — Breeds Mar 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

NOT FOR CONSULTATION

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Marbled Godwit Limosa fedoa — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Scripps's Murrelet Synthliboramphus scrippsi — Breeds Feb 20 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

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Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Tricolored Blackbird Agelaius tricolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

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Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted

Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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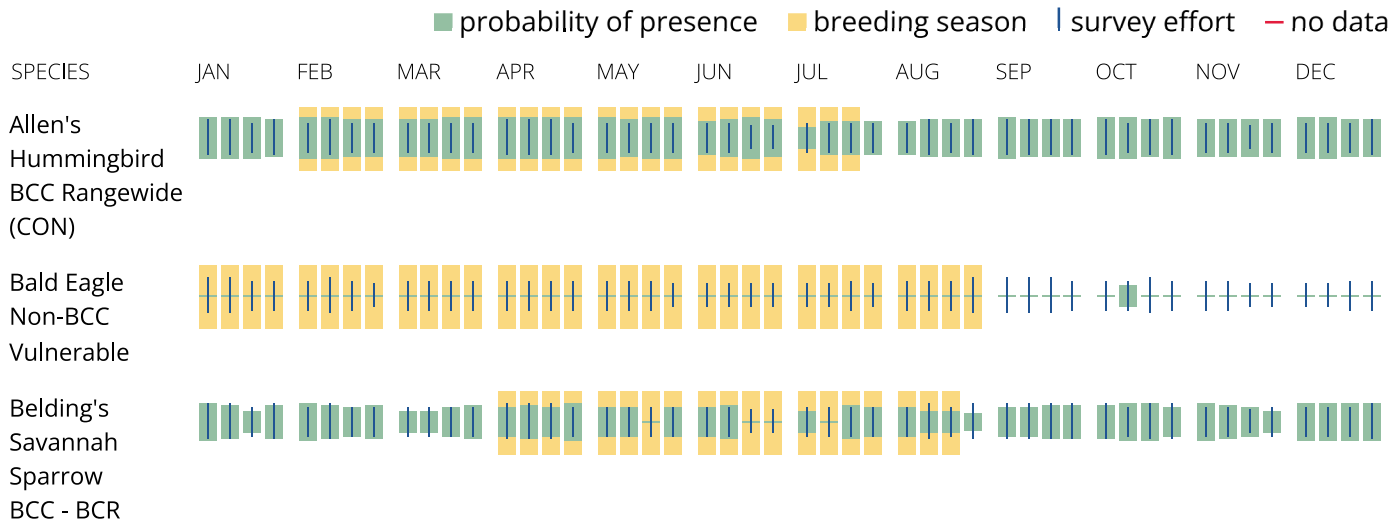

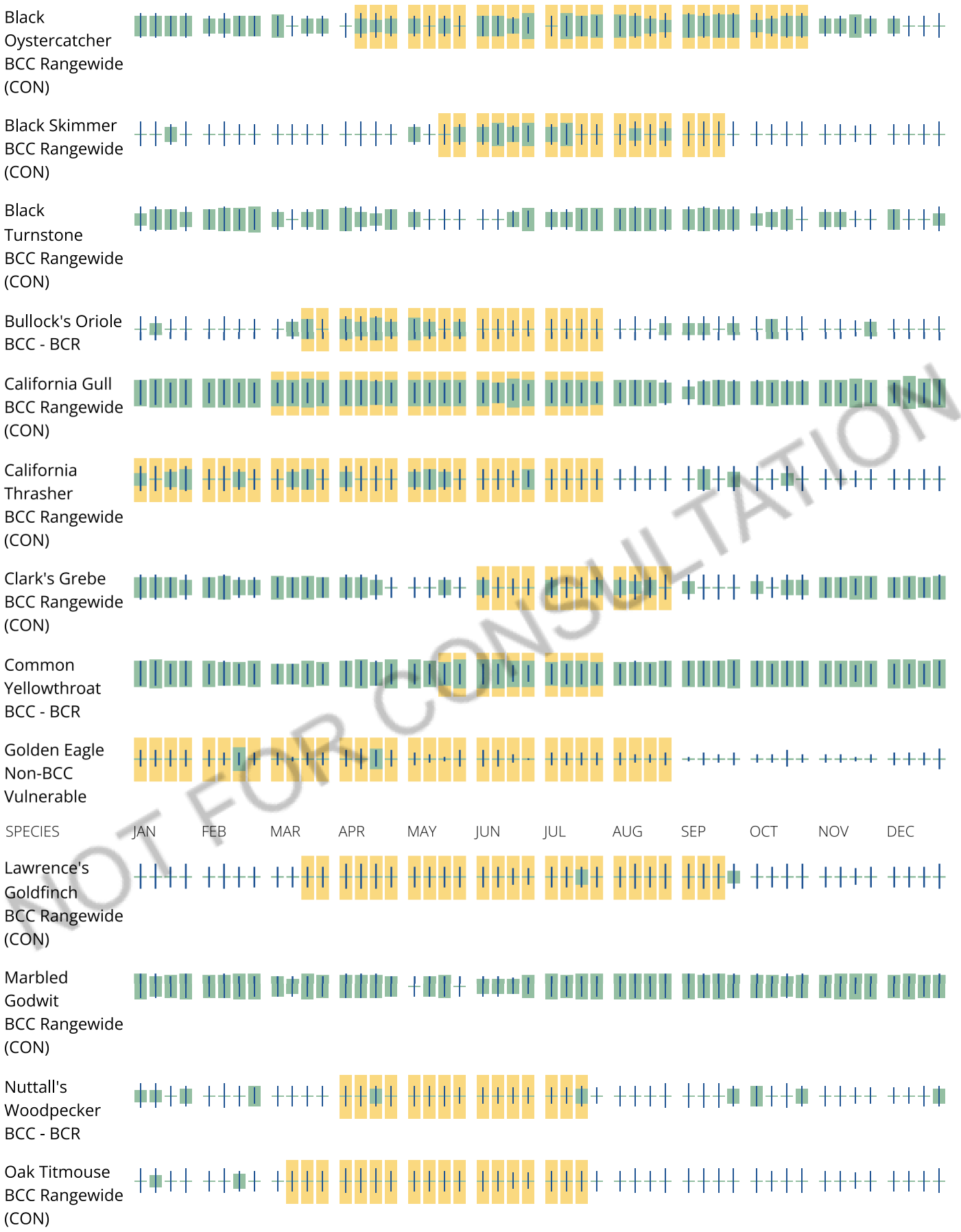

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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

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Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

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Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **RareFind**

Query Summary:
Quad IS (Oxnard (3411922) OR Ventura (3411933) OR Saticoy (3411932) OR Santa Paula (3411931) OR Camarillo (3411921) OR Point Mugu (3411911))

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	955	2	None	Threatened	G1G2	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
Anniella spp.	California legless lizard	Reptiles	ARACC01070	127	6	None	None	G3G4	S3S4	null	CDFW_SSC-Species of Special Concern	null
Anniella stebbinsi	Southern California legless lizard	Reptiles	ARACC01060	426	11	None	None	G3	S3	null	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Broadleaved upland forest, Chaparral, Coastal dunes, Coastal scrub
Antrozous pallidus	pallid bat	Mammals	AMACC10010	420	2	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland
Aphanisma blitoides	aphanisma	Dicots	PDCHE02010	82	1	None	None	G3G4	S2	1B.2	SB_CRES-San Diego Zoo CRES Native Gene Seed Bank, SB_SBBG-Santa Barbara Botanic Garden	Coastal bluff scrub, Coastal dunes, Coastal scrub
Aspidoscelis tigris stejnegeri	coastal whiptail	Reptiles	ARACJ02143	148	3	None	None	G5T5	S3	null	CDFW_SSC-Species of Special Concern	null
Astragalus brauntonii	Braunton's milk-vetch	Dicots	PDFAB0F1G0	57	2	Endangered	None	G2	S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Chaparral, Coastal scrub, Limestone, Valley & foothill grassland
Astragalus didymocarpus var. milesianus	Miles' milk-vetch	Dicots	PDFAB0F2X3	16	1	None	None	G5T2	S2	1B.2	null	Coastal scrub
Astragalus pycnostachyus var. lanosissimus	Ventura Marsh milk-vetch	Dicots	PDFAB0F7B1	7	4	Endangered	Endangered	G2T1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Coastal dunes, Coastal scrub, Marsh & swamp, Salt marsh, Wetland
Athene cunicularia	burrowing owl	Birds	ABNSB10010	2011	12	None	None	G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, Valley & foothill grassland
Atriplex coulteri	Coulter's saltbush	Dicots	PDCHE040E0	121	2	None	None	G3	S1S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley & foothill grassland
Atriplex pacifica	south coast saltscale	Dicots	PDCHE041C0	109	1	None	None	G4	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Alkali playa, Coastal bluff scrub, Coastal dunes, Coastal scrub
Atriplex serenana var. davidsonii	Davidson's saltscale	Dicots	PDCHE041T1	26	1	None	None	G5T1	S1	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Coastal bluff scrub, Coastal scrub
Bombus crotchii	Crotch bumble bee	Insects	IIHYM24480	437	6	None	Candidate Endangered	G2	S2	null	IUCN_EN-Endangered	null
Buteo regalis	ferruginous hawk	Birds	ABNKC19120	107	1	None	None	G4	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Great Basin grassland, Great Basin scrub, Pinon & juniper woodlands, Valley & foothill grassland
California Walnut Woodland	California Walnut Woodland	Woodland	CTT71210CA	76	1	None	None	G2	S2.1	null	null	Cismontane woodland
Calochortus clavatus var. gracilis	slender mariposa-lily	Monocots	PMLIL0D096	143	1	None	None	G4T2T3	S2S3	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Coastal scrub, Valley & foothill grassland
Calochortus fimbriatus	late-flowered mariposa-lily	Monocots	PMLIL0D1J2	93	1	None	None	G3	S3	1B.3	SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Chaparral, Cismontane woodland, Riparian woodland, Ultramafic
Calochortus plummerae	Plummer's mariposa-lily	Monocots	PMLIL0D150	230	1	None	None	G4	S4	4.2	SB_CalBG/RSABG-California/Rancho	Chaparral, Cismontane woodland, Coastal scrub, Lower montane

											Santa Ana Botanic Garden	coniferous forest, Valley & foothill grassland
Catostomus santaanae	Santa Ana sucker	Fish	AFCJC02190	28	2	Threatened	None	G1	S1	null	AFS_TH-Threatened, IUCN_EN-Endangered	Aquatic, South coast flowing waters
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	Dicots	PDAST20095	36	1	None	None	G5T1T2	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Coastal bluff scrub, Coastal dunes
Chaetodipus californicus femoralis	Dulzura pocket mouse	Mammals	AMAFD05021	54	1	None	None	G5T3	S3	null	CDFW_SSC-Species of Special Concern	Chaparral, Coastal scrub, Valley & foothill grassland
Charadrius nivosus nivosus	western snowy plover	Birds	ABNNB03031	138	6	Threatened	None	G3T3	S3	null	CDFW_SSC-Species of Special Concern	Great Basin standing waters, Sand shore, Wetland
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Dicots	PDSCR0J0C2	26	7	Endangered	Endangered	G4?T1	S1	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank, SB_SBBG-Santa Barbara Botanic Garden	Coastal dunes, Marsh & swamp, Salt marsh, Wetland
Choeronycteris mexicana	Mexican long-tongued bat	Mammals	AMACB02010	14	1	None	None	G3G4	S1	null	CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	Pinon & juniper woodlands, Riparian scrub, Sonoran thorn woodland
Cicindela hirticollis gravida	sandy beach tiger beetle	Insects	IICOL02101	34	4	None	None	G5T2	S2	null	null	Coastal dunes
Cicindela senilis frosti	senile tiger beetle	Insects	IICOL02121	9	2	None	None	G2G3T1T3	S1	null	null	Mud shore/flats, Wetland
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	Marsh	CTT52410CA	60	1	None	None	G3	S2.1	null	null	Marsh & swamp, Wetland
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Birds	ABNRB02022	165	4	Threatened	Endangered	G5T2T3	S1	null	BLM_S-Sensitive, USFS_S-Sensitive	Riparian forest
Coelus globosus	globose dune beetle	Insects	IICOL4A010	50	4	None	None	G1G2	S1S2	null	IUCN_VU-Vulnerable	Coastal dunes
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	Insects	IILEPP2012	395	14	Candidate	None	G4T1T2Q	S2	null	IUCN_EN-Endangered, USFS_S-Sensitive	Closed-cone coniferous forest
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	Dicots	PDCRA04051	81	5	None	None	G3T2	S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, Coastal bluff scrub, Coastal scrub, Ultramafic, Valley & foothill grassland
Dudleya verityi	Verity's dudleya	Dicots	PDCRA040U0	8	6	Threatened	None	G1	S1	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, Cismontane woodland, Coastal scrub
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	184	2	None	None	G5	S3S4	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Empidonax traillii extimus	southwestern willow flycatcher	Birds	ABPAE33043	70	1	Endangered	Endangered	G5T2	S3	null	null	Riparian woodland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1427	22	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Eremophila alpestris actia	California horned lark	Birds	ABPAT02011	94	1	None	None	G5T4Q	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Marine intertidal & splash zone communities, Meadow & seep
Eriogonum crocatum	conejo buckwheat	Dicots	PDPGN081G0	13	2	None	Rare	G1	S1	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, Coastal scrub, Valley & foothill grassland
Eucyclogobius newberryi	tidewater goby	Fish	AFCQN04010	127	4	Endangered	None	G3	S3	null	AFS_EN-Endangered, IUCN_NT-Near Threatened	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters, South coast flowing waters
Eumops perotis californicus	western mastiff bat	Mammals	AMACD02011	296	1	None	None	G4G5T4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern	Chaparral, Cismontane woodland, Coastal scrub, Valley & foothill grassland
Falco peregrinus anatum	American peregrine falcon	Birds	ABNKD06071	73	1	Delisted	Delisted	G4T4	S3S4	null	CDF_S-Sensitive, CDFW_FP-Fully Protected	null
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	Fish	AFCPA03011	16	1	Endangered	Endangered	G5T1	S1	null	AFS_EN-Endangered, CDFW_FP-Fully Protected	Aquatic, South coast flowing waters
Gila orcuttii	arroyo chub	Fish	AFCJB13120	49	4	None	None	G2	S2	null	AFS_VU-Vulnerable, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, South coast flowing waters
Helminthoglypta traskii traskii	Trask shoulderband	Mollusks	IMGASC2473	1	1	None	None	G1G2T1	S2S3	null	null	null

Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Dicots	PDAST5L0A1	111	3	None	None	G4T2	S2	1B.1	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Alkali playa, Marsh & swamp, Salt marsh, Vernal pool, Wetland
Laterallus jamaicensis coturniculus	California black rail	Birds	ABNME03041	303	1	None	Threatened	G3T1	S2	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_EN-Endangered	Brackish marsh, Freshwater marsh, Marsh & swamp, Salt marsh, Wetland
Malacothrix similis	Mexican malacothrix	Dicots	PDAST660D0	3	1	None	None	G2G3	SH	2A	null	Coastal dunes
Microtus californicus stephensi	south coast marsh vole	Mammals	AMAFF11035	7	1	None	None	G5T2T3	S2	null	CDFW_SSC-Species of Special Concern	null
Monardella hypoleuca ssp. hypoleuca	white-veined monardella	Dicots	PDLAM180A5	29	1	None	None	G4T3	S3	1B.3	SB_SBBG-Santa Barbara Botanic Garden	Chaparral, Cismontane woodland
Monardella sinuata ssp. gerryi	Gerry's curly-leaved monardella	Dicots	PDLAM18163	3	1	None	None	G3T1	S1	1B.1	null	Coastal scrub
Navarretia ojaiensis	Ojai navarretia	Dicots	PDPLM0C130	22	1	None	None	G2	S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Chaparral, Coastal scrub, Valley & foothill grassland
Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	Fish	AFCHA0209J	19	3	Endangered	Candidate Endangered	G5T1Q	S1	null	AFS_EN-Endangered	Aquatic, South coast flowing waters
Panoquina errans	wandering (=saltmarsh) skipper	Insects	IILEP84030	14	1	None	None	G4G5	S2	null	IUCN_NT-Near Threatened	Marsh & swamp, Wetland
Passerculus sandwichensis beldingi	Belding's savannah sparrow	Birds	ABPBX99015	39	3	None	Endangered	G5T3	S3	null	USFWS_BCC-Birds of Conservation Concern	Marsh & swamp, Wetland
Pelecanus occidentalis californicus	California brown pelican	Birds	ABNFC01021	27	1	Delisted	Delisted	G4T3T4	S3	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, USFS_S-Sensitive	null
Phrynosoma blainvillii	coast horned lizard	Reptiles	ARACF12100	784	7	None	None	G4	S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub, Desert wash, Pinon & juniper woodlands, Riparian scrub, Riparian woodland, Valley & foothill grassland
Polioptila californica californica	coastal California gnatcatcher	Birds	ABPBJ08081	1087	5	Threatened	None	G4G5T3Q	S2	null	CDFW_SSC-Species of Special Concern	Coastal bluff scrub, Coastal scrub
Pseudognaphalium leucocephalum	white rabbit-tobacco	Dicots	PDAST440C0	62	6	None	None	G4	S2	2B.2	null	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland
Rallus obsoletus levipes	light-footed Ridgway's rail	Birds	ABNME05014	32	1	Endangered	Endangered	G3T1T2	S1	null	CDFW_FP-Fully Protected	Marsh & swamp, Salt marsh, Wetland
Rana boylii pop. 6	foothill yellow-legged frog - south coast DPS	Amphibians	AAABH01056	79	1	Proposed Endangered	Endangered	G3T1	S1	null	BLM_S-Sensitive, USFS_S-Sensitive	Aquatic, Riparian forest, Riparian scrub, Riparian woodland, South coast flowing waters
Rana draytonii	California red-legged frog	Amphibians	AAABH01022	1685	1	Threatened	None	G2G3	S2S3	null	CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable	Aquatic, Artificial flowing waters, Artificial standing waters, Freshwater marsh, Marsh & swamp, Riparian forest, Riparian scrub, Riparian woodland, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Riparia riparia	bank swallow	Birds	ABPAU08010	299	2	None	Threatened	G5	S3	null	BLM_S-Sensitive, IUCN_LC-Least Concern	Riparian scrub, Riparian woodland
Senecio aphanactis	chaparral ragwort	Dicots	PDAST8H060	98	1	None	None	G3	S2	2B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Chaparral, Cismontane woodland, Coastal scrub
Setophaga petechia	yellow warbler	Birds	ABPBX03010	78	3	None	None	G5	S3S4	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Riparian forest, Riparian scrub, Riparian woodland
Sorex ornatus salicornicus	southern California saltmarsh shrew	Mammals	AMABA01104	4	1	None	None	G5T1?	S1	null	CDFW_SSC-Species of Special Concern	Salt marsh
Southern California Coastal Lagoon	Southern California Coastal Lagoon	Inland Waters	CALE1220CA	3	1	None	None	GNR	SNR	null	null	null
Southern California Steelhead Stream	Southern California Steelhead Stream	Inland Waters	CARE2310CA	3	1	None	None	GNR	SNR	null	null	null
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	Riparian	CTT61310CA	246	8	None	None	G4	S4	null	null	Riparian forest

Southern Coastal Salt Marsh	Southern Coastal Salt Marsh	Marsh	CTT52120CA	24	2	None	None	G2	S2.1	null	null	Marsh & swamp, Wetland
Southern Riparian Scrub	Southern Riparian Scrub	Riparian	CTT63300CA	56	2	None	None	G3	S3.2	null	null	Riparian scrub
Southern Sycamore Alder Riparian Woodland	Southern Sycamore Alder Riparian Woodland	Riparian	CTT62400CA	230	4	None	None	G4	S4	null	null	Riparian woodland
Sternula antillarum browni	California least tern	Birds	ABNNM08103	75	4	Endangered	Endangered	G4T2T3Q	S2	null	CDFW_FP-Fully Protected	Alkali playa, Wetland
Suaeda esteroa	estuary seablite	Dicots	PDCHE0P0D0	39	3	None	None	G3	S2	1B.2	null	Marsh & swamp, Salt marsh, Wetland
Taxidea taxus	American badger	Mammals	AMAJF04010	594	4	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Alkali marsh, Alkali playa, Alpine, Alpine dwarf scrub, Bog & fen, Brackish marsh, Broadleaved upland forest, Chaparral, Chenopod scrub, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Desert dunes, Desert wash, Freshwater marsh, Great Basin grassland, Great Basin scrub, Interior dunes, Ione formation, Joshua tree woodland, Limestone, Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Mojavean desert scrub, Montane dwarf scrub, North coast coniferous forest, Oldgrowth, Pavement plain, Redwood, Riparian forest, Riparian scrub, Riparian woodland, Salt marsh, Sonoran desert scrub, Sonoran thorn woodland, Ultramafic, Upper montane coniferous forest, Upper Sonoran scrub, Valley & foothill grassland
Texosporium sancti-jacobi	woven-spored lichen	Lichens	NLTEST7980	19	1	None	None	G3	S2	3	null	Chaparral
Thamnophis hammondii	two-striped gartersnake	Reptiles	ARADB36160	184	9	None	None	G4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Marsh & swamp, Riparian scrub, Riparian woodland, Wetland
Thamnophis sirtalis pop. 1	south coast gartersnake	Reptiles	ARADB3613F	3	1	None	None	G5T1T2	S1S2	null	CDFW_SSC-Species of Special Concern	Artificial standing waters, Marsh & swamp, Riparian scrub, Riparian woodland, South coast flowing waters, South coast standing waters, Wetland
Trimerotropis occidentiloides	Santa Monica grasshopper	Insects	IIORT36300	4	1	None	None	G2	S2	null	IUCN_EN-Endangered	Chaparral
Tryonia imitator	mimic tryonia (=California brackishwater snail)	Mollusks	IMGASJ7040	39	2	None	None	G2	S2	null	IUCN_DD-Data Deficient	Aquatic, Brackish marsh, Estuary, Lagoon, Marsh & swamp, Salt marsh, Wetland
Valley Needlegrass Grassland	Valley Needlegrass Grassland	Herbaceous	CTT42110CA	45	1	None	None	G3	S3.1	null	null	Valley & foothill grassland
Vireo bellii pusillus	least Bell's vireo	Birds	ABPBW01114	505	20	Endangered	Endangered	G5T2	S3	null	null	Riparian forest, Riparian scrub, Riparian woodland

C2 Special Species Information

SPECIAL-STATUS SPECIES EVALUATED FOR POTENTIAL TO OCCUR WITHIN STUDY AREA

Scientific Name	Common Name	Sensitivity Status[1]	Flowering Period/Preferred Habitat/Known Elevation and Distribution[2]	Presence/Potential to Occur Within Biological Study Area
Invertebrates				
Aspidoscelis tigris stejnegeri	coastal whiptail	Federal: None State: SSC Local: None	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	**Low Potential** Suitable habitat for this species does not occur within the site due to the existing level of disturbance from operating activities.
Bombus crotchii	Crotch bumble bee	Federal: None (candidate) State: SCE Local: None	Open grassland and scrub habitats that support potential nectar sources such as plants within the Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, and Boraginaceae families.	**Low Potential** Two small patches of non-native grasses and scattered non-native weeds that may be potential nectar sources occur within the project site; however, the site is largely developed and frequently disturbed by site operation activities.
Phrynosoma blainvillii	coast horned lizard	Federal: None State: SSC Local: BLM Sensitive, LC	Prefers sandy riparian and sage scrub habitats but also occurs in valley-foothill hardwood, conifer, pine-cypress, juniper and annual grassland habitats below 6,000 feet, open country, especially sandy areas, washes, flood plains, and windblown deposits. Requires open areas for sunning, bushes and loose soil for cover and abundant supply of harvester ants.	**Low Potential** Suitable habitat for this species does not occur within the site due to the existing level of disturbance from operating activities.
Birds				
Athene cunicularia	burrowing owl	Federal: BCC State: SSC Local: BLM Sensitive DRECP Focal Species	Inhabits coastal prairie, coastal scrub, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, annual and perennial grasslands, bare ground, and disturbed habitats characterized by low-growing vegetation. A subterranean nester dependent upon burrowing mammals, particularly the California ground squirrel.	**Low Potential.** Potentially suitable habitat is present within the site in the form of a soil mound with potentially suitable burrows. However, this species was not detected during focused surveys.
Eremophila alpestris actia	California horned lark	Federal: None State: WL Local: LC	Found from grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above the treeline. During the winter, this species typically flocks in desert lowlands.	**Moderate Potential** Wetland/riparian habitat occurs approximately 900 feet west and southwest of the project site; potentially suitable nesting habitat occurs within the project site.

Scientific Name	Common Name	Sensitivity Status[1]	Flowering Period/Preferred Habitat/Known Elevation and Distribution[2]	Presence/Potential to Occur Within Biological Study Area

[1]Sensitivity Status:

Key to Species Listing Status Codes

BCC	*Federal Bird of Conservation Concern*
LC	*ICUN Least Concern*
SE	*State Listed as Endangered*
SCE	*State Candidate as Endangered*
SSC	*State Species of Special Concern*
ST	*State Listed as Threatened*
FE	*Federally Endangered*
FP	*Fully Protected*
FT	*Federally Threatened*
WL	*Watch List*

California Rare Plant Rank (CRPR)

CRPR 1B.1	*Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California.*
CRPR 1B.2	*Plants rare, threatened, or endangered in California and elsewhere; moderately threatened in California.*
CRPR 4.1	*Plants of limited distribution; seriously threatened in California.*
CRPR 4.2	*Plants of limited distribution; moderately threatened in California.*
CRPR 4.3	*Plants of limited distribution; not very threatened in California.*

[2]**Source:** CDFW 2023a; CNPS 2023; Cornell Lab of Ornithology 2023.

C3 Burrowing Owl Assessment Report

ESA

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July 21, 2023

Mr. Jay Dobrowalski
Planning Supervisor
City of Oxnard, Community Development Department
214 South C Street
Oxnard, CA 93030

Subject: Results of 2023 Burrowing Owl Surveys for the Arcturus Warehouse LLC Project, City of Oxnard, Ventura County, California

Dear Mr. Dobrowalski:

This report summarizes the methodology and findings of burrowing owl (*Athene cunicularia*; BUOW) surveys conducted for the proposed Arcturus Warehouse LLC Project (project) undertaken by Environmental Science Associates (ESA). The project is located in the City of Oxnard and would include the construction of a 105,383-square-foot public cold storage facility. Following construction, operation of the project would include the import/export and distribution of fresh produce and refrigerated food stuff. An initial habitat assessment survey was conducted to determine habitat suitability and presence/absence of this species. An additional three surveys were conducted in accordance with protocol detailed in the California Department of Fish and Wildlife (CDFW) *Staff Report on Burrowing Owl Mitigation* (2012).

Location and Site Description

The project is located on a 14.33-acre (approximately 624,372 square feet) site in the southern portion of the City of Oxnard (**Figure 1, *Project Vicinity***). Specifically, the site is located at 5980 and 6000 Arcturus Avenue, within the Oxnard USGS 7.5-minute quadrangle, Township 1 N, Section 00, Range 21 W (**Figure 2, *USGS Topographic Map*; Figure 3, *Project Location***). The project site is currently a vacant lot in an industrial/agricultural area that is used to store shipping containers and chassis. Most of the project site consists of unvegetated bare ground, while the northwest and southeast corners consist of scattered grasses and forbs. Ornamental trees and shrubs (e.g., New Zealand Christmas Tree [*Metrosideros excelsa*] and crimson bottlebrush [*Callistemon citrinus*]) line the outer perimeter of the project site.

The area assessed includes the 14.33-acre project footprint, plus a 500-foot buffer (survey area). The survey area generally comprises disturbed/developed lands, active agricultural uses, and industrial uses including paved roadways. Topography within the survey area is relatively flat, except for a soil mound that occurs on the southeast corner of the project site. Soil in the survey area consists mainly of Hueneme loamy fine sand, with smaller amounts of Camarillo sandy loam and Camarillo loam (USDA 2023).

Background

BUOW is a state species of special concern and suitable habitat for this species generally consists of short, sparse vegetation with few shrubs and may include annual and perennial grasslands, deserts, and scrub characterized by

low-growing vegetation. This species may also occur in some agricultural areas, weedy fields, vacant lots and pastures. Underground burrows or other cavities are required for nesting. This species uses burrows dug by other species and man-made structures such as culverts, pipes, and debris piles. The nesting season begins as early as February and continues through August, with peak nesting occurring between April and July. The wintering season extends from September 1 through January 31, with peak wintering occurring from December 1 through January 31.

Survey Methodology

ESA biologists initially conducted a BUOW habitat assessment and then conducted three protocol breeding season surveys following the guidelines provided in the CDFW *Staff Report on Burrowing Owl Mitigation*. Prior to the start of the habitat assessment and protocol surveys, a search for BUOW occurrences was completed through publicly available databases, including the California Natural Diversity Database (CNDDB) (CDFW 2023a). The CNDDB was queried for burrowing owl species records in the Oxnard USGS 7.5-minute quadrangle and five surrounding quadrangles including Ventura, Saticoy, Santa Paula, Camarillo, and Point Mugu. Twelve burrowing owl observations were documented within the search area.

The surveys were conducted by ESA biologists Sonya Vargas, Jaclyn Catino-Davenport, and Robert Sweet within the survey area. All protocol surveys were conducted between morning civil twilight and 9:00 AM during suitable weather conditions. Survey dates, times, and weather conditions are presented in **Table 1**, *Survey Information*, below.

Four separate site visits were conducted with one visit between February 15 and April 15, and three visits between April 15 and July 15, with one of these visits after June 15. The habitat assessment was conducted prior to April 15, and although not conducted prior to 10:00 AM, the entire survey area was evaluated for the presence of suitable BUOW breeding habitat (e.g. short or sparse vegetation for at least a portion of the year, with burrows, burrow surrogates or fossorial mammal dens) and no BUOW or sign were detected. The subsequent three protocol surveys followed the CDFW *Staff Report on Burrowing Owl Mitigation* protocol and included meandering transects throughout all suitable habitat identified during the habitat assessment. Transects were spaced seven meters (m) to 20 m apart throughout suitable habitat and walked in a zig-zag fashion to allow for 100 percent coverage. In addition, binoculars were utilized to visually scan the survey area at intervals along each transect spaced no more than 100 m apart, including inaccessible off-site properties within the survey buffer. Burrows and potential burrow surrogates such as culverts, pipes, and debris piles were mapped using GPS during the protocol surveys and visually inspected for BUOW sign (e.g. pellets, whitewash, feathers, decoration, etc.) during each protocol survey.

TABLE 1
SURVEY INFORMATION

Date	Time	Wind (mph) (start/end)	Temperature (F) (start-end)	Weather (start-end)	Surveyor
03/01/2023	1000-1148	21/21	50°-51°	45% Cloud Cover – 80% Cloud Cover	Sonya Vargas
05/30/2023	0548-0649	4-8/3-7	54°-63°	100% Cloud Cover – 100% Cloud Cover	Jaclyn Catino-Davenport
06/15/2021	0715-0830	0/0	59°-61.5°	75% Cloud Cover – 75% Cloud Cover	Robert Sweet
07/05/2023	0546-0651	0-10/0-6	55°-56°	100% Cloud Cover – 100% Cloud Cover	Sonya Vargas

Survey Results

Habitat Assessment

Vegetation communities were evaluated using the CDFW's Vegetation Classification and Mapping Program (VegCAMP) Heritage Methodology. The survey area contains three vegetation communities and land cover types. Most of the project site consists of unvegetated bare ground, while the northwest and southeast corners consist of scattered grasses and forbs, including Australian saltbush (*Atriplex semibaccata*), bermuda grass (*Cynodon dactylon*), red brome (*Bromus rubens*), ripgut brome (*Bromus diandrus*), barley (*Hordeum* sp.), wild oat (*Avena* sp.), prickly lettuce (*Lactuca serriola*), cheeseweed mallow (*Malva parviflora*), and Russian thistle (*Salsola* sp.). The northwest corner of the project site was characterized as *Cynodon dactylon* Association, the southeast corner of the Project site was characterized as *Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance, and the rest of the survey area was characterized as disturbed/developed (**Figure 4, *Natural Communities and Land Cover Types***). Suitable habitat for BUOW within the project boundary and surrounding 500-foot buffer consists only of *Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance, which is described further below.

***Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance.** The southeast corner of the project site was characterized as *Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance. This vegetation community typically occurs at elevations between 0 to 2,200 m and is defined as having slim oat (*Avena barbata*), wild oat (*Avena fatua*), purple false brome (*Brachypodium distachyon*), rattlesnake grass (*Briza maxima*), ripgut brome, soft chess (*Bromus hordeaceus*), and/or seaside barley (*Hordeum murinum*) as the dominant or co-dominant species, with other non-natives such as Australian saltbush and *Hordeum* spp. in the herbaceous layer.

Breeding Season Surveys

No BUOW were observed within the survey area during the habitat assessment and three protocol surveys conducted. Although marginally suitable habitat and appropriately-sized small mammal burrows were identified on-site, none of the burrows exhibited evidence of use by BUOW (e.g., presence of feathers, whitewash, pellets, etc.).

Additional wildlife species detected during surveys included killdeer (*Charadrius vociferus*), American crow (*Corvus brachyrhynchos*), house finch (*Haemorhous mexicanus*), house sparrow (*Passer domesticus*), Eurasian collared-dove (*Streptopelia decaocto*), California gull (*Larus californicus*), Anna's hummingbird (*Calypte anna*), song sparrow (*Melospiza melodia*), common raven (*Corvus corax*), white-crowned sparrow (*Zonotrichia leucophrys*), and California ground squirrel (*Otospermophilus beecheyi*).

Conclusion

While the project site contains suitable BUOW habitat with appropriately sized small mammal burrows, no BUOW or their sign were observed.

The project site is regularly used by vehicular and pedestrian traffic, and there is heavy human disturbance surrounding the project site, including industrial and commercial activities, homelessness encampment activities, paved roadways, and active agriculture. With the current disturbance levels on and surrounding the project site, there is a low probability of the project site being occupied by this species in the future. However, since BUOW are a mobile species that can colonize a site, a preconstruction BUOW survey should be conducted following the protocol detailed in the CDFW *Staff Report on Burrowing Owl Mitigation*. An initial take avoidance survey should be conducted no less than 14 days prior to initiating ground disturbance activities, and a subsequent take avoidance survey should be conducted within 24 hours prior to ground disturbance.

Please contact Jaclyn Catino-Davenport (JCatino-Davenport@esassoc.com) at (619) 719-4211 with any questions or comments regarding the findings described in this letter report.

Sincerely,

Jaclyn Catino-Davenport

Jaclyn Catino-Davenport
Principal Biologist

References

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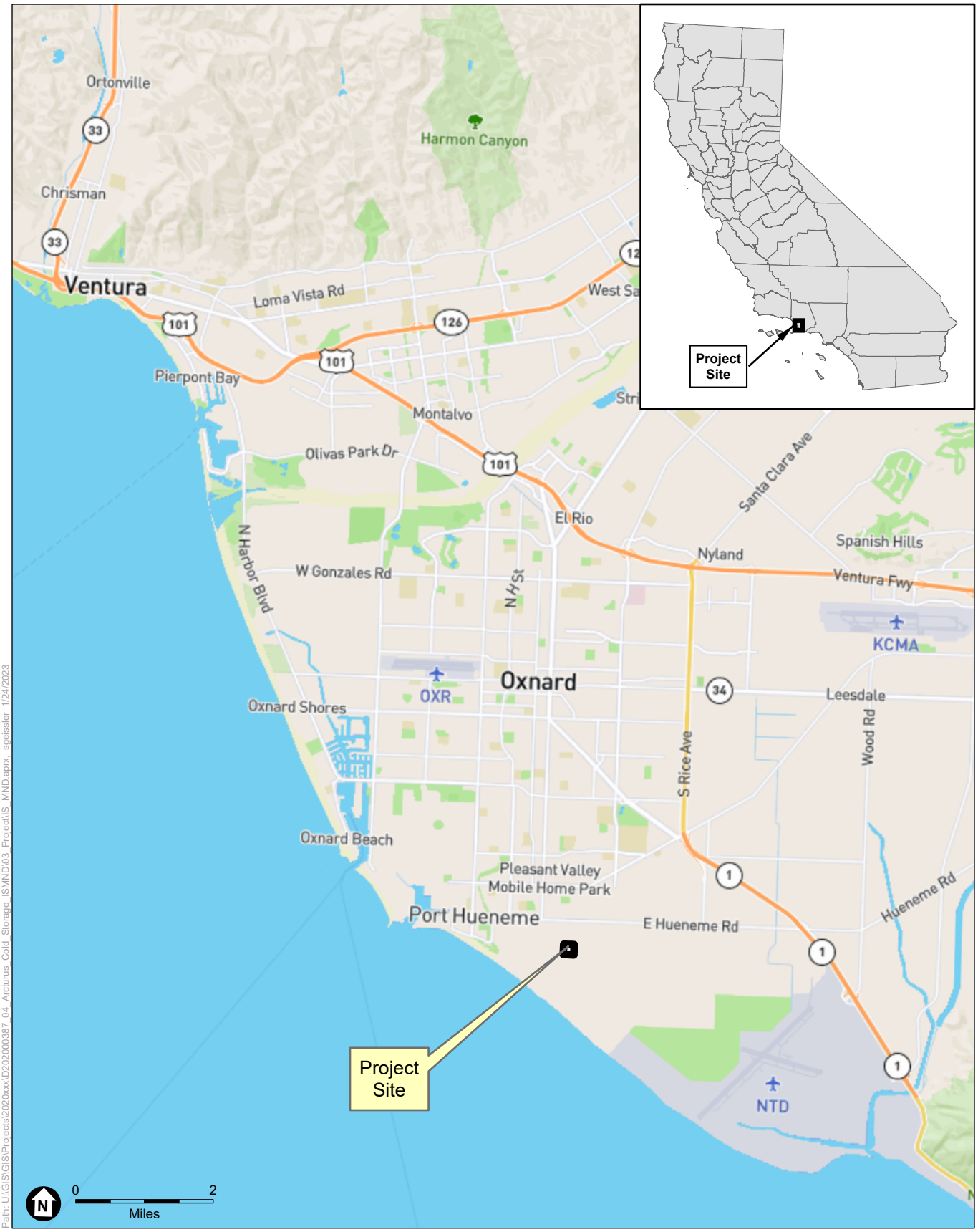
Attachments

Figure 1: Project Vicinity
Figure 2: USGS Topographic Map
Figure 3: Project Location
Figure 4: Natural Communities and Land Cover Types

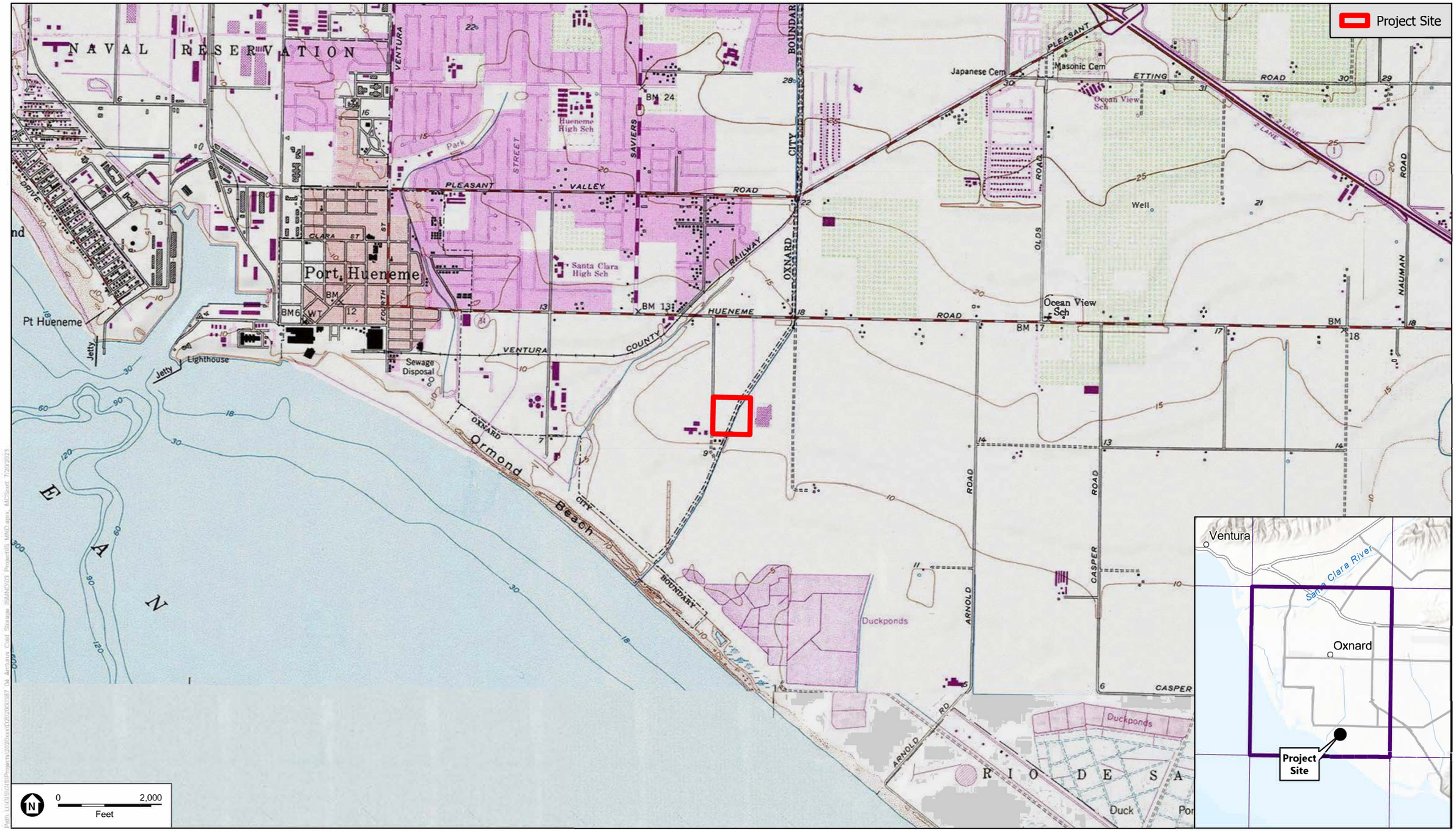


SOURCE: ESRI

Arcturus Warehouse LLC IS/MND

Figure 1
Project Vicinity

ESA



SOURCE: Mapbox, 2022 ESA, 2023; USGS Topo Quad: Oxnard, 1968

Arcturus Cold Storage Warehouse IS/MND

Figure 2

USGS Topographic Map

ESA



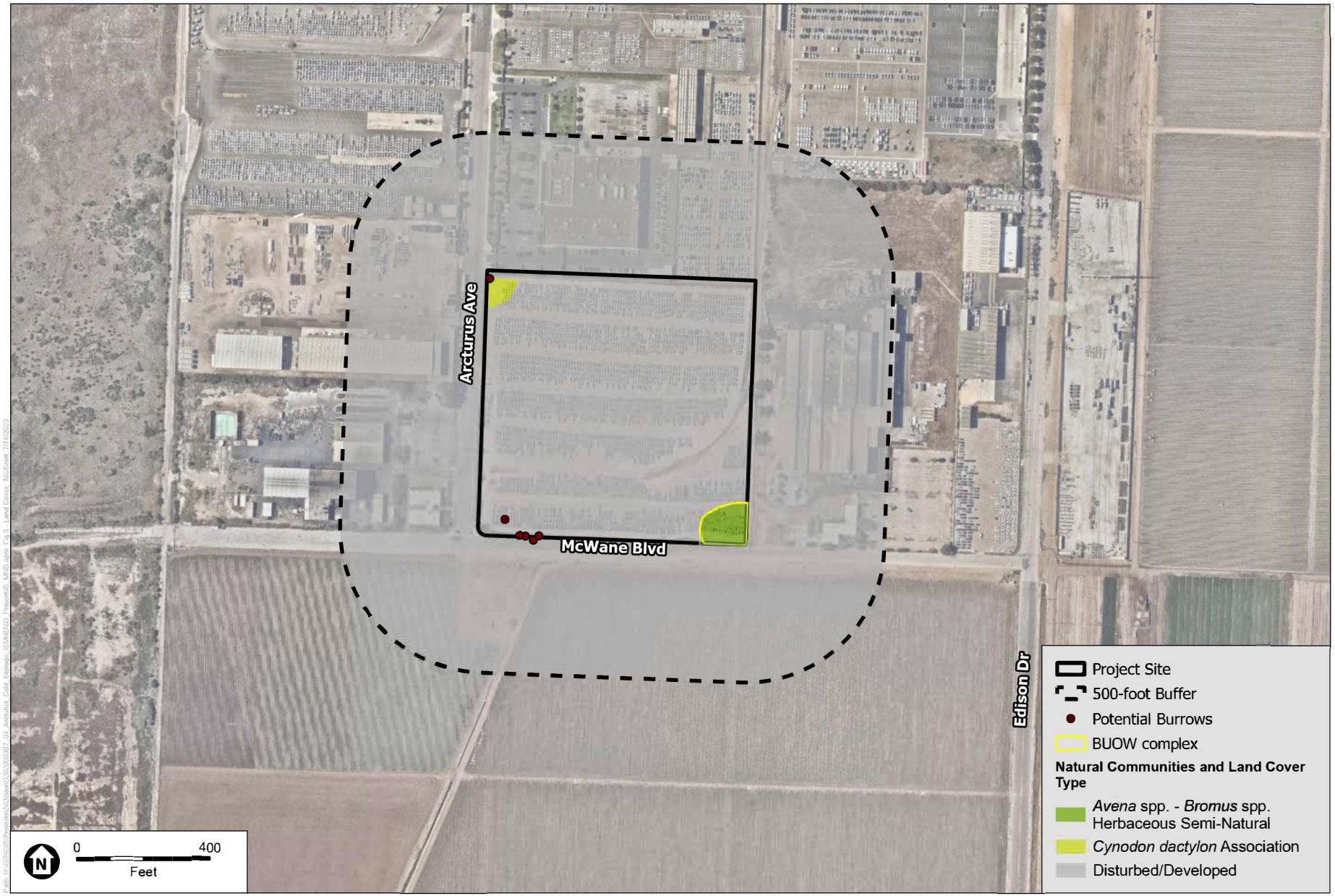
Path: U:\GIS\GIS\Projects\2020xxx\D2020000387_04_Arcturus_Cold_Storage_ISMND\03_Project\IS_MND.aprx, spleisler 1/24/2023

SOURCE: Mapbox, 2022 ESA, 2023

Arcturus Warehouse LLC IS/MND

Figure 3
Project Location

ESA



SOURCE: ESA, 2023

Arcturus Warehouse LLC IS/MND

Figure 4
Natural Communities and Land Cover Types

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Appendix D

Cultural Resources Technical Report

ESA

Arcturus Warehouse LLC Project, City of Oxnard, California

Cultural Resources Assessment Report

Prepared for
City of Oxnard

July 2023

ESA

Arcturus Warehouse LLC Project, City of Oxnard, California

Cultural Resources Assessment Report

Prepared for:
City of Oxnard

July 2023

Prepared by:
ESA
626 Wilshire Blvd. Suite 1100
Los Angeles, CA 90017

Project Director:
Monica Strauss, M.A., RPA

Report Author:
Fatima Clark, B.A.

Project Location:
Oxnard (CA) USGS 7.5-minute Topographic Quad
Township 1 North, Range 22 West, Unsectioned

Acreage: Approx. 14.33 acres

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EXECUTIVE SUMMARY

Arcturus Warehouse LLC Project – Cultural Resources Assessment Report

Environmental Science Associates (ESA) has been retained by the City of Oxnard (City) to conduct a cultural resources assessment for the Arcturus Warehouse LLC Project (Project) in support of an Initial Study/Mitigated Negative Declaration (IS/MND). The Project includes the construction of a 105,383-square-foot public cold storage facility on a 14.33-acre parcel located at 5980 and 6000 Arcturus Avenue, Oxnard, California (Project site). The facility would provide cold storage for the import/export and distribution of fresh produce and refrigerated food stuff. The City is the lead agency pursuant to the California Environmental Quality Act (CEQA).

A records search was conducted on February 15, 2023, at the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton and included a review of all recorded archaeological resources and previous studies within the Project site and a 0.50-mile radius, and historic architectural resources within or adjacent to the Project site. The records search results indicate that the Project site had not been previously surveyed. No cultural resources have been previously recorded within the Project site or 0.50-mile radius. Several historic-period and prehistoric archaeological sites, and two Native American villages are within the general vicinity of the Project site.

A Sacred Lands File (SLF) search conducted by the California Native American Heritage Commission (NAHC) on February 9, 2023, indicated that the results were negative.

A cultural resources survey of the Project site was conducted on March 1, 2023. The Project site is currently vacant and used for storage. Survey covered the entirety of the Project site. No surface evidence of archaeological resources was identified as a result of the survey.

Geoarchaeological review was conducted to determine the potential for subsurface archaeological resources. Based on factors including the presence of Holocene-age alluvial deposits, what appears to have been surficial and shallow disturbance historic uses, the proximity of ethnographic villages and other natural features attracting prehistoric inhabitants to the area, the site is considered sensitive for the presence of subsurface archaeological materials.

Recommended mitigation measures are provided in the *Conclusions and Recommendations* section at the close of this report to reduce potential impacts to subsurface archaeological resources and human remains to less than significant levels under CEQA.

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ARCTURUS WAREHOUSE LLC PROJECT

Cultural Resources Assessment Report

Introduction

Environmental Science Associates (ESA) has been retained by the City of Oxnard (City) to conduct a cultural resources assessment for the Arcturus Cold Storage Warehouse Project (Project) in support of an Initial Study/Mitigated Negative Declaration (IS/MND). The Project includes the construction of a two-story public cold storage facility on a 14.33-acre parcel located at 5980 and 6000 Arcturus Avenue, Oxnard, California (Project site). The facility would provide cold storage for the import/export and distribution of fresh produce and refrigerated food stuff. The City is the lead agency pursuant to the California Environmental Quality Act (CEQA).

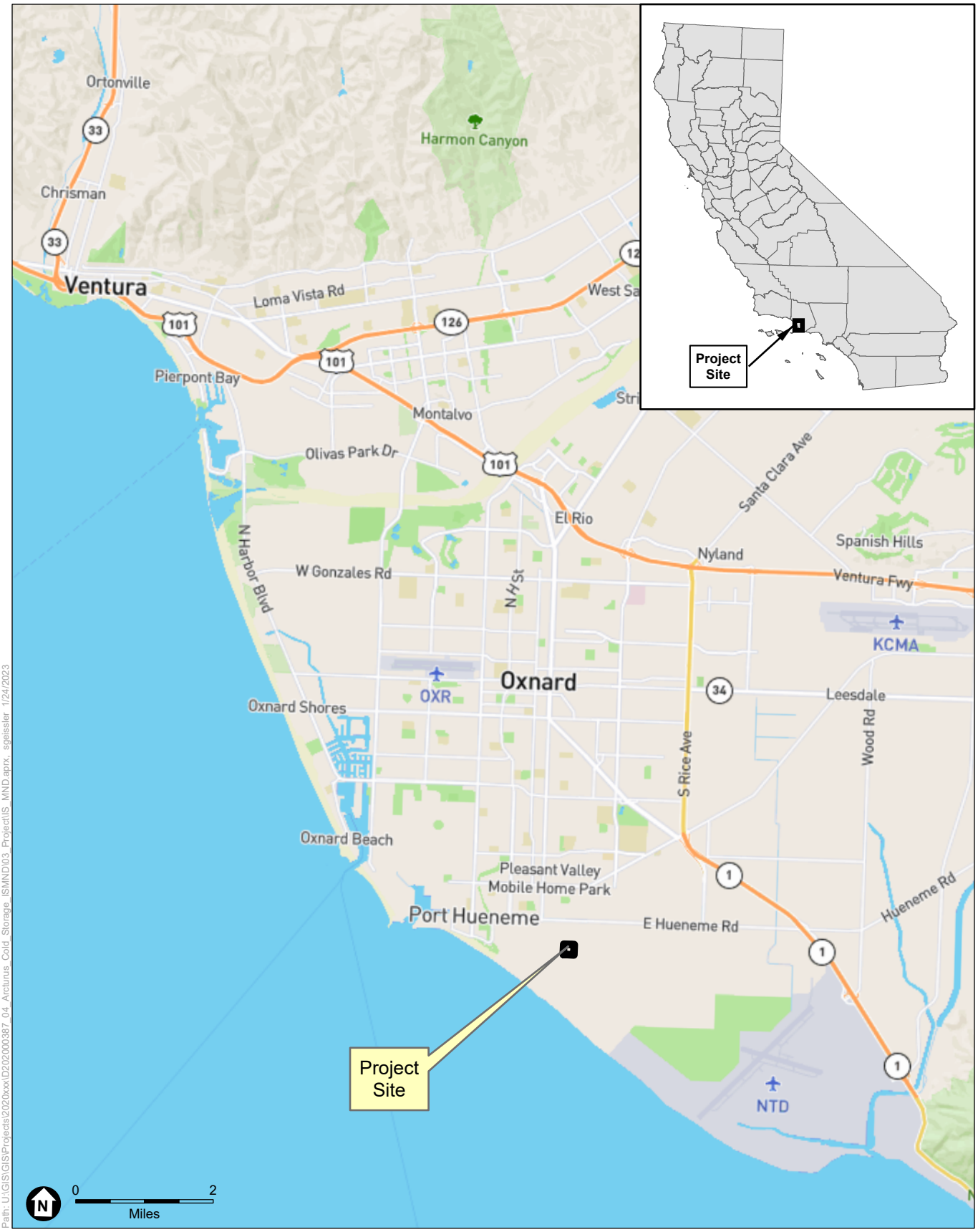
ESA personnel involved in the preparation of this report are as follows: Monica Strauss, M.A., RPA., project director; Fatima Clark, B.A, report author and surveyor; and Jaclyn Anderson, GIS specialist. Resumes of key personnel are included in **Appendix A**.

Project Location

The 14.33-acre Project site is located in the southern portion of the City within Ventura County (**Figure 1**). Specifically, the Project site is located at 5980 and 6000 Arcturus Avenue. The Project site is also situated in an unsectioned portion of Township 1 North, Range 22 West on the Oxnard, CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (**Figure 2**).

Project Description

The Project site is currently vacant and being used for storage (**Figure 3)**. The Project includes the construction of a 105,383-square-foot public cold storage facility (**Figure 4**), which would include the import/export and distribution of fresh produce and refrigerated food stuff. The main entrance to the facility would be located along the building's western edge. The proposed facility would be two stories and up to 50 feet in height. The first floor would include a receiving dock, five cold storage rooms, shipping dock, maintenance shop, office area, restrooms, telecommunication room, main electrical room, fire pump room, lunch room, lobby, locker rooms, waiting area for truckers, and a shipping/receiving area. Truck dock apron space would be provided adjacent to both the receiving and shipping docks. The second floor would include a conference room, manager's office, lunch room, restrooms, telecommunication room, and open offices. A 10-foot by 70-foot pit-type truck scale would be located west of the building, and a container stack rack system with the capacity for 90 containers would be located north of the building. The system would stack a maximum height of three containers. Two Southern California Edison (SCE) electrical service transformers would be provided on site. A guard check-in station would be located near the building's southwestern corner and would allow for



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SOURCE: ESRI

Arcturus Warehouse LLC

Figure 1
Project Vicinity

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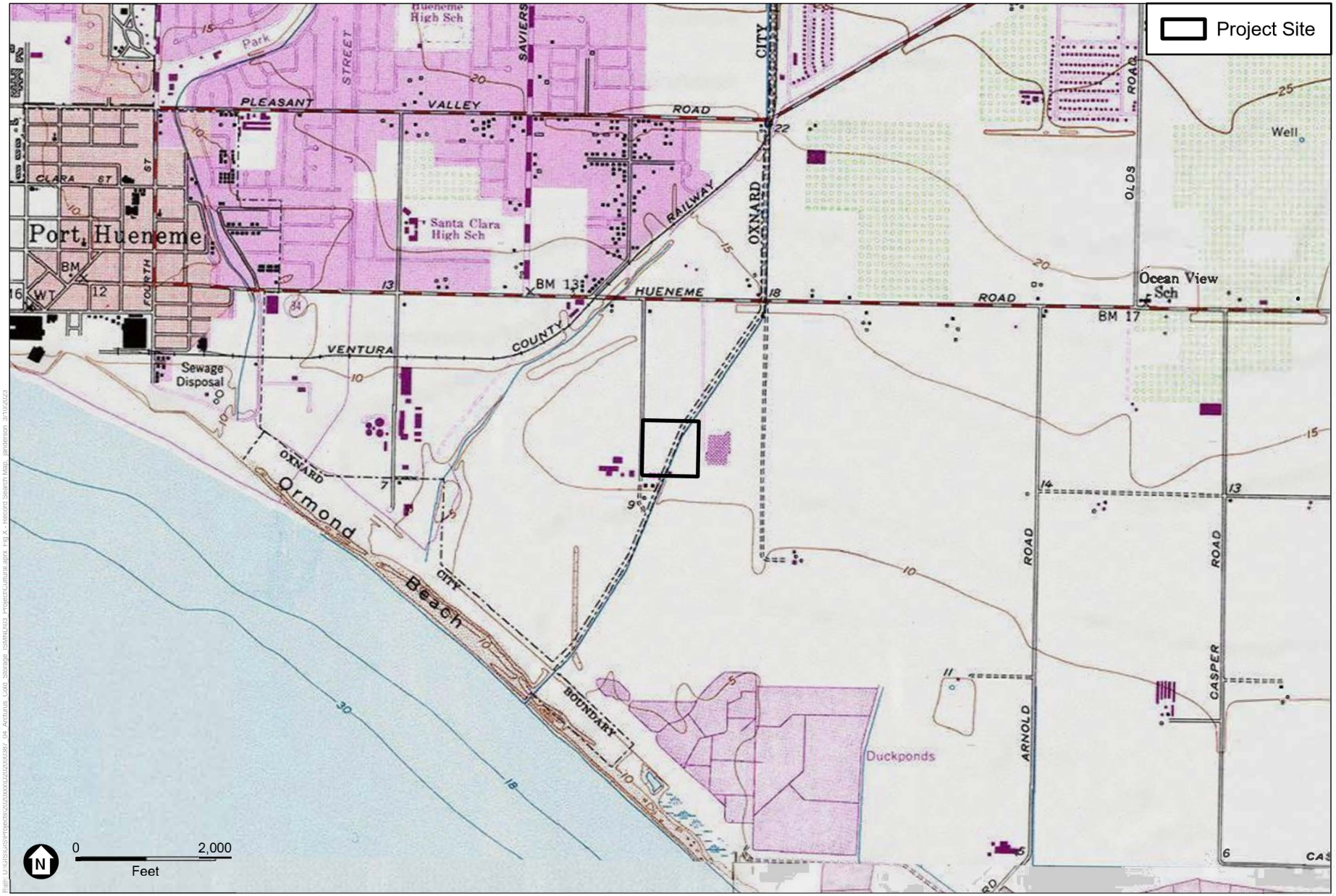

SOURCE: USGS Topographic Series (Oxnard, CA); ESA, 2023

Arcturus Warehouse LLC

Figure 2
Project Location

ESA

on-site queuing. Two refrigeration chillers would be located east of the building, and a covered trash enclosure would be provided near the Project's proposed driveway along McWane Boulevard. The Project site would include an eight-foot-tall decorative concrete block wall around the perimeter of the site.

Parking and Circulation

The Project would provide 67 parking spaces and 10 bicycle parking spaces, which would be located adjacent to the building's western boundary and the Project site's southeastern boundary. In addition, 271 trailer spaces would be provided in the western portion of the Project site. Aided by a grant from the South Coast Air Quality Management District (SCAQMD), the facility would be fitted with electrical outlets ("yard plugs") that would allow for the on-board fuel powered refrigeration units to be transferred to electric power, which would assist with reducing idle emissions. The Project site would include a total of 397-yard plugs, including 271 in the staging area to power each trailer, one for each of the 36 dock doors, and 90 within the container stacking area.

The seven existing driveways on site would be removed as part of the Project. The Project would construct three new gated driveways: two driveways along McWane Boulevard and one driveway near the Project's northwestern boundary along Arcturus Avenue.

Utilities and Off-Site Improvements

The Project would not include any off-site utilities but may require some undergrounding within the right-of-way. The site contains existing power and sewer lines. Off-site Project improvements would include signage, lighting, and street and sidewalk improvements.

Construction Details

Project construction would include the removal of approximately 30 cubic yards of hardscape debris. The Project would include approximately 8,469 cubic yards of cut and 15,800 cubic yards of fill. In addition, the Project would import approximately 7,331 cubic yards of soil. During construction, excavation is anticipated to occur up to a maximum depth of 12 feet below ground surface (bgs).

Setting

Environmental Setting

The Project site is located within the Oxnard Plain, which forms part of the Ventura Basin. The landform consists of a broad-trending downward (shallow geological downfold) of sedimentary material accumulated over 70 million years. The region is made up of mountains cut by narrow alluvial valleys, broad plains, and is dominated by the Santa Clara River and the Calleguas drainage systems, which flow into the ocean. The mountains in the surrounding vicinity consist of sedimentary deposits from the Eocene, Miocene, Pliocene, and Pleistocene. The Native Americans in the area exploited sandstone, mudstone, claystone, shale, andesite, basalt, conglomerate, quartzite, gravel, boulders, sand and silt. Fused shale, Franciscan chert, and



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SOURCE: Mapbox, 2022 ESA, 2023

Arcturus Warehouse LLC

Figure 3
Aerial View

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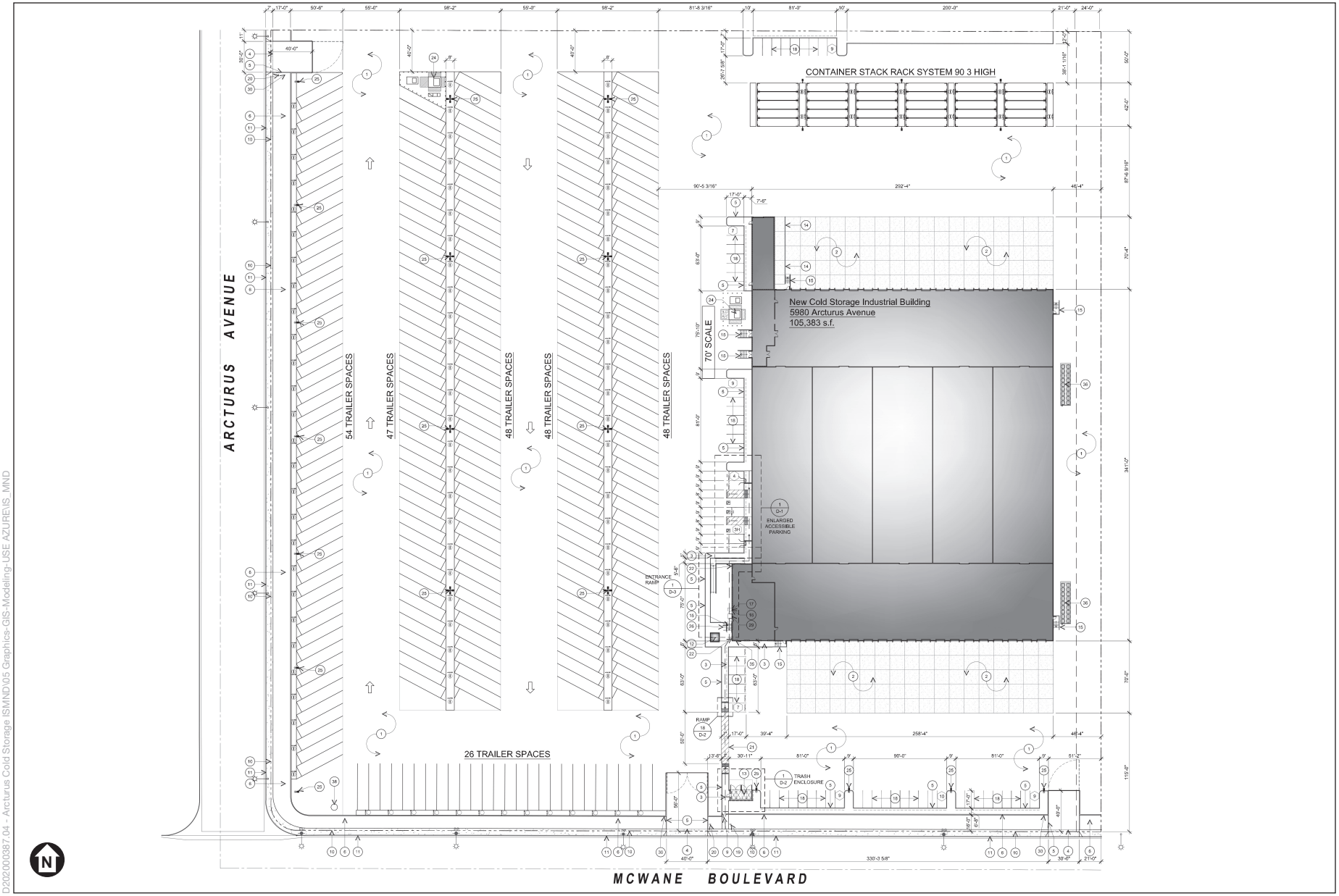

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SOURCE: DRA Architects, 2022

Arcturus Warehouse LLC

Figure 4
Project Site Plan

ESA

obsidian were also imported into the area. The historic development of Oxnard was based on agriculture, due to its highly suitable soils (loam soils with high mineral content) for cultivation (CH2MHill 2004).

Prehistoric Setting

The cultural sequences of southern California are illustrated within several chronologies (King 1990; King 2011; Wallace 1955; Rogers 1929) that describe the cultural horizons and phases observed in the archaeological records of the Santa Barbara Channel region, Los Angeles Basin, and southern California coastal region. The most recent regional synthesis, developed by Michael Glassow et al. (2007) for the Santa Barbara Channel, Santa Monica Mountains, and the Los Angeles Basin, in conjunction with Chester King's regional chronology (1990; 2011) serve as the basis for the following discussion.

Paleo-Coastal Period: 11,000 – 7,000 cal B.C.

It is not definitively known when human habitation in California first began, although some of the earliest evidence for human occupation in North America has been found on the California Channel Islands. The Arlington Springs Woman site on Santa Rosa Island, which contains some of the earliest human remains found in North America, dates to approximately 11,000 calibrated years (cal) B.C., while the Daisy Cave site on San Miguel Island has an early occupation dating to 9,500 cal B.C. (Glassow et al. 2007). On the southern Channel Islands of San Clemente, site CA-SCLI-43 (Eel Point) revealed evidence of boat technology dating to around 6,250 B.C. (Cassidy et al. 2004).

The earliest evidence of occupation on the Santa Barbara Channel mainland comes from the Surf Site near the mouth of the Santa Ynez River, which has been radiocarbon dated to 8,000 – 7,500 cal B.C. (Glassow et al. 2007). On the Los Angeles and Ventura County coasts, evidence of paleo-coastal occupation is lacking; some of the earliest dated occupation in this area is in the Ballona Creek area, which contains sites that date to approximately 6,000 to 5,000 B.C. (Altschul et al. 1992).

This earliest period of human occupation is characterized by small groups of nomadic hunter-gatherers who occupied small, temporary settlements used for gathering and processing shellfish. Evidence from the Surf site indicates that the earliest inhabitants of the Santa Barbara Channel area collected shellfish and produced flake tools using local chert (Glassow et al. 2007). The artifact assemblage of this time period included a limited collection of rough and simplistic tool types, each used for multiple tasks; key artifacts included fluted projectile points. Milling tools were not used.

Millingstone Period: 7,000 – 5,000 cal B.C.

Milling equipment is first observed in the archaeological record during this time (Glassow et al. 2007). During this period, population densities along the coastal mainland increased. Most sites that have been definitively dated to this period are located along the coast; however, there may have been more interior sites of this period that remain unknown due to decreased visibility or lack of organic remains that can be radiocarbon dated (Glassow et al. 2007). Departing from the

subsistence strategies of their nomadic predecessors, Millingstone populations established more permanent settlements and relied on more diversified food sources. Settlements were located primarily on the coast and in the vicinity of estuaries, lagoons, lakes, streams, and marshes where a variety of resources, including seeds, fish, shellfish, small mammals, and birds, were exploited. However, despite the increase in new food resources, the diet from this period continued to rely heavily on the processing of hard seeds (Wallace 1955). Early Millingstone occupations are typically identified by the presence of handstones (manos) and millingstones (metates), while those Millingstone occupations dating later than 5,000 B.C. contain a mortar and pestle complex as well, signifying an increased dependence on new food sources, such as acorns and starchy tubers.

Material culture during this period reflected a more diversified stone tool assemblage consisting of fine-worked projectile points, a large number of milling stones and stone bowls, as well as the prevalence of ornamental and ceremonial objects (Glassow et al. 2007). Olivella shell bead manufacture began during this time period.

Little is known about the social organization of Millingstone groups, but available evidence indicates that they likely consisted of small extended family groups with minimal social differentiation or political leadership (Glassow et al. 2007). Millingstone sites include those at Porter Ranch in the northern San Fernando Valley, Encino (CA-LAN-111), and CA-LAN-1 along Las Virgenes Creek (Wallace, 1955; Glassow et al. 2007).

Early Period: 6,000 to 800 cal B.C.

Between 4,500 and 2,000 cal B.C., several major changes in subsistence occurred. Wide use of the mortar and pestle during this time indicates a greater variety of plant foods were utilized. In addition, a higher frequency of projectile points may stem from the greater importance of hunting, and possibly a shift in settlement systems and gender-based division of labor (Glassow et al. 2007). Mortuary practices may indicate a greater emphasis on status and leadership. The manufacture of shell beads, use of ritual objects, changing mortuary practices, and evidence of increasing trade across the channel between the islands and the mainland, all point to a corresponding increase in social complexity between 5,000 and 2,000 B.C.

After 2,000 B.C., a broader diet included diverse marine and terrestrial species (Glassow et al. 2007). Contracting stem points, notched net weights, circular shell fishhooks, and mortars and pestles are all characteristic of this period. The use of asphaltum, as evidenced by basketry impressions and tarring pebbles, is also first found in the archaeological record around 2,000 B.C. Between 2,000 B.C. and A.D. 1, new technologies such as the use of asphaltum, net weights, and fishhooks, suggest an intensification in fishing and coastal trade and a highly focused maritime economy (Glassow et al 2007).

Middle Period: 800 cal B.C. – A.D. 1250

Increasing population densities and numbers of permanent settlements along the coast after 500 B.C. led to competition for resources and increased socioeconomic differentiation. Coastal sites of this period contain substantial midden deposits and cemeteries that were in use for long periods of time, reflecting this population trend.

Two important technological advances were achieved in the Middle Period: the introduction of the wooden plank canoe (called *tomol* by the ethnographic Chumash and *ti'at* by the ethnographic Tongva) and the bow and arrow. The plank canoe, which may have been developed as early as A.D. 500 allowed for passage into deeper waters, facilitating trade and the procurement of large fish and sea mammals (King, 1990; Glassow et al. 2007). The bow and arrow, also adopted around A.D. 500 as it was in other regions of California, was used both to hunt large game as well as in inter-group warfare. Early arrow points were often leaf-shaped.

The production of Olivella wall "saucer" type beads underwent a significant expansion around 200 B.C., and such beads remained the most common Olivella bead throughout the Middle Period (King 1990). Shell beads and ornaments, steatite objects, lithic materials, groundstone, and red ochre were traded throughout southern California during this period (Glassow et al. 2007).

Between A.D. 800 and 1400 there was an episode of sustained drought, known as the Medieval Climatic Anomaly (MCA). While the effects of this environmental change on prehistoric populations are still being debated, it did likely lead to local adaptations in subsistence strategies resulting from substantial stress on natural resources. In the Santa Barbara Channel, some researchers have suggested that environmental stress as a result of the MCA may have led to greater social complexity, increasing sedentism, and extensive trade, all of which are evident toward the end of the Middle Period and beginning of the Late Period (Kennett and Kennett 2000; Glassow et al. 2007). However, others have asserted that increased cultural complexity was more gradual and less influenced by environmental factors (King 1990; Gamble 2005).

It has been postulated that as early as 1500 B.C., a Takic-speaking people arrived in coastal Los Angeles and Orange Counties, having migrated west from inland desert regions (Kroeber 1925; Golla 2007; Sutton 2009). By around A.D. 500 to 1000, Takic language and cultures had spread to the south and inland to the east. These new arrivals, linguistically and culturally different from earlier coastal populations, may have brought new settlement and subsistence systems with them, along with other new cultural elements (Sutton 2009). This migration has been postulated to be a factor in several of the significant changes in material culture seen in the Late Holocene throughout southern California (such as the use of smaller projectile points and pottery), as well as the introduction of cremation as a burial practice.

Late Period: A.D. 1250 – circa 1769

The increase in social complexity that began in the Middle Period continued into the Late Period, with evidence of ranked society and a hereditary elite class documented from mortuary contexts (Glassow et al. 2007). The population along the Santa Barbara mainland coast reached its highest point during the late period, and population tended to cluster in large coastal settlements

(Glassow et al. 2007). Within these coastal settlements, houses were clustered and frequently arranged in a line along the shoreline (Gamble and Russell 2002).

By the late period, manos and metates were not commonly used, and mortars and pestles were the dominant food-processing technology. This shift was likely associated with the increasing importance of acorns in the prehistoric diet (Gamble and Russell 2002). The use of fused shale in lithic tool manufacture peaked during the Late Period, particularly in the Santa Monica Mountains.

The regional exchange network expanded during this period, with trade between the islands and coastal sites increasing and coastal and interior settlements linked through the exchange of marine resources and other goods, such as steatite vessels manufactured on Santa Catalina Island (Glassow et al. 2007). Chiefs or wealthy individuals who owned plank canoes were very influential in this exchange system (Gamble and Russell 2002).

Ethnographic Setting

Chumash

At the time the Spanish arrived in the 16th century, the Chumash people boasted a complex culture with a socially stratified society, complex trade networks, and a monetary economy based on shell beads. During this time, the Chumash are said to have had the most complex political and economic system in western North America (Glassow et al. 2007).

Kroeber (1925) identifies the Chumash as “predominantly a coast people” that “were more nearly maritime in their habits than any other Californian group”. Chumash territory consisted of an area measuring approximately 200 by 70 miles and included the northern Channel Islands and the coastal region between current-day Malibu and the Monterey County line (Gamble 2011; Grant 1978). Total population may have included as many as 15,000-20,000 people.

The Chumash language family appears to be a linguistic isolate, and unrelated to other California languages. Within the Chumash language family, there were three branches: Obispeño or Northern Chumash, which had at least two dialects; Central Chumash, which included the languages Purisimeño, Ineseño, Barbareño, and Ventureño; and Island Chumash (Golla 2007).

The territory of the Ventureño-speaking Chumash extended from the Pacific coast in the vicinity of Ventura in the west to the area between Sespe and Piru Creeks in the middle portion of the Santa Clara River drainage in the west, and from the headwaters of Sespe Creek in the north to the area around Malibu Creek in the south (Kroeber 1925; Grant 1978). However, by the Mission period Ventureño territory extended just east of Piru Creek (King 1975; Glassow et al. 2007). The Ventureño Chumash were bounded by the Tataviam to the east, the Tongva to the southeast, the Emigdiano Chumash to the north, and the Barbareño, Ineseño, and Cuyama Chumash to the west.

The Chumash represented a complex society with a strict social order, with a well-established and prosperous system of trade, and standardized money exchange in the form of shell beads. With settlements along the Channel Islands, the Chumash were master maritime navigators, having developed the split-planked canoe (tomol) to ferry people and trade goods between the islands

and the mainland. Other key cultural items representative of the Chumash are finely crafted basketry of all forms, sizes, and decorations.

The Chumash were hunter-gatherers and lived in permanent villages. The size of Chumash villages ranged considerably from the coastal areas to the inland areas with many villages on the coast having several hundred occupants, whereas villages inland were significantly smaller, sometimes containing only a couple dozen inhabitants (Grant 1978). Chumash villages were most abundantly located along the coast and were often situated on high ground adjacent to a river or stream that flowed into the ocean or along the borders of sloughs or wetlands (Grant 1978).

Chumash peoples made use of their diverse environment, capitalizing upon a wide range of natural and animal resources for food and as raw material for the crafting of functional tools and non-functional, ornamental items (Kroeber 1925). Amongst terrestrial plant resources, the acorn, collected mainly from the California live oak, was the most important. Additional plant resources included pine nuts, wild cherry, cattail, California laurel berries, and chia sage seeds. Mule deer, coyote, and fox were hunted using the bow and arrow, and smaller game was taken using deadfalls and snares. Migratory birds such as ducks and geese were also hunted. In addition to terrestrial resources, the Chumash utilized an array of maritime resources including shellfish, sea mammals, and pelagic and schooling fish. Large fish and sea mammals such as seals, sea otters, and porpoises were hunted with harpoons. Dip nets, seines, and line and hook were used for smaller fish (Grant 1978).

Chumash villages were composed of a patrilineal descent group and usually had at least one chief, known as the *wot* or *wocha*, whose position was inherited but was subject to village approval. The chief was responsible for the management and distribution of tribal resources. A secret men's society called '*antap* was also highly influential in Chumash society. The '*antap* society supported the chief and sponsored religious and social gatherings (Grant 1978).

Chumash dwellings were hemispherical structures constructed by driving pliable wooden poles into the ground, bending them towards the center of the dwelling, and tying them together (Grant 1978). The wooden pole frame was then covered with interwoven grass mats. While accompanying the Portola expedition, Father Juan Crespi noted that Chumash dwellings could be up to 50 feet in diameter and hold up to 70 people (Grant 1978). Most villages contained one or more sweat houses that were semi-subterranean and consisted of a wooden pole frame covered with earth. Additional village structures included store houses and ceremonial enclosures.

Not much is known of the religion practiced by the Chumash. Father Olbés of the Santa Barbara Mission noted a Chumash deity called *sup*, and, although the Chumash had no figures or idols of the deity, they made offerings of seeds and feathers to show their acknowledgement and gratitude for the blessings given them (Grant 1978). Additionally, rock art sites with Chumash-style pictographs, such as Painted Cave of San Marcos Pass located near the City of Santa Barbara and Burro Flats Painted Cave in the Simi Hills may have represented shrines or sacred areas. Many of the pictographs present at rock art sites consist of geometric figures as well as animal figures and are painted in vibrant colors that may have been painted while under the influence of the hallucinogenic ceremonial drink, *toloache*, which is associated with the Chinigchinich religion of

the Tongva (Grant 1978). The Chumash generally inhumed their dead; cremations were rare (Gamble and Russell 2002). The Chumash buried their dead with the body bound in a flexed position (Kroeber 1925). The graves of prominent individuals were marked with planks containing images or from which the possessions of the deceased were hung.

The summer solstice, harvest festival (*hutash*), and winter solstice were important ceremonies in the Chumash calendar. The winter festival, in particular, was important because the rituals performed by shamans were intended to cause the sun's rebirth and to entice it into shifting its course back to the north. Rain prayers were said, funerary rites held, and debts settled in preparation for the new year. Sun sticks, which were likely also used by the Tongva, were erected. Feathered poles were erected at shrines and remained standing year-round (Romani 1981).

The Chumash were one of the first native Californian groups encountered by Juan Rodriguez Cabrillo when he sailed into the Santa Barbara Channel Island region in 1542-43 (Grant 1978; Kroeber 1925). The Gaspar de Portolá expedition passed through Chumash territory on its way to Monterey Bay in 1769. Between 1772 and 1804, five missions, including Missions San Luis Obispo (1772), San Buenaventura (1782), Santa Barbara (1786), La Purisima Concepcion (1787), and Santa Ynez (1804) were established in Chumash territory. The establishment of the missions fractured the traditional culture of the Chumash, and by 1834, when the missions were secularized, the Chumash population had declined dramatically as a result of European diseases (Grant 1978).

Today, Chumash descendants live throughout southern and central California, with one federally recognized Chumash tribe (the Santa Ynez Band of Chumash Indians), and several other tribal groups that do not currently have federal recognition. The Santa Ynez Reservation, home to the Santa Ynez Band of Chumash Indians, was established in 1901 (Santa Ynez Band 2015). The reservation currently houses 249 residents. Ethnographic village locations exist in the general vicinity of the Project site, including the village of *Sititip* and *Shishlomo*, located approximately 1-2 miles away (CH2MHill 2014).

Historic Setting

In 1769, Gaspar de Portolá led an expedition from San Diego to the San Francisco Bay (McCawley 1996). Because of this, the date of 1769 is generally considered the beginning of the Historic Period in the region. By the late 18th century, the Spanish established missions in California and were forcibly relocating and converting native peoples. The mission closest to the Project site is Mission San Buenaventura (established 1782), located about 12 miles to the northwest. Disease and hard labor took a toll on the native population in California; by 1900, the Native Californian population had declined by as much as 90 percent (Cook 1978). In addition, native economies were disrupted, trade routes were interrupted, and native ways of life were significantly altered.

In an effort to promote Spanish settlement of Alta California, Spain granted several large land concessions from 1784 to 1821. In 1821, Spain lost control of its North American colony and the Republic of Mexico was founded. The Mexican government continued to promote settlement of

Alta California with the issuance of land grants. In 1833, Mexico began the process of secularizing the missions, reclaiming the majority of mission lands and redistributing them as land grants (Pitt 1994; Starr 2007).

In 1846, the Mexican-American War broke out. Mexican forces were eventually defeated in 1847 and Mexico ceded California to the United States as part of the Treaty of Guadalupe Hildalgo in 1848. California officially became a state in 1850. Mexican landowners found it difficult to prove ownership in U.S. courts, and many former ranchos were subsequently subdivided and sold for agriculture and residential settlement (McWilliams 1949).

The discovery of gold in northern California in 1848 resulted in a flood of settlers from other states and abroad. The first transcontinental railroad was completed in 1869, connecting San Francisco with the eastern United States, and more newcomers poured into northern California. Southern California experienced a trickle-down effect, as many of these newcomers made their way south. The second transcontinental line, the Santa Fe, was completed in 1886 and caused a fare war, driving fares to an unprecedented low and encouraging large numbers of people to immigrate to southern California. During the first three decades of the 20th century, more than 2 million people moved to southern California, transforming it from a largely agricultural region into a major metropolitan area (Starr 2007).

Ventura County and the Oxnard Plain

Agriculture was first introduced to Ventura County in 1867, when Christian Borchard purchased 1,000 acres of La Colonia grant to plant wheat and barley. In 1864, Thomas Scott of Pennsylvania purchased 30,000 acres of Rancho La Colonia to manage an oil business, as oil had just recently been discovered in the area. However, Scott's plans were unsuccessful, and parcels of his land were sold in 1868 to some of the first farmers in the county. In 1871, Port Hueneme and the Port Hueneme Wharf were established to ease the shipping of grain (including corn, barley, flax, wheat, and lima beans as some of the dominant crops). By 1887, the Southern Pacific Railroad constructed a bridge across the Santa Clara River to make train shipment of crops possible. By 1898, the second largest sugar beet factory (American Beet Sugar Company factory) in the United States was established near present-day East Wooley Road and Saviers Road by farmers Albert Maulhardt and Ed Bouchard. This led to a fast population growth and an influx of Chinese, Japanese, Mexican, and Filipino laborers joined to work on the sugar beet fields and factory. The townsite of Oxnard was established on 300 acres of farmland and incorporated in 1903. During the late half of the 20th century, Oxnard has focused on residential and tourism development of the waterfront and marina, as well as Naval, military, and industrial development (CH2MHill 2004; City of Oxnard 2030). According to the City's General Plan, the movement of goods within the City is conducted by both rail and commercial vehicles. Rail lines within the City include the Union Pacific Railroad (UPRR) and the Ventura County Railroad. The UPRR connects Oxnard to west coast destinations and markets. The Ventura County Railroad transfers freight from the Port of Hueneme to the UPRR main line (City of Oxnard, 2030).

Ormond Beach

The Project site is located within Ormond Beach, which is a part of the southern portion of the 22-mile-long Oxnard coast (extending across the edge of the Oxnard Plains from the Ventura River to Point Mugu). Currently, Ormond Beach is "a wide sandy beach backed by low sanddunes, marshes and sparsely vegetated alluvial flats, urbanized and agricultural lands" (Parsons 2004).

Regulatory Framework

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at *Public Resources Code (PRC) Section 21000 et seq.* CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

The *CEQA Guidelines* (Title 14 California Code of Regulations [CCR] Section 15064.5) recognize that historical resources include: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,

- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required. The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5(a). Substantial adverse change is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (*CEQA Guidelines* Section 15064.5(b)(1)). According to *CEQA Guidelines* Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

B. Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

In general, a project that complies with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Standards) (Grimmer, 2017) is considered to have mitigated its impacts to historical resources to a less-than-significant level (*CEQA Guidelines* Section 15064.5(b)(3)).

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, state, and/or federal level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Health and Safety Code Section 7050.5

California Health and Safety Code Section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

California Public Resources Code Section 5097.98

California PRC Section 5097.98, as amended, provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. The MLD has 48 hours from the time of being granted access to the site by the landowner to inspect the discovery and provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

California Government Code Sections 6254(r) and 6254.10

These sections of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports, maintained by, or in the possession of the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a Native American tribe and a state or local agency."

Assembly Bill 52 and Related Public Resources Code Sections

Assembly Bill (AB) 52 was approved by California State Governor Edmund Gerry "Jerry" Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by

substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the CEQA Guidelines, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency's formal notification and the lead agency must begin consultation within 30 days of receiving the tribe's request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Local

City of Oxnard General Plan

The City's 2030 General Plan contains goals and policies for the preservation of archaeological, historical, and paleontological resources (City of Oxnard General Plan 2030).

Goal ER-11 Identification, protection, and enhancement of the City's archaeological, historical, and paleontological resources.

ER-11.1 ***Archaeological Resource Surveys***
Continue to require a qualified archaeologist to perform a cultural resources study prior to project approval. Inspection for surface evidence of archaeological deposits, and archaeological monitoring during grading should be required in areas where significant cultural resources have been identified or are expected to occur.

ER-11.2 ***Mitigating the Impact of New Development on Cultural Resources***
Ensure that alternatives are considered, including planning construction to avoid archeological sites, deeding archaeological sites into permanent conservation easements, and planning parks, greenspace, or other open space to incorporate archaeological sites in the event that development threatens significant archaeological resources.

ER-11.3 ***Development Applicants to Conduct Research***
Continue to require project applicants to have a qualified archaeologist conduct a record search at the South Central Coast Information Center located at California State University Fullerton and other appropriate historical repositories, conduct field surveys where appropriate, and prepare technical reports, where appropriate, meeting California Office of Historic Preservation Standards (Archaeological Resource Management Reports) prior to project approval.

ER-11.4 ***Historic Preservation***
Support public and private efforts to preserve, rehabilitate, and continue the use of historic structures, sites, and districts. Where applicable, preservation efforts shall confer with the Ventura County Cultural Heritage Board and conform to the current Secretary of the Interior's Standards for Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Building and the California Office of Historic Preservation.

ER-11.5 ***State Historic Building Code for Adaptive Reuse***
Utilize, when possible, the State Historic Building Code for historic properties to encourage adaptive reuse.

ER-11.6 ***Identification of Archaeological Resources***
In the event that archaeological/paleontological resources are discovered during site excavation, continue to require that grading and construction work on the

project site is suspended until the significance of the features can be determined by a qualified archaeologist/paleontologist.

ER-11.7 ***Native American Remains***
Continue to comply with State laws relating to the disposition of Native American burials consistent with the CEQA Guidelines (Section 15064.5) if human remains of possible Native American origin are discovered during project construction.

ER-11.8 ***Historical Resource Inventory***
Maintain a historical resource inventory, discourage demolition or alteration of historical buildings unless they are declared unsafe, and strongly encourage rehabilitation and/or adaptive reuse.

Archival Research

SCCIC Records Search

A records search for the Project was conducted on February 15, 2023, at the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) housed at California State University Fullerton. The records search included a review of all previously recorded archaeological resources and previous studies within the Project site and a 0.50-mile radius, and historic architectural resources within or adjacent to the Project site.

Previous Cultural Resources Investigations

The records search results indicate that 15 cultural resources studies have been conducted within a 0.50-mile radius of the Project site (**Table 1**). Approximately 100 percent of the 0.50-mile records search radius has been included in previous cultural resources assessments. Of the 15 previous studies, two (VN-2863 and -2978) are mapped at the SCCIC as overlapping the entirety of the Project site. A brief description of these studies is provided below Table 1.

VN-2863

Study VN-2863 consists of a cultural resources overview for the *Ormond Beach Wetlands Restoration Area* (King 2005). Although this study is mapped at the SCCIC as encompassing the Project site, no pedestrian survey has ever been conducted at the Project site as part of the study.

VN-2978

Study VN-2978 consists of a cultural resources inventory report for the *Groundwater Recovery Enhancement and Treatment Program*. Although the SCCIC has mapped the report as encompassing the Project site, detailed review shows that the study area for this report included streets immediately adjacent, but outside the Project site. Therefore, no pedestrian survey has been previously conducted at the Project Site (CH2MHill 2004).

Previously Recorded Cultural Resources

The records search results indicate that no archaeological resources have been previously recorded within the Project site or a 0.50-mile radius, nor have historic architectural resources been previously recorded within or adjacent to the Project site.

TABLE 1
PREVIOUS CULTURAL RESOURCES INVESTIGATIONS

Author	SCCIC#	Title	Year
Horne, Stephen	VN-00236	*Final Report: Onshore Cultural Resources Assessment, Union Oil Company Platform Gina and Platform Gilda Project Federal Lease Ocs P-0202 and P-0216, Offshore Southern California*	1980
Whitney-Desautels, Nancy A.	VN-00380	*Archaeological Survey Report on the Proposed Oxnard Wastewater Reclamation Facilities and Pipeline Routes Located in the Oxnard Area of Ventura County*	1978
Peak, Melinda and Neal Neuenschwander	VN-00825	*Cultural Resource Survey and Clearance Report for the Proposed Oxnard Terminal to Triunfo Pass Earth Station Fiber Optic Communication Route, Ventura and Los Angeles Counties*	1989
Whitley, David S. and Joseph M. Simon	VN-01081	*Phase I Archaeological Survey and Cultural Resources Assessment for the Ormand Beach Specific Plan, City of Oxnard, Ventura County, California*	1991
Maki, Mary K.	VN-01961	*Phase 1 Archaeological Survey of Approximately 18 Linear Miles for the CMWD Regional Salinity Management Program Ventura County, California*	2001
Whitley, David S. and Joseph M. Simon	VN-02433	*Phase I Archaeological Survey for the Pacific Vehicle Processors Vehicle Distribution Center, City of Oxnard, Ventura County, California*	2002
Wlodarski, Robert J.	VN-02452	*A Phase 1 Archaeological Study for 720 Arcturus Avenue (lot 10 - APN#2230-044-035) and 710 Arcturus Avenue (lot 11 - APN#2230-044-045) Located Near the Northeast Corner of Hueneme Road and Arcturus Avenue, City of Oxnard, County of Ventura, California*	2004
Wlodarski, Robert J.	VN-02453	*A Phase 1 Archaeological Study for (APN#2230-044-035) Located on the Northeast Corner of Hueneme Road an Arcturus Avenue City of Oxnard, County of Ventura, California*	2004
Maki, Mary K.	VN-02572	*Phase I Cultural Resources Investigation of 2.2 Linear Miles (8-acres) for the Calleguas Regional Salinity Management Plan's Hueneme Outfall Replacement Project, Cities of Oxnard & Port Hueneme, Ventura County, California*	2007
MacFarlane, Heather	VN-02630	*Archaeological Resources Survey Proposed Tract Saviers Road Near Hueneme Road Oxnard, California*	2002
King, Chester*	VN-02863	*Cultural Resources in the Ormond Beach Wetlands Restoration Area*	2005
Toren, George	VN-02962	*Results of the Extended Phase I Backhoe Trenching Test Program Conducted Below Hueneme Road within the Recorded Site Boundaries of CA-VEN-662, City of Port Hueneme, California*	2009
Sharpe, Jim and Durio, Lori*	VN-02978	*Groundwater Recovery Enhancement and Treatment (GREAT) Program, Cultural Resources Inventory Report*	2004
Unknown	VN-02986	*Environmental Analysis Onshore Component of BHP Billiton LNG International Inc. Cabrillo Port Project*	2004
Szromba, Meagan, Shannon Carmack, and Christopher Duran	VN-03269	*Cultural Resources Study for the Vista Pacifica Project, Oxnard, Ventura County, California*	2016

*Indicates study overlaps the Project site

Additional Research

Additional research conducted indicates that several historic-period and prehistoric archaeological sites, and two Native American villages are known to have been recorded within the general vicinity and outside the 0.50-mile radius of the Project Site. The prehistoric archaeological sites consist of a Chumash cemetery, artifact and shell scatters, and shell middens. Historic-period archaeological sites consist of remains of farm buildings and associated artifacts and features, a Japanese cemetery, and the Hueneme Masonic Cemetery. The Chumash ethnographic villages are located in the vicinity of the Project site (CH2MHill 2004).

Sacred Lands File Search

The NAHC maintains a confidential Sacred Lands File (SLF) which contains sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted on January 24, 2023, to request a search of the SLF. The NAHC responded to the request in a letter dated February 9, 2023, indicating that the results were negative (**Appendix B**). The City is conducting consultation with appropriate tribes per requirements AB 52 and the results of this consultation will be summarized in the IS/MND.

Historic Maps and Aerial Photographs

Historic maps and aerial photographs were examined to provide historical information about land uses of the Project site and to contribute to an assessment of the Project site's archaeological sensitivity. Available topographic maps include the 1904, 1911, and 1925 Hueneme 15-minute quadrangles (Topo View, 2023). Historic aerial photographs were available for the years 1929, 1938, 1945, 1947, 1952, 1963, 1980, 1985, 1994, 2005, 2009, 2010, 2012, 2016, 2018, 2020, and 2023 (UCSB 2023; historicaerials.com 2023; Bing.com 2023). Historic aerial photographs found in the Phase I Environmental Site Assessment (Phase I ESA) were also reviewed for the available years of 1967 and 1977.

Review of the 1904, 1911, and 1925 topographic maps show that the Project site is undeveloped and located approximately 0.50 to 1.5 miles north of several small unnamed lagoons and approximately 0.90 miles north of the Pacific Ocean. Hueneme Point is observed as located approximately 2.30 miles west and Mugu Lagoon is observed approximately 2.75 miles southeast of the Project site. The 1929, 1938, 1945, 1947, 1952, and 1963 aerial photographs show a channelized creek traversing the central portion of the Project site on a northeast-to-southwest trend, while the rest of the Project site and the adjacent vicinity appear to be used for agricultural purposes. By 1967, the creek that once traversed the Project site appears to have been removed. An industrial structure is observed in the south-central portion of the Project site and at least a dozen aboveground tanks are present in the southwest portion. A railroad spur is also observed in the southern portion of the Project site. By 1977, the southwestern portion of the Project site has been further developed with multiple industrial structures and above ground tanks. The rest of the Project site is shown as undeveloped. No major changes are observed in the 1985, 1994, 2005, 2009, and 2010 aerial photographs. By 2012, the previous facilities appear to have been removed/demolished and graded, while the railroad spur still remains. By 2016, 2018, and 2020 the entire Project site appears to be utilized as parking and staging and a portion of the railroad

spur appears to have been removed. The 2023 aerial photograph shows the railroad spur had been removed completely.

Review of Phase I ESA

Review of the Phase I Environmental Site Assessment (Phase I ESA) for the Project (Northgate Environmental Management, Inc. 2015) indicates that the southern portion of the Project site operated as a polyester resin manufacturing plant (encompassing approximately 3.5 acres) since 1968 until 1996, and that the northern portion of the Project site was originally used for agriculture until 1994 when it became vacant land (Northgate Environmental Management, Inc. 2015). The manufacturing plant has had multiple property owners and operators, including Diamond Shamrock Chemicals Company, Koppers Company, Reichhold Chemicals, Inc., and Cook Composites and Polymers. The plant produced various kinds of polyester resins in liquid form with principal raw materials (bromine, styrene, phthalic and maleic anhydride, glycol compounds, caustic soda, and methylene chloride) (Northgate Environmental Management, Inc. 2015).

Cultural Resources Survey

Methods

On March 1, 2023, ESA archaeologist, Fatima Clark, B.A., conducted a cultural resources pedestrian survey of the Project site. The survey was conducted to identify surface evidence of archaeological resources within the Project site. Approximately 100 percent of the Project site was subject to an opportunistic survey to inspect areas of visible ground surface.

Results

The survey confirmed that the Project site is currently a vacant lot that is utilized to store shipping containers. Significant truck traffic accesses the Project site. Many portions of the Project site were characterized by standing water as a result of recent rain. The ground surface was mostly covered with gravel, with some vegetation along the perimeter of the Project site. A dirt pile was also observed in the southeastern-most portion of the Project site. Ground surface visibility ranged from approximately 0 to 15 percent. The area of the former railroad spur was inspected (per review of the 1967 historic aerial photograph). Remnants of the spur were observed in the southeastern portion of the Project site. The railroad appeared to have been removed and remnants of approximately 15 ties were observed floating in a puddle of water. No intact rails, fasteners, or track ballast were observed (**Figures 5-7**). Aside from the railroad ties, no archaeological resources were observed; neither were any historic architectural resources observed.



Arcturus Warehouse LLC Project

SOURCE: ESA

Figure 5
Overview of Project Site, View Northwest



Arcturus Warehouse LLC Project

SOURCE: ESA

Figure 6
Overview of Northwest Portion of Project Site Covered in Water, View North



Arcturus Warehouse LLC Project

SOURCE: ESA

Figure 7
Overview of Railroad Ties Floating in Water from Previous Railroad Spur, View Northeast

Archaeological Sensitivity Assessment

A desktop analysis was undertaken to assess the potential for the presence of subsurface archaeological resources within the Project site. Sources reviewed include geologic mapping and the G*eotechnical Engineering Investigation* (geotechnical report) prepared by Krazan & Associates, Inc. (2015).

Geologic Map Review

Review of the Hueneme Canyon and Vicinity (1:24,000) geologic map by Ritchie et al. (2012) indicates that the Project site is mapped as containing Holocene alluvial fan deposits (Qff) of the Oxnard Plain that are characterized as fine-grained alluvial fan and floodplain overbank deposits.

Geotechnical Report Review

Review of the geotechnical report for the Project indicates that a total of eight borings were drilled within the Project site. Soils encountered during the geotechnical investigation included silty sand, clayey sand, and sandy clay from the surface to depths of 20 to 50 feet (Krazan & Associates, Inc., 2015).

Archaeological Sensitivity

Based on the results of the records search, survey, research, and geoarchaeological review, the Project site is characterized by Holocene alluvial deposits (consisting of silts, sands, and clays) from surface to depths of 20-50 feet bgs. These soils date to the Holocene period (11,700 years ago to present) – the period for which there is widely accepted evidence for human occupation of southern California (Byrd and Raab, 2007). Although portions of the Project site have been utilized for agricultural purposes and portions of the site subject to industrial development, these activities constitute largely surficial and/or shallow disturbances. Depending on the construction techniques employed to construct the previous polyester resin manufacturing plant, the southern portion of the Project site may have been subject to deeper disturbances than the northern portion of the Project site. The geotechnical investigation confirmed the presence of what appear to be Holocene-age alluvial sediments that have the potential to preserve archaeological materials.

Furthermore, the Project site was once bisected by a tributary, was in proximity to several small unnamed lagoons (approximately 0.50 to 1.5 miles away) and is located within close proximity to the coast (approximately 0.50 miles south of the Project site). These bodies of water would have attracted prehistoric inhabitants to the area for associated floral and faunal resources. Although the records search did not identify previously recorded resources within the Project site or records search radius, the majority of these areas have not been previously subject to archaeological survey. In addition, surface visibility during survey conducted for this Project was limited by surficial visual obstructions such as gravel, stockpiled soil and equipment, and standing water such that the majority of the ground surface could not be adequately inspected. As is demonstrated by the presence of prehistoric archaeological sites and two Native American villages (, the general Project vicinity was utilized by prehistoric inhabitants and should be considered sensitive for subsurface prehistoric archaeological resources. Based on these factors,

the potential to encounter buried archaeological deposits in the southern portion of the Project site is considered moderate while the potential in the northern portion of the Project site wis considered high.

Conclusions and Recommendations

No archaeological or historic architectural resources were identified within the Project site as a result of this assessment. However, the potential for encountering subsurface archaeological resources in the southern portion of the Project site is considered moderate and the potential in the northern portion is considered high. Therefore, impacts to previously unknown subsurface archaeological resources would be potentially significant, and the following mitigation measures are provided in order to reduce impacts to archaeological resources to a less-than-significant level under CEQA.

> **Mitigation Measure CUL-1**: The Applicant shall retain an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology (Qualified Archaeologist) to carry out all mitigation related to archaeological resources. Prior to start of ground-disturbing activities, the Qualified Archaeologist or their designee shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains, and safety precautions to be taken when working with archaeological monitors. The City shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.
>
> **Mitigation Measure CUL-2**: Archaeological monitoring shall be conducted during ground disturbing activities, such as clearing/grubbing, grading, trenching, or any other construction excavation activity associated with the Project. Monitoring shall be conducted by an archaeologist who is familiar with the types of archaeological resources that could be encountered and who will work under the direct supervision of the Qualified Archaeologist. Monitoring can be reduced to part-time inspections or ceased entirely if determined appropriate by the Qualified Archaeologist, based on field observations. In the event that archaeological resources are unearthed during ground-disturbing activities, the archaeological monitor shall be empowered to halt or redirect ground-disturbing activities away from the vicinity of the discovery until it has been evaluated. The archaeological monitor shall keep daily logs detailing the types of activities and soils observed, and any discoveries.
>
> **Mitigation Measure CUL-3**: In the event of the unanticipated discovery of archaeological materials, the City shall immediately cease all work activities in the area (within approximately 100 feet) of the discovery until it can be evaluated by the Qualified Archaeologist. Construction shall not resume until the Qualified Archaeologist has conferred with the City on the significance of the resource. If it is determined that the discovered archaeological resource constitutes a historical resource or unique archaeological resource pursuant to CEQA, avoidance and preservation in place shall be the preferred manner of mitigation. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the

resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Treatment Plan shall be prepared and implemented by the Qualified Archaeologist that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource. The City shall consult with appropriate Native American tribal representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered. The treatment plan shall include provisions for the final disposition of the recovered resources, which may include onsite reburial, curation at a public, non-profit institution, or donation to a local Native American Tribe, school, or historical society.

Mitigation Measure CUL-4: At the conclusion of archaeological monitoring and prior to the release of the grading bond, the Qualified Archaeologist shall prepare a final monitoring report. The report shall include a summary of monitoring results, description of resources unearthed, if any, significance evaluation and treatment of the resources, and the results of the artifact processing, analysis, and research. Appropriate California Department of Parks and Recreation 523 Forms shall be appended to the report, as necessary. The report shall be submitted by the Applicant to the City to signify the satisfactory completion of the Project and required mitigation measures. The Qualified Archaeologist shall submit the final report to the South Central Coastal Information Center within 30 days of its acceptance by the City.

Mitigation Measure CUL-5: If human remains are encountered, the Applicant or its contractor shall halt work in the vicinity (within 100 feet) of the discovery and contact the Ventura County Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5, which requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). The MLD may, with the permission of the landowner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the MLD on all reasonable options regarding their preferences for treatment.

If the NAHC is unable to identify an MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the facility property in a location not subject to further and future subsurface disturbance.

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Appendix A
Personnel



Monica Strauss, RPA

Director, Southern California Cultural Resources Group

EDUCATION

M.A., Archaeology, California State University, Northridge

B.A., Anthropology, California State University, Northridge

AA, Humanities, Los Angeles Pierce College

19 YEARS EXPERIENCE

SPECIALIZED EXPERIENCE

Treatment of Historic and Prehistoric Human Remains

Archaeological Monitoring

Complex Shell Midden Sites

Groundstone Analysis

PROFESSIONAL AFFILIATIONS

Register of Professional Archaeologists (RPA), #12805

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

QUALIFICATIONS

Exceeds Secretary of Interior Standards

CA State BLM Permitted

Monica has successfully completed dozens of cultural resources projects throughout California and the greater southwest, where she assists clients in navigating cultural resources compliance issues in the context of CEQA, NEPA, and Section 106. Monica has extensive experience with archaeological resources, historic buildings and infrastructure, landscapes, and Tribal resources, including Traditional Cultural Properties. Monica manages a staff of cultural resources specialists throughout the region who conduct Phase 1 archaeological/ paleontological and historic architectural surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. She maintains excellent relationships with agency staff and Tribal representatives. Additionally, Monica manages a general compliance monitoring team who support clients and agencies in ensuring the daily in-field compliance of overall project mitigation measures.

Relevant Experience

County of Los Angeles, Department of Public Works, Rancho Los Amigos South Campus EIR, Downey. CA. *Project Manager.* The County of Los Angeles (County) proposes redevelopment of a portion of the Rancho Los Amigos (RLA) South Campus which is located in the City of Downey. The 74-acre RLA South Campus was the home of the "Los Angeles County Poor Farm" that was established in 1880s to provide room and board to indigent citizens in exchange for agricultural labor, then served as an infirmary and later evolved into a hospital facility in 1932. The RLA South Campus functioned as a major hospital complex from 1956 to the 1990s, when it was abandoned. The RLA South Campus is currently unoccupied and has been designated as the RLA Historic District in the National Register of Historic Places. The County is proposing redevelopment of a 21-acre portion of the RLA South Campus with County uses, including a Sheriff's Station Crime Laboratory, Internal Services Department Headquarters, and Probation Department Headquarters. The project will include supporting parking and installation of utilities and other features on a site that has been abandoned for nearly 30 years. Building demolition and/or repurposing or relocation of existing buildings will be required. ESA is leading the CEQA process on behalf of the County, including preparation of all technical studies in support of a full-scope EIR for the RLA South Campus Project. This includes a Historic District Evaluation, archaeological surveys, traffic, water supply, arborist services, and all other CEQA-required topics. ESA is also serving in an Executive Consultant role to the County, to advise on other potential future projects at the RLA Campus.

County of Los Angeles, Department of Public Works, Arroyo Seco Bike Path Phase I Cultural Resources Evaluation, Los Angeles, CA. *Project Director.* Working for the County of Los Angeles, Department of Public Works in connection with a project to make improvements to the Arroyo Seco Channel, Monica

managed all aspects of Section 106 review in accordance with Caltrans Cultural Resources Environmental guidelines. Monica and her team evaluated the Arroyo Seco Channel, identified character-defining features, informed the design of channel improvements to retain such features, and addressed the channels' potential for eligibility as part of a larger Los Angeles Country water management district. She developed the research strategy, directed the field teams, and prepared cultural resources assessment documentation for approval by Caltrans and FHWA, as well as the cultural resources section for a Mitigated Negative Declaration.

Los Angeles Department of Water and Power La Kretz Innovation Campus, Los Angeles County, CA. *Project Director.* The project involved the rehabilitation of the 61,000-square-foot building located at 518-524 Colyton Street, demolition of the building located at 537-551 Hewitt Street, and construction of an open space public plaza and surface parking lot, and involved compliance with Section 106 of the National Historic Preservation Act and consultation with the California State Historic Preservation Officer. ESA is providing archaeological monitoring and data recovery services and is assisting LADWP with meeting their requirements for Section 106 of the National Historic Preservation Act. Monica is providing oversight to archaeological monitors and crew conducting resource data recovery and laboratory analysis, and is providing guidance to LADWP on meeting Section 106 requirements.

Los Angeles Unified School District (LAUSD) Florence Nightingale Middle School Historic Architectural Review, Los Angeles County, CA. *Cultural Resources Project Director.* Monica managed the historical analysis of the LAUSD Florence Nightingale Middle School. The analysis included a cultural resources survey that photo-documented buildings that would be affected by the project. The project includes HVAC replacement to a 1967 Classroom Buildings, kitchen upgrades within the 1937 Domestic Science/Cafeteria Building, and improvements to the 1965 chiller yard. Florence Nightingale Middle School was previously recommended eligible for listing in the California Register.

Viewpoint School, Tennis Courts and Park, Calabasas, CA. *Cultural Resources Project Director.* ESA is working with the City of Calabasas to prepare an IS/MND to support the development of the proposed Viewpoint School Tennis Courts and Parking Lots project, which includes the development of three sites (Peters, Brown, and Castle Oak) that would become part of the school campus property. Improvements entail installation of six tennis courts (including an accessory building), additional campus parking in three areas, and the renovation of two existing residential structures, one to accommodate offices for school administration and the second to provide a primary residence to the school principal. The project would remove the Peter's property building and appurtenant structures, redevelop the interior of the Castle Oaks property to accommodate the administrative offices, and update the Brown residence to accommodate the principal's primary residence. ESA is preparing three technical studies to support the IS/MND, including air quality, cultural resources, greenhouse gas emissions, and noise. ESA peer reviewed the biological resource reports and traffic study that were prepared to support the document. Monica provided technical and compliance oversight to the cultural resources staff.



Fatima Clark

Archaeologist

EDUCATION

BA, Anthropology, California State University, Fullerton

15 YEARS OF EXPERIENCE

QUALIFICATIONS

Orange County Certified Archaeologist

Meets Caltrans PQS for Lead Archaeological Surveyor

SPECIALIZED SKILLS

Cross-Trained Archaeology/ Paleontology

Native Spanish Speaker & Writer

ArcGIS Survey123 and Collector

PROFESSIONAL AFFILIATIONS

Society for California Archaeology

SPECIALIZED TRAINING

Section 106 Webinar, 2016

Workshop: The Art and Science of Flintknapping, California Desert Studies Center, 2013

Successful CEQA, Compliance-Southern California Edison, Environmental Training, 2011

Cultural Resources Protection under CEQA and Other Legislative

Fatima has 15 years of hands-on archaeological experience and is practiced in project management and client and agency coordination. Her field experience is complimented by the course study and participation in numerous archaeological excavations in California, Arizona, and Peru. Fatima has written California Environmental Quality Act (CEQA)-level technical reports, Environmental Impact Report (EIR) sections, Initial Study (IS) sections, archaeological peer reviews, archaeological monitoring reports, and reports pursuant to California Department of Transportation (Caltrans) requirements. She is also experienced in performing archaeological testing, site recordation, laboratory analysis, pedestrian surveys, records searches through several California Historical Resources Information Systems-Information Centers, and monitoring for a wide variety of projects, including mixed-use, residential, and energy, water, and road infrastructure projects. In addition to her archaeology background, Fatima has been cross-trained in conducting paleontological surveys and monitoring and has co-authored and managed associated reports.

Relevant Experience

Orange County Water District (OCWD) Groundwater Replenishment System (GWRS) Final Expansion Project, Fountain Valley, CA (2020-current). *Archaeological/Paleontological Monitor*. Fatima is currently serving as an archaeological/paleontological monitor for the project. The project includes conversion of an existing gravity pipeline and upgrades at the Orange County Sanitation District Plant No. 1 and 2.

California Department of Water Resources, Pools 20/21 and 17/18 Liner and Embankment Raise Project, Kings and Fresno Counties, CA (2020). Fatima assisted with the field survey. The Project proposes raising the liner and embankment of California Aqueduct (Aqueduct) Pools 20/21 and 17/18. Subsidence has reduced the designed capacity of the concrete-line pools from 3 feet to less than 1 foot. The reduced freeboard has decreased storage capability and limited the operational flexibility of these pools to deliver water through the Aqueduct. To improve safety, reliability, and operational flexibility of the Aqueduct system, the liner and embankment of Pools 20/21 and 17/18 will be raised 3 to 6 feet.

Irvine Ranch Water District, Syphon Reservoir Improvement Project, Orange County, CA (2019-2020). *Archaeological/Paleontological Monitor*. Fatima conducted the archaeological and paleontological monitoring for the project (which had a high potential for finding prehistoric archaeological resources, as well as paleontological resources), and prepared the monitoring report. The project proposed geotechnical explorations to characterize the subsurface conditions of the soil.

California Water Service Company, Palos Verdes Peninsula Water Reliability Project, Palos Verdes Peninsula, (2019). *Archaeological/Paleontological Monitor*. Fatima conducted the archaeological and paleontological monitoring, which led to the identification and salvage of numerous fossils from the Monterey Formation. The project proposed the construction of new potable water pipelines and a new booster pump station to replace the current water distribution system serving the Palos Verdes Peninsula.

Irvine Ranch Water District, Syphon Reservoir Improvement Project, Orange County, CA (2018-2019). *Archaeologist.* Fatima was in charge of the preparation of the Cultural Resources Assessment Report, pursuant to CEQA and Section 106. The survey for the study led to the relocation of two previously recorded prehistoric archaeological sites and the recordation of five additional resources, including one prehistoric isolate, one historic-period archaeological resource, and three historic architectural resources.

California Department of Water Resources, Lake Perris Seepage Recovery, Riverside County, CA (2019). *Archaeologist.* Fatima was in charge of the preparation of the Cultural Resources Assessment Report in compliance with CEQA. The proposed project would collect water that is currently seeping out of Lake Perris through an integrated recovery well system, and then provide the recovered water to the Metropolitan Water District of Southern California.

Los Angeles Department of Water and Power, Manhattan Wellfield On-Site Hypochlorite Generation Station, Los Angeles, CA (2019). *Archaeologist*. Fatima was in charge of preparing the Cultural Resources Assessment Report in compliance with CEQA and Section 106. The project proposed to upgrade the existing chlorination station at Manhattan Wellfield to an on-site hypochlorite.

California Department of Water Resources, Los Robles Road Bridge Seismic Retrofit Project, Quail Lake, Los Angeles County (2018). *Archaeologist.* Fatima was in charge of the preparation of the Archaeological Resources Survey Report for the project, which pertains to CEQA. The project consisted of the seismic retrofitting of the existing Los Robles Road Bridge, which crosses the West Branch of the California Aqueduct.

California Water Service Company, Palos Verdes Peninsula Water Reliability Project, Palos Verdes Peninsula, CA (2017). *Archaeologist*. Fatima assisted in the preparation of the Phase I Cultural Resources Assessment report pursuant to Section 106. The project proposed to construct new potable water pipelines and a new booster pump station to improve overall system reliability in the Palos Verdes Peninsula.

Santa Margarita Water District, San Juan Watershed Project, San Juan Capistrano and Dana Point, CA (2017). *Archaeologist.* Fatima was in charge of the preparation of the Phase I Cultural Resources Assessment pursuant to Section 106 and the Cultural Resources section of the EIR. The project included the installation of three rubber dams and control buildings within San Juan Creek.

Appendix B
Sacred Lands File Search

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Sara Dutschke
Miwok

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

COMMISSIONER
Wayne Nelson
Luiseño

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
[Vacant]

COMMISSIONER
[**Vacant**]

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok/Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

February 9, 2023

Fatima Clark
ESA

Via Email to: fclark@esassoc.com

Re: Arcturas Cold Storage Warehouse Project, Ventura County

Dear Ms. Clark:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Ventura County
2/9/2023

Barbareno/Ventureno Band of Mission Indians
Dayna Barrios, Chairperson
Phone: (805) 890 - 6855
barrios_dayna@yahoo.com
Chumash

Barbareno/ Ventureno Band of Mission Indians
Annette Ayala, CRM Committee Chair
188 S. Santa Rosa Street
Ventura, CA, 93001
Phone: (805) 515 - 9844
annetteayala78@yahoo.com
Chumash

Chumash Council of Bakersfield
Julio Quair, Chairperson
729 Texas Street
Bakersfield, CA, 93307
Phone: (661) 322 - 0121
chumashtribe@sbcglobal.net
Chumash

Coastal Band of the Chumash Nation
Mia Lopez, Chairperson
P. O. Box 40653
Santa Barbara, CA, 93140
Phone: (805) 324 - 0135
cbcntribalchair@gmail.com
Chumash

Coastal Band of the Chumash Nation
Gabe Frausto, Vice Chair
P.O. Box 40653
Santa Barbara, CA, 93140
Phone: (805) 324 - 0135
cbcn22vicechair@gmail.com
Chumash

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com
Gabrieleno

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com
Gabrielino

Gabrielino-Tongva Tribe
Charles Alvarez,
23454 Vanowen Street
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com
Gabrielino

Northern Chumash Tribal Council
Violet Walker, Chairperson
P.O. Box 6533
Los Osos, CA, 93412
Phone: (760) 549 - 3532
violetsagewalker@gmail.com
Chumash

San Luis Obispo County Chumash Council
Chumash

Santa Ynez Band of Chumash Indians
Kenneth Kahn, Chairperson
P.O. Box 517
Santa Ynez, CA, 93460
Phone: (805) 688 - 7997
Fax: (805) 686-9578
Chairman@chumash.gov
Chumash

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Arcturas Cold Storage Warehouse Project, Ventura County.

Appendix E

Geotechnical Engineering Investigation Report and Report Update

ESA

April 2, 2020 KA Project No. 112-15054

Mr. Mac McNamara
Controlled Environments Construction, Inc.
1562 Parkway Loop, Suite E
Tustin, California 92780

RE: Update to Geotechnical Engineering Investigation Report
Proposed Cold Storage Facility
5980/6000 Arcturus Avenue
Oxnard, California

Reference: Geotechnical Engineering Investigation, Proposed Cold Storage Facility, 5980 and 6000 Arcturus Avenue, Oxnard, California, Project No. 112-15054, dated December 4, 2015.

Dear Mr. McNamara:

In accordance with your request, we are providing this letter to update our previous Geotechnical Engineering Investigation report, KA Project No. 112-15054, dated December 4, 2015 for the above-referenced project site.

Based on our review of the proposed site plan and our discussions with the project representative, we understand that the proposed site plan and development are similar to those described in the referenced Geotechnical Engineering Investigation report. It is our understanding that the proposed development includes construction of a new commercial cold storage building at the subject site in Oxnard, California. The proposed development is understood to include associated utilities, pavements, and localized landscaped areas.

Based on our recent observation of the subject site, review of the previous geotechnical investigation reports, and review of the proposed development site plan, the site and proposed development is consistent with the conclusions and recommendations of the previous Geotechnical Engineering Investigation report. Additional information to conform to seismic design requirements of the 2019 California Building Code (2019 CBC) is provided below.

In the event these structural or grading details are inconsistent with the final design criteria, we should be notified so that we can evaluate the potential impacts of the changes on the recommendations presented in this report and provide an updated report as necessary.

The site class, per Table 1613.5.2, 2019 CBC, is based upon the site soil conditions. It is our opinion that a Site Class D is appropriate for building design at this site. For seismic design of the structures, in accordance with the seismic provisions of the 2019 CBC, we recommend the following parameters:

2019 CALIFORNIA BUILDING CODE		
Seismic Item	**Value**	**CBC Reference**
Site Class	D	Table 1613.5.2
Fa	1.0	Table 1613.5.3 (1)
Ss	1.546	Figure 1613.5 (3)
SMS	1.546	Section 1613.5.3
SDS	1.031	Section 1613.5.4
Fv	1.8	Table 1613.5.3 (2)
S1	0.565	Figure 1613.5 (4)
SM1	1.017	Section 1613.5.3
SD1	0.678	Section 1613.5.4
Ts	0.658	

The recommendations and limitations provided in our Geotechnical Engineering Investigation report, KA Project No. 112-15054 apply to this letter and should be incorporated into the design and construction of the proposed building addition.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (951) 273-1011.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.



James Kellogg PE, GE
Managing Engineer
RGE No. 2902/RCE No. 65092

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED COLD STORAGE FACILTIY
5980 AND 6000 ARCTURUS AVENUE
OXNARD, CALIFORNIA

PROJECT NO. 112-15054
DECEMBER 4, 2015

PREPARED FOR:

CONTROLLED ENVIRONMENTS CONSTRUCTION
1562 PARKWAY LOOP, SUITE E
TUSTIN, CALIFORNIA 92780

ATTENTION: MR. SAM MATLIN

PREPARED BY:

KRAZAN & ASSOCIATES, INC.
1100 OLYMPIC DRIVE, SUITE 103
CORONA, CA 92881
(951) 273-1011

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED COLD STORAGE FACILITY
OXNARD, CALIFORNIA

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Krazan & ASSOCIATES, INC.
GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

December 4, 2015 KA Project No. 112-15054

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED COLD STORAGE FACILITY
5980 AND 6000 ARCTURUS AVENUE
OXNARD, CALIFORNIA

INTRODUCTION

This report presents the results of our Geotechnical Engineering Investigation for the proposed Cold Storage Facility to be located at the physical addresses of 5980 and 6000 Arcturus Avenue, in the city of Oxnard, California. Discussions regarding site conditions are presented herein, together with conclusions and recommendations pertaining to site preparation, grading, utility trench backfill, drainage and landscaping, foundations, concrete floor slabs and exterior concrete flatwork, retaining walls, soil corrosivity, expansion potential and pavement design.

A Vicinity Map showing the location of the site is presented on Figure 1. A Site Plan illustrating the approximate boring and bulk sample locations is presented on Figure 2. Descriptions of the field and laboratory investigations, boring log legend and boring logs are presented in Appendix A. Appendix A also contains a description of the laboratory testing phase of this study, along with the laboratory test results. Appendices B and C contain guide specifications for earthwork and flexible pavements, respectively. If conflicts in the text of the report occur with the general specifications in the appendices, the recommendations in the text of the report have precedence.

PURPOSE AND SCOPE OF SERVICES

This geotechnical investigation was conducted to evaluate subsurface soil and groundwater conditions at the project site. Engineering analyses of the field and laboratory data were performed for the purpose of developing and providing geotechnical recommendations for use in the design and construction of the earthwork, foundation and pavement aspects of the project.

Our scope of services was outlined in our proposal dated October 8, 2015 (KA Proposal No. P112064-15) and included the following:

- A site reconnaissance by a member of our engineering staff to evaluate the surface conditions at the project site.
- Review of selected published geologic maps, reports and literature pertinent to the site and surrounding area.

- A field investigation consisting of drilling a total of eight (8) borings to depths ranging from approximately 20 to 50 feet below the existing ground surface for evaluation of the subsurface conditions at the project site.

- Performance of two (2) percolation tests in order to provide an estimate of the anticipated infiltration rate for near surface soil conditions encountered at the subject site.

- Performance of laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.

- Evaluation of the data obtained from the investigation and engineering analyses of the data with respect to the geotechnical aspects of structural design, site grading, and paving.

- Preparation of this report summarizing the findings, results, conclusions, and recommendations of our investigation.

Environmental services, such as chemical analyses of soil and groundwater for possible environmental contaminates, is beyond our scope of services.

PROPOSED CONSTRUCTION

Based on our discussions with the project representatives and a review of the preliminary site plan, we understand that the proposed development will include construction of a Cold Storage Facility at the subject site, located at the physical address of 5980/6000 Arcturus Avenue, in the city of Oxnard, California. The proposed development is anticipated to consist of construction of an approximately 166,500 square foot warehouse building. The proposed building is understood to be a one to two story, steel frame structure supported on a shallow foundation system or mat foundation. Foundation loads are anticipated to be relatively moderate.

Paving consisting of asphalt concrete (flexible) will cover the majority of the remainder of the site following construction of the above-mentioned proposed building. Underground utility construction will be required to provide water, gas, and electric services, and storm and sanitary sewer lines. Mass grading of the majority of the site is expected to entail minor cuts and fills (nominally 1 foot) from existing grades to establish the building pad and to provide for surface drainage of the site.

In the event these structural or grading details are inconsistent with the final design criteria, we should be notified so that we can evaluate the potential impacts of the changes on the recommendations presented in this report and provide an updated report as necessary.

SITE LOCATION AND SITE DESCRIPTION

The subject site is located at the physical address of 5980 and 6000 Arcturus Avenue in the city of Oxnard, California. The subject site is bound to the north and east by industrial developments, to the south by McWane Boulevard, and to the west by Arcturus Avenue. The subject site occupies an area of approximately 14 acres with overall dimensions of approximately 775 feet in the east west direction and 800 feet in the north south direction. The topography at the subject site is relatively flat and level, with

no major topographic relief. The site is currently vacant and groundcover at the site consists of exposed soil and localized weed and grass growth.

SITE INVESTIGATION

GEOLOGIC SETTING

The site is located within the Transverse Range Geomorphic Province, an area characterized by active east-west trending strike slip faults, including the Oak Ridge Fault Zone (Onshore segment) nearby and the Simi-Santa Rosa Fault to the northeast. Locally the site is in the Oxnard coastal plain, an alluvial plain underlain by deep alluvium over primarily sedimentary bedrock. The Santa Susanna Mountains are located to the north and northeast, the Pacific Ocean to the south and the Santa Clara River and Pacific Ocean are located to the west. Conejo Mountain and associated state parks bound the Oxnard Plain to the east. Soil deposits encountered on the subject site during exploratory drilling are discussed in detail in this report.

The site is located in a seismically active area of Southern California. The nearest significant active fault is the Simi-Santa Rosa fault, located approximately 6.7 miles from the site. The Oak Ridge Fault (Onshore Segment), and Santa Monica Faults are located approximately 7.6 and 11.6 miles from the site, respectively. The area in consideration shows no mapped faults on-site according to maps prepared by the California Geologic Survey and published by the International Conference of Building Officials (ICBO). No evidence of surface faulting was observed on the property during our reconnaissance.

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling and sampling a total of eight (8) borings using a truck-mounted hollow-stem auger drill rig. Borings were drilled to depths ranging from approximately 20 to 50 feet below existing site grade. Driven tube samples were obtained at typically five (5) foot depth intervals in the borings using a 140-pound hammer falling 30-inches to drive the sampler rods. Relatively undisturbed samples were obtained using Modified California ring (drive tube) samplers to a depth of approximately ten (10) feet. Below a depth of approximately ten (10) feet, Standard Penetration Tests were generally performed to obtain driven tube samples and information on the consistency of the deeper soils.

In addition, bulk subgrade soil samples were obtained for laboratory testing. The approximate boring and bulk sample locations are shown on the Site Plan, Figure 2. The approximate boring and sample locations were estimated in the field based on pacing and measuring from the limits of existing site features. During drilling operations, sampler penetration tests were performed at regular intervals to evaluate the soil consistency and to obtain information regarding the engineering properties of the subsurface soils. Soil samples were retained for laboratory testing. The soils encountered were carefully examined and visually classified by our field professional in accordance with the Unified Soil Classification System. A more detailed description of the field investigation is presented in Appendix A.

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory-testing program was formulated with emphasis on the evaluation

of natural in-situ moisture and density, gradation, shear strength, expansion potential, consolidation potential, R-Value, maximum dry density, resistivity, pH value, sulfate and chloride contents of the materials encountered. Details of the laboratory testing program are discussed in Appendix A. The results of the laboratory tests are presented on the boring logs or on the test reports, which are also included in Appendix A. This information, along with the field observations, was used to prepare the final boring logs in Appendix A.

SOIL PROFILE AND SUBSURFACE CONDITIONS

Based on our findings, the subsurface conditions encountered appear typical of those found in the geologic region of the site. Groundcover at the site consists of exposed soil and localized weed and grass growth. Significant organics were present in the surface soil. The near surface soils encountered at the boring locations generally consisted of medium dense to dense silty sand, clayey sand and medium stiff to stiff sandy clay to a depth of approximately 13 feet below site grades. The near surface soils were found to possess varying apparent densities and moisture contents. Penetration resistance, measured by the number of blows required to drive a Modified California Sampler or a Standard Penetration Test (SPT) sampler, ranged from 4 to 48 blows per foot. Dry densities measured on relatively undisturbed samples from within 10 feet of the existing ground surface ranged from approximately 81 to 112 pcf. Relatively undisturbed soil samples collected from the upper 5 feet consolidated approximately 2.4 to 5.5 percent under a 2-ksf load when saturated. Relatively undisturbed soil samples had angles of internal friction ranging from 29 to 30 degrees. A representative near surface soil sample was tested and found to have an Expansion Index of 30.

The underlying soils encountered at the boring locations consisted of soft to medium stiff sandy clay to a depth of approximately 30 feet underlain by medium dense to dense silty sand to the maximum depth explored, 50 feet.

The above is a general description of soil conditions encountered at the site in the borings drilled for this investigation. For a more detailed description of the soil conditions encountered, please refer to the boring logs in Appendix A.

GROUNDWATER

Test boring locations were checked for the presence of groundwater during drilling and immediately following the drilling operations. Free groundwater was encountered at a depth as shallow as 12 feet below existing site grade in the borings drilled as part of this investigation. It should be recognized that water table elevation might fluctuate with time. The depth to groundwater can be expected to fluctuate both seasonally and from year to year. Fluctuations in the groundwater levels may occur due to variations in precipitation, irrigation practices at the site and in the surrounding areas, climatic conditions, flow in adjacent or nearby canals, pumping from wells and possibly as the result of other factors that were not evident at the time of our investigation. Therefore, water level observations at the time of our field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report. Long-term monitoring in observation wells, sealed from the influence of surface water, is often required to more accurately define the potential range of groundwater conditions on a site.

SEISMICITY AND LIQUEFACTION POTENTIAL

Seismicity is a general term relating to the abrupt release of accumulated strain energy in the rock materials of the earth's crust in a given geographical area. The recurrence of accumulation and subsequent release of strain have resulted in faults and fault systems. Fault patterns and density reflect relative degrees of regional stress through time, but do not necessarily indicate recent seismic activity; therefore, the degree of seismic risk must be determined or estimated by the seismic record in any given region.

Soil liquefaction is a state of soil particle suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. However, liquefaction has occurred in soils other than clean sand. Liquefaction usually occurs under vibratory conditions such as those induced by seismic events. To evaluate the liquefaction potential of the site, the following items were evaluated:

1) Soil type
2) Groundwater depth
3) Relative density
4) Initial confining pressure
5) Intensity and duration of ground shaking

In accordance with the State of California, Seismic Hazard Zones Map, Oxnard Quadrangle, released: March 25, 1995, the site is located within a potential liquefaction zone. The subsurface soil conditions encountered at the site generally consist of interbeded layers of medium stiff sandy clay and medium dense silty sand. Groundwater in the vicinity of the site was encountered at depths as shallow as 12 feet below site grades. Available groundwater depth mapping, as well as our experience in the area, indicates that historically groundwater has been located at depths as shallow as approximately 10 feet below grade in the general vicinity of the site.

The potential for soil liquefaction during a seismic event was evaluated using the LiquefyPro computer program (version 5.8h) developed by CivilTech Software. For the analysis, a maximum earthquake magnitude of 7.0 M_w and a peak horizontal ground surface acceleration of 0.745g were considered appropriate for the liquefaction analysis. A groundwater depth of 10 feet was used for the analysis. The computer analysis indicates that an estimated total and differential seismic induced settlement is not anticipated to exceed 1.7 inches and 1.15 inches, respectively. Accordingly, the liquefaction potential at the site is considered moderate and measures to mitigate the liquefaction potential should be considered in the design of the proposed structure.

Due to the relatively moderate levels of expected groundshaking at the site, the lenses/layers of sand soil, and the low to moderate penetration resistance of the native soils, liquefaction is considered a viable geologic hazard at the subject site.

FAULT RUPTURE HAZARD ZONES

The Alquist-Priolo Geologic Hazard Zones Act went into effect in March, 1973. Since that time, the Act has been amended 11 times (Hart, 2007). The purpose of the Act, as provided in California Geologic Survey (CGS) Special Publication 42 (SP 42), is to prohibit the location of most structures for human occupancy across the traces of active faults and to mitigate thereby the hazard of fault-rupture." The Act was renamed the Alquist-Priolo Earthquake Fault Zoning Act in 1994, and at that time, the originally designated "Special Studies Zones" was renamed the "Earthquake Fault Zones."

The subject site is located on the Oxnard Quadrangle, Quadrangle Map. The nearest significant active fault is the Simi-Santa Rosa fault, located approximately 6.7 miles from the site. The Oak Ridge Fault (Onshore Segment), and Santa Monica Faults are located approximately 7.6 and 11.6 miles from the site, respectively. The area in consideration shows no mapped faults on-site according to maps prepared by the California Geologic Survey and published by the International Conference of Building Officials (ICBO). No evidence of surface faulting was observed on the property during our reconnaissance.

SEISMIC HAZARDS ZONES

In 1990, the California State Legislature passed the Seismic Hazard Mapping Act to protect public safety from the effects of strong shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The Act requires that the State Geologist delineate various seismic hazard zones on Seismic Hazard Zones Maps. Specifically, the maps identify areas where soil liquefaction and earthquake-induced landslides are most likely to occur. A site-specific geotechnical evaluation is required prior to permitting most urban developments within the mapped zones. The Act also requires sellers of real property within the zones to disclose this fact to potential buyers. The subject site is located on the Seismic Hazard Zone Map, Oxnard Quadrangle, dated June 1995. The subject site is located in an area designated by the State of California as a Liquefaction Hazard Zone.

OTHER HAZARDS

Rockfalls, Landslides, Slope Instability, and Debris Flow: The subject site is relatively flat and level. It is our understanding that there are no significant slopes proposed as part of the proposed development. Provided the recommendations presented in this report are implemented into the design and construction of the anticipated development, rockfalls, landslides, slope instability, and debris flows are not anticipated to pose a hazard to the subject site.

Seiches: Seiches are large waves generated within enclosed bodies of water. The site is not located in close proximity to any lakes or reservoirs. As such, seiches are not anticipated to pose a hazard to the subject site.

Tsunamis: Tsunamis are tidal waves generated by fault displacement or major ground movement. The site is several miles from the ocean. As such, tsunamis are not anticipated to pose a hazard to the subject site.

Hydroconsolidation: The near surface soils encountered at the subject site were found to be medium dense to dense. The underlying native soils were found to be medium dense to very dense. Provided the recommendations in this report are incorporated into the design and construction of the proposed development, hydroconsolidation is not anticipated to be a significant concern for the subject site.

EXPANSIVE SOIL

The near-surface clayey sand soils encountered at the site have been identified through laboratory testing as having a low expansion potential. Expansive soils have the potential to undergo volume change, or shrinkage and swelling, with changes in soil moisture. As expansive soils dry, the soil shrinks; when moisture is reintroduced into the soil, the soil swells.

SOIL CORROSIVITY

Corrosion tests were performed to evaluate the soil corrosivity to the buried structures. The tests consisted of sulfate content and chloride content, and the results of the tests are included as follows:

Parameter	Results	Test Method
Sulfate	170 ppm	EPA 375.4
Resistivity	1020 mOhm-m	EPA 120.1
pH Value	6.93	EPA 9045C
Chloride	156 ppm	EPA 9253

INFILTRATION TESTING

An estimated infiltration rate was determined using the results of double-ring infiltration testing performed at the subject site. The infiltration testing indicated that the near surface soil was found to have an infiltration rate ranging from of approximately 0.04 to 0.14 inches per hour. Detailed results of the infiltration testing are included in Appendix A in tabular format. The soil infiltration rates are based on tests conducted with clean water. The infiltration rates may vary with time as a result of soil clogging from water impurities. A factor of safety should be incorporated into the design of the infiltration system to compensate for these factors as determined appropriate by the designer. In addition, routine maintenance consisting of clearing the system of clogged soils and debris should be expected.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

ADMINISTRATIVE SUMMARY

Based on the data collected during this investigation, and from a geologic and geotechnical engineering standpoint, it is our opinion that the proposed improvements may be made as anticipated provided that the recommendations presented in this report are considered in the design and construction of the project.

General site clearing should include removal of vegetation and existing utilities, structures; trees and associated root systems; rubble; rubbish; and any loose and/or saturated materials. Site stripping should extend to a minimum depth of 2 inches, or until all organics in excess of 3 percent by volume are removed. Deeper stripping may be required in localized areas. These materials will not be suitable for reuse as Engineered Fill. However, stripped topsoil may be either stockpiled and reused in planned landscape areas or non-structural areas, or hauled offsite to an approved disposal location.

To reduce post-construction soil movement and provide uniform support for the buildings to be constructed at the subject site, overexcavation and recompaction within the proposed building footprint area should be performed to a minimum depth of five (5) feet below existing grades or three (3) foot below bottom of the proposed footings, whichever is deeper. The actual depth of the overexcavation and recompaction should be determined by our field representative during construction. The overexcavation and recompaction should also extend laterally a minimum of five (5) feet beyond edges of the proposed footings and building appurtenances. Any undocumented fill encountered during grading should be removed and replaced with Engineered Fill.

Subsurface soils within the site are prone to seismically induced settlement under high groundshaking acceleration during an earthquake. If the proposed structures will be constructed over a geogrid mat the building areas should be over-excavated to a depth of three feet below foundation bearing grades and the resulting excavation should be backfilled with a layered system of Engineered Fill and geogrid reinforcing fabric. The depth of the over-excavation should be measured from the bottom of the deepest foundation bearing grade for each structure.

Within the proposed exterior flatwork and pavement areas, the overexcavation and recompaction should be performed to a depth of at least two (2) feet below existing grade or two (2) feet below finished subgrade, whichever is deeper. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

Prior to placement of any fill soils, the upper eight (8) inches of native subgrade soils exposed in the over-excavation bottom should be scarified, moisture-conditioned to slightly above optimum moisture content, and recompacted to a minimum of 90 percent of the maximum dry density based on ASTM D1557 Test Method. All fill material should be compacted to a minimum of 90 percent of the maximum dry density based on ASTM D1557 Test Method.

Based on our findings, it is our opinion that the potential for seismic-induced soil liquefaction within the project site is moderate due to the depth of groundwater and layers of medium dense sand located at depths of approximately 30 to 40 feet below site grades. The total seismic-induced settlement is not expected to exceed 1.7 inches. Differential settlement caused by a seismic event should be less than 1.15 inch. The anticipated differential settlement is estimated over a distance of 20 feet. In the event that the

proposed structures are supported on a geogrid reinforced soil mat, the differential settlement is estimated to be on the order of ½ inch over a distance of 20 feet.

The footings should have a minimum depth of 24 inches below either pad subgrade (soil grade) or adjacent exterior grade, whichever is lower in elevation. Minimum footing widths should be 15 inches for continuous footings and 24 inches for isolated footings. Foundations with the above-recommended minimum dimensions should be designed for a maximum allowable bearing load under dead-plus-live load of 2,600 psf.

For retaining walls with level backfill surface behind the walls, we recommend that retaining walls capable of deflecting a minimum of 0.1 percent of its height at the top be designed using an equivalent fluid active pressure of 43 pounds per square foot per foot of depth. Walls that are incapable of this deflection or walls that are fully constrained against deflection may be designed for an equivalent fluid at-rest pressure of 63 pounds per square foot per foot of depth. This is anticipated to apply to the loading dock walls. A passive lateral pressure of 250 pounds per square foot may be used to calculate sliding resistance. If walls are to be constructed above descending slopes, our office should be contacted to discuss further reduction in allowable passive pressures for resistance of lateral forces, and for overall retaining wall foundation design.

An infiltration rate was determined using the results of double ring infiltration testing performed at the subject site. Infiltration testing performed on the near surface soil indicates an infiltration rate ranging from approximately 0.04 to 0.14 inches per hour. Detailed results of the infiltration test and infiltration rates are attached in tabular format. The soil infiltration rates are based on tests conducted with clean water. The infiltration rates may vary with time as a result of soil clogging from water impurities. A factor of safety should be incorporated into the design of the percolation system to compensate for these factors as determined appropriate by the designer. In addition, periodic maintenance consisting of clearing the bottom of the system of clogged soils should be expected.

Based on the very low infiltration rates as well as the relatively shallow groundwater, infiltration is not considered feasible at the subject site.

Groundwater Influence on Structures/Construction

Based on our findings and historical records, it is not anticipated that groundwater will rise within the zone of structural influence or affect the construction of foundations and pavements for the project. However, if earthwork is performed during or soon after periods of precipitation, the subgrade soils may become saturated, "pump," or not respond to densification techniques. Typical remedial measures include: discing and aerating the soil during dry weather; mixing the soil with dryer materials; removing and replacing the soil with an approved fill material; or mixing the soil with an approved lime or cement product.

Groundwater was encountered at a depth of approximately 12 feet below site grades. Historic high groundwater is reported at depths of approximately 10 feet below grade. In the event that excavations extend to depths on the order of 10 feet below site grades, wet soil and groundwater should be

anticipated. Our firm should be consulted prior to implementing remedial measures to observe such overwet and unstable subgrade conditions and provide appropriate recommendations.

SEISMIC CONSIDERATIONS

Ground Shaking

Although ground rupture is not considered to be a major concern at the subject site, the site will likely be subject to at least one moderate to severe earthquake and associated seismic shaking during its lifetime, as well as periodic slight to moderate earthquakes. Some degree of structural damage due to stronger seismic shaking should be expected at the site, but the risk can be reduced through adherence to seismic design codes.

Soil Liquefaction

Soil liquefaction is a state of soil particle suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. However, liquefaction has occurred in soils other than clean sand. Liquefaction usually occurs under vibratory conditions such as those induced by seismic events. To evaluate the liquefaction potential of the site, the following items were evaluated:

Based on our findings, it is our opinion that the potential for seismic-induced soil liquefaction within the project site is moderate due to the depth of groundwater and layers of medium dense sand located at depths of approximately 30 to 40 feet below site grades.

Seismic Induced Settlement

One of the Location	Seismic Settlement (inches)			
	Saturated Settlement	**Unsaturated Settlement**	**Total Settlement**	**Differential Settlement**
B-3	1.70	0.03	1.73	0.87 to 1.15

The total seismic-induced settlement is not expected to exceed 1.73 inches. Differential settlement caused by a seismic event should be less than 1.15 inches. The anticipated differential settlement is estimated over a distance of 20 feet. In the event that the proposed structures are supported on a geogrid reinforced soil mat, the differential settlement is estimated to be on the order of ½ inch over a distance of 20 feet.

SITE COEFFICIENT

The site class, per Table 1613.5.2, 2013 CBC, is based upon the site soil conditions. It is our opinion that a Site Class D is appropriate for building design at this site. For seismic design of the structures, in accordance with the seismic provisions of the 2013 CBC, we recommend the following parameters:

2013 CALIFORNIA BUILDING CODE		
Seismic Item	**Value**	**CBC Reference**
Site Class	D	Table 1613.5.2
Fa	1.00	Table 1613.5.3 (1)
Ss	2.007	Figure 1613.5 (3)
SMS	2.007	Section 1613.5.3
SDS	1.338	Section 1613.5.4
Fv	1.50	Table 1613.5.3 (2)
S1	0.685	Figure 1613.5 (4)
SM1	1.028	Section 1613.5.3
SD1	0.685	Section 1613.5.4
Peak Horizontal Acceleration	0.745g	Figure 22.7

WEAK AND DISTURBED SOILS

Of primary importance in the development of this site is the removal/recompaction of potentially compressible soils from the areas of the proposed structures as well as mitigation of potential differential settlement associated with liquefaction. This is discussed in detail in the Earthwork section of this report.

COLLAPSIBLE SOILS

The near surface alluvial/colluvial soils possess varying apparent densities and moisture conditions are moisture-sensitive and are moderately compressible under saturated conditions. Structures within the project vicinity have experienced excessive post-construction settlement, when similar foundation soils become nearly saturated. As recommended in the site preparation section of this report, the collapsible or weak soils should be removed, moisture-conditioned to slightly above optimum moisture content, and recompacted to a minimum of 90 percent of the maximum dry density based on ASTM D1557 Test Method.

EARTHWORK

Site Preparation – Clearing and Stripping

General site clearing should include removal of vegetation and existing utilities, structures; trees and associated root systems; rubble; rubbish; and any loose and/or saturated materials. Site stripping should extend to a minimum depth of 2 inches, or until all organics in excess of 3 percent by volume are removed. Deeper stripping may be required in localized areas. These materials will not be suitable for reuse as Engineered Fill. However, stripped topsoil may be either stockpiled and reused in planned landscape areas or non-structural areas, or hauled offsite to an approved disposal location.

Any excavations that result from clearing operations should be backfilled with Engineered Fill. Krazan & Associates' field staff should be present during site clearing operations to enable us to locate areas where depressions or disturbed soils are present and to allow our staff to observe and test the backfill as it is placed. If site clearing and backfilling operations occur without appropriate observation and testing by a qualified geotechnical consultant, there may be the need to over-excavate the building area to identify uncontrolled fills prior to mass grading of the building pad.

As with site clearing operations, any buried structures encountered during construction should be properly removed and the resulting excavations backfilled with Engineered Fill.

Overexcavation and Recompaction – Building Area

To reduce post-construction soil movement and provide uniform support for the buildings to be constructed at the subject site, overexcavation and recompaction within the proposed building footprint area should be performed to a minimum depth of five (5) feet below existing grades or three (3) feet below bottom of the proposed footings, whichever is deeper. The actual depth of the overexcavation and recompaction should be determined by our field representative during construction. The overexcavation and recompaction should also extend laterally a minimum of five (5) feet beyond edges of the proposed footings and building appurtenances. Any undocumented fill encountered during grading should be removed and replaced with Engineered Fill.

Overexcavation and Recompaction – Parking and Drive Areas

Within the proposed exterior flatwork and pavement areas, the overexcavation and recompaction should be performed to a depth of at least two (2) feet below existing grade or two (2) feet below finished subgrade, whichever is deeper. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

Supplemental Site Preparation – Geogrid Reinforcement

Subsurface soils within the site are prone to seismically induced settlement under high groundshaking acceleration during an earthquake. If the proposed structures will be constructed over a geogrid mat the building areas should be over-excavated to a depth of three feet below foundation bearing grades and the resulting excavation should be backfilled with a layered system of Engineered Fill and geogrid reinforcing fabric. The depth of the over-excavation should be measured from the bottom of the deepest foundation bearing grade for each structure.

The first layer of geogrid reinforcement will be placed directly at the bottom of the excavation. The geogrid material should be overlapped a minimum of three feet in all directions. The geogrid strips should be "shingled" such that the exposed geogrid edge is opposite the direction of fill placement (as roof shingles to rain runoff). The interlock between the geogrid and Engineered Fill will provide load transfer. No vehicles may traverse the geogrid prior to placement of the Engineered Fill cover.

The next layer of geogrid should be placed on top of the compacted Engineered Fill. This and subsequent layers need to be overlapped a minimum of one foot on all sides. The geogrid strips of this layer, and all subsequent layers within the footprint, should be placed with lengths perpendicular to those

in the layer immediately below. The fill soils excavated from the area beneath the structure may be moisture-conditioned and recompacted between geogrid layers as Reinforced Fill. The Reinforced Fill should be conditioned to slightly above optimum moisture content and recompacted to a minimum of 90 percent of maximum dry density based on ASTM D1557 Test Method.

A total of three geogrid layers, including the layer at the base of the excavation, should be installed at vertical increments of approximately eight to twelve inches. The geogrid layers should extend to a minimum of five (5) feet beyond the exterior footing perimeter of the structure. The geogrid reinforcement fabric should consist of Tensar® BX 1200 Geogrid, or equivalent. Any additional unstable soils within building areas should be excavated and backfilled with Engineered Fill as requested by the Soil Engineer.

It is recommended that the building area be excavated at once, and soils be stockpiled. The geogrid and excavated soil may then be placed and recompacted as recommended herein. Alternatively, the Contractor may elect to excavate the site in two stages, where excavated soil can be stockpiled over one-half of the site while the other half is mitigated. However, if the Contractor elects the option of two stages over the preferred option of using one stage, a minimum of 5 feet of geogrid from the first half should overlap the second half. Furthermore, the overlapping geogrid should be protected from damages, which may be caused by operating equipment. It is further recommended that flexible utility connections be used for the project.

Expansive Soil Mitigation

When concrete slabs-on-grade and shallow foundations are placed on expansive soils that have been allowed to lose moisture, the soil is likely to swell as water re-enters the soil structure. Conversely, when slabs and foundations are constructed on moist to wet soils that are allowed to lose moisture, the soil will shrink, as the moisture is lost. This can result in distress to structures founded on these soils, and in particular, lightly loaded concrete slabs. Thus, it is very important that clay soils not be used in the proposed building pad areas. The proposed building pad areas should be constructed using low-expansive fill soil moisture conditioned to slightly above optimum moisture content.

Fill Placement

Prior to placement of any fill soils, the upper eight (8) inches of the native subgrade soils exposed in the over-excavation bottom should be scarified, moisture-conditioned to slightly above optimum moisture content, and recompacted to a minimum of 90 percent of the maximum dry density based on ASTM D1557 Test Method. Fill material should be compacted to a minimum of 90 percent of the maximum dry density based on ASTM D1557 Test Method.

The over-excavated native sand soils are generally suitable for use as Engineered Fill provided that they are free of organic material, debris and cobbles over 4 inches in diameter. Fill material should be moisture-conditioned to slightly above optimum moisture-content, placed in maximum 6 inch thick, loose lifts and compacted to a minimum of 90 percent of the maximum dry density based on ASTM D1557 Test Method.

The upper soils, during wet winter months, may become very moist due to the absorptive characteristics of the soil. Earthwork operations performed during winter months may encounter very moist unstable soils, which may require removal to grade a stable building foundation. Project site winterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

ENGINEERED FILL

The organic-free, on-site, native soils are predominately sand, often with traces of clay and gravel. These sand soils will be suitable for reuse as Non-Expansive Engineered Fill, provided they are cleansed of excessive organics, debris and rocks larger than 4 inches in diameter.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the contractor, since he has complete control of the project site at that time.

Imported Fill material should be predominately non-expansive granular material. This material should be approved by the Geotechnical Engineer prior to use and should typically possess the following characteristics:

NON-EXPANSIVE FILL PROPERTIES	
Percent Passing No. 200 Sieve	10 to 50
Plasticity Index (PI)	12 maximum
Liquid Limit	35 maximum
UBC Standard 29-2 Expansion Index	20 maximum

Imported Fill should be free from rocks and clods greater than 4 inches in diameter. All Imported Fill material should be submitted to the Soils Engineer for approval at least 72 hours prior to delivery at the site, in order to allow time for appropriate laboratory testing. Fill soils should be placed in lifts approximately 6 inches thick, moisture-conditioned to slightly above optimum moisture content, and compacted to achieve at least 90 percent of the maximum dry density as determined by ASTM D1557-00 Test Method. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

TEMPORARY EXCAVATION STABILITY

All excavations should comply with the current requirements of Occupational Safety and Health Administration (OSHA). All cuts greater than 3 feet in depth should be sloped or shored. Temporary excavations should be sloped at 1:1 (horizontal to vertical) or flatter, up to a maximum depth of seven (7) feet, and at 2:1 (horizontal to vertical) for excavations greater than seven (7) feet. Heavy construction equipment, building materials, excavated soil, and vehicular traffic should not be allowed within five (5) feet of the top (edge) of the excavation. Where sloped excavations are not feasible due to site constraints, the excavations may require shoring. The design of the shoring system is normally the

responsibility of the contractor or shoring designer, and therefore, is outside the scope of this report. The design of the temporary shoring should take into account lateral pressures exerted by the adjacent soil, and, where anticipated, surcharge loads due to adjacent buildings and any construction equipment or traffic expected to operate alongside the excavation.

The excavation/shoring recommendations provided herein are based on soil characteristics derived from our test borings within the area. The soil conditions encountered generally consist of granular material. As such, the on-site soil is subject to caving, sloughing, and erosion. Variations in soil conditions will likely be encountered during the excavations. Krazan & Associates, Inc. should be afforded the opportunity to provide field review to evaluate the actual conditions and account for field condition variations not otherwise anticipated in the preparation of this recommendation.

UTILITY TRENCH LOCATION, CONSTRUCTION AND BACKFILL

To maintain the desired support for existing or new foundations, new utility trenches should be located such that the base of the trench excavation is located above an imaginary plane having an inclination of 1.0 horizontal to 1.0 vertical, extending downward from the bottom edge of the adjacent footing.

Utility trenches should be excavated according to accepted engineering practices following OSHA standards by a contractor experienced in such work. The responsibility for the safety of open trenches should be borne by the contractor. Traffic and vibration adjacent to trench walls should be kept to a minimum; cyclic wetting and drying of excavation side slopes should be avoided. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation. For purposes of this section of the report, backfill is defined as material placed in a trench starting one foot above the pipe; bedding and shading (also referred to as initial backfill) is all material placed in a trench below the backfill. With the exception of specific requirements of the local utility companies or building department, pipe bedding and shading should consist of clean medium-grained sand. The sand should be placed in a damp state and should be compacted by mechanical means prior to the placement of backfill soils. Above the pipe zone, underground utility trenches may be backfilled with either free-draining sand, on-site soil or imported soil. The trench backfill should be compacted to at least 90 percent relative compaction.

COMPACTED MATERIAL ACCEPTANCE

Compaction specifications are not the only criteria for acceptance of the site grading or other such activities. However, the compaction test is the most universally recognized test method for assessing the performance of the Grading Contractor. The numerical test results from the compaction test cannot solely be used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent upon the moisture content and the stability of that material. The Geotechnical Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be too dry or excessively wet, unstable or if future instability is suspected. A specific example of rejection of fill material passing the required percent compaction is a fill which has been compacted with in-situ moisture content significantly less than optimum moisture. Where expansive soils are present, heaving of the soils may occur with the introduction of water. Where the material is a lean clay or silt, this type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

SURFACE DRAINAGE AND LANDSCAPING

The ground surface should slope away from building and pavement areas toward appropriate drop inlets or other surface drainage devices. We recommend that adjacent paved exterior grades be sloped a minimum of 2 percent for a minimum distance of 10 feet away from structures. Ideally, asphalt concrete pavement areas should be sloped at a minimum of 2 percent, with Portland cement concrete sloped at a minimum of one percent toward drainage structures. These grades should be maintained for the life of the project. Roof drains should be designed to avoid discharging into landscape areas adjacent to the building. Downspouts should be directed to discharge directly onto paved surfaces to allow for surface drainage into the on-site infiltration system or should be dispersed in a landscape area for percolation into the subgrade. However, any drainage dispersed into the landscape areas should be a minimum of ten feet from the building pad limits.

FOUNDATION

The proposed structures may be supported on a shallow foundation system bearing on Engineered Fill. Spread and continuous footings can be designed for the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	2,000 psf
Dead-Plus-Live Load	2,600 psf
Total Load, including wind or seismic loads	3,400 psf

The footings should have a minimum depth of 24 inches below either pad subgrade (soil grade) or adjacent exterior grade, whichever is lower in elevation. Minimum footing widths should be 15 inches for continuous footings and 24 inches for isolated footings. Foundations with the above-recommended minimum dimensions should be designed for a maximum allowable bearing load under dead-plus-live load of 2,600 psf. Foundations should be designed for the estimated static and seismic settlement discussed in this report.

Foundations - Mat Foundations

After completion of the recommended site preparation and over-excavation, the site should be suitable for shallow footing support. The proposed structures may be supported on a shallow mat foundation bearing on a minimum of 36 inches of Engineered Fill. The mat foundation can be designed based on the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	1,250 psf
Dead-Plus-Live Load	1,600 psf
Total Load, including wind or seismic loads	2,200 psf

The mat should have a minimum thickness of 12 inches. The mat should be reinforced at a minimum with No. 4 reinforcement bars at 18 inches, on-center both ways. Ultimate design of the mat foundation and reinforcement should be performed by the project Structural Engineer.

The total seismic settlement of the mat foundation is not expected to exceed 1.7 inches. The differential seismic settlement should be less than 1.15 inches. Most of the settlement is expected to occur during construction, as the loads are applied. However, additional post-construction settlement is expected as consolidation of the underlying soil takes place.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.25 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an equivalent fluid passive pressure of 200 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. All of the above earth pressures are unfactored and are, therefore, not inclusive of factors of safety.

STATIC SETTLEMENT

Provided the site is prepared as recommended and that the foundations are designed and constructed in accordance with our recommendations, the total settlement due to foundation loads is not expected to exceed 1 inch. The differential settlement is anticipated to be less than ½ inch in 20 feet. Most of the settlement is expected to occur during construction as the loads are applied. However, additional post-construction settlement may occur if the foundation soils are flooded or saturated.

LATERAL LOAD RESISTANCE

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.25 acting between the base of foundations and the supporting subgrade. Where a vapor barrier material is used below concrete slabs-on-grade, a coefficient of friction should be provided by the vapor barrier manufacturer. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 200 pounds per cubic foot acting against the appropriate vertical footing faces. Where equivalent fluid pressure against the sides of the footings or embedded slab edge are to be used, the footing or slab edge must be cast directly against undisturbed soils or the soils surrounding the structure must be recompacted to the requirements for Engineered Fill presented above. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A one-third increase in the value above may be used for short duration, wind, or seismic loads.

FLOOR SLABS

It is recommended that the concrete slabs be a minimum of five inches in thickness and reinforced with at least No. 3 reinforcing bars, placed at 18 inches on center in each direction within the slabs' middle third, to reduce crack separation and possible vertical offset at the cracks. Thicker floor slabs with increased concrete strength and reinforcement should be designed wherever heavily concentrated loads, heavy equipment, or machinery is anticipated.

Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor can travel through the vapor membrane and penetrate the slab-on-grade. This moisture vapor penetration can affect floor coverings and produce mold and mildew in the structure. To minimize moisture vapor intrusion, it is recommended that a vapor retarder be installed in accordance with ASTM guidelines. It is recommended that the utility trenches within the structure be compacted, as specified in our report, to minimize the transmission of moisture through the utility trench backfill. Special attention to the immediate drainage and irrigation around the building is recommended. Positive drainage should be established away from the structure and should be maintained throughout the life of the structure. Ponding of water should not be allowed adjacent to the structure. Over-irrigation within landscaped areas adjacent to the structure should not be performed. In addition, ventilation of the structure (i.e. ventilation fans) is recommended to reduce the accumulation of interior moisture.

EXTERIOR FLATWORK

Exterior slabs should be cast free of the adjacent building foundation in order to act independently of the walls and foundation system in all areas except doorways leading into the building. This may be accomplished by using a strip of a ½-inch thick asphalt-impregnated-felt divider material between the slab edges and the adjacent structure. Where floating slabs-on-grade are not desired due to the need for vertical control such as at doorways, dowel bars may be considered. There is a potential drawback to the use of dowel bars for slabs since there is a potential that a crack may develop parallel to the edge of the slab about two to four feet back from the edge. Exterior finish grades should have a minimum slope gradient of 1 to 1½ percent away from the buildings to preclude ponding of water adjacent to the structures.

Frequent construction or control joints should be provided in all concrete slabs where cracking is objectionable. Joint spacing should not exceed 30 times the slab thickness. Control joints, whether scored or saw-cut should be no less than one-fourth of the slab thickness. Continuous reinforcing or dowels at the construction and control joints will also aid in reducing uneven slab uplift.

It is recommended that the exterior flatwork and pedestrian walkways be a minimum of 4 inches in thickness. Exterior flatwork will be subjected to edge effects due to the fluctuation in the moisture content of the subgrade soils along the outer edges of the slab. Deepened edge sections (also referred to as down turned curbs) and controlled irrigation of landscaped areas adjacent to the flatwork will aid in reducing the potential for the shrinkage and swelling of the underling soils. By deepening the edge section of concrete flatwork a minimum of 12 inches below the subgrade soils, there is less potential for soil moisture change below at least the perimeter of the slabs. By maintaining the soil moisture content, the resulting soil displacement or shrink/swell cycles will also be reduced.

Exterior flatwork not associated with proposed structures should be supported on a minimum of 12 inches of Engineered Fill material. Fill material should consist of low expansive soil, moisture-conditioned to slightly above optimum moisture-content and compacted to a minimum of 90 percent of the maximum dry density based on ASTM D1557 Test Method.

RETAINING WALLS

For retaining walls with level backfill surface behind the walls, we recommend that retaining walls capable of deflecting a minimum of 0.1 percent of its height at the top be designed using an equivalent fluid active pressure of 43 pounds per square foot per foot of depth. Walls that are incapable of this deflection or walls that are fully constrained against deflection may be designed for an equivalent fluid at-rest pressure of 63 pounds per square foot per foot of depth. This is anticipated to apply to the loading dock walls. A passive lateral pressure of 200 pounds per square foot may be used to calculate sliding resistance. If walls are to be constructed above descending slopes, our office should be contacted to discuss further reduction in allowable passive pressures for resistance of lateral forces, and for overall retaining wall foundation design.

The surcharge effect from loads adjacent to the walls should be included in the wall design. The surcharge load for walls capable of deflecting (cantilever walls), we recommend applying a uniform surcharge pressure equal to one-third of the applied load over the full height of the wall. Where walls are restrained the surcharge load should be based on one-half of the applied load above the wall, also distributed over the full height of the wall. For other surcharges, such as from adjacent foundations, point loads or line loads, Krazan & Associates should be consulted.

Expansive soils should not be used for backfill against walls. The zone of non-expansive backfill material should extend from the bottom of each retaining wall laterally back a distance equal to the height of the wall, to a maximum of five (5) feet.

The above-recommended active and at-rest earth pressures do not include hydrostatic pressures. To reduce the build-up of hydrostatic pressures, drainage should be provided behind the retaining walls. Wall drains should consist of a minimum 12-inch wide zone of drainage material, such as ¾-inch by ½-inch drain rock wrapped in a non-woven polypropylene geotextile filter fabric such as Mirafi 140N or equivalent. Alternatively, drainage may be provided by the placement of a commercially produced composite drainage blanket, such as Miradrain, extending continuously up from where it is wrapped around a drain pipe located along the base of the wall. The drainage material should extend from the base of the wall to finished subgrade in paved areas and to within about 12 inches below the top of the wall in landscape areas. In landscape areas the top 12 inches should be backfilled with compacted native soil. A 4-inch minimum diameter, perforated, Schedule 40 PVC drain pipe should be placed with holes facing down in the lower portion of the wall drainage material, surrounded with drain rock wrapped in filter fabric. A solid drainpipe draining to a suitable discharge point should provide the necessary drainage outlet. As an alternative, weep holes may be used to provide drainage. If weep holes are used, the weep holes should be 2 inches in diameter and spaced about 8 feet on centers. The backside of the weep holes should be covered with a corrosion-resistant mesh to prevent loss of backfill and/or drainage material.

PAVEMENT DESIGN

Based on the established standard practice of designing flexible pavements in accordance with State of California Department of Transportation (Caltrans) for projects within California, we have developed pavement sections in accordance with the procedure presented in Caltrans Standard Test Method 301. This pavement design procedure is based on the volume of traffic (Traffic Index) and the soil resistance

"R" Value (R-Value) of subgrade soils. The AASHTO procedure was used to evaluate rigid pavement section requirements.

Asphalt Concrete (Flexible) Pavements

One (1) near-surface soil sample was obtained from near-surface soils at the soil borings at the project site and tested in the laboratory for R-Value, in accordance with California Test 301. Results of the tests are as follows:

R-VALUE TEST RESULTS			
Boring Number	**Sample Depth (ft)**	**Description**	**R-Value at Equilibrium**
B-3	0-3	Sandy Clay	5

Based on a review of the boring logs and the R-Value data presented above, the near surface soil encountered at the subject site consists of mostly sand with a R-Value of 5. Therefore, an R-Value of 5 is considered to be representative for the pavement. If site grading exposes soil other than that assumed, we should perform additional tests to confirm or revise the recommended pavement sections for actual field conditions. Various alternative pavement sections based on the Caltrans Flexible Pavement Design Method are presented below:

ASPHALT CONCRETE (FLEXIBLE) PAVEMENTS Subgrade R-value = 5 or greater			
Traffic Index	**Asphalt Concrete (inches)**	**Class 2 Aggregate Base (inches)**	**Depth of Compacted Subgrade (inches)**
5.0	3.0	11.0	12.0
6.0	3.5	13.5	12.0
7.0	4.0	15.5	12.0
8.0	4.5	18.5	12.0

We recommend that the subgrade soil be prepared as discussed in this report. The compacted subgrade should be non-yielding when proof-rolled with a loaded ten-wheel truck, such as a water truck or dump truck, prior to pavement construction. Subgrade preparation should extend a minimum of 2 feet laterally beyond the edge of pavement or back of curbs.

Pavement areas should be sloped and drainage gradients maintained to carry all surface water off the site. A cross slope of 2 percent is recommended in asphalt concrete pavement areas to provide good surface drainage and to reduce the potential for water to penetrate into the pavement structure.

Unless otherwise required by local jurisdictions, paving materials should comply with the materials specifications presented in the Caltrans Standard Specifications Section. Class 2 Aggregate Base should comply with the materials requirements for Class 2 Base found in Section 26.

Where high temperatures will be prevalent, elevated to extreme pavement temperature could result in softening of the asphaltic oil (asphalt binder), which in turn could result in increased potential for rutting, shoving or raveling of the pavement surface. This would be of particular concern where harsh tire action occurs, such as at braking and acceleration locations in the travel lanes and at parking stalls. The use of higher viscosity asphalt binder will increase the relative stiffness of the asphalt concrete mix over a given temperature range than that of a low viscosity binder. With the increased viscosity of the asphalt binder and stiffness of the mix, the material will be less susceptible to for rutting, shoving or raveling. We recommend that the asphalt binder be specified to have a Viscosity Grade of AR-8000 or greater for all pavement areas.

The mineral aggregate shall be Type B, ½-inch or ¾-inch maximum, medium grading, for the wearing course and ¾-inch maximum, medium grading for the base course, and shall conform to the requirements set forth in Section 39 of the Standard Specifications. The asphalt concrete materials should comply with and be placed in accordance with the specifications presented in Section 39 of the Caltrans Standard Specifications, latest edition. Asphalt concrete should be compacted to a minimum of 96 percent of the maximum laboratory compacted (kneading compactor) unit weight.

ASTM Test procedures should be used to assess the percent relative compaction of soils, aggregate base and asphalt concrete. Aggregate and the upper 24 inches of subgrade should be compacted to at least 90 percent based on the Modified Proctor maximum compacted unit weight obtained in accordance with ASTM Test Method D1557-00. Compacted aggregate base should also be stable and unyielding when proof-rolled with a loaded ten-wheel water truck or dump truck.

Portland Cement Concrete (Rigid) Pavement

A minimum six-inch layer of compacted Class 2 Aggregate Base should be placed over the prepared subgrade prior to placement of the concrete pavements. With the addition of the aggregate base material, we recommend that a combined modulus of subgrade/base reaction value of 150 pounds per cubic inch be used in design where the rigid pavement is to be designed by a Structural Engineer.

Rigid pavement design procedures have been developed by various agencies, including AASHTO and the Portland Cement Association (PCA). We have evaluated the required pavement sections based on the procedure presented in "AASHTO Guide for Design of Pavement Structures 1993" traffic volumes.

RIGID PAVEMENT			
Traffic Index	**Portland Cement Concrete (inches)**	**Class 2 Aggregate Base (inches)**	**Compacted Subgrade (inches)**
5.0	5.0	6.0	12
7.0	6.5	6.0	12

Please note that the concrete modulus of rupture is based on *flexural strength*, not compressive strength, and should be specified accordingly. A *flexural strength* of 550 psi should be specified accordingly. Our experience is that the compressive strength will have to be on the order of 3,800 to 4,500 psi in order to achieve the required flexural strength. Prior to the construction of any rigid pavement, we recommend that concrete mix histories with flexural strength data be obtained from the proposed supplier. In the

absence of flexural strength history, we recommend that laboratory trial batching and testing be performed to allow for confirmation that the proposed concrete mix is capable of producing the required flexural strength.

The concrete pavements should be designed with both longitudinal and transverse joints. The saw-cut or formed joints should extend to a minimum depth of one-fourth of the pavement thickness plus ¼ inch. Joint spacing should not exceed 15 feet. Steel reinforcement of all rigid pavements is recommended to keep the joints tight and to control temperature cracking.

Keyed joints are recommended at all construction joints to transfer loads across the joints. Joints should be reinforced with a minimum of ½ inch diameter by 48-inch long deformed reinforcing steel dowel bars placed at mid-slab depth on 18-inch center-to-center spacing to keep the joints tight for load transfer. The joints should be filled with a flexible sealer. Expansion joints should be constructed only where the pavements abut structures or fixed objects.

Smooth bar dowels, with a diameter of d/8, where d equals the thickness of the concrete, at least 14 inches in length, placed at a spacing of 12 inches on center, may also be considered for construction joints to transfer loads across the joints. The dowels should be centered across the joints with one side of the dowel lubricated to reduce the bond strength between the dowel and the concrete and fitted with a plastic cap to allow for bar expansion.

SOIL CORROSIVITY

Excessive sulfate or chloride in either the soil or native water may result in an adverse reaction between the cement in concrete and the soil. Results of tests for water-soluble sulfate and chloride content of soil samples from the subject site, performed by a chemist registered with the state of California, indicate soluble sulfate concentrations 170 ppm. On the basis of the soil sulfate content, the site soils are indicated to have a moderate potential for sulfate attack of concrete in contact with site soils. Based on these tests, Portland cement concrete should have a minimum compressive strength of 4,000 psi and a maximum water to cementitious material ratio of 0.50.

INFILTRATION

An infiltration rate was determined using the results of double ring infiltration testing performed at the subject site. Infiltration testing performed on the near surface soil indicates an infiltration rate ranging from approximately 0.04 to 0.14 inches per hour. Detailed results of the infiltration test and infiltration rates are attached in tabular format. The soil infiltration rates are based on tests conducted with clean water. The infiltration rates may vary with time as a result of soil clogging from water impurities. A factor of safety should be incorporated into the design of the percolation system to compensate for these factors as determined appropriate by the designer. In addition, periodic maintenance consisting of clearing the bottom of the system of clogged soils should be expected.

Based on the very low infiltration rates as well as the relatively shallow groundwater, infiltration is not considered feasible at the subject site.

ADDITIONAL SERVICES

Krazan & Associates should be retained to review your final foundation and grading plans, and specifications. It has been our experience that this review provides an opportunity to detect misinterpretation or misunderstandings with respect to the recommendations presented in this report prior to the start of construction.

Variations in soil types and conditions are possible and may be encountered during construction. In order to permit correlation between the soil data obtained during this investigation and the actual soil conditions encountered during construction, a representative of Krazan & Associates, Inc. should be present at the site during the earthwork and foundation construction activities to confirm that actual subsurface conditions are consistent with those contemplated in our development of this report. This will allow us the opportunity to compare actual conditions exposed during construction with those encountered in our investigation and to expedite supplemental recommendations if warranted by the exposed conditions. This activity is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

All earthworks should be performed in accordance with the recommendations presented in this report, or as recommended by Krazan & Associates during construction. Krazan & Associates should be notified at least five working days prior to the start of construction and at least two days prior to when observation and testing services are needed. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

The review of plans and specifications, and the observation and testing of earthwork related construction activities by Krazan & Associates are important elements of our services if we are to remain in the role of Geotechnical Engineer-Of-Record. If Krazan & Associates is not retained for these services, the client and the consultants providing these services will be assuming our responsibility for any potential claims that may arise during or after construction.

LIMITATIONS

Geotechnical Engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences advance. Although your site was analyzed using appropriate and current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Geotechnical Engineering, physical changes in the site due to site clearing or grading activities, new agency regulations, or possible changes in the proposed structure or development after issuance of this report will result in the need for professional review of this report. Updating or revisions to the recommendations in the report, and possibly additional study of the site may be required at that time. In light of this, the Owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that two years be considered a reasonable time for the usefulness of this report.

Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original foundation investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those disclosed during our field investigation. The logs of the exploratory borings do not provide a warranty as to the conditions that may exist beneath the entire site. The extent and nature of subsurface soil and groundwater variations may not become evident until construction begins. It is possible that variations in soil conditions and depth to groundwater could exist beyond the points of exploration that may require additional studies, consultation, and possible design revisions.

If conditions are encountered in the field during construction, which differ from those described in this report, our firm should be contacted immediately to provide any necessary revisions to these recommendations.

This report presents the results of our Geotechnical Engineering Investigation, which was conducted for the purpose of evaluating the soil conditions in terms of foundation and retaining wall design, and grading and paving of the site. This report does not include reporting of any services related to environmental studies conducted to assess the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere, or the presence of wetlands. No analytical testing was performed for evaluation of environmental constituents. Any statements in this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey professional judgment regarding the presence of potentially hazardous or toxic substances. Conversely, the absence of statements in this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, does not constitute our rendering professional judgment regarding the absence of potentially hazardous or toxic substances.

The conclusions of this report are based on the information provided regarding the proposed construction. We emphasize that this report is valid for the project as described in the text of this report and it should not be used for any other sites or projects. The geotechnical engineering information presented herein is based upon our understanding of the proposed project and professional interpretation of the data obtained in our studies of the site. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. The Geotechnical Engineer should be notified of any changes to the proposed project so the recommendations may be reviewed and re-evaluated. The work conducted through the course of this investigation, including the preparation of this report, has been performed in accordance with the generally accepted standards of geotechnical engineering practice, which existed in geographic area of the project at the time the report was written. No other warranty, express or implied, is made. This report is issued with the understanding that the owner chooses the risk they wish to bear by the expenditures involved with the construction alternatives and scheduling that are chosen.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (951) 273-1011.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

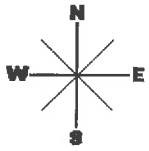
James M. Kellogg, PE, GE
Managing Engineer
RGE No. 65092, GE No. 2902



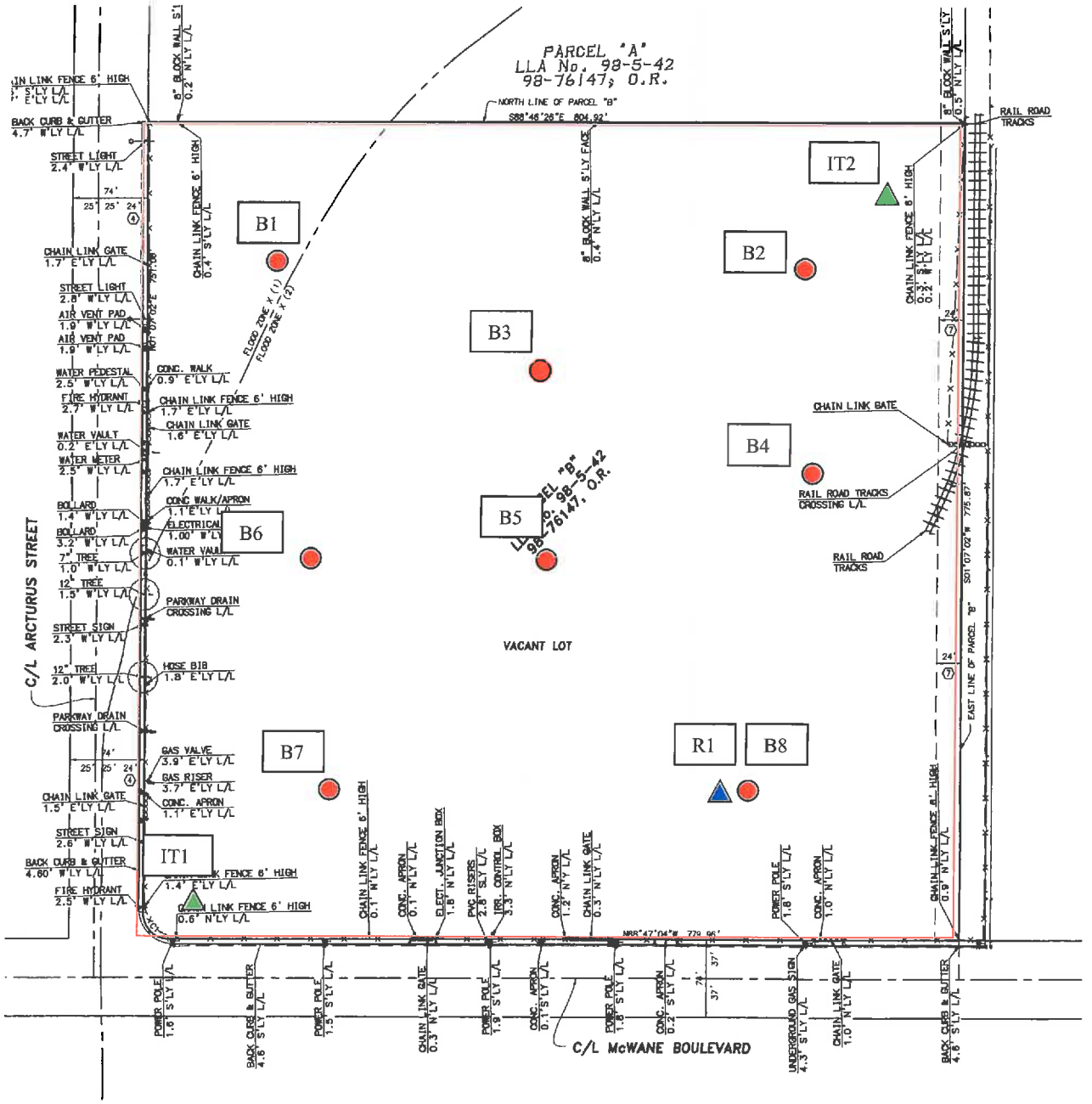


Figures

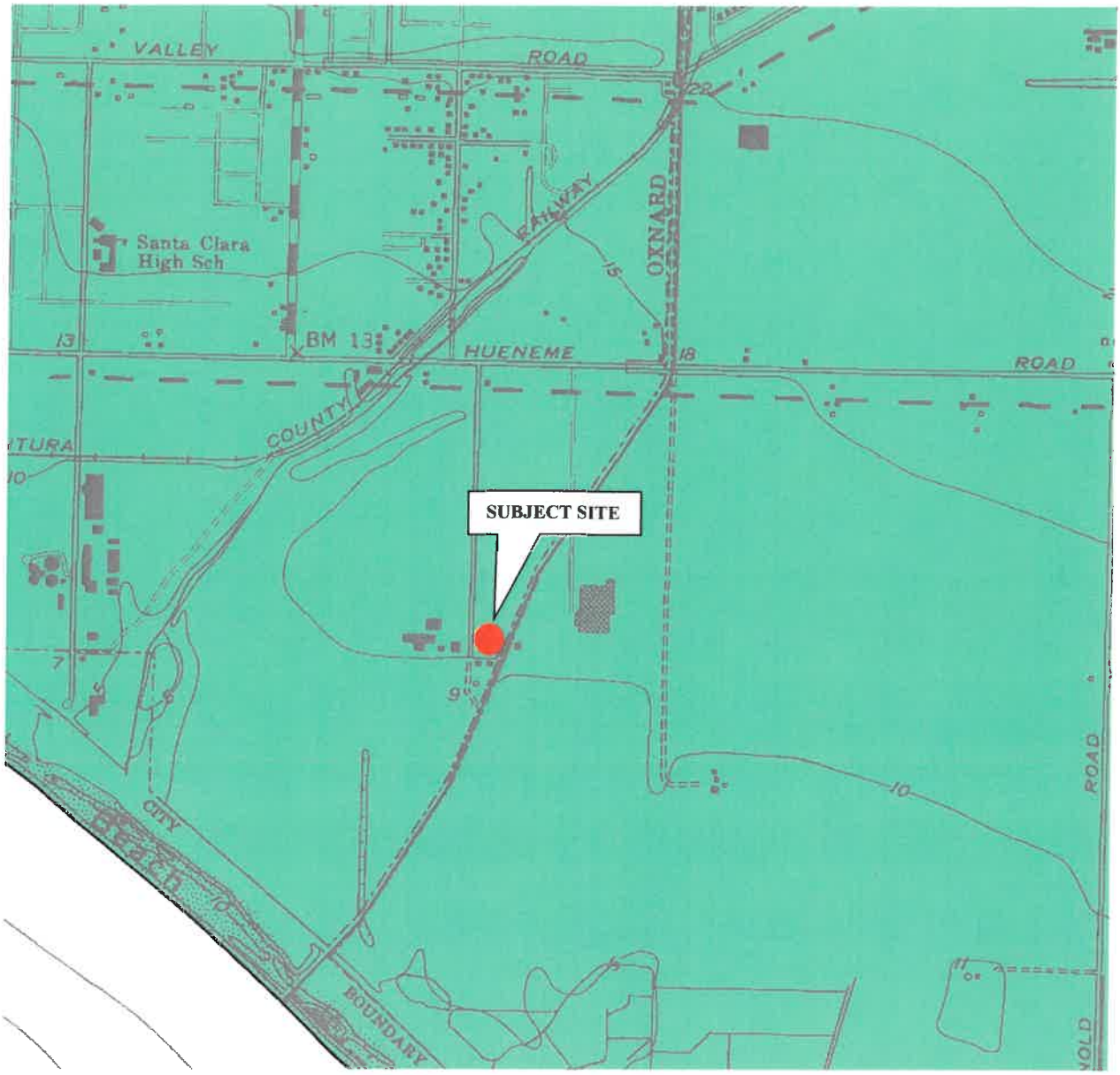




VICINITY MAP	Scale: NTS	Date: December 4, 2015	Krazan GEOTECHNICAL ENGINEERING
PROPOSED COLD STORAGE FACILITY 5980/6000 ARCTURAS AVE OXNARD, CALIFORNIA	Drawn by: SK	Approved by: JK	
	Project No. 112-15054	Figure No. 1	



SITE MAP	**Scale:** NTS	**Date:** December 4, 2015	Krazan GEOTECHNICAL ENGINEERING
PROPOSED COLD STORAGE FACILITY 5980/6000 ARCTURAS AVE OXNARD, CALIFORNIA	**Drawn by:** SK	**Approved by:** JK	
	Project No. 112-15054	**Figure No.** 2	



SEISMIC HAZARD ZONES

Liquefaction Zones
Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

N
W E
S

Source: State of California Seismic Hazards Map, Oxnard Quadrangle

LIQUEFACTION HAZARD ZONE MAP	**Scale:** NTS	**Date:** December 4, 2015	Krazan GEOTECHNICAL ENGINEERING
PROPOSED COLD STORAGE FACILITY 5980/6000 ARCTURAS AVE OXNARD, CALIFORNIA	**Drawn by:** SK	**Approved by:** JK	
	Project No. 112-15054	**Figure No.** 3	

Appendix A

Log of Borings & Laboratory Testing

APPENDIX A

FIELD AND LABORATORY INVESTIGATIONS

Field Investigation

Our field investigation consisted of a surface reconnaissance and a subsurface exploration program consisted of drilling, logging and sampling a total of eight (8) borings. The depths of exploration extended to depth ranging from approximately 20 to 50 feet below the existing site surface.

A member of our staff carefully visually classified the soils in the field as the drilling progressed and recorded a continuous log of each boring. Visual classification of the soils encountered in our exploratory borings was made in general accordance with the Unified Soil Classification System (ASTM D2487). A key for the classification of the soil and the boring logs are presented in this Appendix.

During drilling operations, penetration tests were performed at regular intervals to evaluate the soil consistency and to obtain information regarding the engineering properties of the subsoils. Samples were obtained from the borings by driving either a 2.5-inch inside diameter Modified California tube sampler fitted with brass sleeves or a 2-inch outside diameter, 1-3/8-inch inside diameter Standard Penetration ("split-spoon") Test (SPT) sampler without sleeves. Soil samples were retained for possible laboratory testing. The samplers were driven up to a depth of 18 inches into the underlying soil using a 140-pound hammer falling 30 inches. The downhole ("safety") hammer was raised by a winch between blows. The number of blows required to drive the sampler was recorded for each 6-inch penetration interval and the number of blows required to drive the sampler the last 12 inches are shown as blows per foot on the boring logs.

The approximate locations of our borings and bulk samples are illustrated on the Site Plan, Figure 2. These approximate locations were estimated in the field based on pacing and measuring from the limits of existing site features.

Laboratory Investigation

The laboratory investigation was programmed to determine the physical and mechanical properties of the soil underlying the site. The laboratory testing program was formulated with emphasis on the evaluation of in-situ moisture, density, gradation, shear strength, consolidation potential, expansion potential and R-Value of the materials encountered. In addition, site soil samples were sent to a chemist for testing to evaluate the soil/cement reactivity and corrosivity. Test results were used in our engineering analysis with respect to site and building pad preparation through mass grading activities, foundation and retaining wall design recommendations, pavement section design, evaluation of the materials as possible fill materials and for possible exclusion of some soils from use at the structures as fill or backfill.

Select laboratory test results are presented on the boring logs, with graphic or tabulated results of selected tests included in this Appendix. The laboratory test data, along with the field observations, was used to prepare the final boring logs presented in the Appendix.

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

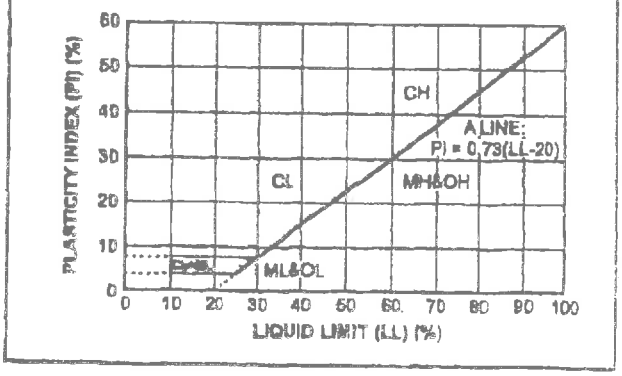
CONSISTENCY CLASSIFICATION

Description	Blows per Foot
Granular Soils	
Very Loose	< 5
Loose	5 – 15
Medium Dense	16 – 40
Dense	41 – 65
Very Dense	> 65
Cohesive Soils	
Very Soft	< 3
Soft	3 – 5
Firm	6 – 10
Stiff	11 – 20
Very Stiff	21 – 40
Hard	> 40

GRAIN SIZE CLASSIFICATION

Grain Type	*Standard Sieve Size*	*Grain Size in Millimeters*
Boulders	Above 12 inches	Above 305
Cobbles	3 to 12 inches	305 to 76.2
Gravel	3 inches to No. 4	76.2 to 4.76
Coarse-grained	3 to ¾ inches	76.2 to 19.1
Fine-grained	¾ inches to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.074
Coarse-grained	No. 4 to No. 10	4.76 to 2.00
Medium-grained	No. 10 to No. 40	2.00 to 0.042
Fine-grained	No. 40 to No. 200	0.042 to 0.074
Silt and Clay	Below No. 200	Below 0.074

PLASTICITY CHART



Log of Boring B1

Project: Cold Storage Facility

Project No: 112-15054

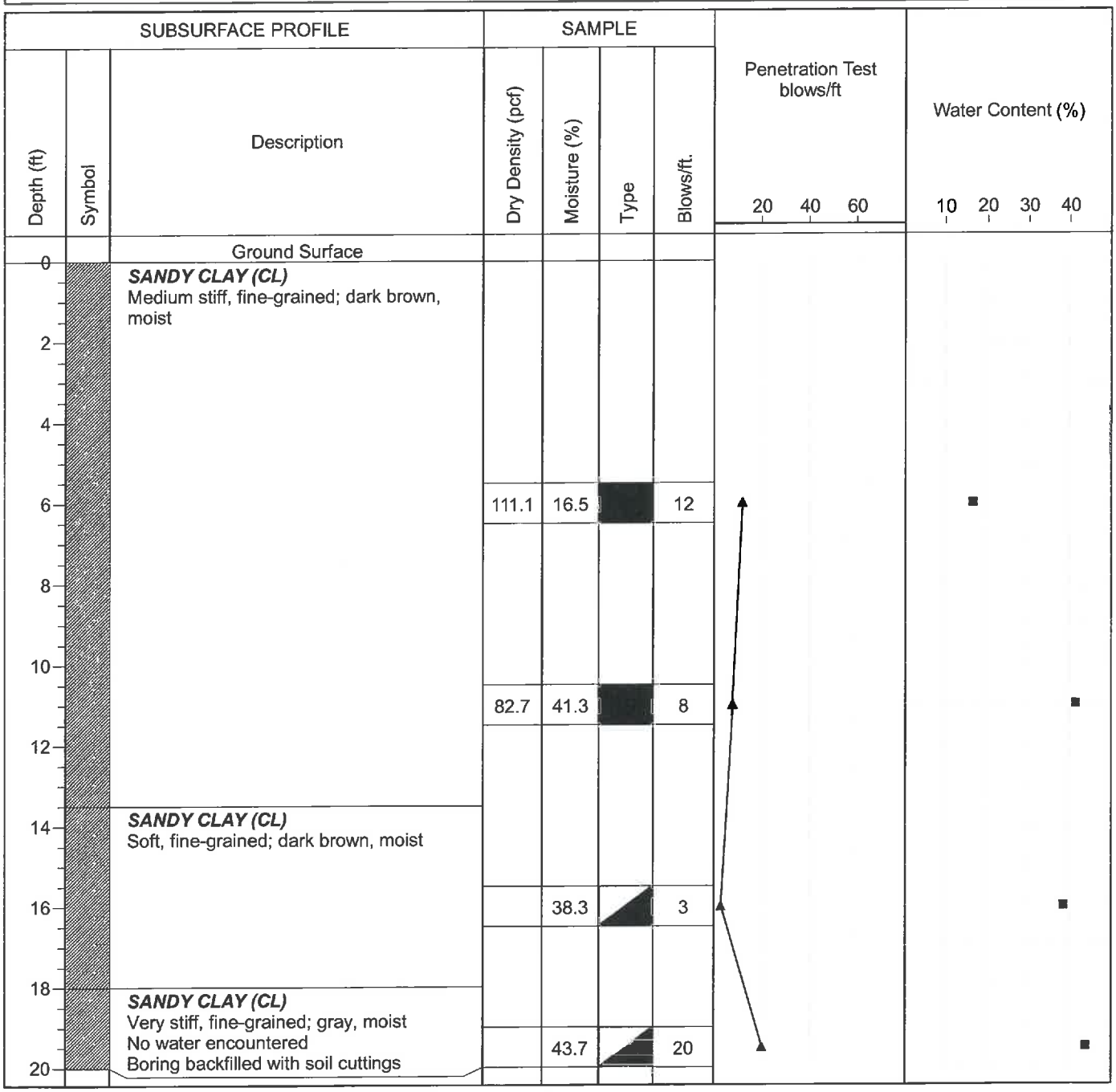
Client: Controlled Environments Construction, Inc.

Figure No.: A-1

Location: 5980/6000 Arcturus Avenue, Oxnard, CA

Logged By: Jorge Pelayo

Depth to Water> Not Encountered **Initial:** n/a **At Completion:** n/a



Drill Method: Hollow Stem

Drill Rig: CME 75

Driller: Choice Drilling

Krazan and Associates

Drill Date: 11-9-15

Hole Size: 5½ Inches

Elevation: 20 Feet

Log of Boring B2

Project: Cold Storage Facility

Project No: 112-15054

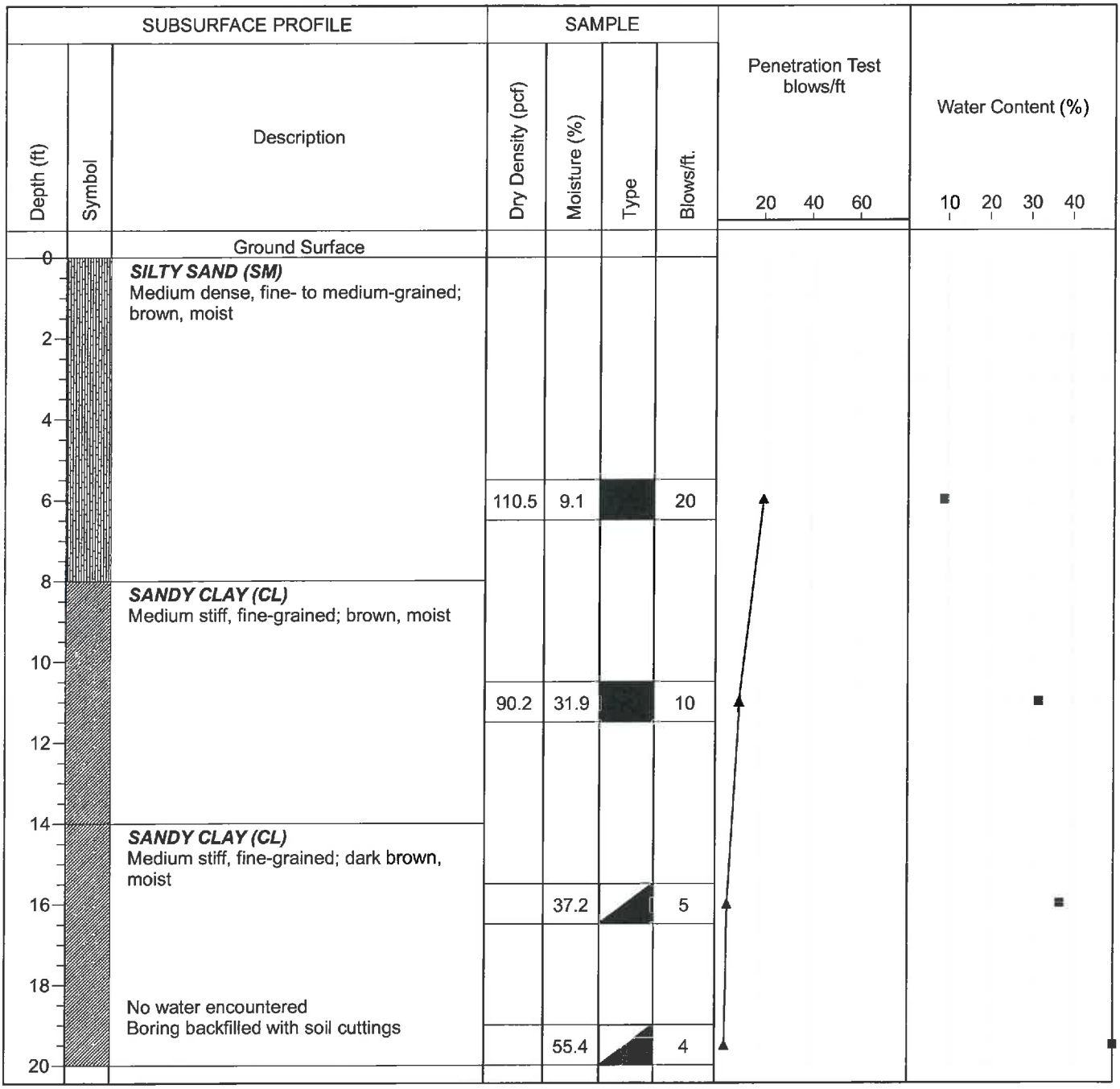
Client: Controlled Environments Construction, Inc.

Figure No.: A-2

Location: 5980/6000 Arcturus Avenue, Oxnard, CA

Logged By: Jorge Pelayo

Depth to Water> Not Encountered **Initial:** n/a **At Completion:** n/a



Drill Method: Hollow Stem

Drill Date: 11-9-15

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Choice Drilling

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B3

Project: Cold Storage Facility

Project No: 112-15054

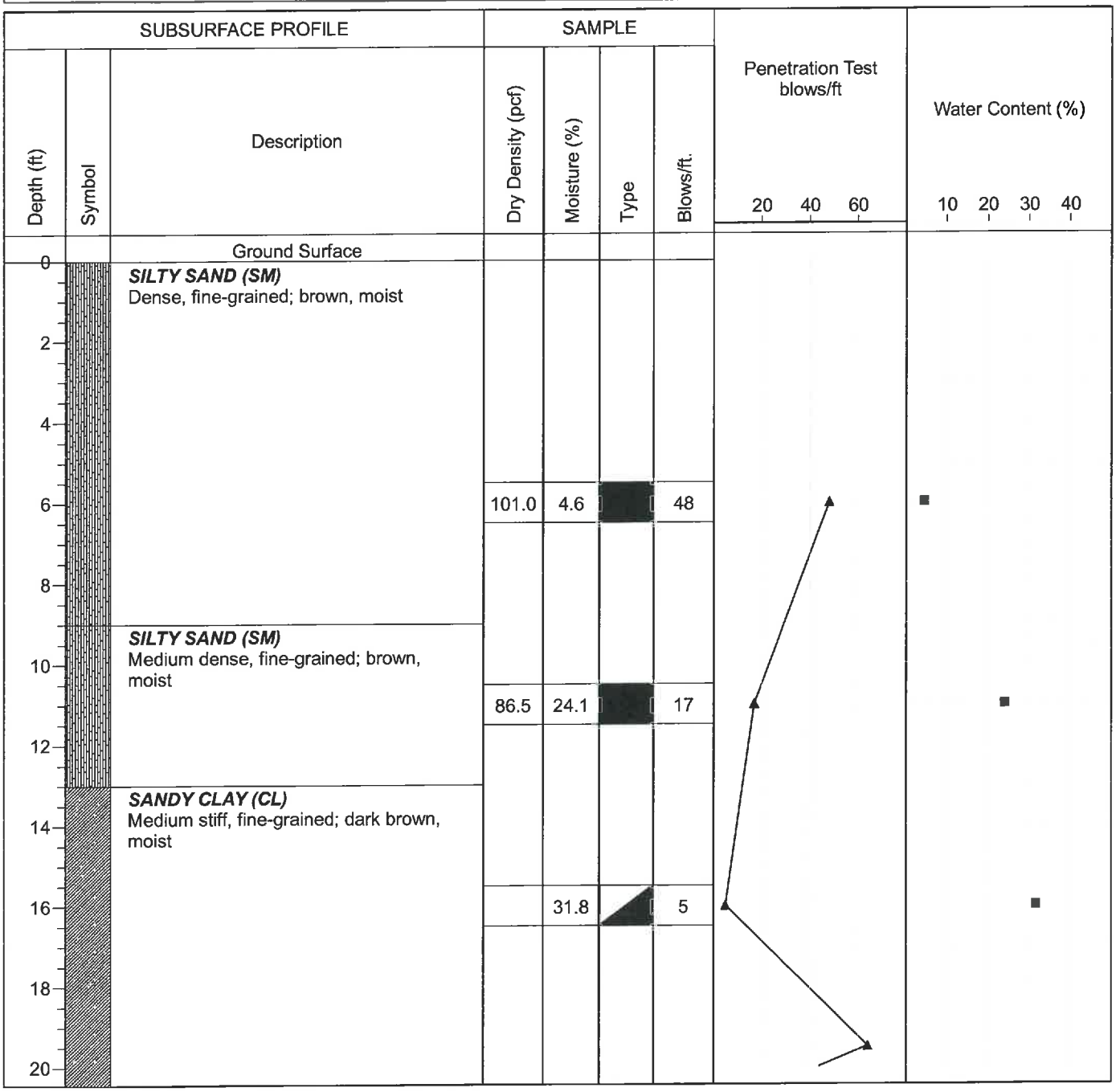
Client: Controlled Environments Construction, Inc.

Figure No.: A-3

Location: 5980/6000 Arcturus Avenue, Oxnard, CA

Logged By: Jorge Pelayo

Depth to Water> 26 Feet **Initial:** 26 Feet **At Completion:** 26 Feet



Drill Method: Hollow Stem

Drill Date: 11-9-15

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Choice Drilling

Elevation: 50 Feet

Log of Boring B3

Project: Cold Storage Facility

Project No: 112-15054

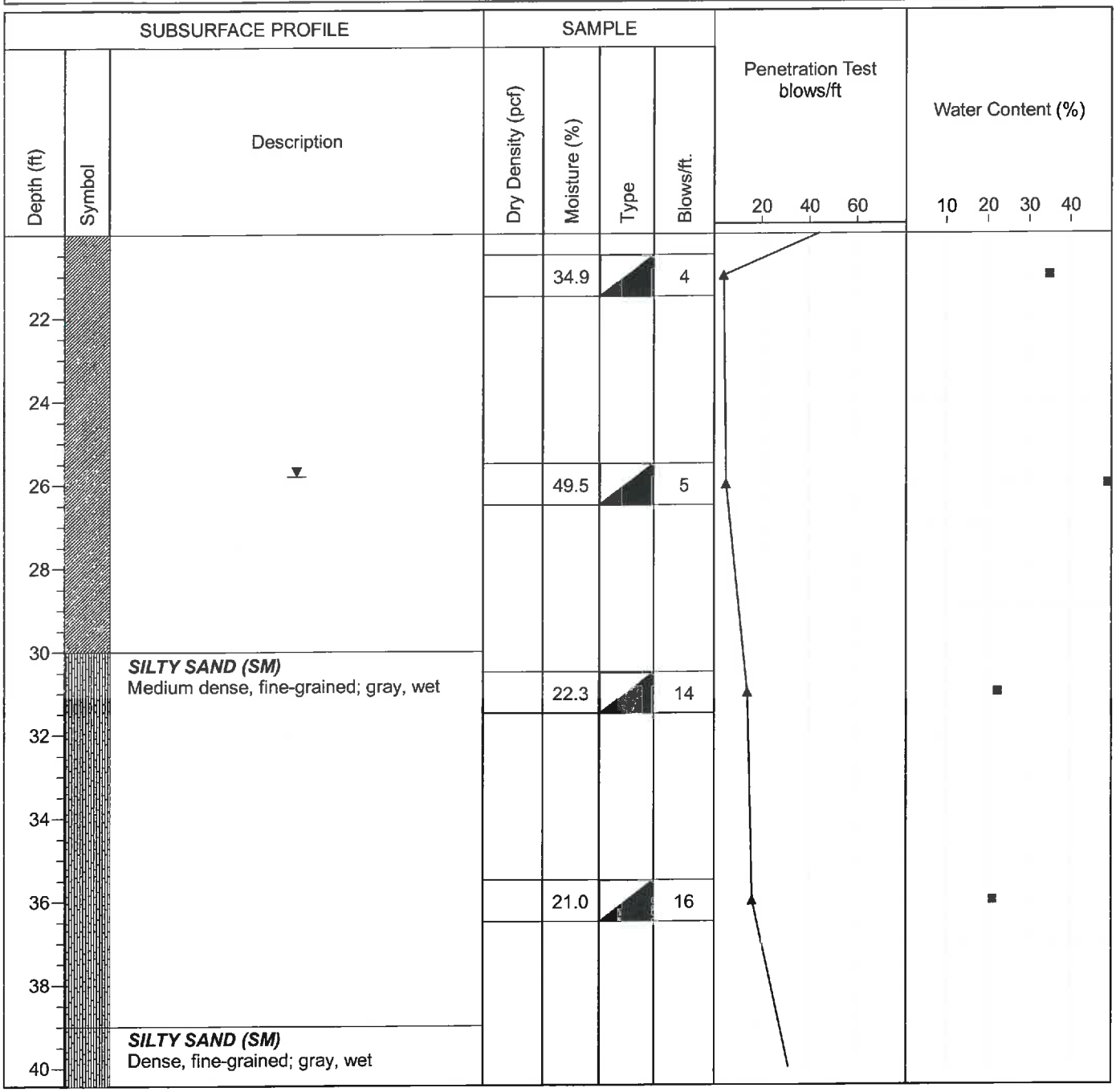
Client: Controlled Environments Construction, Inc.

Figure No.: A-3

Location: 5980/6000 Arcturus Avenue, Oxnard, CA

Logged By: Jorge Pelayo

Depth to Water> 26 Feet **Initial:** 26 Feet **At Completion:** 26 Feet



Drill Method: Hollow Stem

Drill Rig: CME 75

Driller: Choice Drilling

Krazan and Associates

Drill Date: 11-9-15

Hole Size: 5½ Inches

Elevation: 50 Feet

Log of Boring B3

Project: Cold Storage Facility

Project No: 112-15054

Client: Controlled Environments Construction, Inc.

Figure No.: A-3

Location: 5980/6000 Arcturus Avenue, Oxnard, CA

Logged By: Jorge Pelayo

Depth to Water> 26 Feet **Initial:** 26 Feet **At Completion:** 26 Feet

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
42				18.9		35		
44								
46				19.9		46		
48								
50				22.0		64		
52		End of Borehole Water encountered at 26 feet Boring backfilled with soil cuttings						
54								
56								
58								
60								

Drill Method: Hollow Stem

Drill Rig: CME 75

Driller: Choice Drilling

Krazan and Associates

Drill Date: 11-9-15

Hole Size: 5½ Inches

Elevation: 50 Feet

Sheet: 3 of 3

Log of Boring B4

Project: Cold Storage Facility

Project No: 112-15054

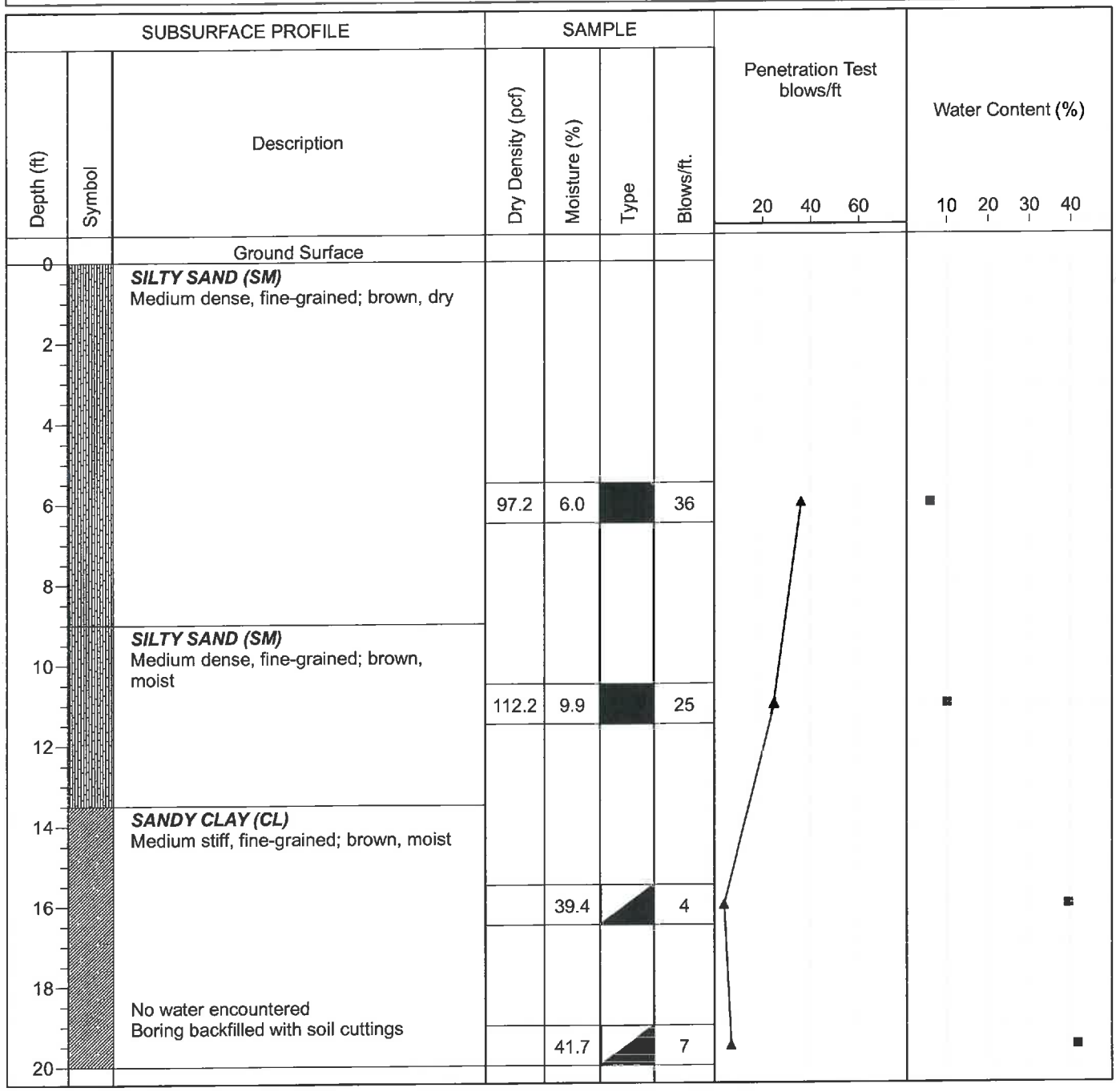
Client: Controlled Environments Construction, Inc.

Figure No.: A-4

Location: 5980/6000 Arcturus Avenue, Oxnard, CA

Logged By: Jorge Pelayo

Depth to Water> Not Encountered **Initial:** n/a **At Completion:** n/a



Drill Method: Hollow Stem

Drill Rig: CME 75

Driller: Choice Drilling

Krazan and Associates

Drill Date: 11-9-15

Hole Size: 5½ Inches

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B5

Project: Cold Storage Facility | **Project No:** 112-15054

Client: Controlled Environments Construction, Inc. | **Figure No.:** A-5

Location: 5980/6000 Arcturus Avenue, Oxnard, CA | **Logged By:** Jorge Pelayo

Depth to Water> Not Encountered | **Initial:** n/a | **At Completion:** n/a

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Medium dense, fine-grained; brown, dry				
6			106.8	5.7		37
8		***SILTY SAND (SM)*** Loose, fine-grained; brown, moist				
10			85.4	23.3		7
14		***SANDY CLAY (CL)*** Soft, fine-grained; brown, moist				
16				35.0		12
18		***SANDY CLAY (CL)*** Stiff, fine-grained; dark brown, moist No water encountered Boring backfilled with soil cuttings				
20				32.6		10

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem | **Drill Date:** 11-9-15

Drill Rig: CME 75 | **Hole Size:** 5½ Inches

Driller: Choice Drilling | **Elevation:** 20 Feet

Krazan and Associates

Log of Boring B6

Project: Cold Storage Facility

Project No: 112-15054

Client: Controlled Environments Construction, Inc.

Figure No.: A-6

Location: 5980/6000 Arcturus Avenue, Oxnard, CA

Logged By: Jorge Pelayo

Depth to Water> 14 Feet **Initial:** 14 Feet **At Completion:** 14 Feet

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		Ground Surface				
0		***SANDY CLAY (CL)*** Medium stiff to stiff, fine-grained; brown, moist				
6			94.4	28.2		14
8		***SANDY CLAY (CL)*** Stiff, fine-grained; brown, moist				
10			84.8	37.1		10
14		***SANDY CLAY (CL)*** Medium Stiff, fine-grained; gray, wet				
16				21.4		11
18		Water encountered at 14 feet Boring backfilled with soil cuttings				
				26.9		19
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Rig: CME 75

Driller: Choice Drilling

Krazan and Associates

Drill Date: 11-9-15

Hole Size: 5½ Inches

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B7

Project: Cold Storage Facility

Project No: 112-15054

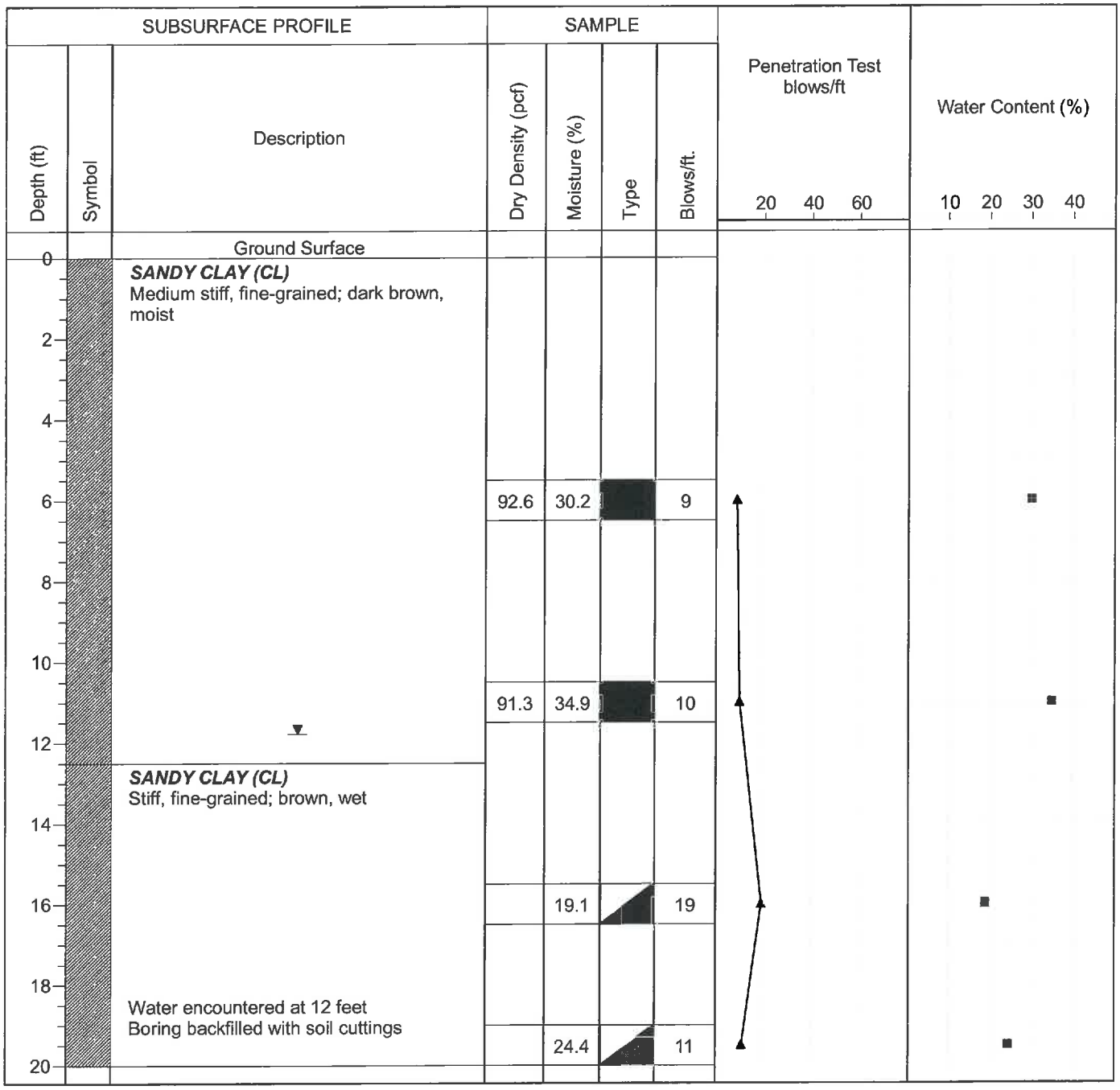
Client: Controlled Environments Construction, Inc.

Figure No.: A-7

Location: 5980/6000 Arcturus Avenue, Oxnard, CA

Logged By: Jorge Pelayo

Depth to Water> 12 Feet **Initial:** 12 Feet **At Completion:** 12 Feet



Drill Method: Hollow Stem

Drill Date: 11-9-15

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Choice Drilling

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B8

Project: Cold Storage Facility

Project No: 112-15054

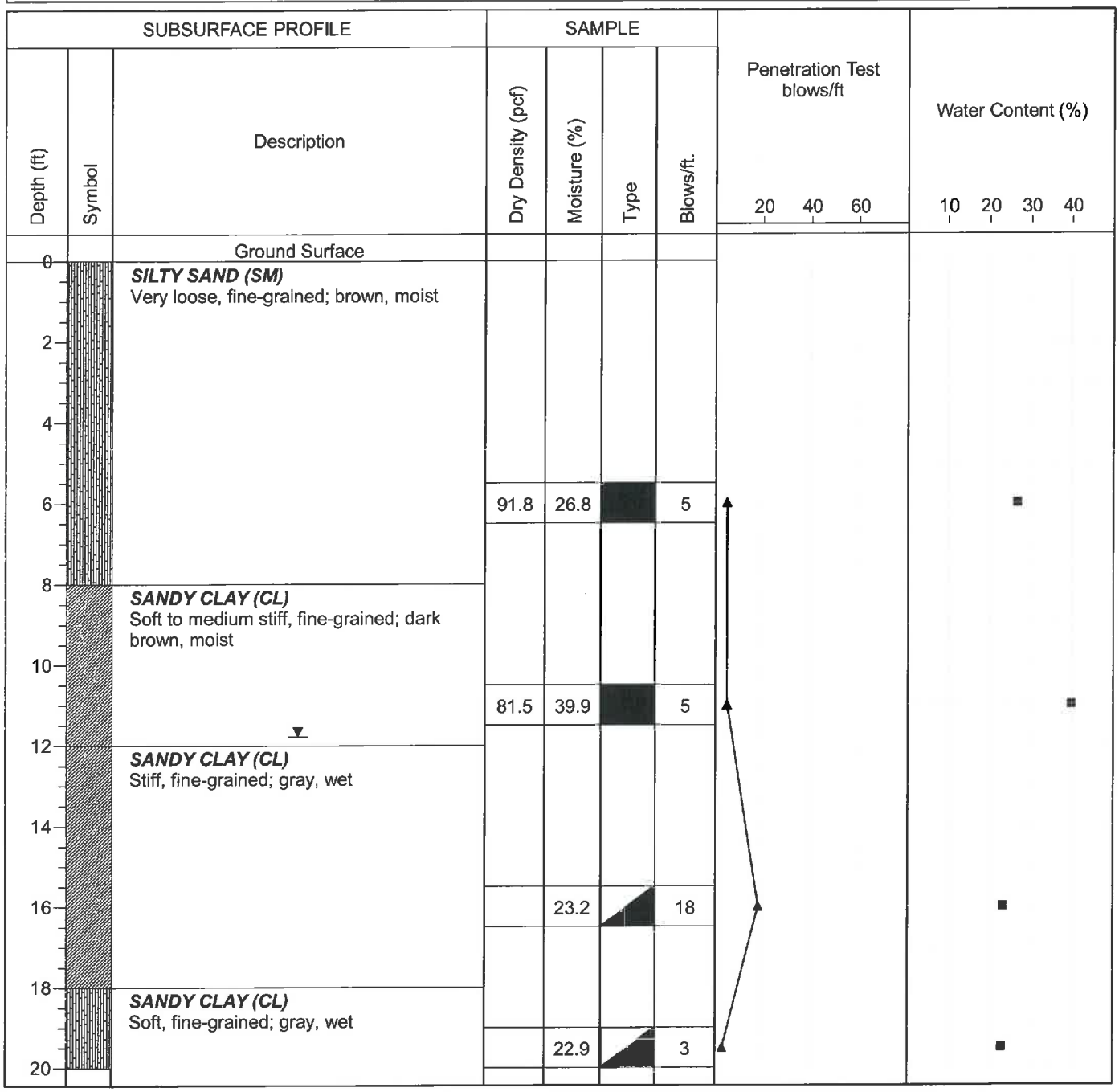
Client: Controlled Environments Construction, Inc.

Figure No.: A-8

Location: 5980/6000 Arcturus Avenue, Oxnard, CA

Logged By: Jorge Pelayo

Depth to Water> 12 Feet **Initial:** 12 Feet **At Completion:** 12 Feet



Drill Method: Hollow Stem

Drill Date: 11-9-15

Drill Rig: CME 75

Krazan and Associates

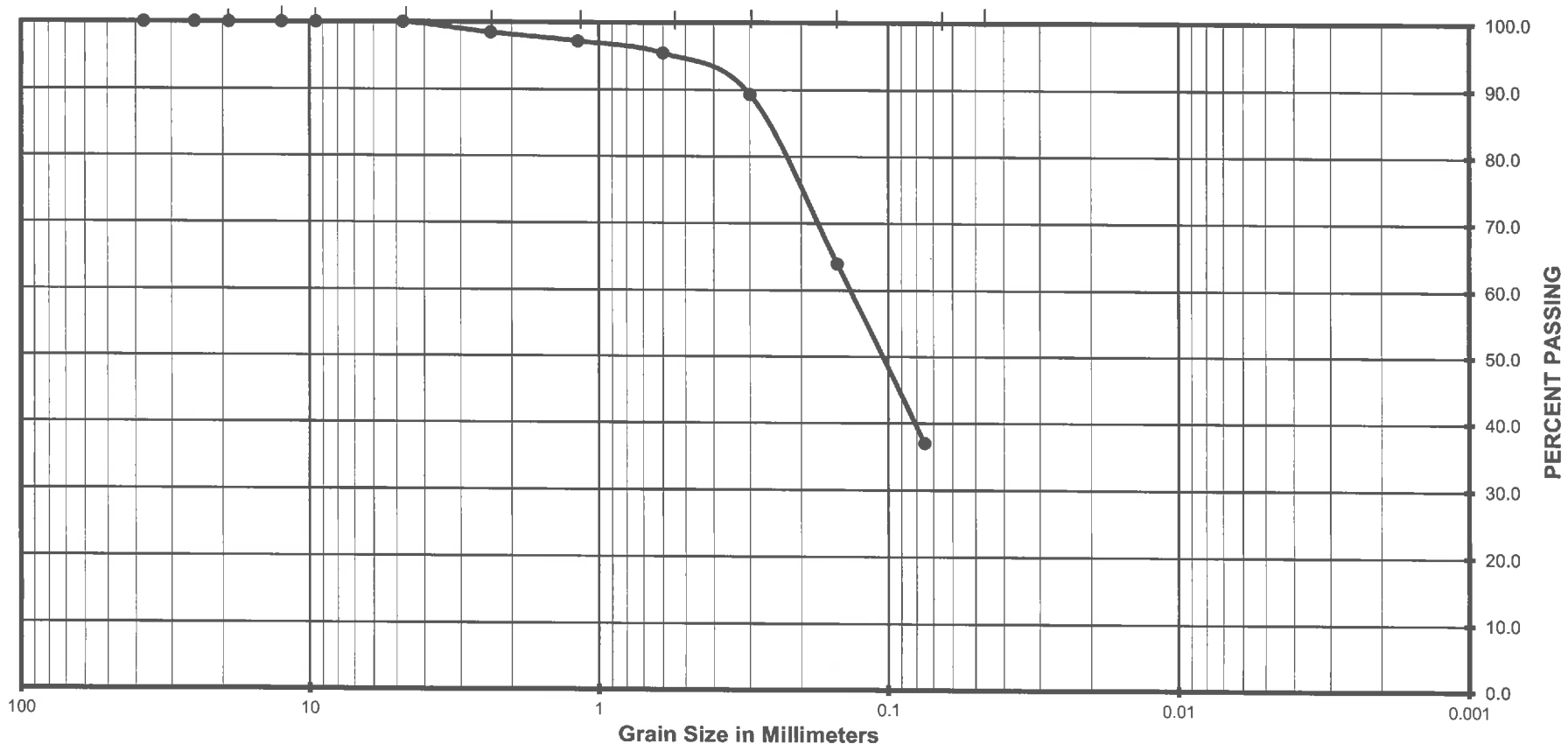
Hole Size: 5½ Inches

Driller: Choice Drilling

Elevation: 20 Feet

Sheet: 1 of 1

Grain Size Analysis



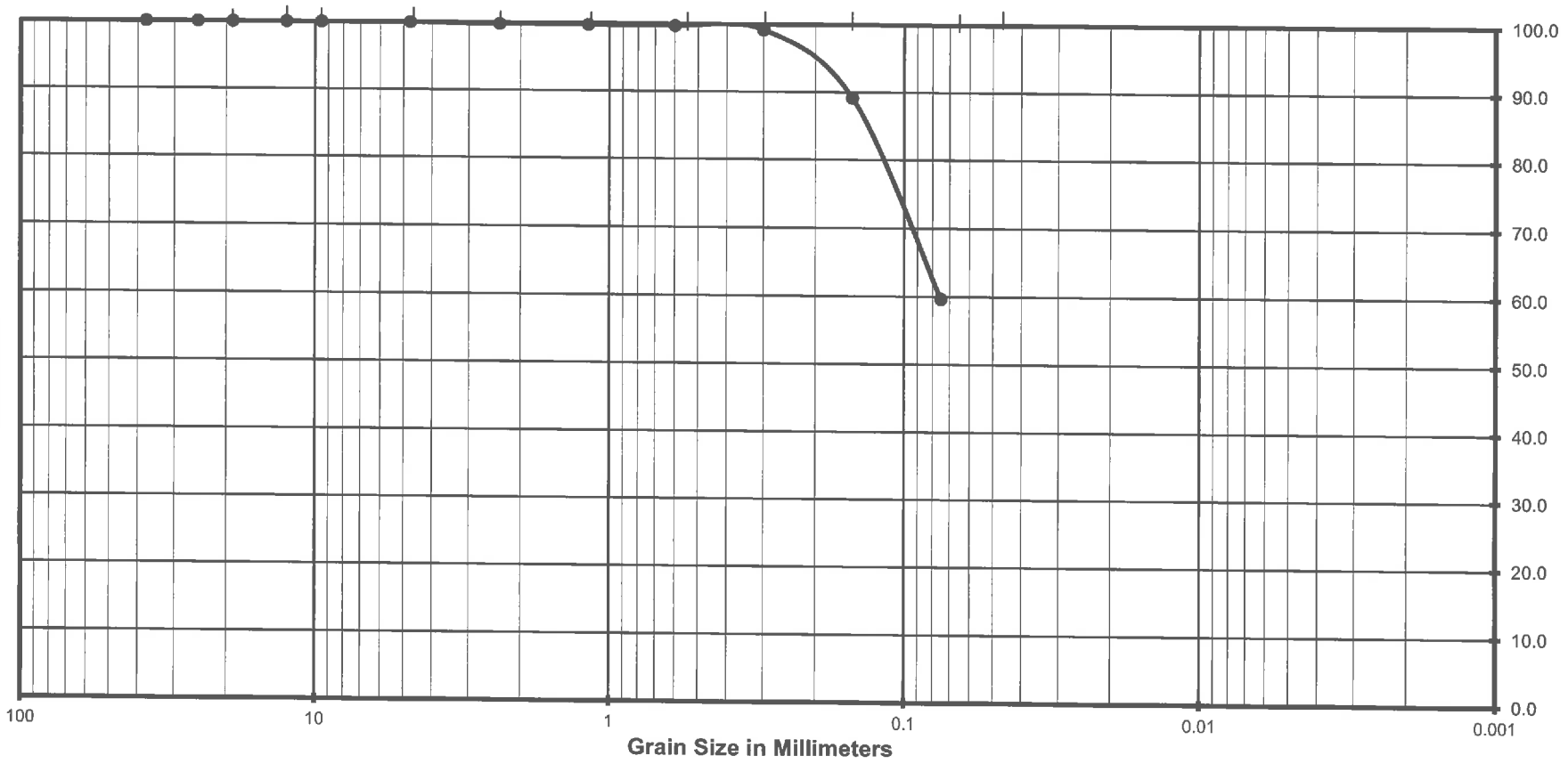
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	SM/SC
Sample Number	B-3 @ 5'

Krazan Testing Laboratory

Grain Size Analysis



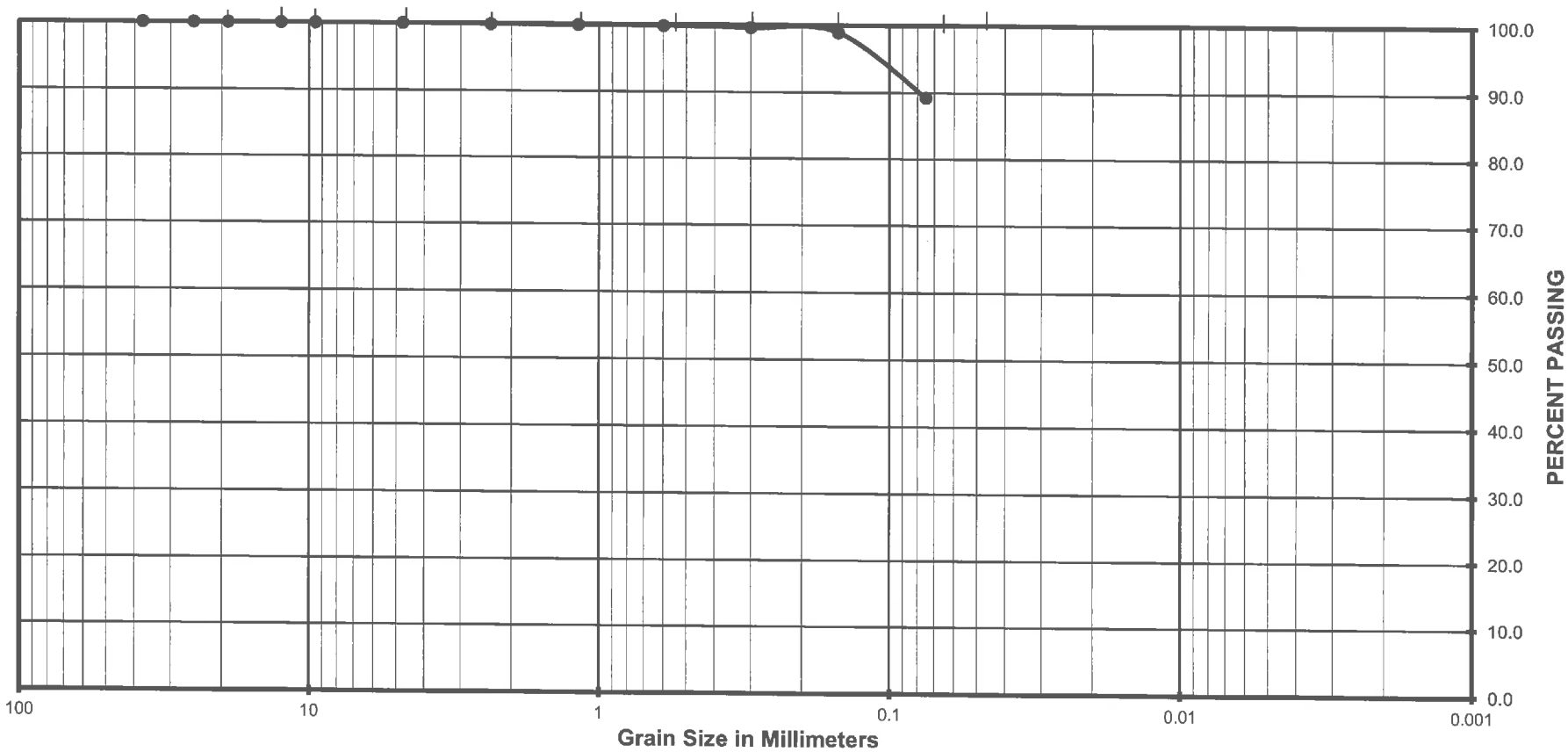
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	ML/CL
Sample Number	B-3 @ 10'

Krazan Testing Laboratory

Grain Size Analysis



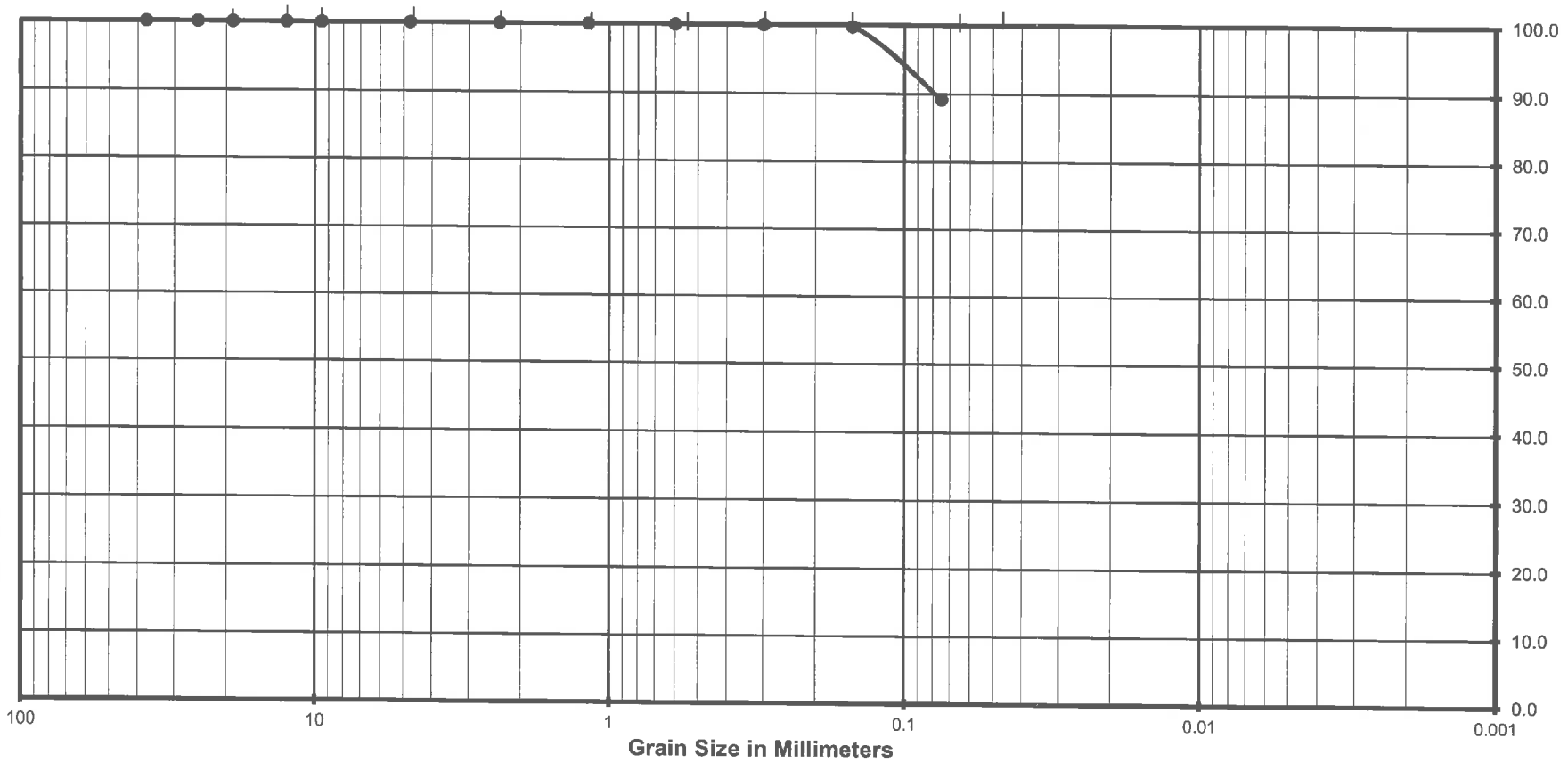
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	CL
Sample Number	B-3 @ 15'

Krazan Testing Laboratory

Grain Size Analysis



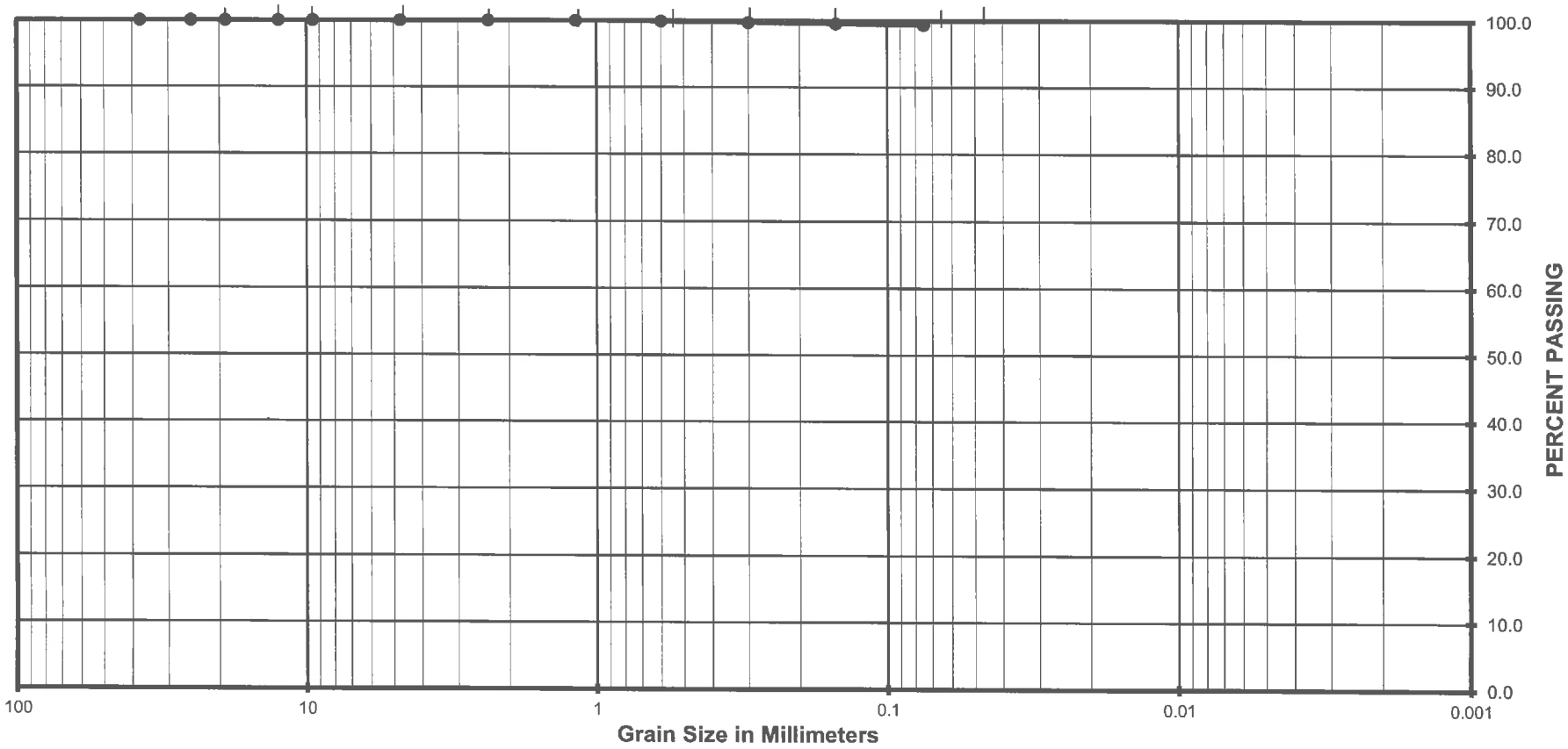
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	CL
Sample Number	B-3 @ 20'

Krazan Testing Laboratory

Grain Size Analysis



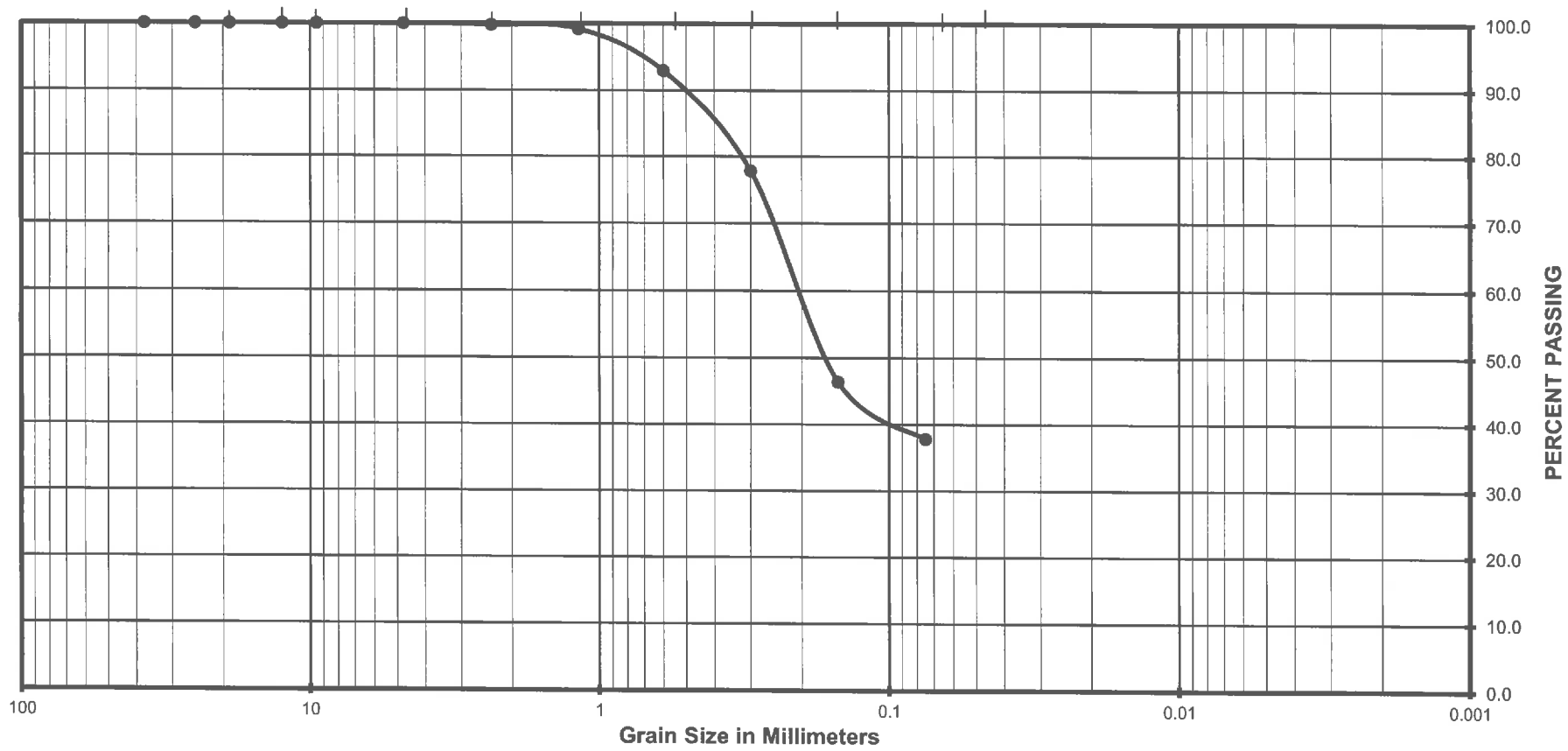
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	CL
Sample Number	B-3 @ 25'

Krazan Testing Laboratory

Grain Size Analysis



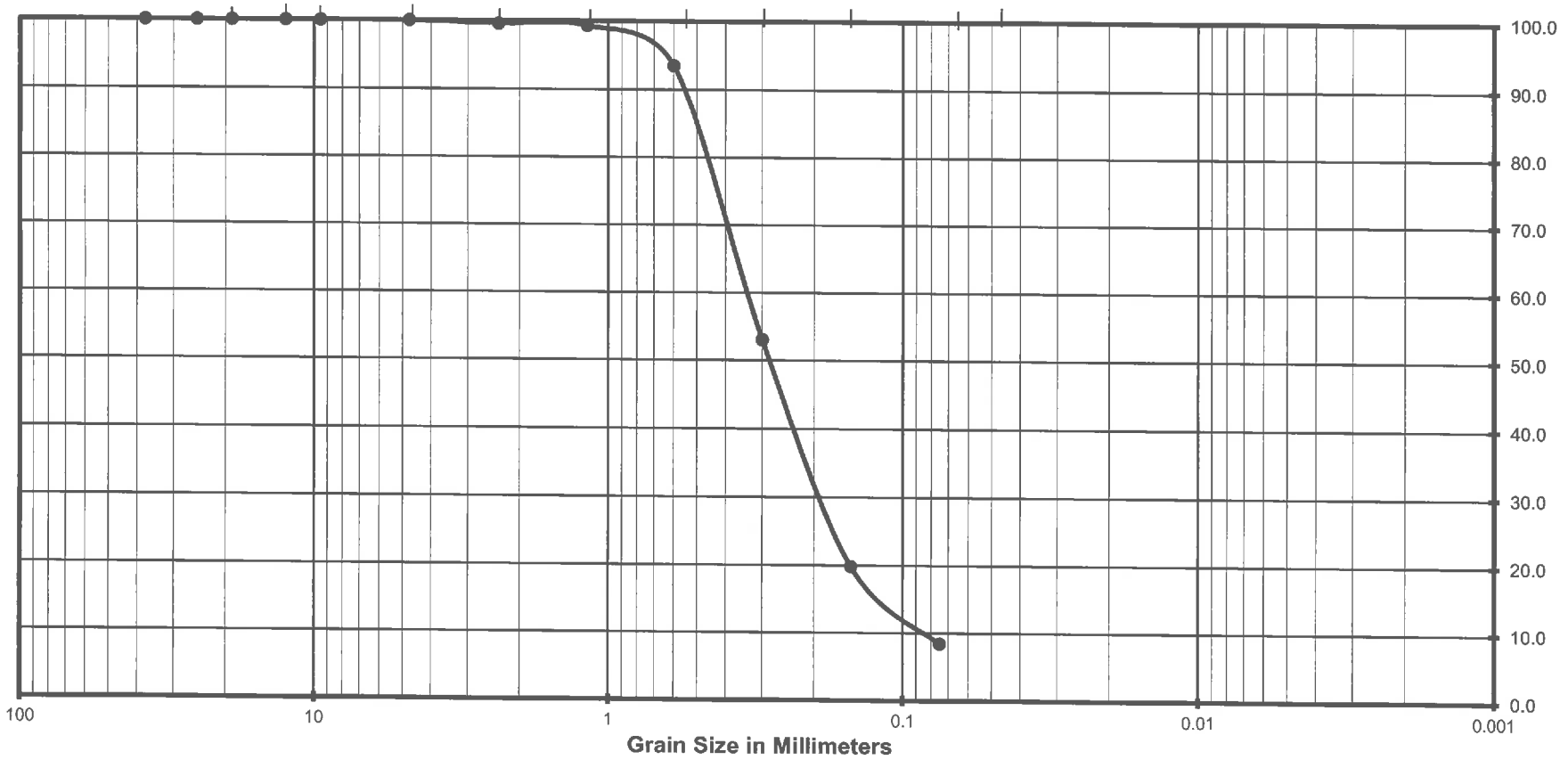
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	SM/SC
Sample Number	B-3 @ 30'

Krazan Testing Laboratory

Grain Size Analysis



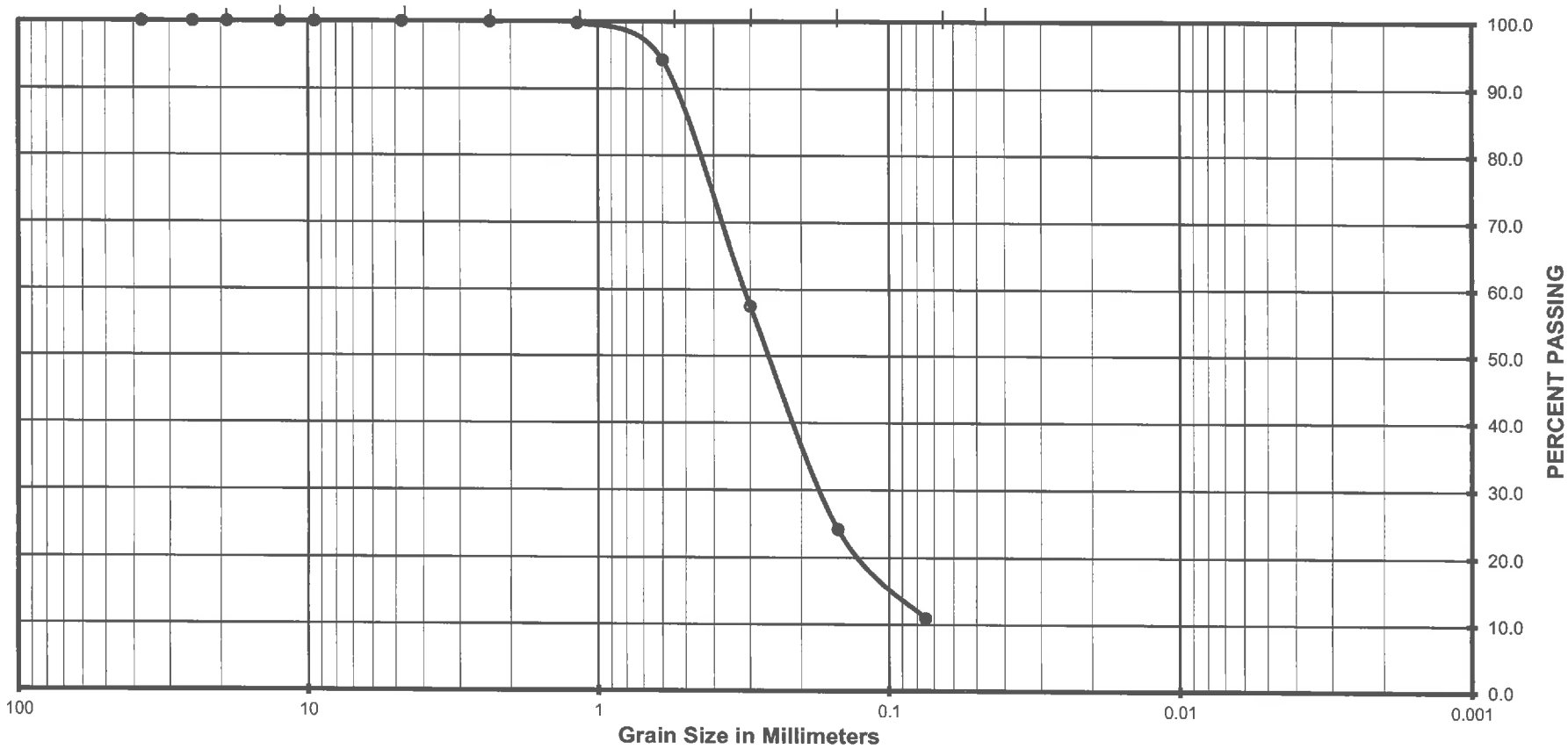
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	SP
Sample Number	B-3 @ 35'

Krazan Testing Laboratory

Grain Size Analysis



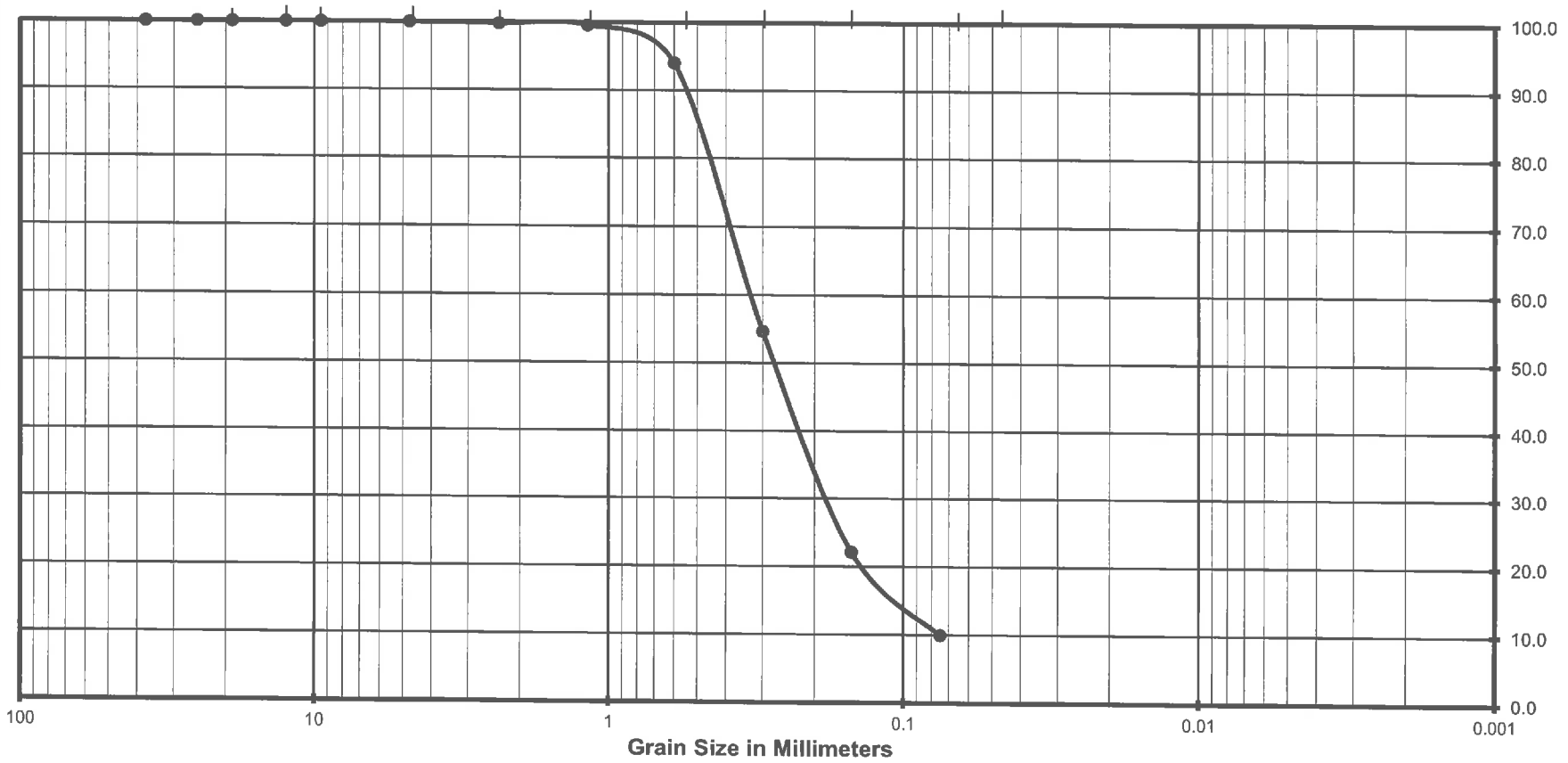
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	SP
Sample Number	B-3 @ 40'

Krazan Testing Laboratory

Grain Size Analysis



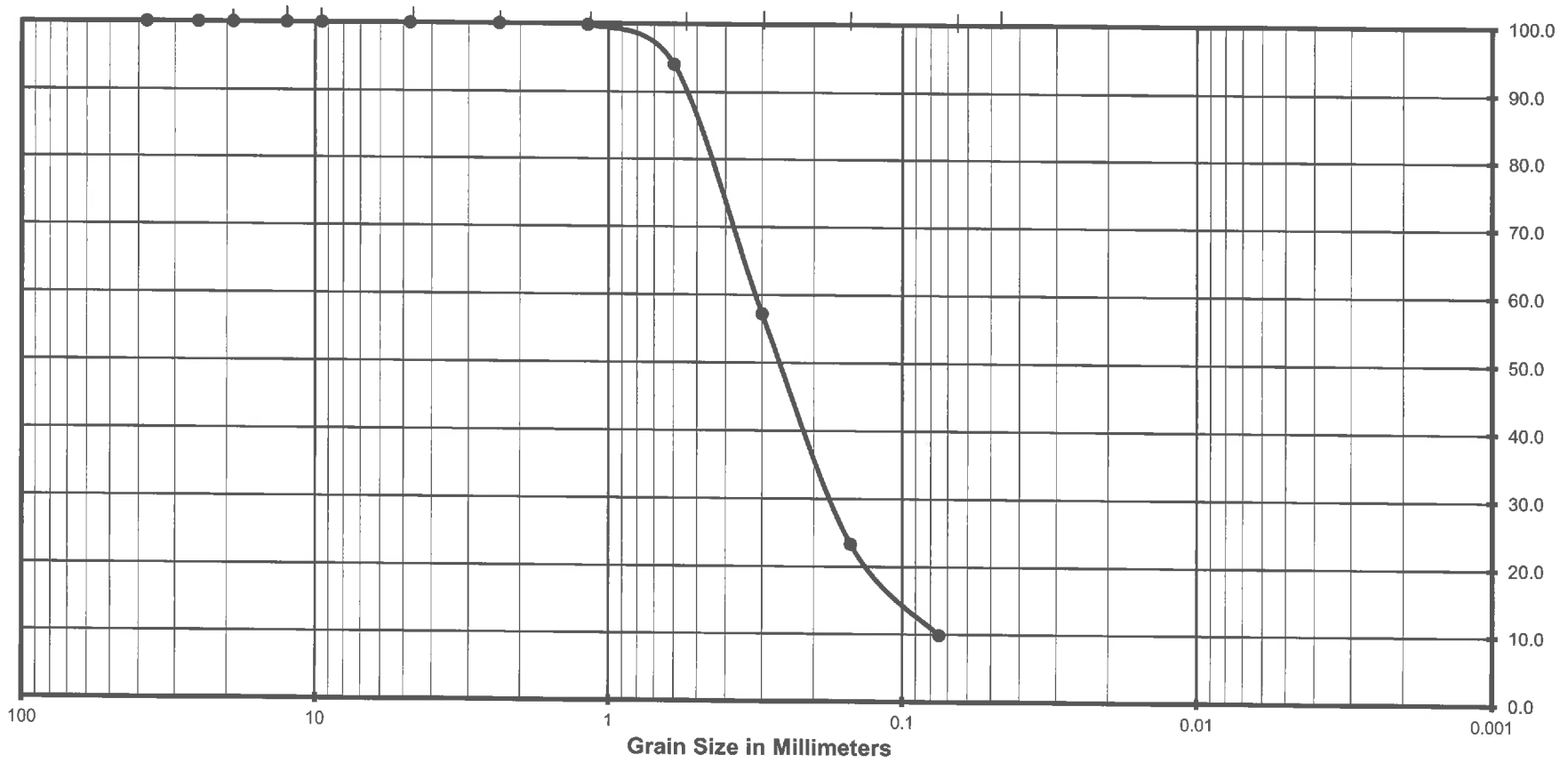
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	SP
Sample Number	B-3 @ 45'

Krazan Testing Laboratory

Grain Size Analysis



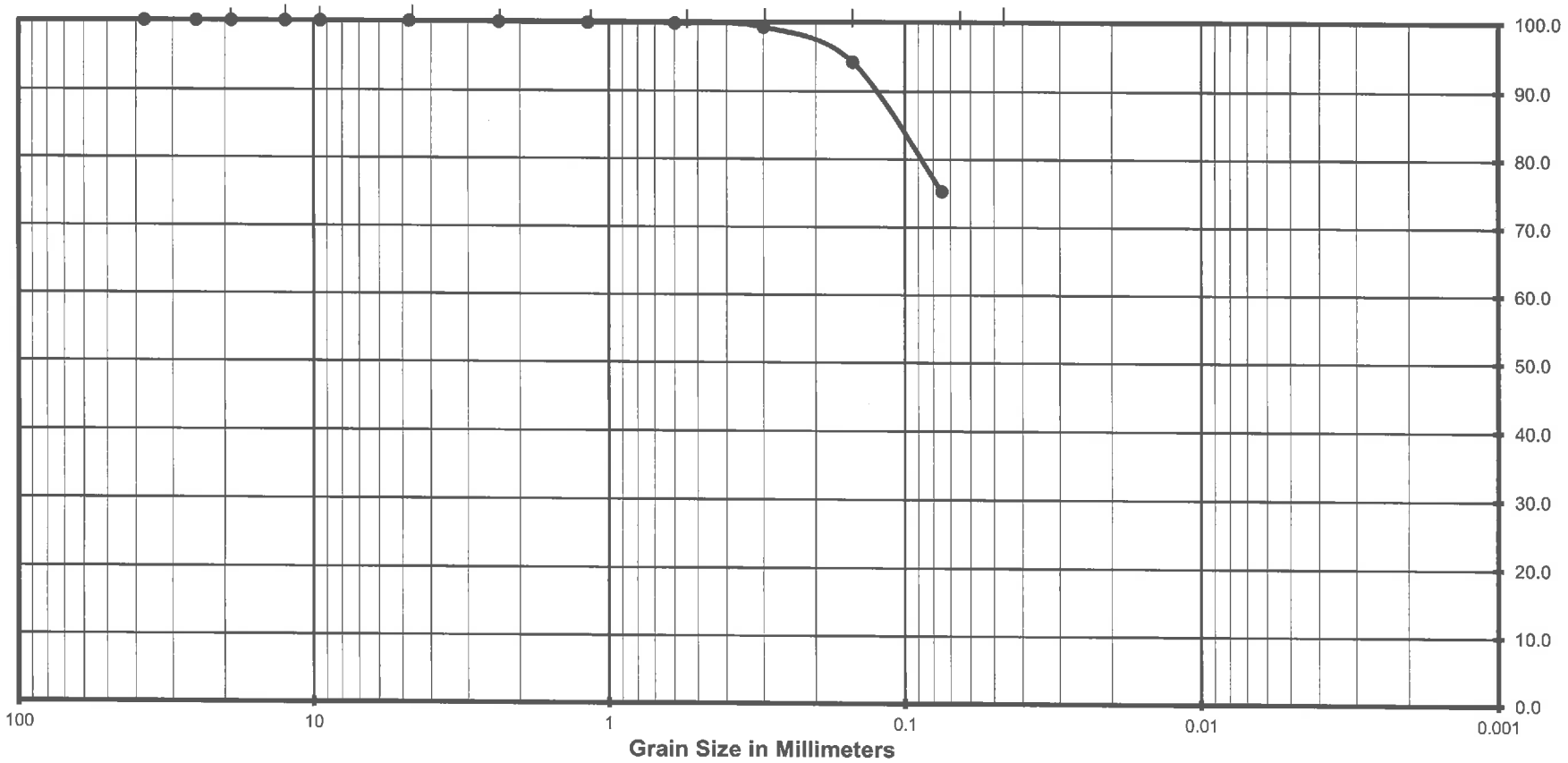
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	SP
Sample Number	B-3 @ 50'

Krazan Testing Laboratory

Grain Size Analysis



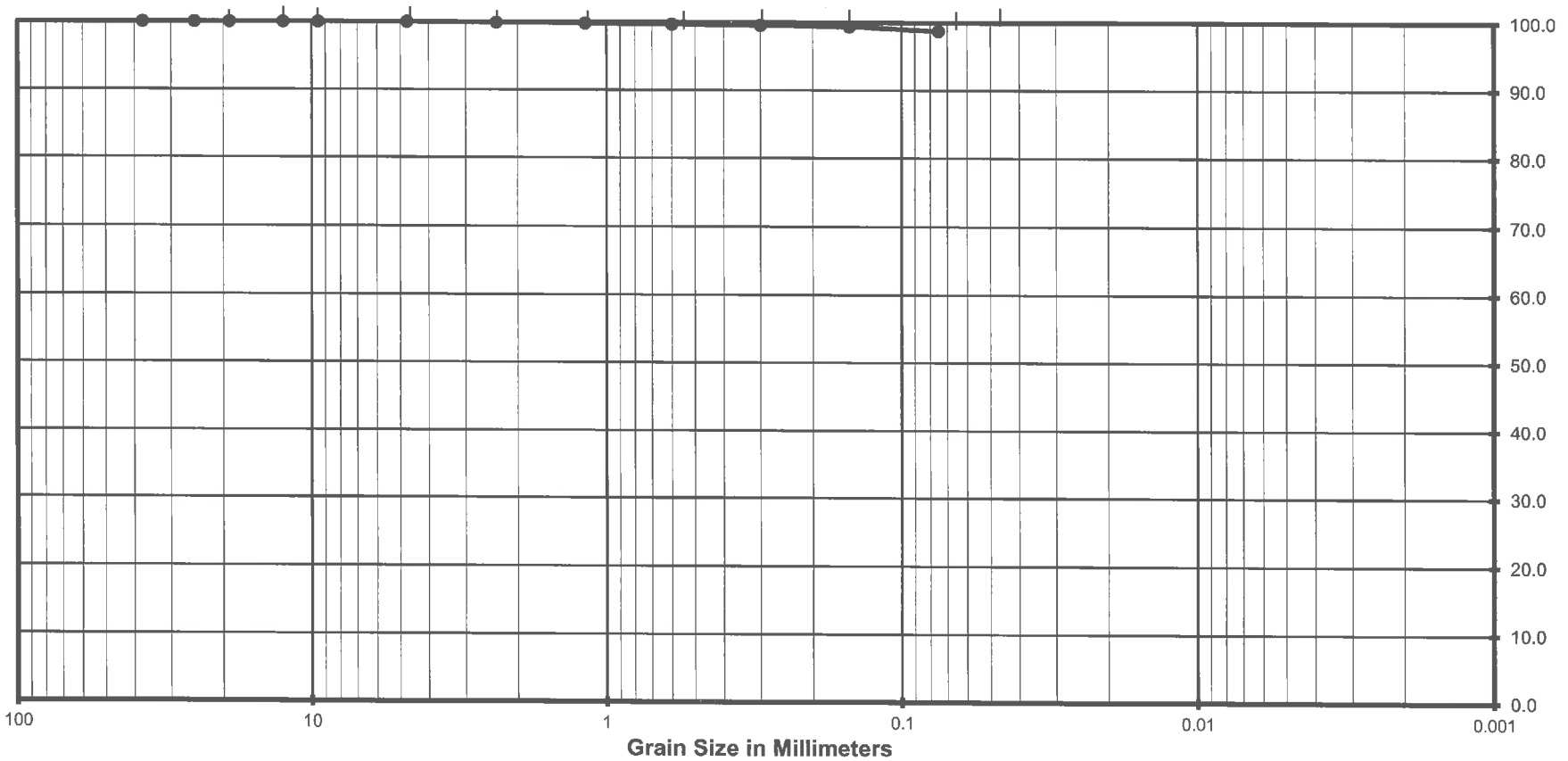
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	CL
Sample Number	B-8 @ 5'

Krazan Testing Laboratory

Grain Size Analysis



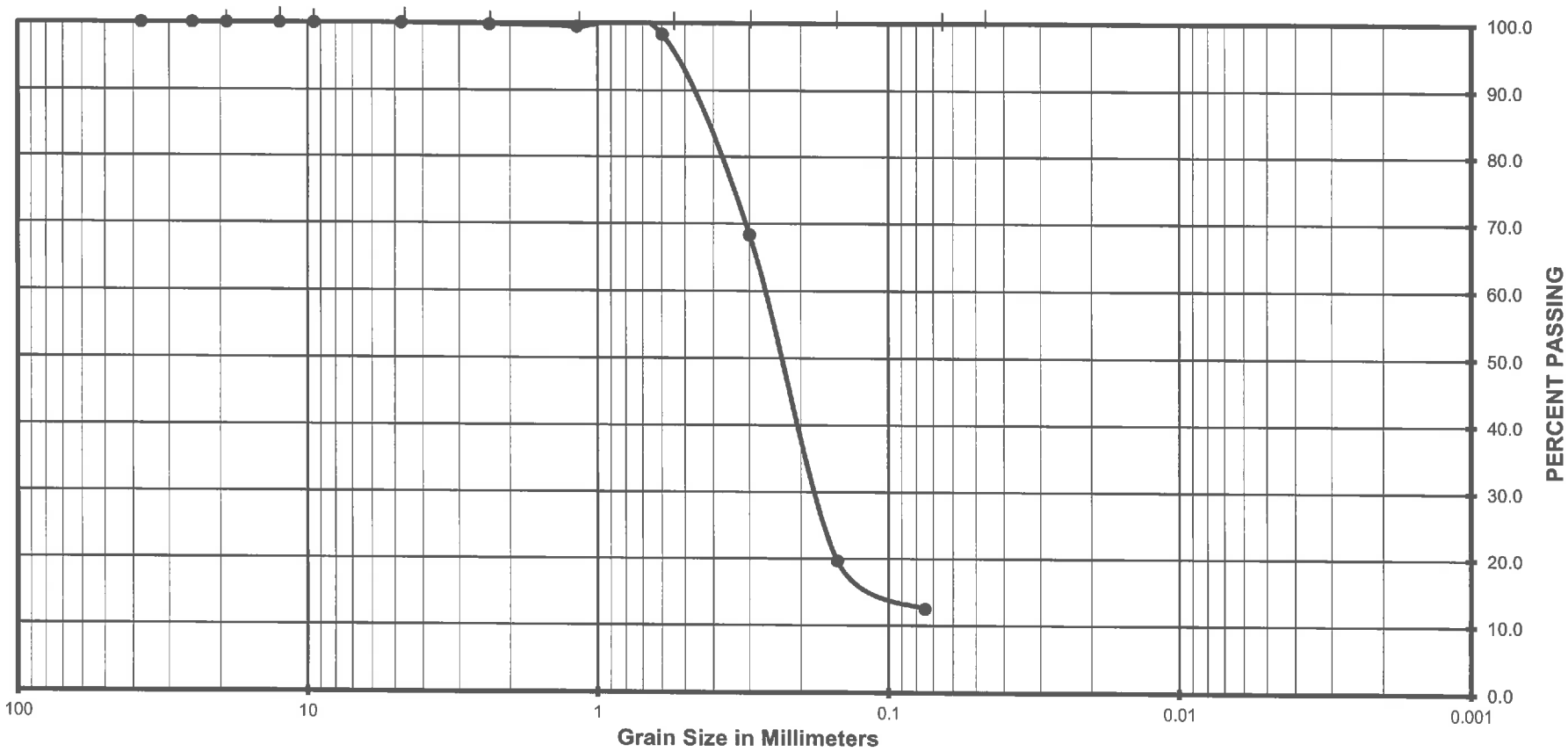
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	CL
Sample Number	B-8 @ 10'

Krazan Testing Laboratory

Grain Size Analysis



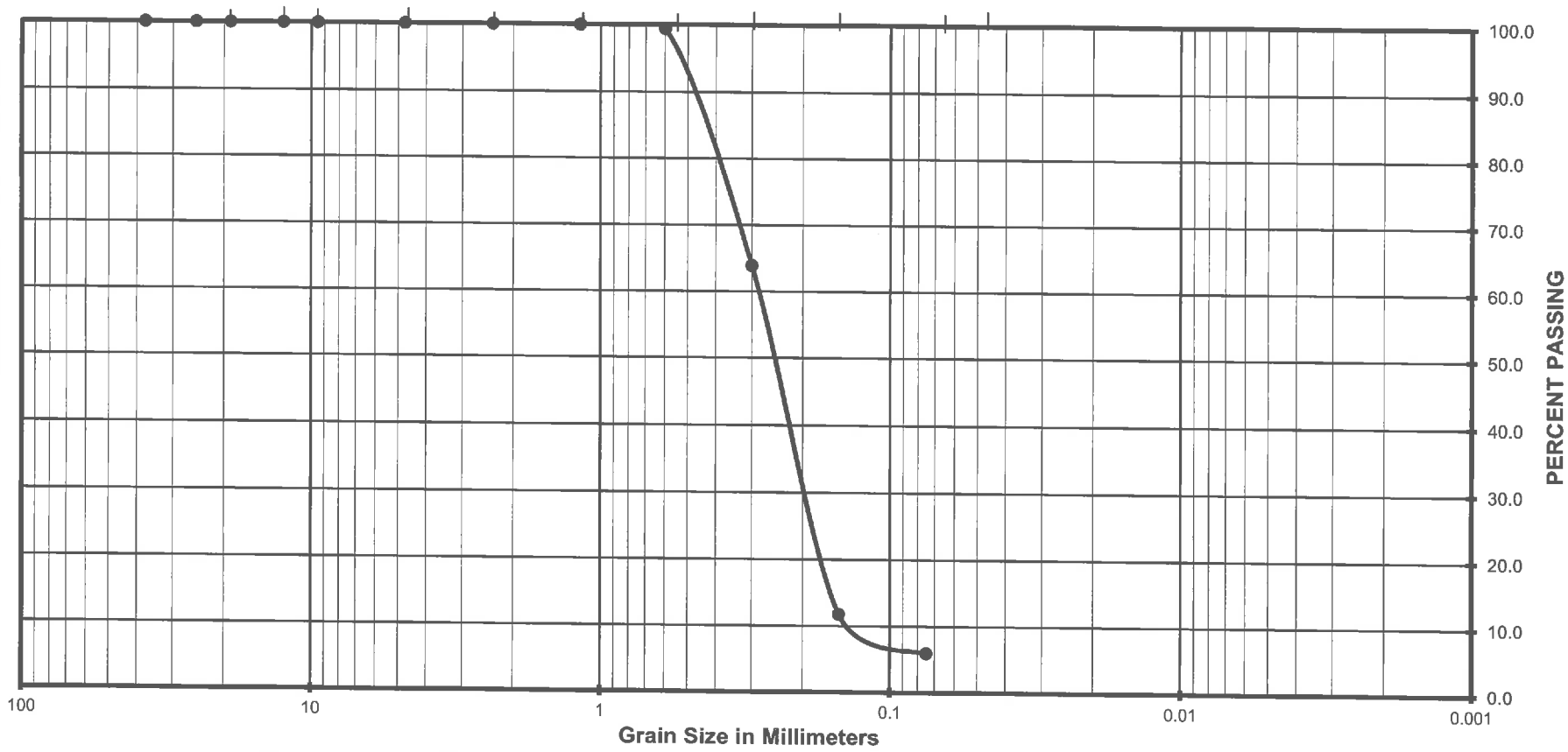
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	SP
Sample Number	B-8 @ 15'

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

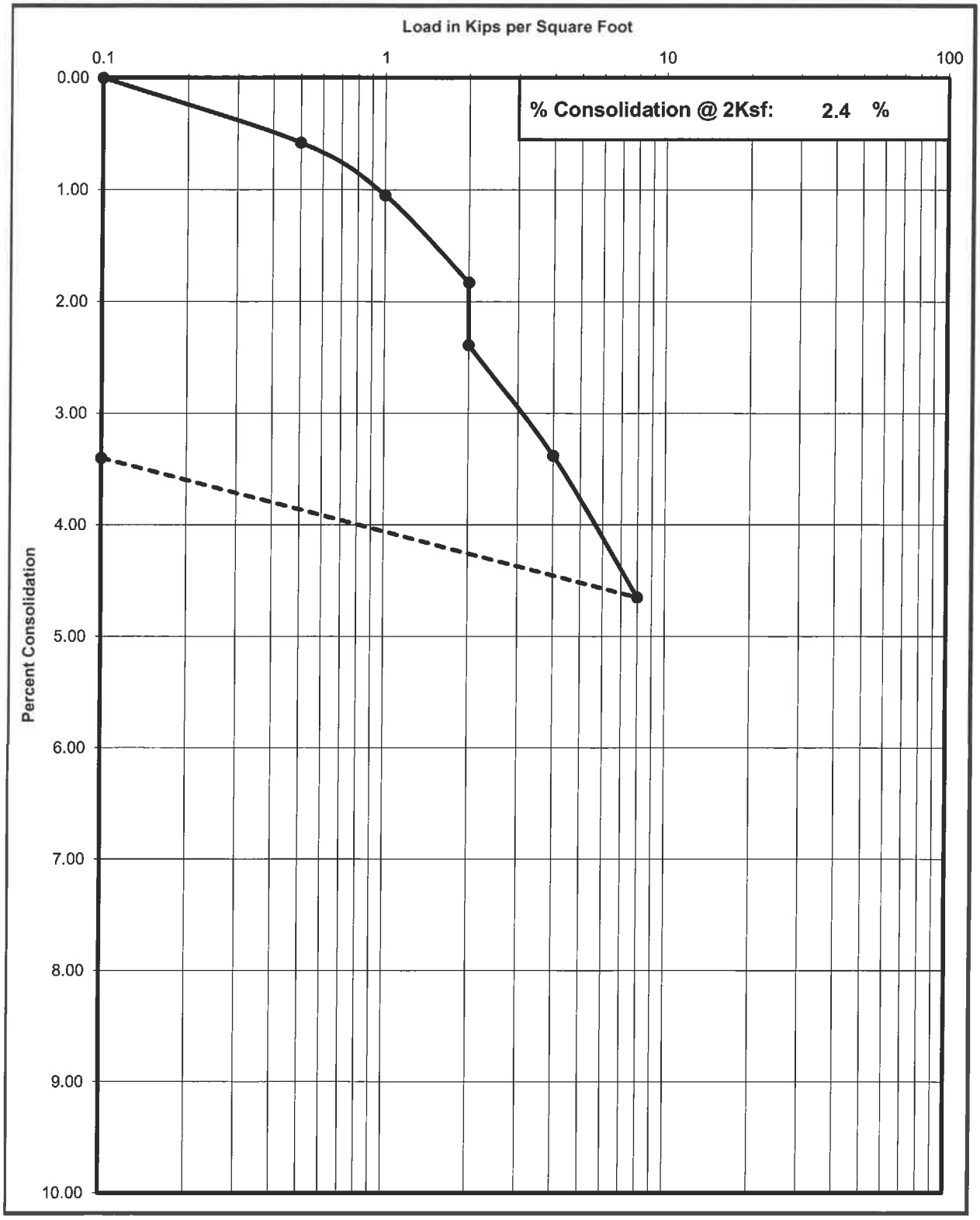
(Unified Soils Classification)

Project Name	Cold Storage Facility
Project Number	11215054
Soil Classification	SP
Sample Number	B-8 @ 20'

Krazan Testing Laboratory

Consolidation Test

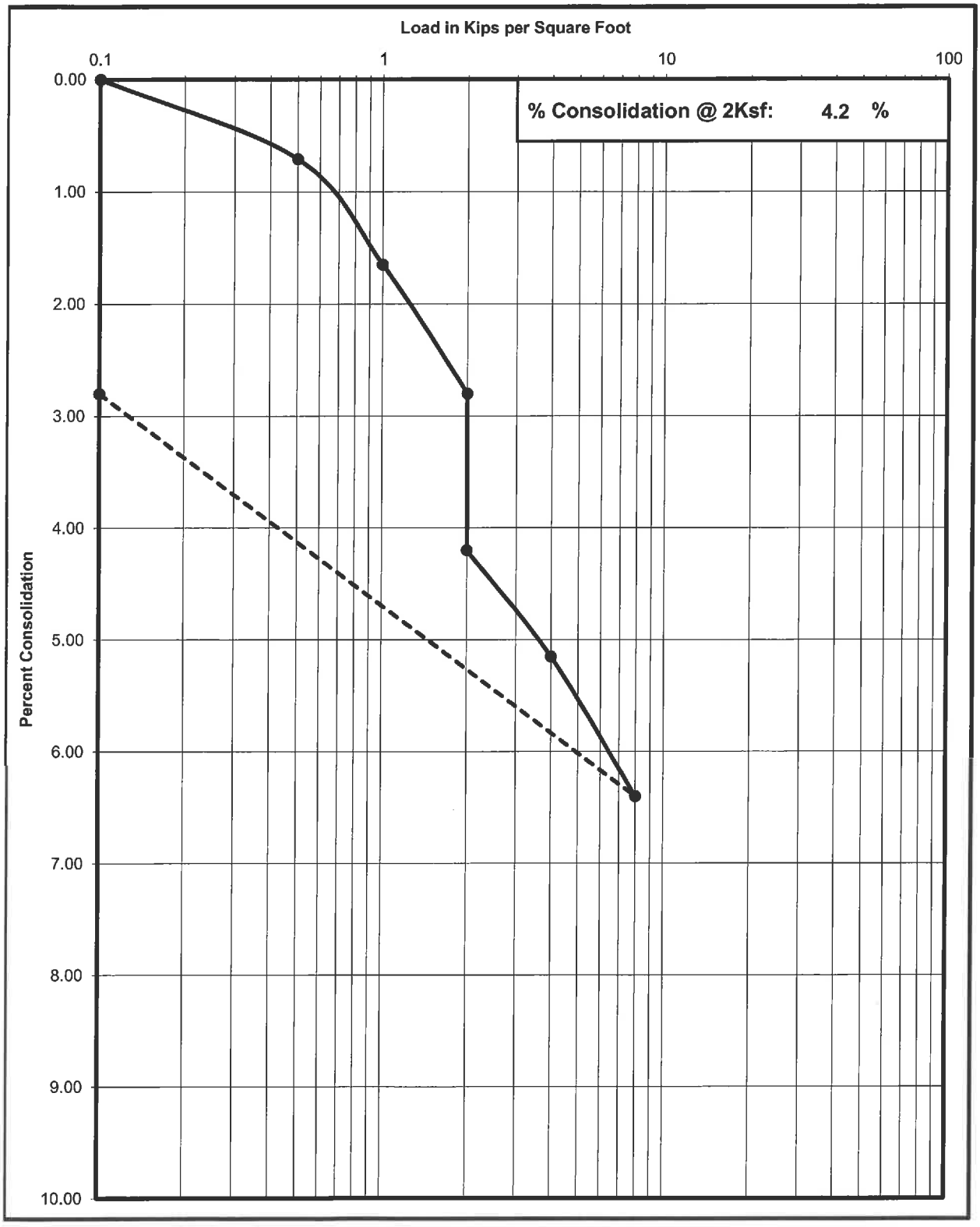
Project No	Boring No. & Depth	Date	Soil Classification
11215054	B-8 @ 5'	11/9/2015	Sandy Clay



Krazan Testing Laboratory

Consolidation Test

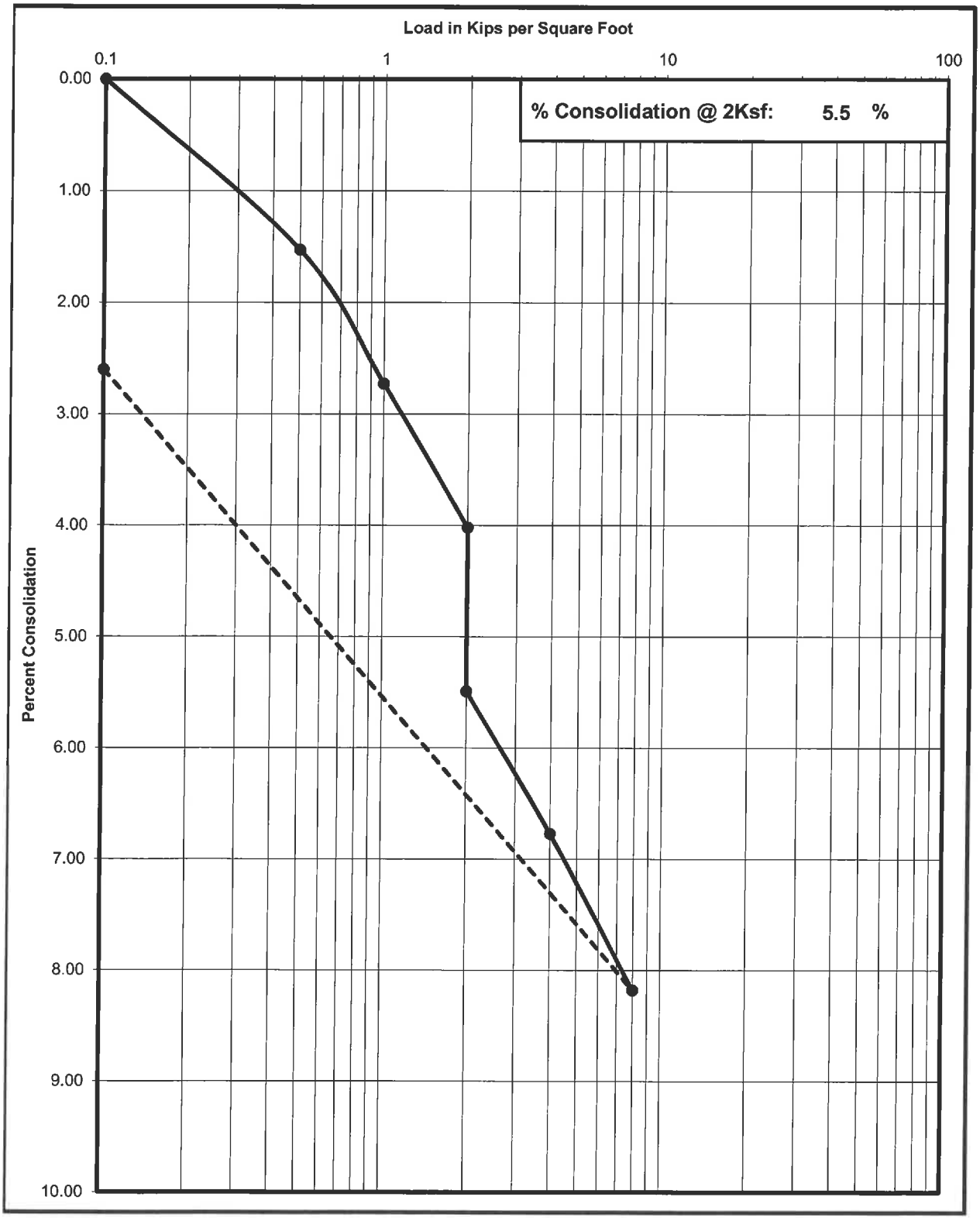
Project No	Boring No. & Depth	Date	Soil Classification
11215054	B-6 @ 5'	11/9/2015	Sandy Clay



Krazan Testing Laboratory

Consolidation Test

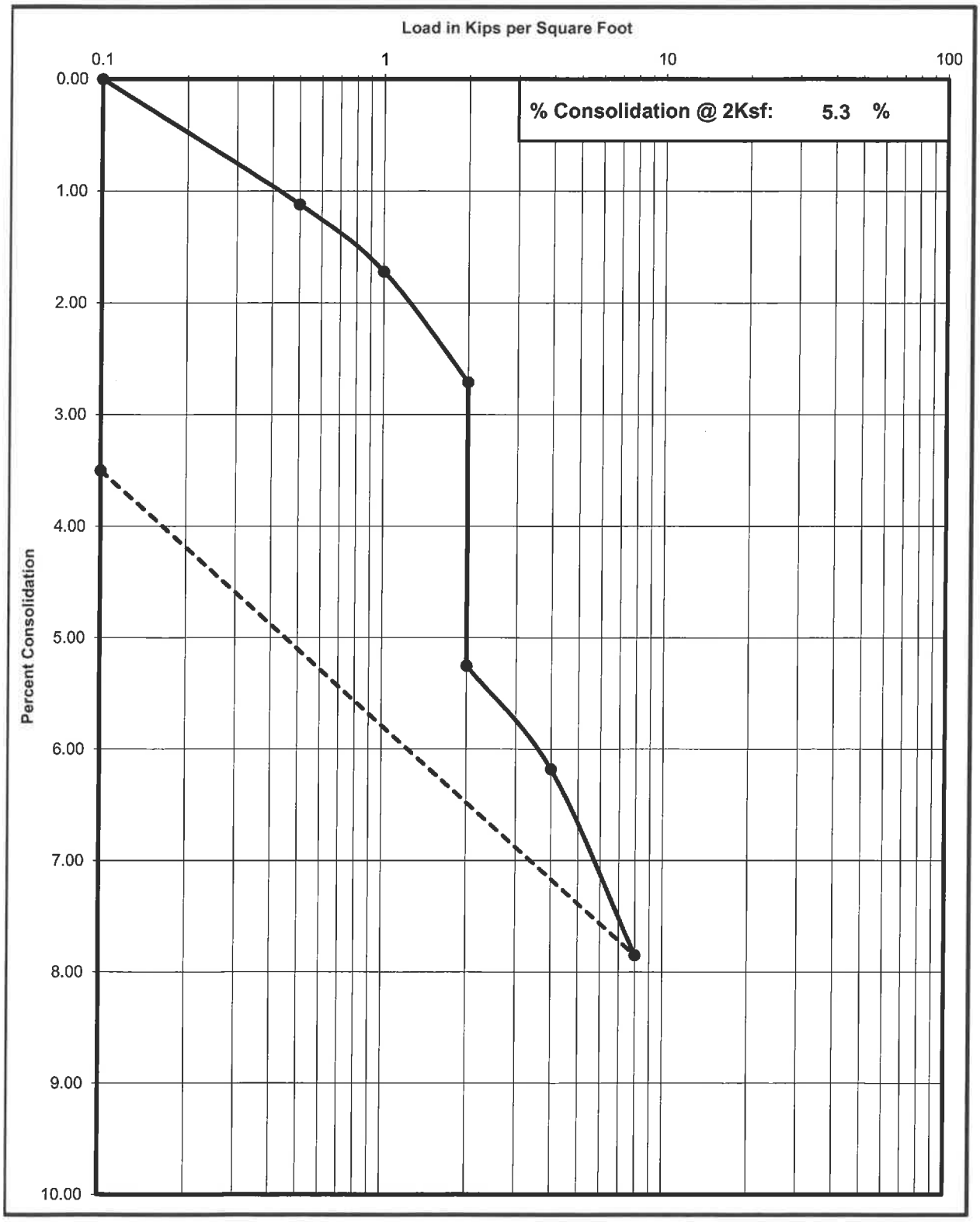
Project No	Boring No. & Depth	Date	Soil Classification
11215054	B-5 @ 5'	11/9/2015	Sandy Clay



Krazan Testing Laboratory

Consolidation Test

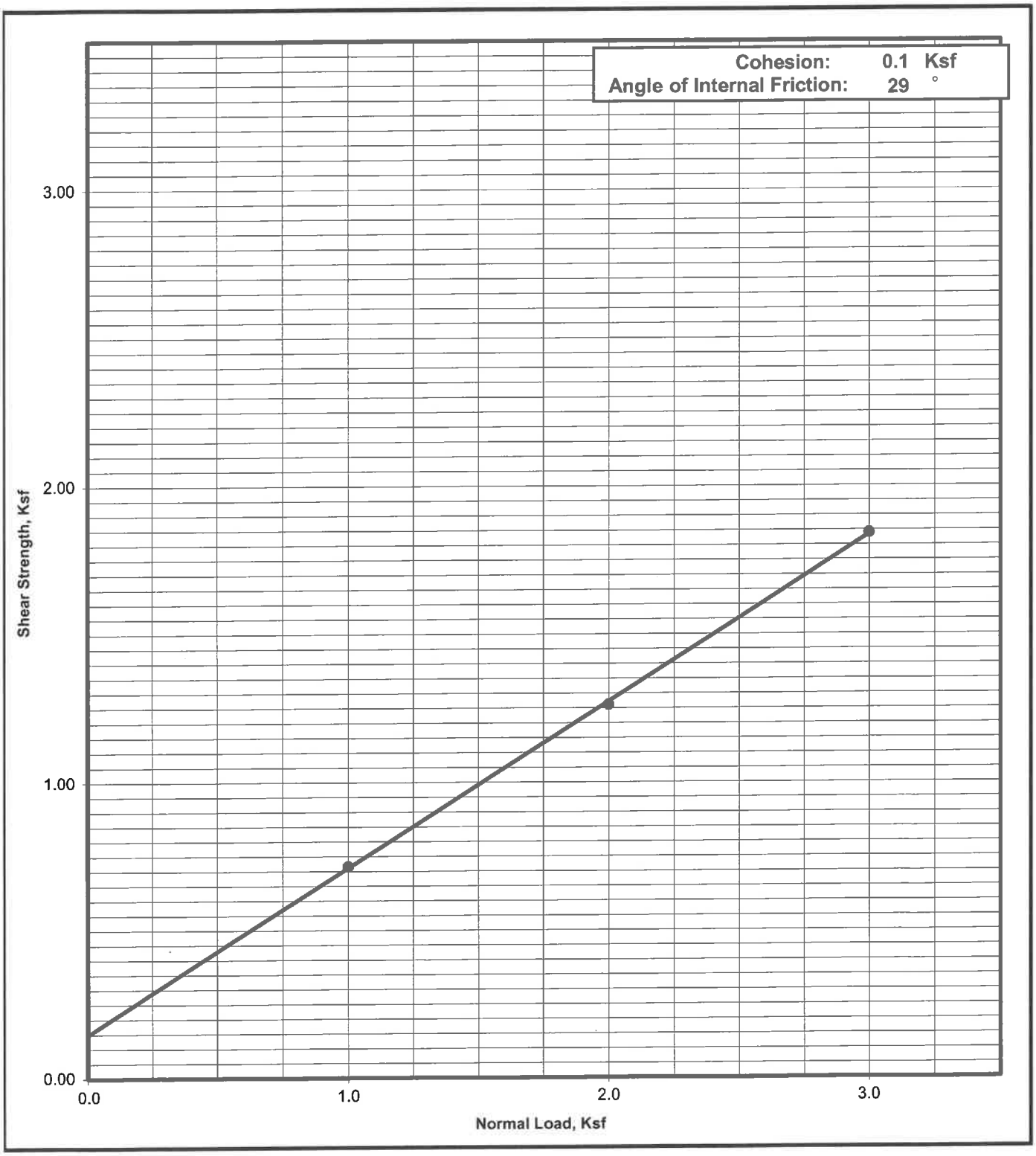
Project No	Boring No. & Depth	Date	Soil Classification
11215054	B-1 @ 5'	11/9/2015	Sandy Clay



Krazan Testing Laboratory

ASTM D - 3080 / AASHTO T - 236

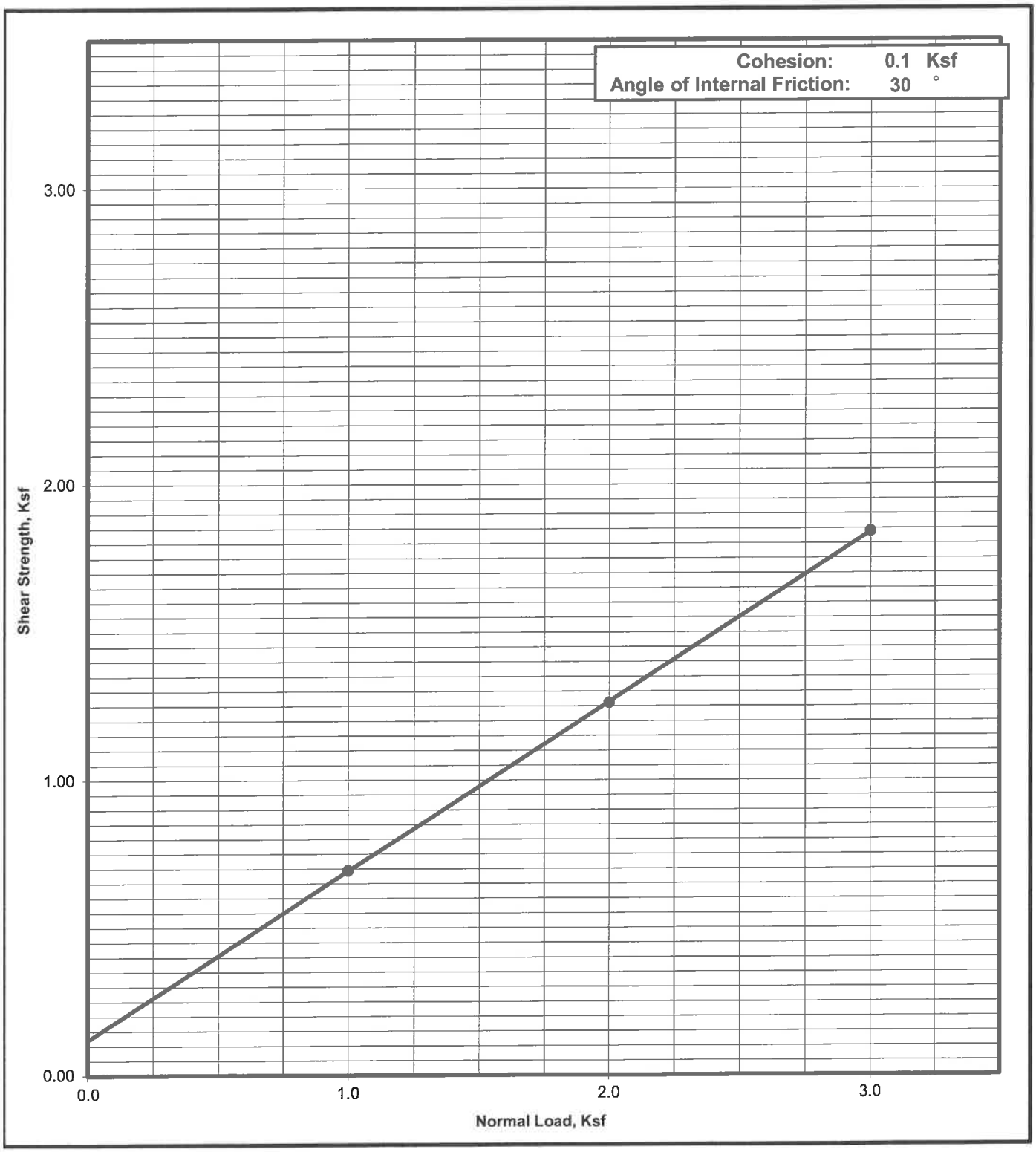
Project Number	Boring No. & Depth	Soil Type	Date
11215054	B-1 @ 5'	Sandy Clay	11/9/2015



Krazan Testing Laboratory

ASTM D - 3080 / AASHTO T - 236

Project Number	Boring No. & Depth	Soil Type	Date
11215054	B-3 @ 5'	Silty Sand	11/9/2015



Krazan Testing Laboratory

Expansion Index Test

ASTM D - 4829/ UBC Std. 18-2

Project Number	: 11215054
Project Name	: Proposed Cold Sorage Facility
Date	: 11/9/2015
Sample location/ Depth	: B-3 @ 0'-3'
Sample Number	: --
Soil Classification	: Sandy Clay

Trial #	**1**	**2**	**3**
Weight of Soil & Mold, gms	588.4		
Weight of Mold, gms	171.0		
Weight of Soil, gms	417.4		
Wet Density, Lbs/cu.ft.	125.9		
Weight of Moisture Sample (Wet), gms	500.0		
Weight of Moisture Sample (Dry), gms	462.0		
Moisture Content, %	8.2		
Dry Density, Lbs/cu.ft.	116.3		
Specific Gravity of Soil	2.7		
Degree of Saturation, %	49.5		

Time	Inital	30 min	1 hr	6hrs	12 hrs	24 hrs
Dial Reading	0	--	--	--	--	0.03

Expansion Index $_{measured}$ = 30

Expansion Index $_{50}$ = 29.7

Expansion Index = **30**

Expansion Potential Table	
Exp. Index	Potential Exp.
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
>130	Very High

Krazan Testing Laboratory

Krazan & Associates, Inc. - Corona	Project: NA	
1100 Olympic Drive	Project Number: 11215054	**Reported:**
Corona CA, 92881	Project Manager: Jim Kellogg	11/19/15 11:29

Conventional Chemistry Parameters by APHA/EPA Methods

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2@5' (1511204-01) Soil Sampled: 11/12/15 11:10 Received: 11/12/15 10:00									
Chloride	**156**	5.00	mg/kg	10	B5K1313	11/13/15	11/13/15 16:15	SM 4500-Cl- B	
pH	**6.93**	0.100	pH Units	1	"	"	"	EPA 9045C	
Resistivity	**1020**	1.00	mOhm-m	10	"	"	"	EPA 120.1	
Sulfate as SO4	**170**	5.00	mg/kg	"	"	"	"	EPA 375.4	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Krazan & Associates, Inc. - Corona	Project: NA	
1100 Olympic Drive	Project Number: 11215054	**Reported:**
Corona CA, 92881	Project Manager: Jim Kellogg	11/19/15 11:29

Notes and Definitions

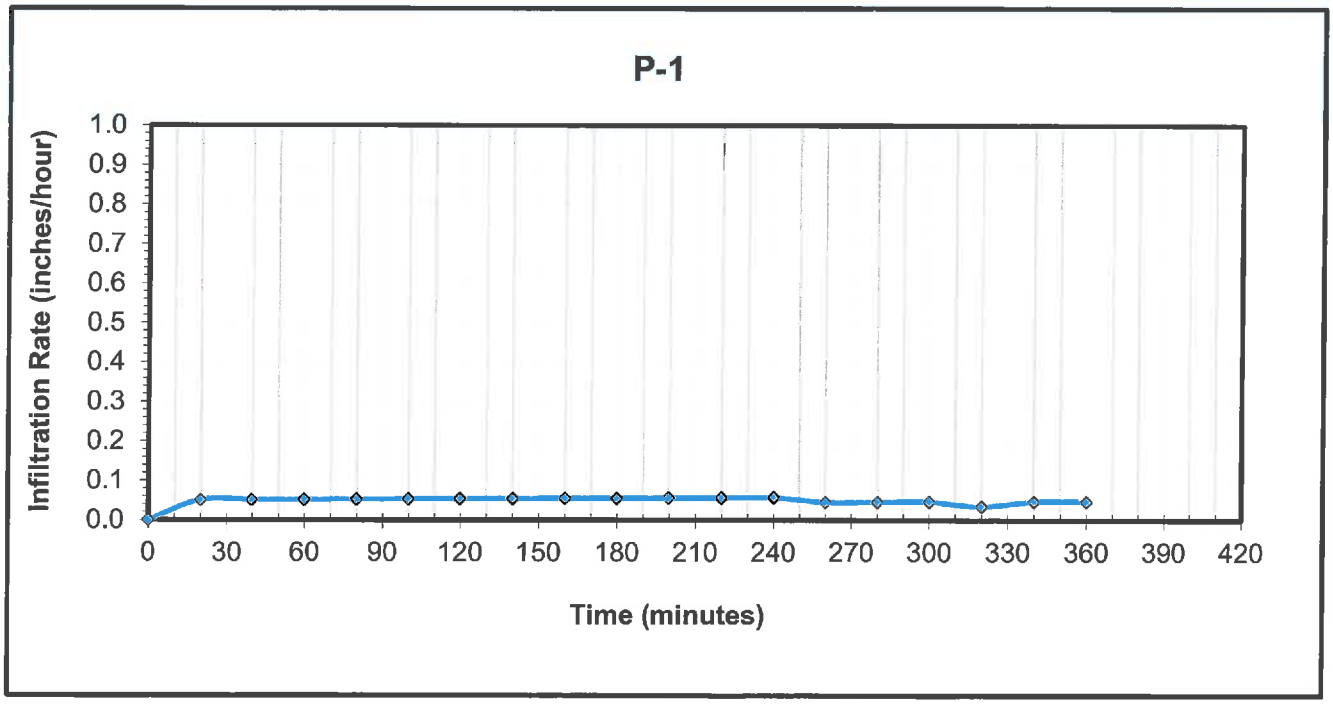
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

26052 MERIT CIRCLE SUITE 105, LAGUNA HILLS, CALIFORNIA 92653
TELEPHONE: (949) 348-9389 FAX: (949) 348-9115
E-MAIL: SIERRALABS @ SIERRALABS.NET

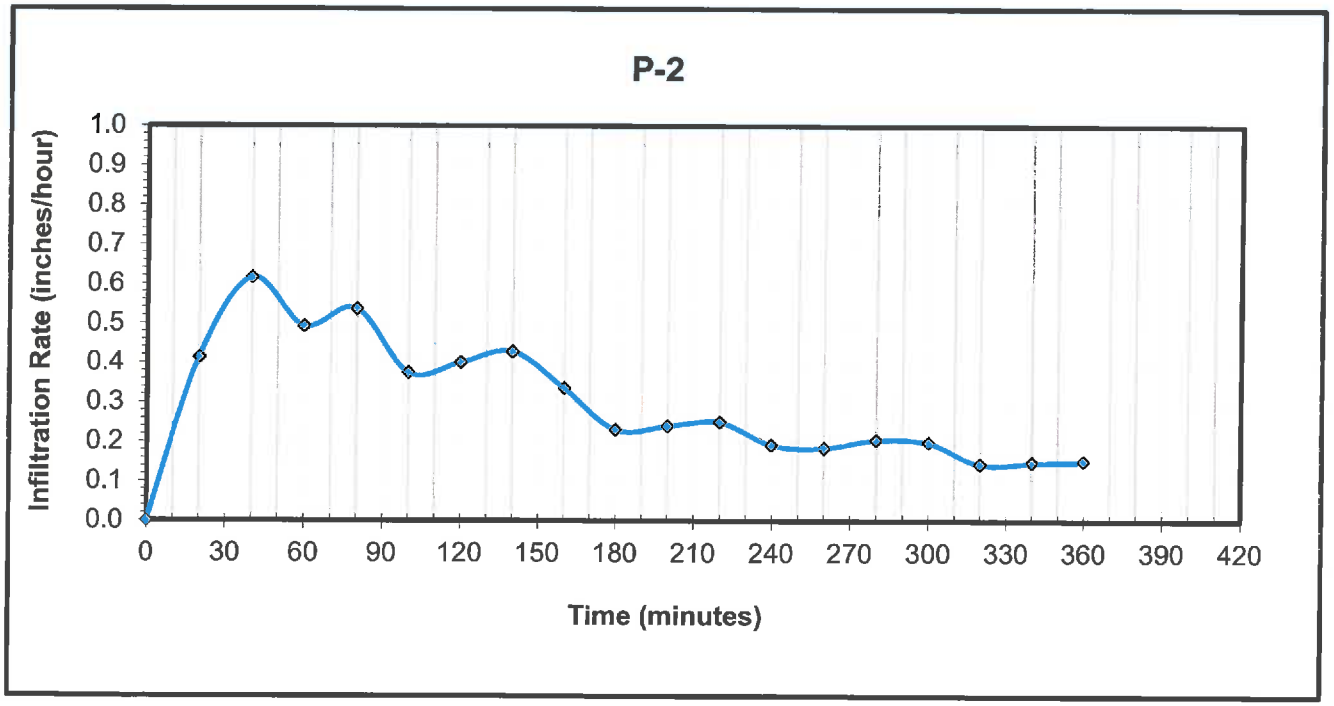
RESULTS OF INFILTRATION TESTS - REVERSE BOREHOLE						
Project #	**11215054**				**Date**	**11/9/2015**
Project Name	Proposed Cold Storage Facility					
Project Address	Oxnard, California					
Test No:	P-1	**Total Depth (in.)**		60	**Test Size (in)**	8
Depth To Water	>10	**Soil Classification**		SC		

Reading	Elasped Time(min.)	Incremental Time (min.)	Initial Depth To Water(in.)	Final Depth To Water(in.)	Incremental Fall of Water(in.)	Incremental Infiltration Rate (in/hr)
Start	0	0.00		2.0	--	--
2	20.00	20.00	2.0	2.5	0.50	0.05
3	40.00	20.00	2.5	3.0	0.50	0.05
4	60.00	20.00	3.0	3.5	0.50	0.05
5	80.00	20.00	3.5	4.0	0.50	0.05
6	100.00	20.00	4.5	5.0	0.50	0.05
7	120.00	20.00	5.0	5.5	0.50	0.05
8	140.00	20.00	5.5	6.0	0.50	0.05
9	160.00	20.00	6.5	7.0	0.50	0.05
10	180.00	20.00	7.0	7.5	0.50	0.06
11	200.00	20.00	7.5	8.0	0.50	0.06
12	220.00	20.00	8.0	8.5	0.50	0.06
13	240.00	20.00	8.5	9.0	0.50	0.06
14	260.00	20.00	9.0	9.4	0.40	0.05
15	280.00	20.00	9.4	9.8	0.40	0.05
23	300.00	20.00	9.8	10.2	0.40	0.05
24	320.00	20.00	10.2	10.5	0.30	0.04
25	340.00	20.00	10.5	10.9	0.40	0.05
26	360.00	20.00	10.9	11.3	0.40	0.05
	Infiltration Rate in Inches per Hour					**0.04**



RESULTS OF INFILTRATION TESTS - REVERSE BOREHOLE						
Project #	11215054				Date	11/9/2015
Project Name	Proposed Cold Storage Facility					
Project Address	Oxnard, California					
Test No:	P-2	Total Depth (in.)		60	Test Size (in)	8
Depth To Water	>10	Soil Classification		SC		

Reading	Elasped Time(min.)	Incremental Time (min.)	Initial Depth To Water(in.)	Final Depth To Water(in.)	Incremental Fall of Water(in.)	Incremental Infiltration Rate (in/hr)
Start	0	0.00		12.0	--	--
2	20.00	20.00	14.0	17.0	3.00	0.41
3	40.00	20.00	17.0	21.0	4.00	0.62
4	60.00	20.00	21.0	24.0	3.00	0.49
5	80.00	20.00	24.0	27.0	3.00	0.54
6	100.00	20.00	27.0	29.0	2.00	0.38
7	120.00	20.00	29.0	31.0	2.00	0.40
8	140.00	20.00	31.0	33.0	2.00	0.43
9	160.00	20.00	33.0	34.5	1.50	0.34
10	180.00	20.00	34.5	35.5	1.00	0.23
11	200.00	20.00	35.5	36.5	1.00	0.24
12	220.00	20.00	36.5	37.5	1.00	0.25
13	240.00	20.00	37.5	38.3	0.75	0.19
14	260.00	20.00	38.3	39.0	0.70	0.19
15	280.00	20.00	39.0	39.8	0.75	0.21
23	300.00	20.00	39.8	40.5	0.70	0.20
24	320.00	20.00	40.5	41.0	0.50	0.14
25	340.00	20.00	41.0	41.5	0.50	0.15
26	360.00	20.00	41.5	42.0	0.50	0.15
	Infiltration Rate in Inches per Hour					0.14

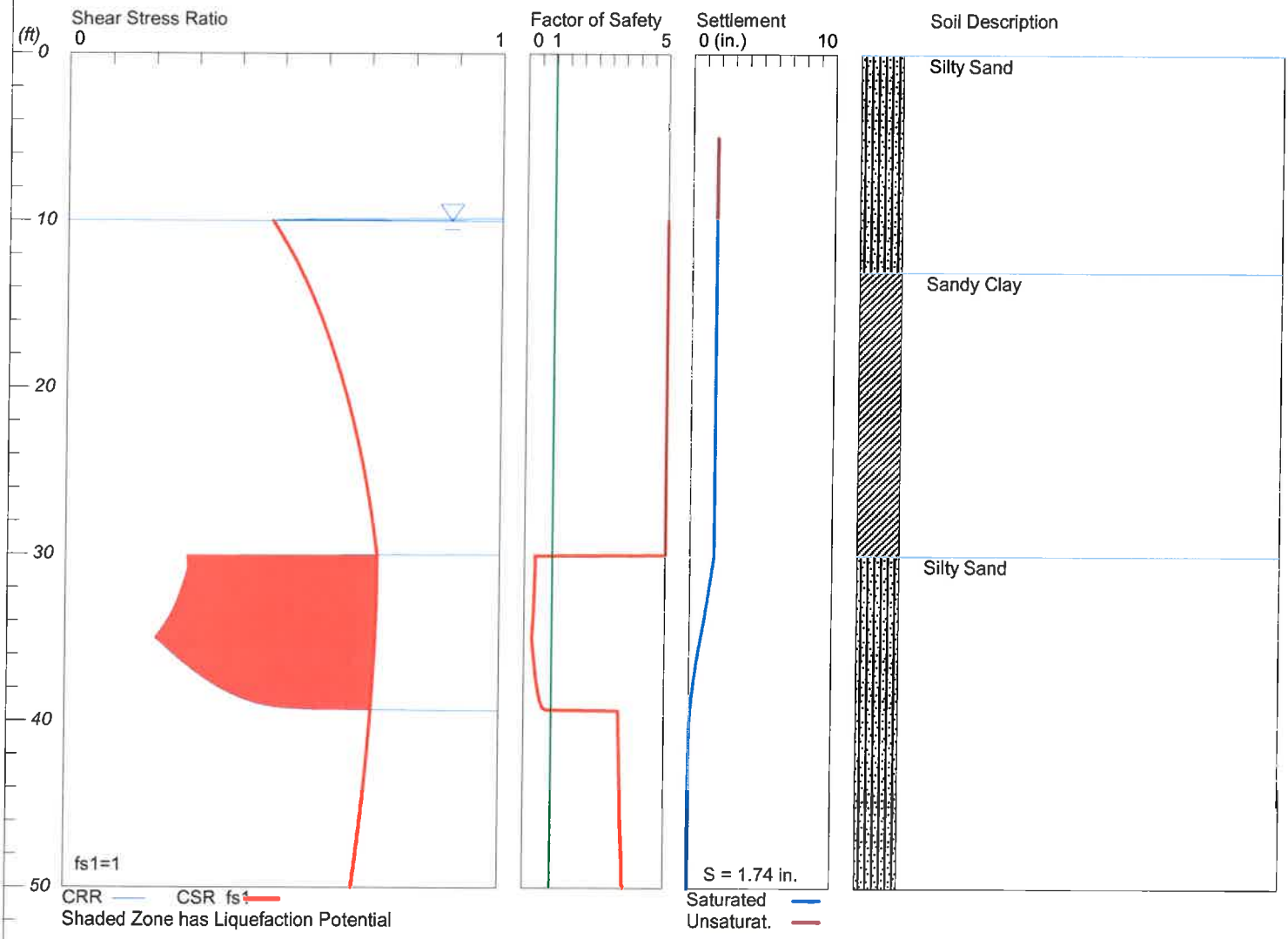


LIQUEFACTION ANALYSIS

Proposed Cold Storage Facility

Hole No.=B-3 Water Depth=10 ft Surface Elev.=0

Magnitude=7
Acceleration=0.745g



LiquefyPro CivilTech Software USA www.civiltech.com

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LIQUEFACTION ANALYSIS SUMMARY

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Input File Name: UNTITLED
Title: Proposed Cold Storage Facility
Subtitle: Oxnard, California 11215054

Surface Elev.=0
Hole No.=B-3
Depth of Hole= 50.00 ft
Water Table during Earthquake= 10.00 ft
Water Table during In-Situ Testing= 12.00 ft
Max. Acceleration= 0.75 g
Earthquake Magnitude= 7.00

Input Data:
Surface Elev.=0
Hole No.=B-3
Depth of Hole=50.00 ft
Water Table during Earthquake= 10.00 ft
Water Table during In-Situ Testing= 12.00 ft
Max. Acceleration=0.75 g
Earthquake Magnitude=7.00
No-Liquefiable Soils: CL, OL are Non-Liq. Soil

1. SPT or BPT Calculation.
2. Settlement Analysis Method: Tokimatsu/Seed
3. Fines Correction for Liquefaction: Idriss/Seed
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
6. Hammer Energy Ratio, Ce = 1
7. Borehole Diameter, Cb= 1
8. Sampling Method, Cs= 1
9. User request factor of safety (apply to CSR) , User= 1
   Plot one CSR curve (fs1=1)
10. Use Curve Smoothing: Yes*
* Recommended Options

In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
5.00	48.00	110.00	35.00
10.00	17.00	110.00	NoLiq
15.00	5.00	115.00	NoLiq
20.00	4.00	110.00	NoLiq
25.00	5.00	110.00	NoLiq
30.00	14.00	115.00	40.00
35.00	16.00	115.00	10.00
40.00	35.00	115.00	10.00
45.00	46.00	115.00	10.00
50.00	64.00	115.00	10.00

Output Results:

Settlement of Saturated Sands=1.70 in.
Settlement of Unsaturated Sands=0.03 in.
Total Settlement of Saturated and Unsaturated Sands=1.74 in.
Differential Settlement=0.869 to 1.147 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	S_dry in.	S_all in.
5.00	2.39	0.48	5.00	1.70	0.03	1.74
5.05	2.39	0.48	5.00	1.70	0.03	1.74
5.10	2.39	0.48	5.00	1.70	0.03	1.74
5.15	2.39	0.48	5.00	1.70	0.03	1.74
5.20	2.39	0.48	5.00	1.70	0.03	1.74
5.25	2.39	0.48	5.00	1.70	0.03	1.74
5.30	2.39	0.48	5.00	1.70	0.03	1.74
5.35	2.39	0.48	5.00	1.70	0.03	1.74
5.40	2.39	0.48	5.00	1.70	0.03	1.74
5.45	2.39	0.48	5.00	1.70	0.03	1.74
5.50	2.39	0.48	5.00	1.70	0.03	1.74
5.55	2.39	0.48	5.00	1.70	0.03	1.74
5.60	2.39	0.48	5.00	1.70	0.03	1.74
5.65	2.39	0.48	5.00	1.70	0.03	1.74
5.70	2.39	0.48	5.00	1.70	0.03	1.74
5.75	2.39	0.48	5.00	1.70	0.03	1.74
5.80	2.39	0.48	5.00	1.70	0.03	1.74
5.85	2.39	0.48	5.00	1.70	0.03	1.74
5.90	2.39	0.48	5.00	1.70	0.03	1.74
5.95	2.39	0.48	5.00	1.70	0.03	1.74
6.00	2.39	0.48	5.00	1.70	0.03	1.74
6.05	2.39	0.48	5.00	1.70	0.03	1.73
6.10	2.39	0.48	5.00	1.70	0.03	1.73
6.15	2.39	0.48	5.00	1.70	0.03	1.73
6.20	2.39	0.48	5.00	1.70	0.03	1.73
6.25	2.39	0.48	5.00	1.70	0.03	1.73
6.30	2.39	0.48	5.00	1.70	0.03	1.73
6.35	2.39	0.48	5.00	1.70	0.03	1.73
6.40	2.39	0.48	5.00	1.70	0.03	1.73
6.45	2.39	0.48	5.00	1.70	0.03	1.73
6.50	2.39	0.48	5.00	1.70	0.03	1.73
6.55	2.39	0.48	5.00	1.70	0.03	1.73
6.60	2.39	0.48	5.00	1.70	0.03	1.73
6.65	2.39	0.48	5.00	1.70	0.03	1.73
6.70	2.39	0.48	5.00	1.70	0.03	1.73
6.75	2.39	0.48	5.00	1.70	0.03	1.73
6.80	2.39	0.48	5.00	1.70	0.03	1.73
6.85	2.39	0.48	5.00	1.70	0.03	1.73
6.90	2.39	0.48	5.00	1.70	0.03	1.73
6.95	2.39	0.48	5.00	1.70	0.03	1.73
7.00	2.39	0.48	5.00	1.70	0.03	1.73
7.05	2.39	0.48	5.00	1.70	0.03	1.73
7.10	2.39	0.48	5.00	1.70	0.03	1.73
7.15	2.39	0.48	5.00	1.70	0.03	1.73
7.20	2.39	0.48	5.00	1.70	0.03	1.73
7.25	2.39	0.48	5.00	1.70	0.03	1.73
7.30	2.39	0.48	5.00	1.70	0.03	1.73
7.35	2.39	0.48	5.00	1.70	0.03	1.73
7.40	2.39	0.48	5.00	1.70	0.03	1.73
7.45	2.39	0.48	5.00	1.70	0.03	1.73
7.50	2.39	0.48	5.00	1.70	0.03	1.73
7.55	2.39	0.48	5.00	1.70	0.03	1.73

7.60	2.39	0.48	5.00	1.70	0.03	1.73
7.65	2.39	0.48	5.00	1.70	0.03	1.73
7.70	2.39	0.48	5.00	1.70	0.03	1.73
7.75	2.39	0.48	5.00	1.70	0.03	1.73
7.80	2.39	0.48	5.00	1.70	0.03	1.73
7.85	2.39	0.48	5.00	1.70	0.03	1.73
7.90	2.39	0.48	5.00	1.70	0.03	1.73
7.95	2.39	0.48	5.00	1.70	0.03	1.73
8.00	2.39	0.48	5.00	1.70	0.03	1.73
8.05	2.39	0.48	5.00	1.70	0.03	1.73
8.10	2.39	0.48	5.00	1.70	0.03	1.73
8.15	2.39	0.48	5.00	1.70	0.03	1.73
8.20	2.39	0.47	5.00	1.70	0.03	1.73
8.25	2.39	0.47	5.00	1.70	0.02	1.73
8.30	2.39	0.47	5.00	1.70	0.02	1.73
8.35	2.39	0.47	5.00	1.70	0.02	1.73
8.40	2.39	0.47	5.00	1.70	0.02	1.73
8.45	2.39	0.47	5.00	1.70	0.02	1.73
8.50	2.39	0.47	5.00	1.70	0.02	1.73
8.55	2.39	0.47	5.00	1.70	0.02	1.73
8.60	2.39	0.47	5.00	1.70	0.02	1.73
8.65	2.39	0.47	5.00	1.70	0.02	1.73
8.70	2.39	0.47	5.00	1.70	0.02	1.73
8.75	2.39	0.47	5.00	1.70	0.02	1.73
8.80	2.39	0.47	5.00	1.70	0.02	1.73
8.85	2.39	0.47	5.00	1.70	0.02	1.72
8.90	2.39	0.47	5.00	1.70	0.02	1.72
8.95	2.39	0.47	5.00	1.70	0.02	1.72
9.00	2.39	0.47	5.00	1.70	0.02	1.72
9.05	2.39	0.47	5.00	1.70	0.02	1.72
9.10	2.39	0.47	5.00	1.70	0.02	1.72
9.15	2.39	0.47	5.00	1.70	0.02	1.72
9.20	2.39	0.47	5.00	1.70	0.02	1.72
9.25	2.39	0.47	5.00	1.70	0.02	1.72
9.30	2.39	0.47	5.00	1.70	0.02	1.72
9.35	2.39	0.47	5.00	1.70	0.02	1.72
9.40	2.39	0.47	5.00	1.70	0.02	1.72
9.45	2.39	0.47	5.00	1.70	0.02	1.72
9.50	2.39	0.47	5.00	1.70	0.01	1.72
9.55	2.39	0.47	5.00	1.70	0.01	1.72
9.60	2.39	0.47	5.00	1.70	0.01	1.72
9.65	2.39	0.47	5.00	1.70	0.01	1.71
9.70	2.39	0.47	5.00	1.70	0.01	1.71
9.75	2.39	0.47	5.00	1.70	0.01	1.71
9.80	2.39	0.47	5.00	1.70	0.01	1.71
9.85	2.39	0.47	5.00	1.70	0.00	1.71
9.90	0.56	0.47	5.00	1.70	0.00	1.71
9.95	0.48	0.47	5.00	1.70	0.00	1.70
10.00	2.00	0.47	5.00	1.70	0.00	1.70
10.05	2.00	0.47	5.00	1.70	0.00	1.70
10.10	2.00	0.48	5.00	1.70	0.00	1.70
10.15	2.00	0.48	5.00	1.70	0.00	1.70
10.20	2.00	0.48	5.00	1.70	0.00	1.70
10.25	2.00	0.48	5.00	1.70	0.00	1.70
10.30	2.00	0.48	5.00	1.70	0.00	1.70
10.35	2.00	0.48	5.00	1.70	0.00	1.70
10.40	2.00	0.48	5.00	1.70	0.00	1.70
10.45	2.00	0.48	5.00	1.70	0.00	1.70
10.50	2.00	0.49	5.00	1.70	0.00	1.70
10.55	2.00	0.49	5.00	1.70	0.00	1.70
10.60	2.00	0.49	5.00	1.70	0.00	1.70
10.65	2.00	0.49	5.00	1.70	0.00	1.70
10.70	2.00	0.49	5.00	1.70	0.00	1.70

10.75	2.00	0.49	5.00	1.70	0.00	1.70
10.80	2.00	0.49	5.00	1.70	0.00	1.70
10.85	2.00	0.49	5.00	1.70	0.00	1.70
10.90	2.00	0.50	5.00	1.70	0.00	1.70
10.95	2.00	0.50	5.00	1.70	0.00	1.70
11.00	2.00	0.50	5.00	1.70	0.00	1.70
11.05	2.00	0.50	5.00	1.70	0.00	1.70
11.10	2.00	0.50	5.00	1.70	0.00	1.70
11.15	2.00	0.50	5.00	1.70	0.00	1.70
11.20	2.00	0.50	5.00	1.70	0.00	1.70
11.25	2.00	0.50	5.00	1.70	0.00	1.70
11.30	2.00	0.50	5.00	1.70	0.00	1.70
11.35	2.00	0.51	5.00	1.70	0.00	1.70
11.40	2.00	0.51	5.00	1.70	0.00	1.70
11.45	2.00	0.51	5.00	1.70	0.00	1.70
11.50	2.00	0.51	5.00	1.70	0.00	1.70
11.55	2.00	0.51	5.00	1.70	0.00	1.70
11.60	2.00	0.51	5.00	1.70	0.00	1.70
11.65	2.00	0.51	5.00	1.70	0.00	1.70
11.70	2.00	0.51	5.00	1.70	0.00	1.70
11.75	2.00	0.51	5.00	1.70	0.00	1.70
11.80	2.00	0.52	5.00	1.70	0.00	1.70
11.85	2.00	0.52	5.00	1.70	0.00	1.70
11.90	2.00	0.52	5.00	1.70	0.00	1.70
11.95	2.00	0.52	5.00	1.70	0.00	1.70
12.00	2.00	0.52	5.00	1.70	0.00	1.70
12.05	2.00	0.52	5.00	1.70	0.00	1.70
12.10	2.00	0.52	5.00	1.70	0.00	1.70
12.15	2.00	0.52	5.00	1.70	0.00	1.70
12.20	2.00	0.52	5.00	1.70	0.00	1.70
12.25	2.00	0.53	5.00	1.70	0.00	1.70
12.30	2.00	0.53	5.00	1.70	0.00	1.70
12.35	2.00	0.53	5.00	1.70	0.00	1.70
12.40	2.00	0.53	5.00	1.70	0.00	1.70
12.45	2.00	0.53	5.00	1.70	0.00	1.70
12.50	2.00	0.53	5.00	1.70	0.00	1.70
12.55	2.00	0.53	5.00	1.70	0.00	1.70
12.60	2.00	0.53	5.00	1.70	0.00	1.70
12.65	2.00	0.53	5.00	1.70	0.00	1.70
12.70	2.00	0.53	5.00	1.70	0.00	1.70
12.75	2.00	0.54	5.00	1.70	0.00	1.70
12.80	2.00	0.54	5.00	1.70	0.00	1.70
12.85	2.00	0.54	5.00	1.70	0.00	1.70
12.90	2.00	0.54	5.00	1.70	0.00	1.70
12.95	2.00	0.54	5.00	1.70	0.00	1.70
13.00	2.00	0.54	5.00	1.70	0.00	1.70
13.05	2.00	0.54	5.00	1.70	0.00	1.70
13.10	2.00	0.54	5.00	1.70	0.00	1.70
13.15	2.00	0.54	5.00	1.70	0.00	1.70
13.20	2.00	0.54	5.00	1.70	0.00	1.70
13.25	2.00	0.54	5.00	1.70	0.00	1.70
13.30	2.00	0.55	5.00	1.70	0.00	1.70
13.35	2.00	0.55	5.00	1.70	0.00	1.70
13.40	2.00	0.55	5.00	1.70	0.00	1.70
13.45	2.00	0.55	5.00	1.70	0.00	1.70
13.50	2.00	0.55	5.00	1.70	0.00	1.70
13.55	2.00	0.55	5.00	1.70	0.00	1.70
13.60	2.00	0.55	5.00	1.70	0.00	1.70
13.65	2.00	0.55	5.00	1.70	0.00	1.70
13.70	2.00	0.55	5.00	1.70	0.00	1.70
13.75	2.00	0.55	5.00	1.70	0.00	1.70
13.80	2.00	0.55	5.00	1.70	0.00	1.70
13.85	2.00	0.56	5.00	1.70	0.00	1.70

13.90	2.00	0.56	5.00	1.70	0.00	1.70
13.95	2.00	0.56	5.00	1.70	0.00	1.70
14.00	2.00	0.56	5.00	1.70	0.00	1.70
14.05	2.00	0.56	5.00	1.70	0.00	1.70
14.10	2.00	0.56	5.00	1.70	0.00	1.70
14.15	2.00	0.56	5.00	1.70	0.00	1.70
14.20	2.00	0.56	5.00	1.70	0.00	1.70
14.25	2.00	0.56	5.00	1.70	0.00	1.70
14.30	2.00	0.56	5.00	1.70	0.00	1.70
14.35	2.00	0.56	5.00	1.70	0.00	1.70
14.40	2.00	0.57	5.00	1.70	0.00	1.70
14.45	2.00	0.57	5.00	1.70	0.00	1.70
14.50	2.00	0.57	5.00	1.70	0.00	1.70
14.55	2.00	0.57	5.00	1.70	0.00	1.70
14.60	2.00	0.57	5.00	1.70	0.00	1.70
14.65	2.00	0.57	5.00	1.70	0.00	1.70
14.70	2.00	0.57	5.00	1.70	0.00	1.70
14.75	2.00	0.57	5.00	1.70	0.00	1.70
14.80	2.00	0.57	5.00	1.70	0.00	1.70
14.85	2.00	0.57	5.00	1.70	0.00	1.70
14.90	2.00	0.57	5.00	1.70	0.00	1.70
14.95	2.00	0.57	5.00	1.70	0.00	1.70
15.00	2.00	0.58	5.00	1.70	0.00	1.70
15.05	2.00	0.58	5.00	1.70	0.00	1.70
15.10	2.00	0.58	5.00	1.70	0.00	1.70
15.15	2.00	0.58	5.00	1.70	0.00	1.70
15.20	2.00	0.58	5.00	1.70	0.00	1.70
15.25	2.00	0.58	5.00	1.70	0.00	1.70
15.30	2.00	0.58	5.00	1.70	0.00	1.70
15.35	2.00	0.58	5.00	1.70	0.00	1.70
15.40	2.00	0.58	5.00	1.70	0.00	1.70
15.45	2.00	0.58	5.00	1.70	0.00	1.70
15.50	2.00	0.58	5.00	1.70	0.00	1.70
15.55	2.00	0.58	5.00	1.70	0.00	1.70
15.60	2.00	0.58	5.00	1.70	0.00	1.70
15.65	2.00	0.59	5.00	1.70	0.00	1.70
15.70	2.00	0.59	5.00	1.70	0.00	1.70
15.75	2.00	0.59	5.00	1.70	0.00	1.70
15.80	2.00	0.59	5.00	1.70	0.00	1.70
15.85	2.00	0.59	5.00	1.70	0.00	1.70
15.90	2.00	0.59	5.00	1.70	0.00	1.70
15.95	2.00	0.59	5.00	1.70	0.00	1.70
16.00	2.00	0.59	5.00	1.70	0.00	1.70
16.05	2.00	0.59	5.00	1.70	0.00	1.70
16.10	2.00	0.59	5.00	1.70	0.00	1.70
16.15	2.00	0.59	5.00	1.70	0.00	1.70
16.20	2.00	0.59	5.00	1.70	0.00	1.70
16.25	2.00	0.59	5.00	1.70	0.00	1.70
16.30	2.00	0.60	5.00	1.70	0.00	1.70
16.35	2.00	0.60	5.00	1.70	0.00	1.70
16.40	2.00	0.60	5.00	1.70	0.00	1.70
16.45	2.00	0.60	5.00	1.70	0.00	1.70
16.50	2.00	0.60	5.00	1.70	0.00	1.70
16.55	2.00	0.60	5.00	1.70	0.00	1.70
16.60	2.00	0.60	5.00	1.70	0.00	1.70
16.65	2.00	0.60	5.00	1.70	0.00	1.70
16.70	2.00	0.60	5.00	1.70	0.00	1.70
16.75	2.00	0.60	5.00	1.70	0.00	1.70
16.80	2.00	0.60	5.00	1.70	0.00	1.70
16.85	2.00	0.60	5.00	1.70	0.00	1.70
16.90	2.00	0.60	5.00	1.70	0.00	1.70
16.95	2.00	0.60	5.00	1.70	0.00	1.70
17.00	2.00	0.60	5.00	1.70	0.00	1.70

17.05	2.00	0.61	5.00	1.70	0.00	1.70
17.10	2.00	0.61	5.00	1.70	0.00	1.70
17.15	2.00	0.61	5.00	1.70	0.00	1.70
17.20	2.00	0.61	5.00	1.70	0.00	1.70
17.25	2.00	0.61	5.00	1.70	0.00	1.70
17.30	2.00	0.61	5.00	1.70	0.00	1.70
17.35	2.00	0.61	5.00	1.70	0.00	1.70
17.40	2.00	0.61	5.00	1.70	0.00	1.70
17.45	2.00	0.61	5.00	1.70	0.00	1.70
17.50	2.00	0.61	5.00	1.70	0.00	1.70
17.55	2.00	0.61	5.00	1.70	0.00	1.70
17.60	2.00	0.61	5.00	1.70	0.00	1.70
17.65	2.00	0.61	5.00	1.70	0.00	1.70
17.70	2.00	0.61	5.00	1.70	0.00	1.70
17.75	2.00	0.61	5.00	1.70	0.00	1.70
17.80	2.00	0.62	5.00	1.70	0.00	1.70
17.85	2.00	0.62	5.00	1.70	0.00	1.70
17.90	2.00	0.62	5.00	1.70	0.00	1.70
17.95	2.00	0.62	5.00	1.70	0.00	1.70
18.00	2.00	0.62	5.00	1.70	0.00	1.70
18.05	2.00	0.62	5.00	1.70	0.00	1.70
18.10	2.00	0.62	5.00	1.70	0.00	1.70
18.15	2.00	0.62	5.00	1.70	0.00	1.70
18.20	2.00	0.62	5.00	1.70	0.00	1.70
18.25	2.00	0.62	5.00	1.70	0.00	1.70
18.30	2.00	0.62	5.00	1.70	0.00	1.70
18.35	2.00	0.62	5.00	1.70	0.00	1.70
18.40	2.00	0.62	5.00	1.70	0.00	1.70
18.45	2.00	0.62	5.00	1.70	0.00	1.70
18.50	2.00	0.62	5.00	1.70	0.00	1.70
18.55	2.00	0.62	5.00	1.70	0.00	1.70
18.60	2.00	0.63	5.00	1.70	0.00	1.70
18.65	2.00	0.63	5.00	1.70	0.00	1.70
18.70	2.00	0.63	5.00	1.70	0.00	1.70
18.75	2.00	0.63	5.00	1.70	0.00	1.70
18.80	2.00	0.63	5.00	1.70	0.00	1.70
18.85	2.00	0.63	5.00	1.70	0.00	1.70
18.90	2.00	0.63	5.00	1.70	0.00	1.70
18.95	2.00	0.63	5.00	1.70	0.00	1.70
19.00	2.00	0.63	5.00	1.70	0.00	1.70
19.05	2.00	0.63	5.00	1.70	0.00	1.70
19.10	2.00	0.63	5.00	1.70	0.00	1.70
19.15	2.00	0.63	5.00	1.70	0.00	1.70
19.20	2.00	0.63	5.00	1.70	0.00	1.70
19.25	2.00	0.63	5.00	1.70	0.00	1.70
19.30	2.00	0.63	5.00	1.70	0.00	1.70
19.35	2.00	0.63	5.00	1.70	0.00	1.70
19.40	2.00	0.63	5.00	1.70	0.00	1.70
19.45	2.00	0.64	5.00	1.70	0.00	1.70
19.50	2.00	0.64	5.00	1.70	0.00	1.70
19.55	2.00	0.64	5.00	1.70	0.00	1.70
19.60	2.00	0.64	5.00	1.70	0.00	1.70
19.65	2.00	0.64	5.00	1.70	0.00	1.70
19.70	2.00	0.64	5.00	1.70	0.00	1.70
19.75	2.00	0.64	5.00	1.70	0.00	1.70
19.80	2.00	0.64	5.00	1.70	0.00	1.70
19.85	2.00	0.64	5.00	1.70	0.00	1.70
19.90	2.00	0.64	5.00	1.70	0.00	1.70
19.95	2.00	0.64	5.00	1.70	0.00	1.70
20.00	2.00	0.64	5.00	1.70	0.00	1.70
20.05	2.00	0.64	5.00	1.70	0.00	1.70
20.10	2.00	0.64	5.00	1.70	0.00	1.70
20.15	2.00	0.64	5.00	1.70	0.00	1.70

20.20	2.00	0.64	5.00	1.70	0.00	1.70
20.25	2.00	0.64	5.00	1.70	0.00	1.70
20.30	2.00	0.64	5.00	1.70	0.00	1.70
20.35	2.00	0.65	5.00	1.70	0.00	1.70
20.40	2.00	0.65	5.00	1.70	0.00	1.70
20.45	2.00	0.65	5.00	1.70	0.00	1.70
20.50	2.00	0.65	5.00	1.70	0.00	1.70
20.55	2.00	0.65	5.00	1.70	0.00	1.70
20.60	2.00	0.65	5.00	1.70	0.00	1.70
20.65	2.00	0.65	5.00	1.70	0.00	1.70
20.70	2.00	0.65	5.00	1.70	0.00	1.70
20.75	2.00	0.65	5.00	1.70	0.00	1.70
20.80	2.00	0.65	5.00	1.70	0.00	1.70
20.85	2.00	0.65	5.00	1.70	0.00	1.70
20.90	2.00	0.65	5.00	1.70	0.00	1.70
20.95	2.00	0.65	5.00	1.70	0.00	1.70
21.00	2.00	0.65	5.00	1.70	0.00	1.70
21.05	2.00	0.65	5.00	1.70	0.00	1.70
21.10	2.00	0.65	5.00	1.70	0.00	1.70
21.15	2.00	0.65	5.00	1.70	0.00	1.70
21.20	2.00	0.65	5.00	1.70	0.00	1.70
21.25	2.00	0.65	5.00	1.70	0.00	1.70
21.30	2.00	0.66	5.00	1.70	0.00	1.70
21.35	2.00	0.66	5.00	1.70	0.00	1.70
21.40	2.00	0.66	5.00	1.70	0.00	1.70
21.45	2.00	0.66	5.00	1.70	0.00	1.70
21.50	2.00	0.66	5.00	1.70	0.00	1.70
21.55	2.00	0.66	5.00	1.70	0.00	1.70
21.60	2.00	0.66	5.00	1.70	0.00	1.70
21.65	2.00	0.66	5.00	1.70	0.00	1.70
21.70	2.00	0.66	5.00	1.70	0.00	1.70
21.75	2.00	0.66	5.00	1.70	0.00	1.70
21.80	2.00	0.66	5.00	1.70	0.00	1.70
21.85	2.00	0.66	5.00	1.70	0.00	1.70
21.90	2.00	0.66	5.00	1.70	0.00	1.70
21.95	2.00	0.66	5.00	1.70	0.00	1.70
22.00	2.00	0.66	5.00	1.70	0.00	1.70
22.05	2.00	0.66	5.00	1.70	0.00	1.70
22.10	2.00	0.66	5.00	1.70	0.00	1.70
22.15	2.00	0.66	5.00	1.70	0.00	1.70
22.20	2.00	0.66	5.00	1.70	0.00	1.70
22.25	2.00	0.66	5.00	1.70	0.00	1.70
22.30	2.00	0.67	5.00	1.70	0.00	1.70
22.35	2.00	0.67	5.00	1.70	0.00	1.70
22.40	2.00	0.67	5.00	1.70	0.00	1.70
22.45	2.00	0.67	5.00	1.70	0.00	1.70
22.50	2.00	0.67	5.00	1.70	0.00	1.70
22.55	2.00	0.67	5.00	1.70	0.00	1.70
22.60	2.00	0.67	5.00	1.70	0.00	1.70
22.65	2.00	0.67	5.00	1.70	0.00	1.70
22.70	2.00	0.67	5.00	1.70	0.00	1.70
22.75	2.00	0.67	5.00	1.70	0.00	1.70
22.80	2.00	0.67	5.00	1.70	0.00	1.70
22.85	2.00	0.67	5.00	1.70	0.00	1.70
22.90	2.00	0.67	5.00	1.70	0.00	1.70
22.95	2.00	0.67	5.00	1.70	0.00	1.70
23.00	2.00	0.67	5.00	1.70	0.00	1.70
23.05	2.00	0.67	5.00	1.70	0.00	1.70
23.10	2.00	0.67	5.00	1.70	0.00	1.70
23.15	2.00	0.67	5.00	1.70	0.00	1.70
23.20	2.00	0.67	5.00	1.70	0.00	1.70
23.25	2.00	0.67	5.00	1.70	0.00	1.70
23.30	2.00	0.67	5.00	1.70	0.00	1.70

23.35	2.00	0.67	5.00	1.70	0.00	1.70
23.40	2.00	0.67	5.00	1.70	0.00	1.70
23.45	2.00	0.68	5.00	1.70	0.00	1.70
23.50	2.00	0.68	5.00	1.70	0.00	1.70
23.55	2.00	0.68	5.00	1.70	0.00	1.70
23.60	2.00	0.68	5.00	1.70	0.00	1.70
23.65	2.00	0.68	5.00	1.70	0.00	1.70
23.70	2.00	0.68	5.00	1.70	0.00	1.70
23.75	2.00	0.68	5.00	1.70	0.00	1.70
23.80	2.00	0.68	5.00	1.70	0.00	1.70
23.85	2.00	0.68	5.00	1.70	0.00	1.70
23.90	2.00	0.68	5.00	1.70	0.00	1.70
23.95	2.00	0.68	5.00	1.70	0.00	1.70
24.00	2.00	0.68	5.00	1.70	0.00	1.70
24.05	2.00	0.68	5.00	1.70	0.00	1.70
24.10	2.00	0.68	5.00	1.70	0.00	1.70
24.15	2.00	0.68	5.00	1.70	0.00	1.70
24.20	2.00	0.68	5.00	1.70	0.00	1.70
24.25	2.00	0.68	5.00	1.70	0.00	1.70
24.30	2.00	0.68	5.00	1.70	0.00	1.70
24.35	2.00	0.68	5.00	1.70	0.00	1.70
24.40	2.00	0.68	5.00	1.70	0.00	1.70
24.45	2.00	0.68	5.00	1.70	0.00	1.70
24.50	2.00	0.68	5.00	1.70	0.00	1.70
24.55	2.00	0.68	5.00	1.70	0.00	1.70
24.60	2.00	0.68	5.00	1.70	0.00	1.70
24.65	2.00	0.69	5.00	1.70	0.00	1.70
24.70	2.00	0.69	5.00	1.70	0.00	1.70
24.75	2.00	0.69	5.00	1.70	0.00	1.70
24.80	2.00	0.69	5.00	1.70	0.00	1.70
24.85	2.00	0.69	5.00	1.70	0.00	1.70
24.90	2.00	0.69	5.00	1.70	0.00	1.70
24.95	2.00	0.69	5.00	1.70	0.00	1.70
25.00	2.00	0.69	5.00	1.70	0.00	1.70
25.05	2.00	0.69	5.00	1.70	0.00	1.70
25.10	2.00	0.69	5.00	1.70	0.00	1.70
25.15	2.00	0.69	5.00	1.70	0.00	1.70
25.20	2.00	0.69	5.00	1.70	0.00	1.70
25.25	2.00	0.69	5.00	1.70	0.00	1.70
25.30	2.00	0.69	5.00	1.70	0.00	1.70
25.35	2.00	0.69	5.00	1.70	0.00	1.70
25.40	2.00	0.69	5.00	1.70	0.00	1.70
25.45	2.00	0.69	5.00	1.70	0.00	1.70
25.50	2.00	0.69	5.00	1.70	0.00	1.70
25.55	2.00	0.69	5.00	1.70	0.00	1.70
25.60	2.00	0.69	5.00	1.70	0.00	1.70
25.65	2.00	0.69	5.00	1.70	0.00	1.70
25.70	2.00	0.69	5.00	1.70	0.00	1.70
25.75	2.00	0.69	5.00	1.70	0.00	1.70
25.80	2.00	0.69	5.00	1.70	0.00	1.70
25.85	2.00	0.69	5.00	1.70	0.00	1.70
25.90	2.00	0.69	5.00	1.70	0.00	1.70
25.95	2.00	0.70	5.00	1.70	0.00	1.70
26.00	2.00	0.70	5.00	1.70	0.00	1.70
26.05	2.00	0.70	5.00	1.70	0.00	1.70
26.10	2.00	0.70	5.00	1.70	0.00	1.70
26.15	2.00	0.70	5.00	1.70	0.00	1.70
26.20	2.00	0.70	5.00	1.70	0.00	1.70
26.25	2.00	0.70	5.00	1.70	0.00	1.70
26.30	2.00	0.70	5.00	1.70	0.00	1.70
26.35	2.00	0.70	5.00	1.70	0.00	1.70
26.40	2.00	0.70	5.00	1.70	0.00	1.70
26.45	2.00	0.70	5.00	1.70	0.00	1.70

26.50	2.00	0.70	5.00	1.70	0.00	1.70
26.55	2.00	0.70	5.00	1.70	0.00	1.70
26.60	2.00	0.70	5.00	1.70	0.00	1.70
26.65	2.00	0.70	5.00	1.70	0.00	1.70
26.70	2.00	0.70	5.00	1.70	0.00	1.70
26.75	2.00	0.70	5.00	1.70	0.00	1.70
26.80	2.00	0.70	5.00	1.70	0.00	1.70
26.85	2.00	0.70	5.00	1.70	0.00	1.70
26.90	2.00	0.70	5.00	1.70	0.00	1.70
26.95	2.00	0.70	5.00	1.70	0.00	1.70
27.00	2.00	0.70	5.00	1.70	0.00	1.70
27.05	2.00	0.70	5.00	1.70	0.00	1.70
27.10	2.00	0.70	5.00	1.70	0.00	1.70
27.15	2.00	0.70	5.00	1.70	0.00	1.70
27.20	2.00	0.70	5.00	1.70	0.00	1.70
27.25	2.00	0.70	5.00	1.70	0.00	1.70
27.30	2.00	0.70	5.00	1.70	0.00	1.70
27.35	2.00	0.70	5.00	1.70	0.00	1.70
27.40	2.00	0.70	5.00	1.70	0.00	1.70
27.45	2.00	0.71	5.00	1.70	0.00	1.70
27.50	2.00	0.71	5.00	1.70	0.00	1.70
27.55	2.00	0.71	5.00	1.70	0.00	1.70
27.60	2.00	0.71	5.00	1.70	0.00	1.70
27.65	2.00	0.71	5.00	1.70	0.00	1.70
27.70	2.00	0.71	5.00	1.70	0.00	1.70
27.75	2.00	0.71	5.00	1.70	0.00	1.70
27.80	2.00	0.71	5.00	1.70	0.00	1.70
27.85	2.00	0.71	5.00	1.70	0.00	1.70
27.90	2.00	0.71	5.00	1.70	0.00	1.70
27.95	2.00	0.71	5.00	1.70	0.00	1.70
28.00	2.00	0.71	5.00	1.70	0.00	1.70
28.05	2.00	0.71	5.00	1.70	0.00	1.70
28.10	2.00	0.71	5.00	1.70	0.00	1.70
28.15	2.00	0.71	5.00	1.70	0.00	1.70
28.20	2.00	0.71	5.00	1.70	0.00	1.70
28.25	2.00	0.71	5.00	1.70	0.00	1.70
28.30	2.00	0.71	5.00	1.70	0.00	1.70
28.35	2.00	0.71	5.00	1.70	0.00	1.70
28.40	2.00	0.71	5.00	1.70	0.00	1.70
28.45	2.00	0.71	5.00	1.70	0.00	1.70
28.50	2.00	0.71	5.00	1.70	0.00	1.70
28.55	2.00	0.71	5.00	1.70	0.00	1.70
28.60	2.00	0.71	5.00	1.70	0.00	1.70
28.65	2.00	0.71	5.00	1.70	0.00	1.70
28.70	2.00	0.71	5.00	1.70	0.00	1.70
28.75	2.00	0.71	5.00	1.70	0.00	1.70
28.80	2.00	0.71	5.00	1.70	0.00	1.70
28.85	2.00	0.71	5.00	1.70	0.00	1.70
28.90	2.00	0.71	5.00	1.70	0.00	1.70
28.95	2.00	0.71	5.00	1.70	0.00	1.70
29.00	2.00	0.71	5.00	1.70	0.00	1.70
29.05	2.00	0.71	5.00	1.70	0.00	1.70
29.10	2.00	0.71	5.00	1.70	0.00	1.70
29.15	2.00	0.72	5.00	1.70	0.00	1.70
29.20	2.00	0.72	5.00	1.70	0.00	1.70
29.25	2.00	0.72	5.00	1.70	0.00	1.70
29.30	2.00	0.72	5.00	1.70	0.00	1.70
29.35	2.00	0.72	5.00	1.70	0.00	1.70
29.40	2.00	0.72	5.00	1.70	0.00	1.70
29.45	2.00	0.72	5.00	1.70	0.00	1.70
29.50	2.00	0.72	5.00	1.70	0.00	1.70
29.55	2.00	0.72	5.00	1.70	0.00	1.70
29.60	2.00	0.72	5.00	1.70	0.00	1.70

29.65	2.00	0.72	5.00	1.70	0.00	1.70
29.70	2.00	0.72	5.00	1.70	0.00	1.70
29.75	2.00	0.72	5.00	1.70	0.00	1.70
29.80	2.00	0.72	5.00	1.70	0.00	1.70
29.85	2.00	0.72	5.00	1.70	0.00	1.70
29.90	2.00	0.72	5.00	1.70	0.00	1.70
29.95	2.00	0.72	5.00	1.70	0.00	1.70
30.00	2.00	0.72	5.00	1.70	0.00	1.70
30.05	0.28	0.72	0.39*	1.70	0.00	1.70
30.10	0.28	0.72	0.39*	1.69	0.00	1.69
30.15	0.28	0.72	0.39*	1.69	0.00	1.69
30.20	0.28	0.72	0.39*	1.68	0.00	1.68
30.25	0.28	0.72	0.39*	1.67	0.00	1.67
30.30	0.28	0.72	0.39*	1.66	0.00	1.66
30.35	0.28	0.72	0.39*	1.65	0.00	1.65
30.40	0.28	0.72	0.39*	1.64	0.00	1.64
30.45	0.28	0.72	0.39*	1.64	0.00	1.64
30.50	0.28	0.72	0.39*	1.63	0.00	1.63
30.55	0.28	0.72	0.39*	1.62	0.00	1.62
30.60	0.28	0.72	0.39*	1.61	0.00	1.61
30.65	0.28	0.72	0.39*	1.60	0.00	1.60
30.70	0.28	0.72	0.39*	1.59	0.00	1.59
30.75	0.28	0.72	0.39*	1.58	0.00	1.58
30.80	0.28	0.72	0.39*	1.58	0.00	1.58
30.85	0.28	0.72	0.39*	1.57	0.00	1.57
30.90	0.28	0.72	0.39*	1.56	0.00	1.56
30.95	0.28	0.72	0.39*	1.55	0.00	1.55
31.00	0.28	0.72	0.39*	1.54	0.00	1.54
31.05	0.28	0.72	0.39*	1.53	0.00	1.53
31.10	0.28	0.72	0.39*	1.53	0.00	1.53
31.15	0.28	0.72	0.38*	1.52	0.00	1.52
31.20	0.28	0.72	0.38*	1.51	0.00	1.51
31.25	0.28	0.72	0.38*	1.50	0.00	1.50
31.30	0.28	0.72	0.38*	1.49	0.00	1.49
31.35	0.27	0.72	0.38*	1.48	0.00	1.48
31.40	0.27	0.72	0.38*	1.47	0.00	1.47
31.45	0.27	0.72	0.38*	1.47	0.00	1.47
31.50	0.27	0.72	0.38*	1.46	0.00	1.46
31.55	0.27	0.72	0.38*	1.45	0.00	1.45
31.60	0.27	0.72	0.38*	1.44	0.00	1.44
31.65	0.27	0.72	0.38*	1.43	0.00	1.43
31.70	0.27	0.72	0.38*	1.42	0.00	1.42
31.75	0.27	0.72	0.38*	1.41	0.00	1.41
31.80	0.27	0.72	0.37*	1.41	0.00	1.41
31.85	0.27	0.72	0.37*	1.40	0.00	1.40
31.90	0.27	0.72	0.37*	1.39	0.00	1.39
31.95	0.27	0.72	0.37*	1.38	0.00	1.38
32.00	0.27	0.72	0.37*	1.37	0.00	1.37
32.05	0.27	0.72	0.37*	1.36	0.00	1.36
32.10	0.27	0.72	0.37*	1.35	0.00	1.35
32.15	0.26	0.72	0.37*	1.34	0.00	1.34
32.20	0.26	0.72	0.37*	1.34	0.00	1.34
32.25	0.26	0.72	0.37*	1.33	0.00	1.33
32.30	0.26	0.72	0.37*	1.32	0.00	1.32
32.35	0.26	0.72	0.36*	1.31	0.00	1.31
32.40	0.26	0.72	0.36*	1.30	0.00	1.30
32.45	0.26	0.72	0.36*	1.29	0.00	1.29
32.50	0.26	0.72	0.36*	1.28	0.00	1.28
32.55	0.26	0.72	0.36*	1.27	0.00	1.27
32.60	0.26	0.72	0.36*	1.26	0.00	1.26
32.65	0.26	0.72	0.36*	1.26	0.00	1.26
32.70	0.26	0.72	0.36*	1.25	0.00	1.25
32.75	0.26	0.72	0.36*	1.24	0.00	1.24

32.80	0.26	0.72	0.36*	1.23	0.00	1.23
32.85	0.26	0.72	0.36*	1.22	0.00	1.22
32.90	0.25	0.72	0.35*	1.21	0.00	1.21
32.95	0.25	0.72	0.35*	1.20	0.00	1.20
33.00	0.25	0.72	0.35*	1.19	0.00	1.19
33.05	0.25	0.72	0.35*	1.18	0.00	1.18
33.10	0.25	0.72	0.35*	1.17	0.00	1.17
33.15	0.25	0.72	0.35*	1.16	0.00	1.16
33.20	0.25	0.72	0.35*	1.15	0.00	1.15
33.25	0.25	0.72	0.35*	1.15	0.00	1.15
33.30	0.25	0.72	0.34*	1.14	0.00	1.14
33.35	0.25	0.72	0.34*	1.13	0.00	1.13
33.40	0.25	0.72	0.34*	1.12	0.00	1.12
33.45	0.24	0.72	0.34*	1.11	0.00	1.11
33.50	0.24	0.72	0.34*	1.10	0.00	1.10
33.55	0.24	0.72	0.34*	1.09	0.00	1.09
33.60	0.24	0.72	0.34*	1.08	0.00	1.08
33.65	0.24	0.72	0.34*	1.07	0.00	1.07
33.70	0.24	0.72	0.33*	1.06	0.00	1.06
33.75	0.24	0.72	0.33*	1.05	0.00	1.05
33.80	0.24	0.72	0.33*	1.04	0.00	1.04
33.85	0.24	0.72	0.33*	1.03	0.00	1.03
33.90	0.24	0.72	0.33*	1.02	0.00	1.02
33.95	0.23	0.72	0.33*	1.01	0.00	1.01
34.00	0.23	0.72	0.33*	1.00	0.00	1.00
34.05	0.23	0.72	0.32*	0.99	0.00	0.99
34.10	0.23	0.72	0.32*	0.98	0.00	0.98
34.15	0.23	0.72	0.32*	0.97	0.00	0.97
34.20	0.23	0.72	0.32*	0.96	0.00	0.96
34.25	0.23	0.72	0.32*	0.95	0.00	0.95
34.30	0.23	0.72	0.31*	0.94	0.00	0.94
34.35	0.22	0.72	0.31*	0.93	0.00	0.93
34.40	0.22	0.72	0.31*	0.92	0.00	0.92
34.45	0.22	0.72	0.31*	0.91	0.00	0.91
34.50	0.22	0.72	0.31*	0.90	0.00	0.90
34.55	0.22	0.72	0.31*	0.89	0.00	0.89
34.60	0.22	0.72	0.30*	0.88	0.00	0.88
34.65	0.22	0.72	0.30*	0.87	0.00	0.87
34.70	0.21	0.72	0.30*	0.86	0.00	0.86
34.75	0.21	0.72	0.30*	0.85	0.00	0.85
34.80	0.21	0.72	0.30*	0.84	0.00	0.84
34.85	0.21	0.72	0.29*	0.82	0.00	0.82
34.90	0.21	0.72	0.29*	0.81	0.00	0.81
34.95	0.21	0.72	0.29*	0.80	0.00	0.80
35.00	0.21	0.72	0.29*	0.79	0.00	0.79
35.05	0.21	0.72	0.29*	0.78	0.00	0.78
35.10	0.21	0.72	0.29*	0.77	0.00	0.77
35.15	0.21	0.72	0.30*	0.76	0.00	0.76
35.20	0.21	0.72	0.30*	0.75	0.00	0.75
35.25	0.22	0.72	0.30*	0.74	0.00	0.74
35.30	0.22	0.72	0.31*	0.73	0.00	0.73
35.35	0.22	0.72	0.31*	0.72	0.00	0.72
35.40	0.22	0.72	0.31*	0.71	0.00	0.71
35.45	0.23	0.72	0.31*	0.70	0.00	0.70
35.50	0.23	0.72	0.32*	0.69	0.00	0.69
35.55	0.23	0.72	0.32*	0.68	0.00	0.68
35.60	0.23	0.72	0.32*	0.67	0.00	0.67
35.65	0.23	0.72	0.33*	0.66	0.00	0.66
35.70	0.24	0.71	0.33*	0.65	0.00	0.65
35.75	0.24	0.71	0.33*	0.64	0.00	0.64
35.80	0.24	0.71	0.34*	0.63	0.00	0.63
35.85	0.24	0.71	0.34*	0.62	0.00	0.62
35.90	0.25	0.71	0.34*	0.61	0.00	0.61

35.95	0.25	0.71	0.35*	0.60	0.00	0.60
36.00	0.25	0.71	0.35*	0.59	0.00	0.59
36.05	0.25	0.71	0.35*	0.58	0.00	0.58
36.10	0.25	0.71	0.36*	0.57	0.00	0.57
36.15	0.26	0.71	0.36*	0.56	0.00	0.56
36.20	0.26	0.71	0.36*	0.55	0.00	0.55
36.25	0.26	0.71	0.37*	0.54	0.00	0.54
36.30	0.26	0.71	0.37*	0.53	0.00	0.53
36.35	0.27	0.71	0.37*	0.52	0.00	0.52
36.40	0.27	0.71	0.38*	0.52	0.00	0.52
36.45	0.27	0.71	0.38*	0.51	0.00	0.51
36.50	0.27	0.71	0.38*	0.50	0.00	0.50
36.55	0.27	0.71	0.39*	0.49	0.00	0.49
36.60	0.28	0.71	0.39*	0.48	0.00	0.48
36.65	0.28	0.71	0.39*	0.47	0.00	0.47
36.70	0.28	0.71	0.40*	0.46	0.00	0.46
36.75	0.28	0.71	0.40*	0.46	0.00	0.46
36.80	0.29	0.71	0.40*	0.45	0.00	0.45
36.85	0.29	0.71	0.41*	0.44	0.00	0.44
36.90	0.29	0.71	0.41*	0.43	0.00	0.43
36.95	0.29	0.71	0.41*	0.42	0.00	0.42
37.00	0.30	0.71	0.42*	0.41	0.00	0.41
37.05	0.30	0.71	0.42*	0.41	0.00	0.41
37.10	0.30	0.71	0.42*	0.40	0.00	0.40
37.15	0.30	0.71	0.43*	0.39	0.00	0.39
37.20	0.31	0.71	0.43*	0.38	0.00	0.38
37.25	0.31	0.71	0.44*	0.37	0.00	0.37
37.30	0.31	0.71	0.44*	0.37	0.00	0.37
37.35	0.32	0.71	0.44*	0.36	0.00	0.36
37.40	0.32	0.71	0.45*	0.35	0.00	0.35
37.45	0.32	0.71	0.45*	0.34	0.00	0.34
37.50	0.32	0.71	0.46*	0.34	0.00	0.34
37.55	0.33	0.71	0.46*	0.33	0.00	0.33
37.60	0.33	0.71	0.46*	0.32	0.00	0.32
37.65	0.33	0.71	0.47*	0.32	0.00	0.32
37.70	0.34	0.71	0.47*	0.31	0.00	0.31
37.75	0.34	0.71	0.48*	0.30	0.00	0.30
37.80	0.34	0.71	0.48*	0.29	0.00	0.29
37.85	0.35	0.71	0.49*	0.29	0.00	0.29
37.90	0.35	0.71	0.49*	0.28	0.00	0.28
37.95	0.35	0.71	0.50*	0.27	0.00	0.27
38.00	0.36	0.71	0.50*	0.27	0.00	0.27
38.05	0.36	0.71	0.51*	0.26	0.00	0.26
38.10	0.36	0.71	0.51*	0.25	0.00	0.25
38.15	0.37	0.71	0.52*	0.25	0.00	0.25
38.20	0.37	0.71	0.52*	0.24	0.00	0.24
38.25	0.38	0.71	0.53*	0.23	0.00	0.23
38.30	0.38	0.71	0.53*	0.23	0.00	0.23
38.35	0.38	0.71	0.54*	0.22	0.00	0.22
38.40	0.39	0.71	0.55*	0.21	0.00	0.21
38.45	0.39	0.71	0.55*	0.21	0.00	0.21
38.50	0.40	0.71	0.56*	0.20	0.00	0.20
38.55	0.40	0.71	0.57*	0.19	0.00	0.19
38.60	0.41	0.71	0.57*	0.19	0.00	0.19
38.65	0.41	0.71	0.58*	0.18	0.00	0.18
38.70	0.42	0.71	0.59*	0.18	0.00	0.18
38.75	0.42	0.71	0.59*	0.17	0.00	0.17
38.80	0.43	0.71	0.60*	0.16	0.00	0.16
38.85	0.43	0.71	0.61*	0.16	0.00	0.16
38.90	0.44	0.71	0.62*	0.15	0.00	0.15
38.95	0.45	0.71	0.63*	0.15	0.00	0.15
39.00	0.45	0.71	0.64*	0.14	0.00	0.14
39.05	0.46	0.71	0.66*	0.14	0.00	0.14

39.10	0.48	0.71	0.67*	0.13	0.00	0.13
39.15	0.49	0.71	0.69*	0.13	0.00	0.13
39.20	0.51	0.71	0.72*	0.12	0.00	0.12
39.25	0.53	0.71	0.75*	0.12	0.00	0.12
39.30	0.58	0.71	0.82*	0.11	0.00	0.11
39.35	2.39	0.71	3.38	0.11	0.00	0.11
39.40	2.39	0.71	3.38	0.11	0.00	0.11
39.45	2.39	0.71	3.38	0.10	0.00	0.10
39.50	2.39	0.71	3.38	0.10	0.00	0.10
39.55	2.39	0.71	3.38	0.09	0.00	0.09
39.60	2.39	0.71	3.38	0.09	0.00	0.09
39.65	2.39	0.71	3.38	0.09	0.00	0.09
39.70	2.39	0.71	3.38	0.08	0.00	0.08
39.75	2.39	0.71	3.38	0.08	0.00	0.08
39.80	2.39	0.71	3.38	0.08	0.00	0.08
39.85	2.39	0.71	3.38	0.07	0.00	0.07
39.90	2.39	0.71	3.38	0.07	0.00	0.07
39.95	2.39	0.71	3.38	0.07	0.00	0.07
40.00	2.39	0.70	3.38	0.06	0.00	0.06
40.05	2.39	0.70	3.38	0.06	0.00	0.06
40.10	2.39	0.70	3.39	0.06	0.00	0.06
40.15	2.39	0.70	3.39	0.06	0.00	0.06
40.20	2.39	0.70	3.39	0.05	0.00	0.05
40.25	2.39	0.70	3.39	0.05	0.00	0.05
40.30	2.39	0.70	3.39	0.05	0.00	0.05
40.35	2.39	0.70	3.39	0.05	0.00	0.05
40.40	2.39	0.70	3.39	0.04	0.00	0.04
40.45	2.39	0.70	3.39	0.04	0.00	0.04
40.50	2.39	0.70	3.39	0.04	0.00	0.04
40.55	2.39	0.70	3.39	0.04	0.00	0.04
40.60	2.39	0.70	3.39	0.04	0.00	0.04
40.65	2.39	0.70	3.39	0.04	0.00	0.04
40.70	2.39	0.70	3.39	0.04	0.00	0.04
40.75	2.39	0.70	3.39	0.03	0.00	0.03
40.80	2.39	0.70	3.40	0.03	0.00	0.03
40.85	2.39	0.70	3.40	0.03	0.00	0.03
40.90	2.39	0.70	3.40	0.03	0.00	0.03
40.95	2.39	0.70	3.40	0.03	0.00	0.03
41.00	2.39	0.70	3.40	0.03	0.00	0.03
41.05	2.39	0.70	3.40	0.03	0.00	0.03
41.10	2.39	0.70	3.40	0.03	0.00	0.03
41.15	2.39	0.70	3.40	0.03	0.00	0.03
41.20	2.39	0.70	3.40	0.02	0.00	0.02
41.25	2.39	0.70	3.40	0.02	0.00	0.02
41.30	2.39	0.70	3.40	0.02	0.00	0.02
41.35	2.39	0.70	3.40	0.02	0.00	0.02
41.40	2.39	0.70	3.40	0.02	0.00	0.02
41.45	2.39	0.70	3.41	0.02	0.00	0.02
41.50	2.39	0.70	3.41	0.02	0.00	0.02
41.55	2.39	0.70	3.41	0.02	0.00	0.02
41.60	2.39	0.70	3.41	0.02	0.00	0.02
41.65	2.39	0.70	3.41	0.02	0.00	0.02
41.70	2.39	0.70	3.41	0.01	0.00	0.01
41.75	2.39	0.70	3.41	0.01	0.00	0.01
41.80	2.39	0.70	3.41	0.01	0.00	0.01
41.85	2.39	0.70	3.41	0.01	0.00	0.01
41.90	2.39	0.70	3.41	0.01	0.00	0.01
41.95	2.39	0.70	3.41	0.01	0.00	0.01
42.00	2.39	0.70	3.41	0.01	0.00	0.01
42.05	2.39	0.70	3.41	0.01	0.00	0.01
42.10	2.39	0.70	3.42	0.01	0.00	0.01
42.15	2.39	0.70	3.42	0.01	0.00	0.01
42.20	2.39	0.70	3.42	0.01	0.00	0.01

42.25	2.39	0.70	3.42	0.01	0.00	0.01
42.30	2.39	0.70	3.42	0.00	0.00	0.00
42.35	2.39	0.70	3.42	0.00	0.00	0.00
42.40	2.39	0.70	3.42	0.00	0.00	0.00
42.45	2.39	0.70	3.42	0.00	0.00	0.00
42.50	2.39	0.70	3.42	0.00	0.00	0.00
42.55	2.39	0.70	3.42	0.00	0.00	0.00
42.60	2.39	0.70	3.42	0.00	0.00	0.00
42.65	2.39	0.70	3.42	0.00	0.00	0.00
42.70	2.39	0.70	3.43	0.00	0.00	0.00
42.75	2.39	0.70	3.43	0.00	0.00	0.00
42.80	2.39	0.70	3.43	0.00	0.00	0.00
42.85	2.39	0.70	3.43	0.00	0.00	0.00
42.90	2.39	0.70	3.43	0.00	0.00	0.00
42.95	2.39	0.70	3.43	0.00	0.00	0.00
43.00	2.39	0.70	3.43	0.00	0.00	0.00
43.05	2.39	0.70	3.43	0.00	0.00	0.00
43.10	2.39	0.70	3.43	0.00	0.00	0.00
43.15	2.39	0.69	3.43	0.00	0.00	0.00
43.20	2.39	0.69	3.43	0.00	0.00	0.00
43.25	2.39	0.69	3.43	0.00	0.00	0.00
43.30	2.39	0.69	3.44	0.00	0.00	0.00
43.35	2.39	0.69	3.44	0.00	0.00	0.00
43.40	2.39	0.69	3.44	0.00	0.00	0.00
43.45	2.39	0.69	3.44	0.00	0.00	0.00
43.50	2.39	0.69	3.44	0.00	0.00	0.00
43.55	2.39	0.69	3.44	0.00	0.00	0.00
43.60	2.39	0.69	3.44	0.00	0.00	0.00
43.65	2.39	0.69	3.44	0.00	0.00	0.00
43.70	2.39	0.69	3.44	0.00	0.00	0.00
43.75	2.39	0.69	3.44	0.00	0.00	0.00
43.80	2.39	0.69	3.44	0.00	0.00	0.00
43.85	2.39	0.69	3.45	0.00	0.00	0.00
43.90	2.39	0.69	3.45	0.00	0.00	0.00
43.95	2.39	0.69	3.45	0.00	0.00	0.00
44.00	2.39	0.69	3.45	0.00	0.00	0.00
44.05	2.39	0.69	3.45	0.00	0.00	0.00
44.10	2.39	0.69	3.45	0.00	0.00	0.00
44.15	2.39	0.69	3.45	0.00	0.00	0.00
44.20	2.39	0.69	3.45	0.00	0.00	0.00
44.25	2.39	0.69	3.45	0.00	0.00	0.00
44.30	2.39	0.69	3.45	0.00	0.00	0.00
44.35	2.39	0.69	3.45	0.00	0.00	0.00
44.40	2.39	0.69	3.46	0.00	0.00	0.00
44.45	2.39	0.69	3.46	0.00	0.00	0.00
44.50	2.39	0.69	3.46	0.00	0.00	0.00
44.55	2.39	0.69	3.46	0.00	0.00	0.00
44.60	2.39	0.69	3.46	0.00	0.00	0.00
44.65	2.39	0.69	3.46	0.00	0.00	0.00
44.70	2.39	0.69	3.46	0.00	0.00	0.00
44.75	2.39	0.69	3.46	0.00	0.00	0.00
44.80	2.39	0.69	3.46	0.00	0.00	0.00
44.85	2.39	0.69	3.46	0.00	0.00	0.00
44.90	2.39	0.69	3.47	0.00	0.00	0.00
44.95	2.39	0.69	3.47	0.00	0.00	0.00
45.00	2.39	0.69	3.47	0.00	0.00	0.00
45.05	2.39	0.69	3.47	0.00	0.00	0.00
45.10	2.39	0.69	3.47	0.00	0.00	0.00
45.15	2.39	0.69	3.47	0.00	0.00	0.00
45.20	2.39	0.69	3.47	0.00	0.00	0.00
45.25	2.39	0.69	3.47	0.00	0.00	0.00
45.30	2.39	0.69	3.47	0.00	0.00	0.00
45.35	2.39	0.69	3.47	0.00	0.00	0.00

45.40	2.39	0.69	3.48	0.00	0.00	0.00
45.45	2.39	0.69	3.48	0.00	0.00	0.00
45.50	2.39	0.69	3.48	0.00	0.00	0.00
45.55	2.39	0.69	3.48	0.00	0.00	0.00
45.60	2.39	0.69	3.48	0.00	0.00	0.00
45.65	2.39	0.69	3.48	0.00	0.00	0.00
45.70	2.39	0.69	3.48	0.00	0.00	0.00
45.75	2.39	0.69	3.48	0.00	0.00	0.00
45.80	2.39	0.68	3.48	0.00	0.00	0.00
45.85	2.39	0.68	3.48	0.00	0.00	0.00
45.90	2.39	0.68	3.49	0.00	0.00	0.00
45.95	2.39	0.68	3.49	0.00	0.00	0.00
46.00	2.39	0.68	3.49	0.00	0.00	0.00
46.05	2.39	0.68	3.49	0.00	0.00	0.00
46.10	2.39	0.68	3.49	0.00	0.00	0.00
46.15	2.39	0.68	3.49	0.00	0.00	0.00
46.20	2.39	0.68	3.49	0.00	0.00	0.00
46.25	2.39	0.68	3.49	0.00	0.00	0.00
46.30	2.39	0.68	3.49	0.00	0.00	0.00
46.35	2.39	0.68	3.49	0.00	0.00	0.00
46.40	2.39	0.68	3.50	0.00	0.00	0.00
46.45	2.39	0.68	3.50	0.00	0.00	0.00
46.50	2.39	0.68	3.50	0.00	0.00	0.00
46.55	2.39	0.68	3.50	0.00	0.00	0.00
46.60	2.39	0.68	3.50	0.00	0.00	0.00
46.65	2.39	0.68	3.50	0.00	0.00	0.00
46.70	2.39	0.68	3.50	0.00	0.00	0.00
46.75	2.39	0.68	3.50	0.00	0.00	0.00
46.80	2.39	0.68	3.50	0.00	0.00	0.00
46.85	2.39	0.68	3.51	0.00	0.00	0.00
46.90	2.39	0.68	3.51	0.00	0.00	0.00
46.95	2.39	0.68	3.51	0.00	0.00	0.00
47.00	2.39	0.68	3.51	0.00	0.00	0.00
47.05	2.39	0.68	3.51	0.00	0.00	0.00
47.10	2.39	0.68	3.51	0.00	0.00	0.00
47.15	2.39	0.68	3.51	0.00	0.00	0.00
47.20	2.39	0.68	3.51	0.00	0.00	0.00
47.25	2.39	0.68	3.51	0.00	0.00	0.00
47.30	2.39	0.68	3.52	0.00	0.00	0.00
47.35	2.39	0.68	3.52	0.00	0.00	0.00
47.40	2.39	0.68	3.52	0.00	0.00	0.00
47.45	2.39	0.68	3.52	0.00	0.00	0.00
47.50	2.39	0.68	3.52	0.00	0.00	0.00
47.55	2.39	0.68	3.52	0.00	0.00	0.00
47.60	2.39	0.68	3.52	0.00	0.00	0.00
47.65	2.39	0.68	3.52	0.00	0.00	0.00
47.70	2.39	0.68	3.52	0.00	0.00	0.00
47.75	2.39	0.68	3.53	0.00	0.00	0.00
47.80	2.39	0.68	3.53	0.00	0.00	0.00
47.85	2.39	0.68	3.53	0.00	0.00	0.00
47.90	2.39	0.68	3.53	0.00	0.00	0.00
47.95	2.39	0.68	3.53	0.00	0.00	0.00
48.00	2.39	0.68	3.53	0.00	0.00	0.00
48.05	2.39	0.68	3.53	0.00	0.00	0.00
48.10	2.39	0.68	3.53	0.00	0.00	0.00
48.15	2.39	0.67	3.53	0.00	0.00	0.00
48.20	2.39	0.67	3.54	0.00	0.00	0.00
48.25	2.39	0.67	3.54	0.00	0.00	0.00
48.30	2.39	0.67	3.54	0.00	0.00	0.00
48.35	2.39	0.67	3.54	0.00	0.00	0.00
48.40	2.39	0.67	3.54	0.00	0.00	0.00
48.45	2.39	0.67	3.54	0.00	0.00	0.00
48.50	2.39	0.67	3.54	0.00	0.00	0.00

48.55	2.39	0.67	3.54	0.00	0.00	0.00
48.60	2.39	0.67	3.54	0.00	0.00	0.00
48.65	2.39	0.67	3.55	0.00	0.00	0.00
48.70	2.39	0.67	3.55	0.00	0.00	0.00
48.75	2.39	0.67	3.55	0.00	0.00	0.00
48.80	2.39	0.67	3.55	0.00	0.00	0.00
48.85	2.39	0.67	3.55	0.00	0.00	0.00
48.90	2.39	0.67	3.55	0.00	0.00	0.00
48.95	2.39	0.67	3.55	0.00	0.00	0.00
49.00	2.39	0.67	3.55	0.00	0.00	0.00
49.05	2.39	0.67	3.56	0.00	0.00	0.00
49.10	2.39	0.67	3.56	0.00	0.00	0.00
49.15	2.39	0.67	3.56	0.00	0.00	0.00
49.20	2.39	0.67	3.56	0.00	0.00	0.00
49.25	2.39	0.67	3.56	0.00	0.00	0.00
49.30	2.39	0.67	3.56	0.00	0.00	0.00
49.35	2.39	0.67	3.56	0.00	0.00	0.00
49.40	2.39	0.67	3.56	0.00	0.00	0.00
49.45	2.39	0.67	3.56	0.00	0.00	0.00
49.50	2.39	0.67	3.57	0.00	0.00	0.00
49.55	2.39	0.67	3.57	0.00	0.00	0.00
49.60	2.39	0.67	3.57	0.00	0.00	0.00
49.65	2.39	0.67	3.57	0.00	0.00	0.00
49.70	2.39	0.67	3.57	0.00	0.00	0.00
49.75	2.39	0.67	3.57	0.00	0.00	0.00
49.80	2.39	0.67	3.57	0.00	0.00	0.00
49.85	2.40	0.67	3.60	0.00	0.00	0.00
49.90	2.40	0.67	3.60	0.00	0.00	0.00
49.95	2.40	0.67	3.60	0.00	0.00	0.00
50.00	2.40	0.67	3.60	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units: Unit: qc, fs, Stress or Pressure = atm (1.0581tsf); Unit Weight = pcf; Depth = ft; Settlement = in.

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1 atm (atmosphere) = 1 tsf (ton/ft2)
CRRm Cyclic resistance ratio from soils
CSRsf Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S. Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat Settlement from saturated sands
S_dry Settlement from Unsaturated Sands
S_all Total Settlement from Saturated and Unsaturated Sands
NoLiq No-Liquefy Soils

Appendix B

General Earthwork Specifications

APPENDIX B

EARTHWORK SPECIFICATIONS

GENERAL

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

SCOPE OF WORK: These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including, but not limited to, the furnishing of all labor, tools and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans and disposal of excess materials.

PERFORMANCE: The Contractor shall be responsible for the satisfactory completion of all earthworks in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of Krazan and Associates, Incorporated, hereinafter referred to as the Geotechnical Engineer and/or Testing Agency. Attainment of design grades, when achieved, shall be certified by the project Civil Engineer. Both the Geotechnical Engineer and the Civil Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary adjustments until all work is deemed satisfactory as determined by both the Geotechnical Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Geotechnical Engineer, Civil Engineer, or project Architect.

No earthwork shall be performed without the physical presence or approval of the Geotechnical Engineer. The Contractor shall notify the Geotechnical Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the sole negligence of the Owner or the Engineers.

TECHNICAL REQUIREMENTS: All compacted materials shall be densified to the minimum relative compaction of 95 percent. Soil moisture content requirements presented in the Geotechnical Engineer's report shall also be complied with. The maximum laboratory compacted dry unit weight of each soil placed as fill shall be determined in accordance with ASTM Test Method D1557-00 (Modified Proctor). The optimum moisture content shall also be determined in accordance with this test method. The terms "relative compaction" and "compaction" are defined as the in-place dry density of the compacted soil divided by the laboratory compacted maximum dry density as determined by ASTM Test Method D1557-00, expressed as a percentage as specified in the technical portion of the Geotechnical Engineer's report. The location and frequency of field density tests shall be as determined

by the Geotechnical Engineer. The results of these tests and compliance with these specifications shall be the basis upon which the Geotechnical Engineer will judge satisfactory completion of work.

SOILS AND FOUNDATION CONDITIONS: The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the Geotechnical Engineering Investigation report.

The Contractor shall make his own interpretation of the data contained in the Geotechnical Engineering Investigation report and the Contractor shall not be relieved of liability under the Contract for any loss sustained as a result of any variance between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

DUST CONTROL: The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or wind-blown materials attributable to his work.

SITE PREPARATION

Site preparation shall consist of site clearing and grubbing, over-excavation of the building pad areas, preparation of foundation materials for receiving fill, construction of including the placement of non-expansive fill where recommended by the Geotechnical Engineer.

CLEARING AND GRUBBING: The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter and all other matter determined by the Geotechnical Engineer to be deleterious. Site stripping to remove organic materials and organic-laden soils in landscaped areas shall extend to a minimum depth of 2 inches or until all organic-laden soil with organic matter in excess of 3 percent of the soils by volume are removed. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed building areas should be removed to a minimum depth of 3 feet and to such an extent that would permit removal of all roots greater than 1 inch in diameter. Tree roots removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill of tree root excavation should not be permitted until all exposed surfaces have been inspected and the Geotechnical Engineer is present for the proper control of backfill placement and compaction. Burning in areas that are to receive fill materials shall not be permitted.

Excavations required to achieve design grades, depressions, soft or pliant areas, or areas disturbed by demolition activities extending below planned finished subgrade levels should be excavated down to firm, undisturbed soil and backfilled with Engineered Fill.

EXCAVATION: Following clearing and grubbing operations, the building pad area shall be over-excavated to a depth of at least three feet below existing grades or the planned foundation bottom levels, whichever is deeper, and the remaining areas of the building and adjoining exterior concrete flatwork or pavements at the building perimeter shall be over-excavated to a depth of at least one foot below existing grade. The areas of over-excavation and recompaction beneath footings and slabs shall extend out laterally a minimum of five feet beyond the perimeter of these elements.

All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over-excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable **TECHNICAL REQUIREMENTS**.

SUBGRADE PREPARATION: Surfaces to receive or to support structures directly, shall be scarified to a depth of 8 inches, moisture conditioned as necessary and compacted in accordance with the **TECHNICAL REQUIREMENTS**, above.

Loose soil areas and/or areas of disturbed soil shall be should be excavated down to firm, undisturbed soil, moisture-conditioned as necessary and backfilled with Engineered Fill. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas that are to receive fill materials shall be approved by the Geotechnical Engineer prior to the placement of any of the fill material.

FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence of the Geotechnical Engineer. Material from the required site excavation may be utilized for construction of site fills, with the limitations of their use presented in the Geotechnical Engineer's report, provided the Geotechnical Engineer gives prior approval. All materials utilized for constructing site fills shall be free from vegetation, debris, rubble, trash, rocks greater than 6 inches diameter or other deleterious matter as determined by the Geotechnical Engineer, and shall comply with the requirements for non-expansive fill, aggregate base or aggregate subbase as applicable for its proposed used on the site as presented in the Geotechnical Engineer's report.

PLACEMENT, SPREADING AND COMPACTION: The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. Fill materials should be placed and compacted in horizontal lifts, each not exceeding 8 inches in uncompacted thickness. Due to equipment limitations, thinner lifts may be necessary to achieve the recommended level of compaction. Compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Geotechnical Engineer. Additional lifts should not be placed if the previous lift did not meet the required dry density (relative compaction) or if soil conditions are not stable. The compacted subgrade in pavement areas should be non-yielding when proof-rolled with a loaded ten-wheel truck, such as a water truck or dump truck, prior to pavement construction.

Both cut and fill shall be surface-compacted to the satisfaction of the Geotechnical Engineer prior to final acceptance.

SEASONAL LIMITS: No fill material shall be placed, spread, or rolled while it is frozen or thawing, or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the Geotechnical Engineer indicates that the moisture content and density of previously placed fill is as specified.

Appendix C

General Paving Specifications

APPENDIX C

PAVEMENT SPECIFICATIONS

1. DEFINITIONS - The term "pavement" shall include asphalt concrete surfacing, untreated aggregate base, and aggregate subbase. The term "subgrade" is that portion of the area on which surfacing, base, or subbase is to be placed.

The term "Standard Specifications": hereinafter referred to is the January 1999 Standard Specifications of the State of California, Department of Transportation, and the "Materials Manual" is the Materials Manual of Testing and Control Procedures, State of California, Department of Public Works, Division of Highways. The term "relative compaction" refers to the field density expressed as a percentage of the maximum laboratory density as defined in the ASTM D1557-00.

2. SCOPE OF WORK - This portion of the work shall include all labor, materials, tools, and equipment necessary for, and reasonably incidental to the completion of the pavement shown on the plans and as herein specified, except work specifically notes as "Work Not Included."

3. PREPARATION OF THE SUBGRADE - The Contractor shall prepare the surface of the various subgrades receiving subsequent pavement courses to the lines, grades, and dimensions given on the plans. The upper 12 inches of the soil subgrade beneath the pavement section shall be compacted to a minimum relative compaction of 95 percent. The finished subgrades shall be tested and approved by the Geotechnical Engineer prior to the placement of additional pavement courses.

4. UNTREATED AGGREGATE BASE - The aggregate base material shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate base material shall conform to the requirements of Section 26 of the Standard Specifications for Class 2 material, ¾-inches maximum size. The aggregate base material shall be compacted to a minimum relative compaction of 95 percent. The aggregate base material shall be spread and compacted in accordance with Section 26 of the Standard Specifications. The aggregate base material shall be spread in layers not exceeding 6 inches and each layer of aggregate material course shall be tested and approved by the Geotechnical Engineer prior to the placement of successive layers.

5. AGGREGATE SUBBASE - The aggregate subbase shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate subbase material shall conform to the requirements of Section 25 of the Standard Specifications for Class II material. The aggregate subbase material shall be compacted to a minimum relative compaction of 95 percent, and it shall be spread and compacted in accordance with Section 25 of the Standard Specifications. Each layer of aggregate subbase shall be tested and approved by the Geotechnical Engineer prior to the placement of successive layers.

6. ASPHALT CONCRETE SURFACING - Asphalt concrete surfacing shall consist of a mixture of mineral aggregate and paving grade asphalt, mixed at a central mixing plant and spread and compacted on a prepared base in conformity with the lines, grades, and dimensions shown on the plans. The viscosity grade of the asphalt shall be AR-8000. The mineral aggregate shall be Type B, ½-inch or ¾-inch maximum, medium grading, for the wearing course and ¾-inch maximum, medium grading for the base course, and shall conform to the requirements set forth in Section 39 of the Standard Specifications. The drying, proportioning, and mixing of the materials shall conform to Section 39.

The prime coat, spreading and compacting equipment, and spreading and compacting the mixture shall conform to the applicable chapters of Section 39, with the exception that no surface course shall be placed when the atmospheric temperature is below 50 degrees F. The surfacing shall be rolled with a combination steel-wheel and pneumatic rollers, as described in Section 39-6. The surface course shall be placed with an approved self-propelled mechanical spreading and finishing machine.

7. FOG SEAL COAT - The fog seal (mixing type asphalt emulsion) shall conform to and be applied in accordance with the requirements of Section 37.

Appendix F
Hydrology Reports

ESA

F1 Hydrology and Stormwater Quality Report

HYDROLOGY & STORMWATER QUALITY REPORT

DEL NORTE FOOD DISTRIBUTION FACILITY

5980 & 6000 ARCTURUS AVENUE, OXNARD PLAINS, SOUTH OF HUENEME ROAD, CORNER OF E. MCWANE BLVD. CITY OF OXNARD, CALIFORNIA

Prepared for:

CONTROLLED ENVIRONMENTS CONSTRUCTION, INC.
1562 Parkway Loop, Suite E
Tustin, California 92780

Attention: Mr. Gary Guesman, President

August 23, 2023

Project 6064.60

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APPENDIX C: Stormwater Mitigation Calculations (Detention Basin Sizing)

APPENDIX D: Detention Outlet Pump Details

APPENDIX E: Drainage Structure Hydraulics

Spread Map

APPENDIX F: WQMP Vegetated Swale Design

APPENDIX G: Vegetated Swale Capacity/Scour Analysis

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HYDROLOGY AND STORMWATER QUALITY REPORT
DEL NORTE FOODS DISTRIBUTION FACILITY
5980 & 6000 ARCTURUS AVENUE
OXNARD, CALIFORNIA

1.0 INTRODUCTION

RJR Engineering & Consulting, Inc. (RJR) has prepared this hydrology and drainage analysis in regard to the proposed improvements for the Del Norte Foods Cold Storage and Distribution Facility located at 5980 & 6000 Arcturus Avenue, in the City of Oxnard, California. The scope of this drainage study is to characterize the hydrologic and hydraulic conditions of the contributing tributary flows, the onsite drainage scheme based on the proposed improvements, the conveyance of storm flows and the mitigation of any increased runoff. As part of this study, RJR has prepared an Engineering Grading & Drainage Plan outlining the proposed improvements.

The project site previously operated as an industrial site, which is no longer active and has been mostly demolished. An abandoned set of railroad tracks extending to the mid portion of a lot has been removed. Most of the site consists of compacted gravel and has been used as temporary storage for new vehicles shipped to the nearby port. The proposed improvements include construction of 103,705 square feet of warehouse building; placement of concrete for truck and container storage/ parking; curb and gutter improvements; and on-site drainage improvements. The proposed improvements will require storm water mitigation to address any increased demand of the existing facilities due to the increase of impermeable area.

Overall, the existing drainage patterns will remain essentially unchanged. However, the lack of drainage improvements in the street and low-lying conditions of the site will require a raised grass swale and onsite detention basin following a series of vegetative grass swales to pretreat the runoff from the site to mitigate flooding during larger rainfall events. The increase of onsite impermeable surface will be attenuated by an improved drainage system that will cover the entire site. Runoff will be collected via ribbon drains and conveyed to a series of vegetative grass swales along outer edges of the property then collected and conveyed to an onsite underground detention system. The collected runoff will then be lifted with a pump station to a raised to an elevated bioswale for an additional treatment[1], which then drains to the adjacent curb or overflows to the street at McWane Blvd. It will then gravity flow to the proposed connection at Edison Dr. Therefore, runoff volume leaving the site will be filtered and controlled to be significantly less than the existing condition.

[1] As required by the City

It should be noted that this report has been prepared solely as a hydrologic and hydraulic analysis for the proposed site and drainage improvements. This analysis pertains solely to the conveyance of surface water, the related drainage devices and the storm water management system and does not include any analysis or assumptions relating to downstream conditions. All recommendations described herein are based on hydraulic and hydrologic analysis. Any changes in design or failure to address the outlined recommendations can alter the subsequent calculations and render this report void.

1.1. Legal Description

Parcel B, as shown and designed on that certain lot line adjustment (planning and zoning permit no. 98-5-42), recorded may 14, 1998, as document no. 98-76147 of official records, in the City of Oxnard, County of Ventura, State of California; and being all of parcel 2 of lot merger (planning and zoning permit no. 98-5-41), recorded may 11, 1998, as document no. 98-73258 of official records, except for the northerly 620.50 feet of said parcel 2.

Except for a portion one-half of all oil, gas, minerals, and other hydrocarbon substances in and under said land, without, however, any right of entry in and to the surface thereof at a depth of less than 500 feet beneath the surface for the development of removal of said substances, as reserved by Clifford B. Johnson, et al., indeed recorded September 22, 1961, in book 2050, page 386 of official records.

Also except from a portion one-fourth of all oil, gas, minerals and other hydrocarbon substances in and under said land, without, however, any right of entry in and to the surface thereof at a depth of less than 500 feet beneath the surface for the development of removal of said substances, as reserved T.G.M. Investment Co., Inc., as title holding company for Oxnard Development Co. under title holding agreement, dated February 13, 1960, recorded march 11, 1960, book 1842, page 242; and deed recorded December 7, 1961 in book 2081, page 67 of official records.

Also, except one-fourth of all oil, gas, minerals and other hydrocarbon substances in and under said land, without, however, any right of entry in and to the surface thereof at a depth of less than 500 feet beneath the surface for the development of removal of said substances, as reserved in document recorded July 2, 1987, as document no. 87-105839 of official records.

1.2. Site Description

The project site consists of approximately 14.33 (±) acres of undeveloped commercial property. Most of the site has compacted gravel and is used for temporary car storage. The topography within the subject site is relatively flat and level, with no major topographic

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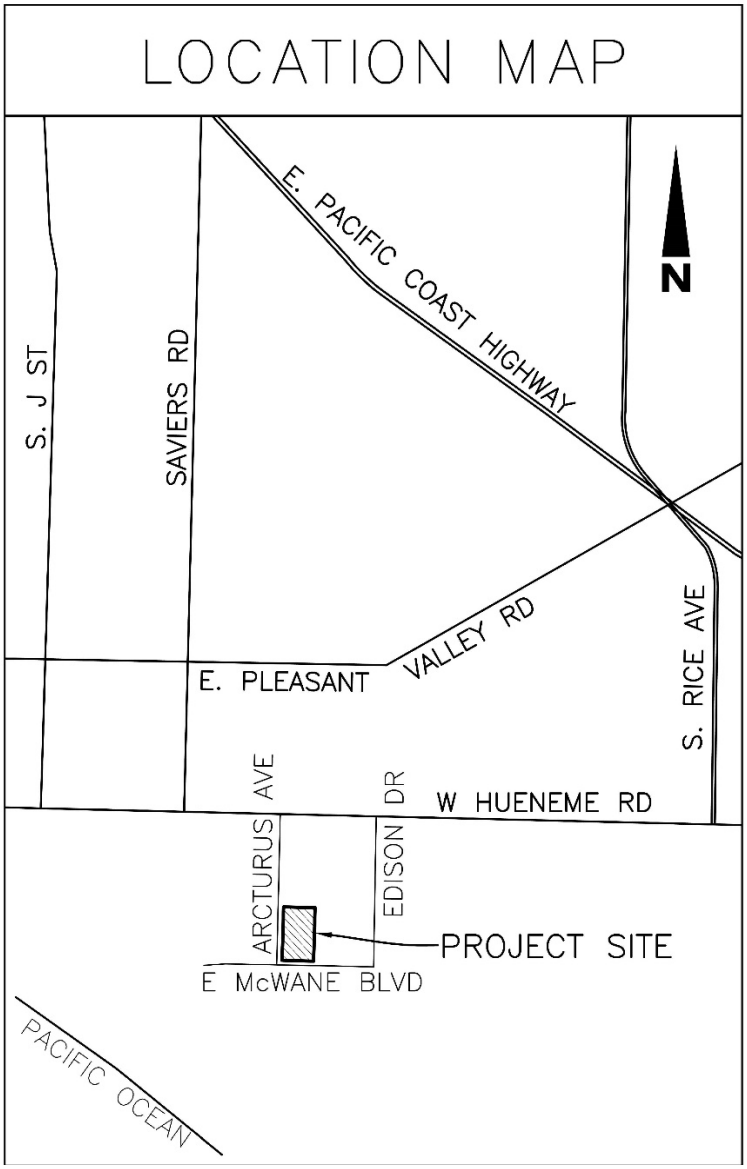
relief. The site is currently vacant and the groundcover at the site consists of exposed soil and localized weed and grass growth.

1.3. Site Location

The project site is located at 5980 & 6000 Arcturus Avenue in Oxnard, CA. The site is bounded to the north and east by industrial developments, to the south by McWane boulevard and to the West by Arcturus Avenue.

Figure #1: Location Map



Photograph #1: Existing Property

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Photograph #2: Existing Property (Looking North)



1.4. Existing Site Drainage

The site does not contain local drainage facilities and runoff sheet flows off the site to the west and south towards the existing curb and gutters. The drainage along Arcturus then flows via curb and gutter towards the south to the intersection of McWane. Drainage along McWane Boulevard flows west via curb and gutter to existing undeveloped land.

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2.0 REFERENCES

- "Modified Cook's Method for Stormwater Runoff Calculations," City of Oxnard, Public Works Department, Standard Plan Plate #59.
- "Ventura County Hydrology Manual," Ventura County Watershed Protection District, Revised 2017.
- "Ventura County Technical Guidance Manual for Stormwater Quality Control Measures," Ventura County Watershed Protection District, Updated 2018.

3.0 OBJECTIVES

The scope of this drainage study is to characterize the hydrologic and hydraulic conditions of the contributing tributary flows for the proposed development and will address the following:

Hydrology Analysis: Assess the onsite drainage scheme based on the proposed improvements, the conveyance of storm flows as well as the mitigation of any increased runoff . The drainage analysis will demonstrate compliance with the City of Oxnard stormwater runoff requirements as well as the Ventura County Hydrology Manual.

Stormwater Quality: The proposed project will incorporate Low Impact Development measures in accordance with the Ventura County Technical Guidance Manual.

4.0 PROCEDURE

The following hydrology and hydraulic analysis demonstrate the effects of development and required mitigation strategies. In general city master plans throughout the County utilize the VCWPD VCRat model, with the exception of the City of Oxnard which utilizes the Cook's method. The results of the comparison are that the Cook's method yields peaks that are about the same or bigger than VCRat peaks for developed watersheds up to several hundred acres. VCRat peaks are bigger for larger watersheds and for undeveloped areas.[2]

All flow rates were calculated, and drainage facilities sized according to the Cook's Method. A project hydrology map was prepared demonstrating the localized tributary runoff areas, times of concentration and total runoff volumes. The associated grading and drainage plans depict the proposed on-site drainage scheme and provide details for the collection and conveyance facilities.

[2] Ventura County Watershed Protection District, "Design Hydrology Manual, (2017), Section 6.5.

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Stormwater mitigation (detention basin sizing) was determined according to the requirements outlined in the Ventura County Hydrology Manual.

5.0 HYDROLOGY ANALYSIS

The Cook's Method, utilized by the City of Oxnard, considers the drainage area, relief and surface storage of the area, type of soil, extent of vegetal cover, shape of the watershed, rainfall intensity to be expected and the frequency of occurrence. The area consists primarily of Type 'B' soil and consists of flat terrain and the average 50-year rainfall is six (6) inches.

5.1. Site Hydrology Information

Location:	Oxnard Coastal Plains
Soil Type:	B
R.I. Correction Factor:	123%
'C' Factor (Existing):	80 (Per City Request)
'C' Factor (Proposed):	80 (Per City Request)

5.2. Subarea Calculation Procedure:

1.) Delineate and measure the drainage area in acres.
2.) Measure travel length, L, in feet.
3.) Compute average width of watershed in feet.
4.) Compute length to width ratio and determine the shape correction factor from the given chart.
5.) Determine soil type from the hydrologic soils map, vegetal cover from field observation, relief, and surface storage from topographic map and/or field observation as required.
6.) Compute 'C' factor from given chart. (Plate 60).
7.) Using computed 'C' factor and measured drainage area obtain the uncorrected Q10 from the graph.
8.) Multiply the Q10 in item (7) by both the shape correction and rainfall intensity correction factor to obtain corrected Q10 peak runoff (Plate 59). RJR re-created Plate 59 as an Excel Spreadsheet. Copies of each subarea calc report is provided in Appendix 'X'.
9.) For other frequencies, multiply the corrected Q10 by the appropriate frequency correction factor from the chart.

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Copies of the City standard plates are provided in Appendix A & used in Appendix B for reference.

5.2. Hydrology Map:

The project site was divided into tributary sub-areas based on drainage inlet locations across the site. Information including flow length, elevation fall, slope and area were gathered and utilized for hydrology calculations. The hydrology map has been provided in Appendix 'X' for reference.

5.3. Subarea Flowrate Summary Table:

Sub Area	Tributary Area (acre)	Length (feet)	Fall (feet)	Slope (%)	Length/Width	Q10 (cfs)	Q100 (cfs)
A1	0.99	562.4	3.66	0.0065078	7.33	1.67	5.14
B1	1.03	560.31	4.06	0.007246	6.99	1.71	5.26
C1	1.03	562.95	4.66	0.0082778	7.06	1.71	5.26
D1	1.13	562.95	4.69	0.0083311	6.44	1.90	5.84
E1	1.13	576.2	5.06	0.0087753	6.75	1.90	5.84
F1	1.06	580.83	5.2	0.0089527	7.31	1.82	5.61
G1	0.32	286.23	1.5	0.0052405	5.53	1.67	5.14
H1	0.35	313.90	1.2	0.0038229	6.28	1.67	5.14
I1	0.62	309.3	2.4	0.0077595	3.54	1.72	5.30
J1	0.46	311.87	2.9	0.0092987	4.85	1.72	5.30
K1	0.70	261.75	3	0.0114613	2.25	1.90	5.84
L1	1.05	393.16	4.2	0.01068267	3.38	1.92	5.90
M1	1.02	447.21	3	0.0067083	4.50	1.72	5.30
N1	1.02	463.83	3.97	0.0085592	4.84	1.72	5.30
O1	2.36	326.77	7	0.0214218	1.04	4.84	14.88
P1	0.02	48.1	0.35	0.00727651	2.66	1.90	5.84
Q1	0.03	72.53	1.18	0.0162691	6.04	1.67	5.14
R1	0.02	52.89	0.21	0.0039705	3.21	1.76	5.41
S1	0.08	103.80	0.21	0.0020231	3.09	1.76	5.41

Print outs for each sub area are provided in Appendix B for reference.

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5.4. Stormwater Mitigation (Detention):

While the Cook's Method, utilized by the City of Oxnard, is required for hydrology calculations and designing drainage systems, the City procedures do not apply to detention basin design. Therefore, detention basin design is based on the Ventura County (VCRat) models. The Ventura County Detention Excel Spreadsheet was utilized for bypass detention basins.

5.4.1. Detention Basin Sizing Data

The following data was gathered from the Ventura County Hydrology Design Manual. The data was then entered into the Ventura County Detention Excel Spreadsheet.

Watershed Area:	14.33 (acre)
Time of Concentration:	6 (min.)
Imperviousness:	96 (%)
Storm Zone:	K
Storm Frequency:	100 years
Soil Number:	3
NRCS Curve Number Yield:	5.86 inches
Effective Imperviousness:	56 (%)

5.4.2. Detention Basin Sizing Results

The Ventura County Detention results are presented below. A copy of the Ventura County Detention Excel Spreadsheet has been provided in Appendix X.

Inflow Hydrograph Peak:	62.69 (cfs)
Mitigated Peal Hydrograph:	35.00 (cfs)
Basin Volume:	6,002 (c.f.)

5.4.3. Project Detention Design

Overall, the increase in storm flows from the project site due to an increase in impervious area will be mitigated via detention of the increased storm flows. The proposed project requires a detention volume of 6,002 cubic feet. Attenuation of increased runoff will be mitigated utilizing an underground detention HDPE detention basin as well as the underground storm drain conveyance pipes which enter the system.

Detention storage volume accounts for both the detention inlet pipes and the underground HDPE storage facility. As water fills the underground HDPE system, contributing flows,

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during a 100-year event, will back up the connected inlet pipes up until the lowest inlet pipe elevation (limiting elevation). The total usable length, pipe radius and cross-sectional area data are provided in the table below.

Overall, the conveyance pipes have a total capacity of 2,977.20 cubic feet of storage. Therefore, the required storage capacity of the underground detention facility must meet/exceed 3,024.80 cubic feet (6,002 c.f. total).

Detention Sizing Distribution Table		
Total Required Detention Size:	6,002.00	c.f.
Available Detention Storage: Onsite Storm Drain Pipes		
limiting elev.	5.4	ft
detention inlet elev.	-1.59	ft
12" PVC (SDR-35)		
Total usable Length (elevation limited)	1590.17	ft.
Wall thickness	0.360	in.
Radius	0.47	ft
Cross Sectional Area per ft.	0.69	s.f.
Detention Volume	**1,103.54**	c.f.
18" PVC (SDR-35)		
Total usable Length (elevation limited)	431.50	ft.
Wall thickness	0.536	in.
Radius	0.71	ft
Cross Sectional Area per ft.	1.56	s.f.
Detention Volume	**674.40**	c.f.
24" PVC (SDR-35)		
Total usable Length (elevation limited)	431.33	ft.
Wall thickness	0.711	in.
Radius	0.94	ft
Cross Sectional Area per ft.	2.78	s.f.
Detention Volume	**1,199.25**	c.f.
Total Detention from Pipes	**2,977.20**	**c.f.**
Required Underground Detention Vol.	**3,024.80**	**c.f**

The HDPE detention facility was designed utilizing three, 48 inch pipe runs with a length of 95 feet each. The total storage capacity of the underground system totals 3,603 cubic feet.

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Overall, the total detention capacity for the site is 6,580 cubic feet of storage, which exceeds the required 6,002 cubic feet.

Total Detention Required:	6,002 c.f.
Total Detention Volume:	6,580 c.f.

Stormwater Detention System Worksheet

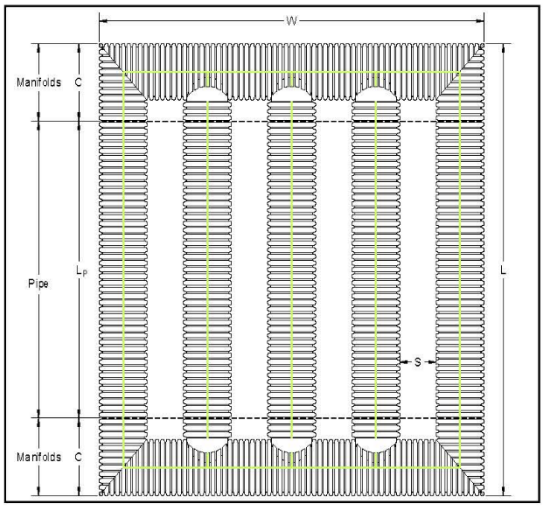
Project 5980 & 5990 ARCTURUS AVE.
Location OXNARD, CA
Engineer TTA
Date 15-Aug-23

1.) Design Storage Volume **Vst=** 3100 **ft3**

Pipe Dia. D (in)	Outside Dia. OD (ft)	C (ft)	Clr. Span S (ft)	Det. Area Factor (ft2/ft3)
12	1.20	1.75	1.10	2.86
15	1.46	2.00	1.07	2.07
18	1.77	2.36	1.19	1.66
24	2.32	2.97	1.57	1.23
30	2.93	4.04	2.23	1.05
36	3.48	4.52	2.09	0.79
42	3.98	5.44	2.92	0.65
42HC	3.90	4.95	2.10	0.64
48HC	4.39	5.45	2.11	0.53
60HC	5.46	5.91	2.87	0.43

2.) Minimum Pipe Diameter to Satisfy Design **D=** 48 **in** **Pipe OD=** 4.39 **Clear span (S)=** 2.11 **C=** 5.45

3.) Actual DAF for Selected Pipe Size **DAFact=** 0.53 **ft2/ft3**



A. If Width (W) Controls **Wmax=** 20 **ft**

Number of Pipe Runs Required (Npr):	**Npr=**	3 **pipe runs**
Actual Width (Wact):	**Wact=**	17.39 **ft**
System Length (L):	**L=**	95 **ft**
Pipe Length Between Manifolds (Lp):	**Lp=**	84 **ft**
Estimated Storage Provided	**Vp=**	3603 **ft3**
Detention Surface Area Required (Ad):	**Ad=**	1652 **ft2**

Vp must be greater than Vst OK? ___yes ___no

B. If Length (L) Controls **Lmax=** 40 **ft**

Number of Pipe Runs Required (Npr):	**Npr=**	7 **pipe runs**
Actual Width (Wact):	**Wact=**	43.39 **ft**
System Length (L):	**L=**	37 **ft**
Pipe Length Between Manifolds (Lp):	**Lp=**	26 **ft**
Estimated Storage Provided	**Vp=**	3377 **ft3**
Detention Surface Area Required (Ad):	**Ad=**	1605 **ft2**

Vp must be greater than Vst OK? ___yes ___no

1.) This worksheet is for estimations purposes only and should not take the place of a comprehensive engineering design.
2.) Estimated volumes are based on a flat detention system.

A copy of the detention sizing worksheet initial layout of the system has also been provided in Appendix B.

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6.0. STORM DRAIN PUMP SIZING AND CALCULATIONS

The proposed underground storm drain system sits below the curb/gutter elevation along McWane Boulevard. Therefore, the detention system outlet will be tied to a pump system which will draw the mitigated storm runoff from the HDPE pipes and expel the water into a grass swale at the surface, located at the back of sidewalk along McWane Boulevard. Stormwater will then gravity flow through the grass swale (Area S1) and then exit to the gutter along McWane (at the corner of McWane and Arcturus) via 3" curb core pipes.

A Jensen Precast Storm Drain Pump Station has been selected for this site due to the size and nature of the drainage patterns present onsite. Jensen has initially selected the pump size and valve bypass layout based on our current Storm drain detention and outflow requirements, physical constraints of the site, and any pumping and conveyance losses to the proposed outlet. To maintain consistency with the allowable outlet flows (flows shall not exceed the Developed Q_{10}) a pump design was selected to flow 65 g.p.m at 26 ft. TDH. The Pump station exhibits have been provided in Appendix D.

7.0 Drainage Structure Hydraulics

All drainage facilities have been designed based on the flow rates established by the Cook's Method. Hydraulic Analysis and supportive calculation for the site drainage structures (PVC pipes, catch basins, etc.) have been sized included in Appendix B and a Hydrology Map showing drainage device locations has been included in Appendix C. The hydrology map also includes areas for the Q_{100} spread limits to illustrate possible locations of temporary local ponding.

The storm drain system was modeled utilizing the storm drain system within Autodesk Civil3D and exported the model into Autodesk Storm & Sanitary Analysis to determine the pipe capacities for the routed Q_{10} flows and to determine any bypass flows that will remain in the Bio-swales. All the drainage structures have been designed to convey the Q_{10} flows to the underground detention. Q_{100} flows were also analyzed in order to determine the spread within the parking lot during these high intensity events. All Q_{100} flows are maintained on site and eventually enter the project detention system. All Q_{100} flows are included in Appendix B.

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8.0 STORMWATER QUALITY ANALYSIS

The scope of this Post Construction Stormwater Quality Report is to characterize the hydrologic and hydraulic conditions of the improvement area, determine the treatment flow rates, and determine the potential pollutants of concern, pollutant loading and analysis of appropriate mitigation measures which can be introduced into the proposed development design.

The proposed project is greater than one acre of disturbed area, adds more than 10,000 square feet of impervious surface area and is an industrial park with more than 100,000 square feet of total surface area. According to requirements for Post Construction Stormwater Quality Control Measures outlined by the City of Oxnard and the County of Ventura, Technical Guidance Manual, the project will require post construction stormwater mitigation for the development.

The subject property is currently a mix of developed and undeveloped and does not have any Post Construction BMPs. All runoff from the site current sheet flows from the northeast corner to the south and west. Overall, the cumulative impact on storm water quality from the proposed site improvements will require mitigation due to an increase of impervious area and increased vehicular traffic on the site.

The site-specific infiltration rate rendered values that were not acceptable based on the Ventura County Standards. RJR performed a detailed screening and determined site infeasibility. RJR designed the site to meet the required EIA, by using designed bioswales with grass (6 inch tall) with a designed water depth of 4 inch above said grass with storm drain inlets located at the design depths. The storm drain will be conveyed to the underground detention where it will be collected and held and released via pump station to a raised bioswale and then outlet to the existing curb and gutter to restore historic drainage patterns and emulate pre-existing flowrates.
It should be noted that this report has been prepared solely as a Stormwater Quality Control Analysis for the proposed site and drainage improvements prepared by RJR Engineering. Any changes in design or failure to address the outlined recommendations can alter the subsequent calculations and render this report void.

8.1. Stormwater Quality Management Requirements

The Ventura Countywide Stormwater Quality Management Program has been implemented to fulfill the Regional Water Quality Control Board Order R4-2010-0108 and additional state requirements. The Program requires implementation of appropriate stormwater quality control measures and maintenance procedures for applicable development projects to provide effective, long term pollution control.

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The following projects and associated triggers within new development and redevelopment projects/activities are subject to the requirements of permit.

New Development Projects

- *All development projects equal to 1 acre or greater of disturbed area and that adds more than 10,000 square feet of impervious surface area.*
- *Industrial parks 10,000 square feet or more of total altered surface area.*
- *Commercial strip malls with 10,000 square feet or more of impervious surface area.*
- *Retail Gasoline outlets with 5,000 square feet or of total altered surface area.*
- *Restaurants with 5,000 square feet or more of total altered surface area.*
- *Parking lots with 5,000 square feet or more of impervious surface area, or with 25 or more parking spaces.*
- *Streets, roads, highways, and freeway construction of 10,000 square feet or more of impervious surface area.*
- *Automotive service facilities with 5,000 square feet or more of total altered surface area.*
- *Projects located in or directly adjacent to or discharging directly to Environmentally Sensitive Area (ESA), where the development will discharge storm water runoff that is likely to impact a sensitive biological species or habitat and creates 2,500 square feet or more of impervious surface area.*

Since the project is a new development that involves land-disturbing activity that will alter less 10,000 square feet or greater, the project area will require mitigation under the permit. Further supporting analysis is provided in Section 5.0 and 6.0.

8.2. Potential Storm Water Quality Concerns

As an industrial development, the proposed project will be subject to pollutants associated with parking lots, truck deliveries, long term storage, landscaping maintenance as well as faculty traffic. Pollutants of concern will consist of pollutants listed in Table 1.

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Table 1: Predominate Pollutants of Concern

Class of Pollutant	Potential Land Use and Activities Sources
Sediment (TSS and Turbidity)	Streets, driveways, roads, landscaped areas, construction activities, soil erosion (channels and slopes)
Nutrients	Landscape fertilizers, atmospheric deposition, automobile exhaust, soil erosion, animal waste, detergents
Metals/Metalloids	Automobiles, bridges, atmospheric deposition, industrial areas, soil erosion, metal surfaces, combustion processes
Pesticides	Landscaped areas, roadsides, utility right-of-ways
Organic Materials/ Oxygen Demanding Substances	Landscaped areas, animal wastes, industrial wastes
Oil and Grease/ Organics Associated with Petroleum	Roads, driveways, parking lots, vehicle maintenance areas, gas stations, automobile emissions, restaurants
Bacteria and Viruses	Lawns, roads, leaky sanitary sewer lines, sanitary sewer cross-connections, animal waste (domestic and wild), septic systems, homeless encampments, sediments/biofilms in stormwater conveyance system
Trash and Debris (Gross Solids and Floatables)	Commercial areas, roadways, schools, trash receptacles/storage/disposal

Adapted from US EPA, 1999 (Preliminary Data Summary of Urban Stormwater BMPs)

Table 2: Common Pollutants of Concern for Industrial Developments

Class of Pollutant	Specific Pollutants		
Sediment (TSS and Turbidity)	Sedimentation/Siltation		
Nutrients	Ammonia Nitrate and Nitrite Nitrate Nitrogen	Organic Enrichment/ Low Dissolved Oxygen	Algae Eutrophic
Metals/Metalloids	Boron Copper Copper, Dissolved	Lead Mercury Nickel	Selenium Zinc
Pesticides	ChemA (tissue) Chlordane Chlordane (tissue & sediment) Chlordane (tissue) Chlorpyrifos Chlorpyrifos (tissue) DDT DDT (sediment) DDT (tissue & sediment)	DDT (tissue) Diazinon Dieldrin Dieldrin (tissue) Organophosphorous Pesticides Toxaphene Toxaphene (tissue & sediment) Toxaphene (tissue)	
Trash and Debris (Gross Solids and Floatables)	Trash and Debris		
Other Organics	PCBs		
Bacteria and Viruses	Coliform Bacteria	Indicator Bacteria	
Salinity	Chloride		
Toxicity	Sediment Toxicity	Toxicity	
Miscellaneous	pH	Scum/Foam - unnatural	Sulfates

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8.3. Project Applicability

In order to determine the applicability of stormwater quality control requirements of Board Order 00-108, the existing impervious and pervious areas were calculated for both the existing site development as well as the altered area of the site due to the site development. According to the development requirements listed in Section 1.0;

All development projects equal to 1 acre or greater of disturbed area and that adds more than 10,000 square feet of impervious surface area.

Below are summaries of the existing and proposed site imperviousness measurements as well as the altered portion of impervious areas due to the proposed development. Overall, the proposed development area will impact nearly 100 percent of the site. Due to the proposed nature of the industrial improvements, essentially the entire property will be impervious, which includes the proposed building, loading bays, drive isles, concrete storage pads, access paths, etc.

Existing Site Conditions

Total Site Area =	624,402 sq.ft (14.33 acre)
Total Impervious Area=	347,275 sq.ft (7.97 acre)

Proposed Site Conditions

Total Site Area =	624,402 sq.ft (14.33 acre)
Total Impervious Area=	601,623 sq.ft (13.81 acre)

Based on the analysis of both the altered impervious surface area and the total area of redevelopment, the proposed site improvements will alter essentially the entire site. Grass swales have been chosen to treat the stormwater runoff and allow the runoff to be further conveyed to an onsite underground storage where it will be detained until the peak inflows have passed before it is pumped to another swale and then allowed to return to the historic drainage pattern through existing gutter and curb system until it flows offsite.

8.4. Stormwater Quality Design

8.4.1 Determine Water Quality Design Flow

Bio-Swale 3 water quality devices have been selected to address the prevalent pollutants of concern mentioned in Section 4.0. To determine the design for these swales, RJR had to assess and evaluate a few alternative designs that ultimately required us to break up the site into smaller hydrologic units (mainly due to the lack of fall across such a large area)

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and to treat each individual area separately and combine the flows prior to detaining and out letting it offsite. See Hydrology Map in Appendix C for individual flow and design criteria.

A single hydrology tributary unit (Area A1) is shown below as an example calculation. All subarea calculations, for all areas defined on the hydrology map are available in Appendix B.

Area A1:

Project Area (A_{design})	=	0.95 acres
IMP (%/100)	=	0.80
Cp	=	0.05 (From table E-1 of the VC Hydrology Manual)
C	=	0.77
Rainfall Intensity (i)	=	0.75 in/hr. (exceeds the 0.2 in/hr. method 1)
SQDF	**=**	**0.55 cfs.**

Swale Calculations – Swale Bottom Width

Water Quality Design Flow (SQDF)	=	0.55 cfs
Manning's Roughness for shallow flow (n_{wq})	=	0.20
Design Flow Depth (6 inch tall grass – 2/3 depth) (y)	=	0.68 ft.
$Y_{design} = ((SQFD * n_{wq}) / (2.98\ s^{0.5}))^{0.6}$	=	**0.33 ft.**
Longitudinal Slope (s)	=	0.005 ft/ft
Calculated Bottom Width of Swale (b)	**=**	**6.52 ft.**

Design Flow Velocity

Side Slope (H:V)	=	3:1
Bottom Width of Swale (b)	=	6.52 ft.
Design Flow Depth	=	0.33 ft.
Calculated Cross-Sectional Area of flow (A_{wq})	=	2.51 sq.ft.
Calculated Design Flow Velocity (V_{wq})	**=**	**0.22 ft./sec.**

Swale Length

Hydraulic Residence Time (min. 7 minutes) (t_{hr})	=	7 min.
Calculated Swale Length (L)	**=**	**100.00 ft.**

$L=60t_{hr}V_{wq}$

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8.5. Bioswale Design

8.5.1 Initial Design Assessment

The Bioswale treatment facility was designed as follows. Method 1: (i=0.2 in/hr.) Storm Approach has been selected.

1.) Calculate the Design Flow (for the entire site). The vegetated swale facility shall be sized to capture and infiltrate the SQDF volume.

SQDF = 0.55 cfs (Area A1)
SQDF = 0.57 cfs (Area B1)
SQDF = 0.57 cfs (Area C1)
SQDF = 0.62 cfs (Area D1)
SQDF = 0.62 cfs (Area E1)
SQDF = 0.58 cfs (Area F1)
SQDF = 0.33 cfs (Area I1)
SQDF = 0.24 cfs (Area J1)
SQDF = 0.38 cfs (Area K1)
SQDF = 0.58 cfs (Area L1)
SQDF = 0.58 cfs (Area M1)
SQDF = 0.58 cfs (Area N1)
SQDF = 0.82 cfs (Area S1A)
SQDF = 0.82 cfs (Area S1B)

TOTAL SQDF = 7.84 cfs (Site Total)

2.) Determine the design percolation rate. The percolation rate shall be the rate of the underlying soils. (P_{design})

Site specific infiltration testing was conducted by Earth Systems on May 22, 2014. Four 6" diameter holes were drilled throughout the site ranging in depth from approximately 3 to 8 feet below the surface. Earth Systems determined that the design infiltration rate is 0.10 inches per hour.

P_{design} = 0.10 in/hr

The Ventura Technical Guidance Manual specifies that infiltration rates have a minimum threshold of 0.50 inches per hour (Page 3.2, et. al.). Therefore, the site is not considered feasible for infiltration into the existing soil/fill materials. Section 7.2 provides an assessment to further assess the determination of infeasibility.

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8.5.2. Infeasibility Screening Assessment

RJR has performed an infeasibility screening based on Section 3.0. and Figure 1 below.

Based on Section 3.2, assessment Item 2, "*Locations where soils are mapped with Ventura Hydrology Manual Soil Number 3, or where a site-specific analyses show that the soils have an infiltration rate of 0.3 to 0.5 inches per hour, and no other infiltration-related infeasibility criteria apply, shall use a Bioinfiltration BMP or Rainwater Harvesting (if feasible) to achieve the 5% EIA requirement.*" (Page 3-7).

Based on the TGM, RJR performed the additional analysis to verify infeasibility.

Criteria for Maximizing Infiltration Volume

The TGM, Page 3-6 thru 3-7 provides: *"Volume can be considered to be maximized in infiltration BMPs when all of the following conditions are met, or when adjustments to the site/BMP plan to meet any one of these criteria results in achievement of the ≤5% EIA performance standard:*

1) *BMPs are designed to the maximum depth allowed by design standards but are not required to exceed the depth that infiltrates within 48 hours at the design percolation rate."*

RJR Assessment: The design of a bioretention system would create significant ponding of water due to the low slow rate. Site elevations would not reasonably permit such elevations. Such depths would also create a safety hazard. Based on the initial analysis, the selection of a vegetated swale system without an underdrain was chosen in order to reduce the ponding volume of bioretention and allow the water to be captured and held in a detention system until it can be released.

2) "*All practicable methods are employed to enhance the design percolation rate, including:*

   - *Use of soil amendments to native soil below infiltration BMPs, and*
   - *Provision of pretreatment to reduce the allowable factor of safety, and*
   - *Additional site investigation to reduce uncertainty in infiltration rate and allow the use of a lower factor of safety.*"

RJR Assessment: The Geotechnical Engineer has opined in their report that the soil conditions across the site are reasonably consistent. In an effort to properly model the infiltration, a series of tests were performed at the proposed basin locations at various depths. The infiltration rates were deemed to be representative, and therefore, not feasible.

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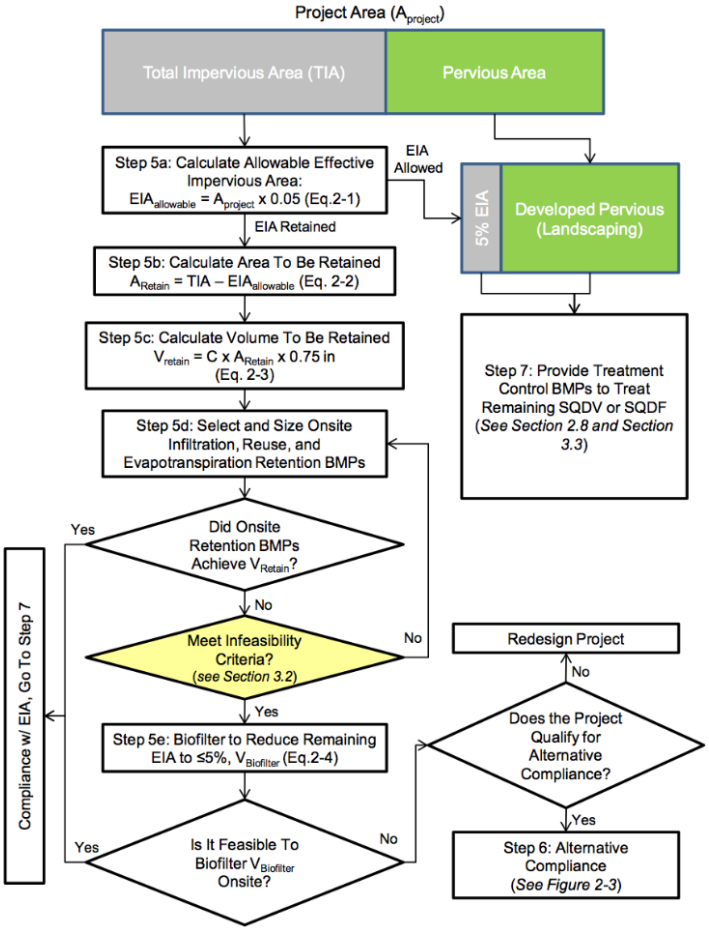
Figure 1: Figure 2-2 BMPs to Reduce EIA to ≤5% Process Flow Chart from the TGM (Page 2-10)



Pre-treatment facilities and efforts that would reduce factors of safety would not overcome the underlying low infiltration rates, even with an improved infiltration rate.

Finally, the possible use of soil amendments was deemed to be not feasible given the soil texture and depths. Mixing soil admixtures into the underlying soil would create issues with utilities, lateral limits for excavations, groundwater, etc., and was deemed not feasible.

3) "*Good site practices have been integrated to provide the maximum pervious area feasible for infiltration BMPs, and infiltration BMPs have been configured to make use of this area ...* "

RJR Assessment: The project is an existing redevelopment project that is expanding the footprint. Therefore, limitations of sighting BMPs are a challenge. Moreover, RJR has attempted to maximize and moreover has met the EIA by good practice designs throughout

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the available site design. This has included surface gradient or piping runoff to vegetated swale facilities and converting available landscape areas to vegetated swale facilities.

Criteria for Maximizing Biofiltration Volume

Based on the TGM, Page 3-11: "*Biofiltration BMPs can be used downstream of a Retention BMP that has been "maximized" (e.g., a planter box treating overflow from a cistern) or can be designed to provide both "maximized" retention and "maximized" biofiltration in the same BMP (e.g., a bioretention area with an underdrain, where retention volume is provided in a gravel layer or other subsurface reservoir below the underdrain). Volume can be considered to be maximized in Biofiltration BMPs when all of the following conditions are met, or when adjustments to the site design and BMP plan to meet any one of these criteria results in achievement of the ≤5% EIA performance standard:*

1) Drain time and/or treatment rate of the Biofiltration BMP is consistent with design guidance contained in Section 6 of the 2011 TGM."

RJR Assessment: RJR has performed a detailed assessment of designing the vegetated swale system without an underdrain provides for the necessary treatment requirements and pass the remaining volume to a detention basin located underground and is consistent with Section 6 and in compliance as illustrated in Figure 2.

Figure 2: Table 3-5 BMP Site Suitability from the TGM (Page 3-19)

BMP	Site Suitability Considerations			
	Tributary Area (Acres) [1]	Site Slope (%)	Depth to Seasonally High or Mounded Groundwater (ft)	Soil Number
Infiltration BMPs: INF-1: Infiltration Basin INF-2: Infiltration Trench INF-3: Bioretention INF-4: Drywell INF-6: Proprietary Infiltration	< 5	< 7[2]	> 5	Not suitable in Soil Numbers 1, 2, and 3 unless percolation testing shows the infiltration rate is greater than 0.5 in/hr
INF-5: Permeable Pavement	< 5	< 5[2,5]	> 2 with underdrains; > 5 without underdrains	Underdrains should be provided for Soil Numbers 1, 2, and 3
ET-1: Green Roof	Equal to roof tributary area	N/A	N/A	N/A
BIO-1: Bioretention with Underdrain	< 5	< 15; planter boxes are generally more suitable for steep slopes[2,3]	> 2 with underdrains; > 5 without underdrains	Underdrains should be provided for Soil Numbers 1, 2, and 3
BIO-2: Planter Box	< 1	< 15[4]	> 2	Any
BIO-3: Vegetated Swale	< 5	< 10 site slope; 0.5 to 6 longitudinal slope of swale [2,3]	> 2 with underdrains; > 5 without underdrains	Any[3]

In addition, the vegetated swale system will utilize a specific soil design rather than the on-site soil. Therefore, Section 8.3 provides specific soil specifications, dimensions, and specifications. Overall, the system was designed to meet the County TGM for the vegetated swale system without the underdrain (Appendix F & G).

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8.5.3. BMP Design/Layout

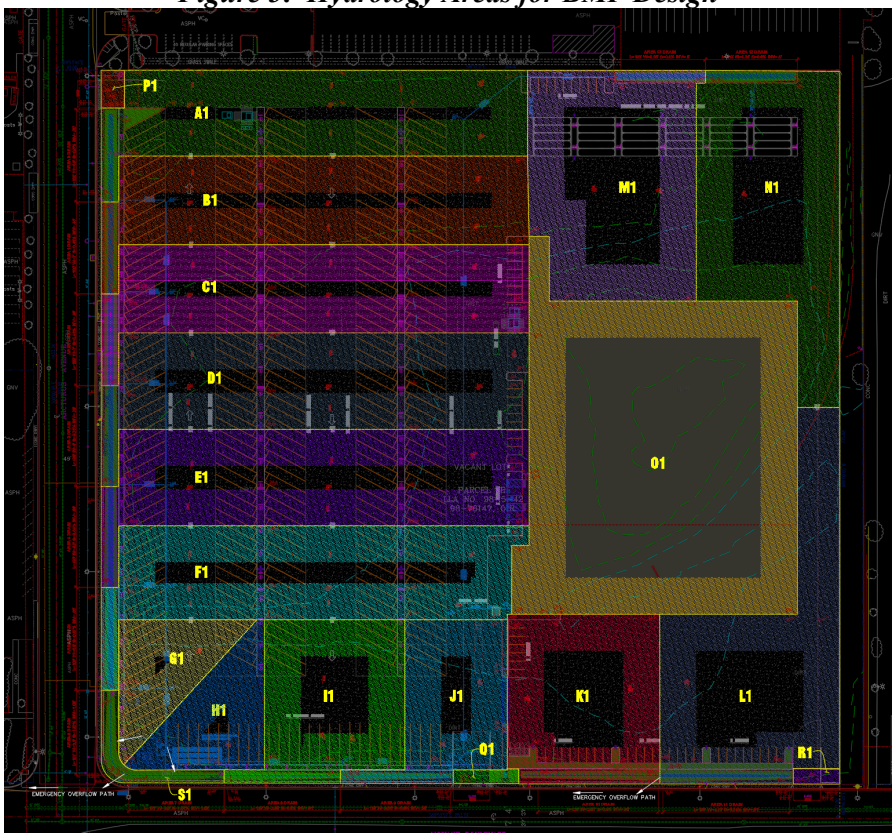
The following BMP Design and Layout within the proposed site plan provides adequate storm water treatment mitigation. To provide sufficient storage capacity and infiltration effectiveness, each Vegetated Swale area shall include the following;

- A surface storage area shall be 4 inches in depth and use grasses that are 6 inches tall.
- A series High-Flow Bypass Inlets have been provided to convey flows higher than the Water Quality Design Flow Rate for each area.

The effective storage volume of the soil media and gravel layers is equal to approximately 1 foot of clear open volume. Therefore, the area of soil media was designed to match the surface contact area to meet/exceed the required SQDF of each individual drainage area. The calculations worksheet with the design storage, dimensions, and velocity calculations have been provided in Appendix 'A' for reference.

RJR has prepared a hydrology map to illustrate the tributary areas for each BMP Design Area as illustrated in Figure 3.

Figure 3: Hydrology Areas for BMP Design



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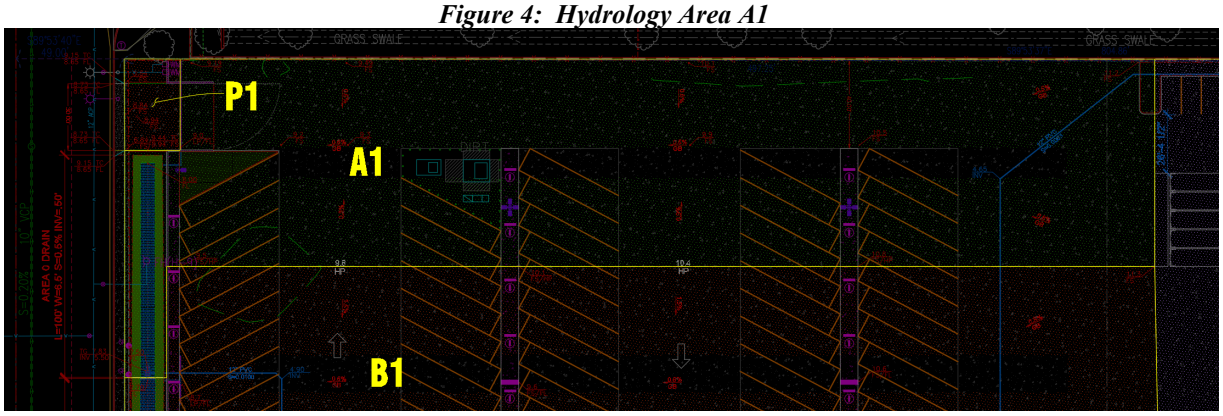
8.5.3.1 Vegetated Swale A1: Vegetated Swale A1 is located on the northwestern corner of the proposed re-development area between the existing parking lot curb and the proposed courtyard area. A site map has been provided for reference in Appendix B.

SQDF = 0.55 cfs (Area A1)

The tributary area for Area A1 includes parking lot runoff from the northern portion of the parking lot which enters the mitigation area via a pipe and slot drain inlet within the parking area.

Figure 4: Hydrology Area A1

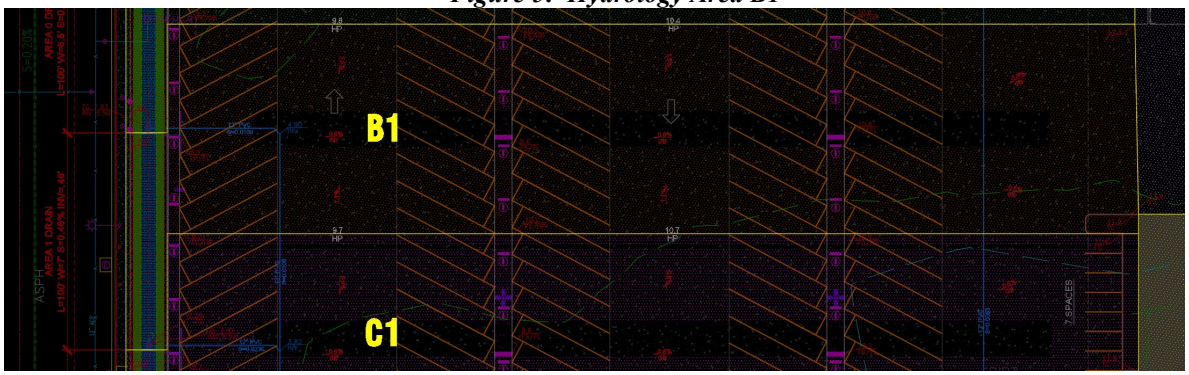


8.5.3.2 Vegetated Swale B1: Vegetated Swale B1 is located on the northwestern portion of the property, directly downstream of Area A1. A site map has been provided for reference in Appendix B.

SQDF = 0.57 cfs (Area B1)

The tributary area for Area B1 includes parking lot runoff from the northern portion of the parking lot which enters the mitigation area via a pipe and slot drain inlet within the parking area.

Figure 5: Hydrology Area B1



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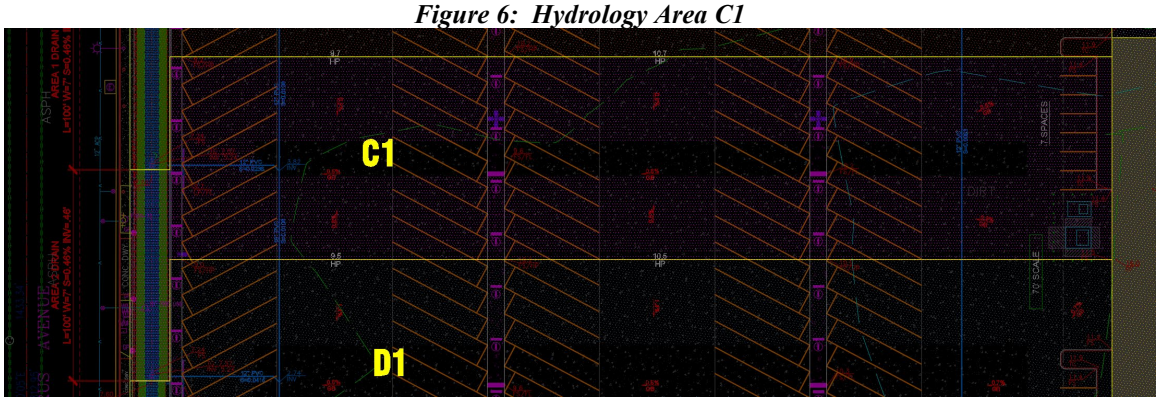
8.5.3.3 Vegetated Swale C1: Vegetated Swale C1 is located on the northwestern portion of the property, directly downstream of Area B1. A site map has been provided for reference in Appendix C.

SQDF = 0.57 cfs (Area C1)

The tributary area for Area C1 includes parking lot runoff from the northern portion of the parking lot which enters the mitigation area via a pipe and slot drain inlet within the parking area.

Figure 6: Hydrology Area C1

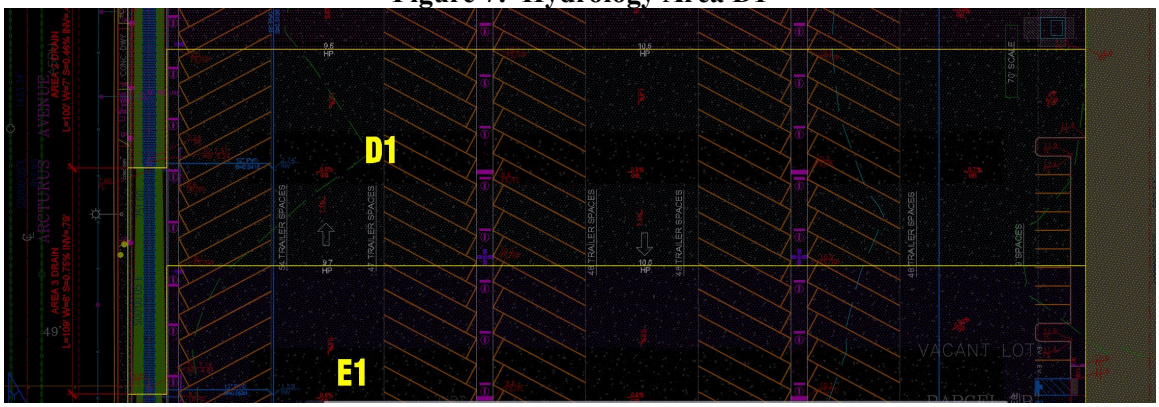


8.5.3.4 Vegetated Swale D1: Vegetated Swale D1 is located immediately to the south of Area C1 of the proposed re-development area between the existing parking lot curb and the proposed courtyard area. A site map is provided in Appendix C.

SQDF = 0.62 cfs (Area D1)

The tributary area for Area D1 includes parking lot runoff from the northern portion of the parking lot which enters the mitigation area via a pipe and slot drain inlet within the parking area.

Figure 7: Hydrology Area D1



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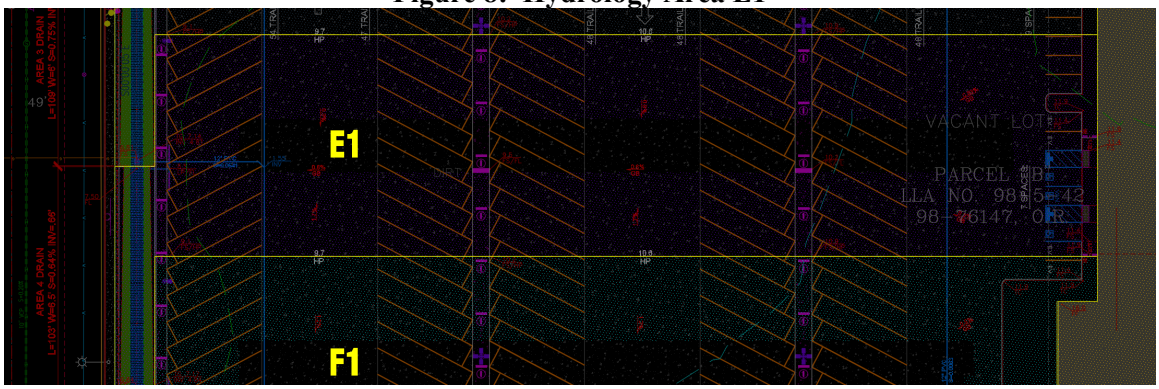
8.5.3.5 Vegetated Swale E1: Vegetated Swale E1 is located immediately to the south of Area D1 of the proposed re-development area between the existing parking lot curb and the proposed courtyard area. A site map has been provided for reference in Appendix B.

SQDF = 0.62 cfs (Area E1)

The tributary area for Area E1 includes parking lot runoff from the northern portion of the parking lot which enters the mitigation area via a pipe and slot drain inlet within the parking area.

Figure 8: Hydrology Area E1

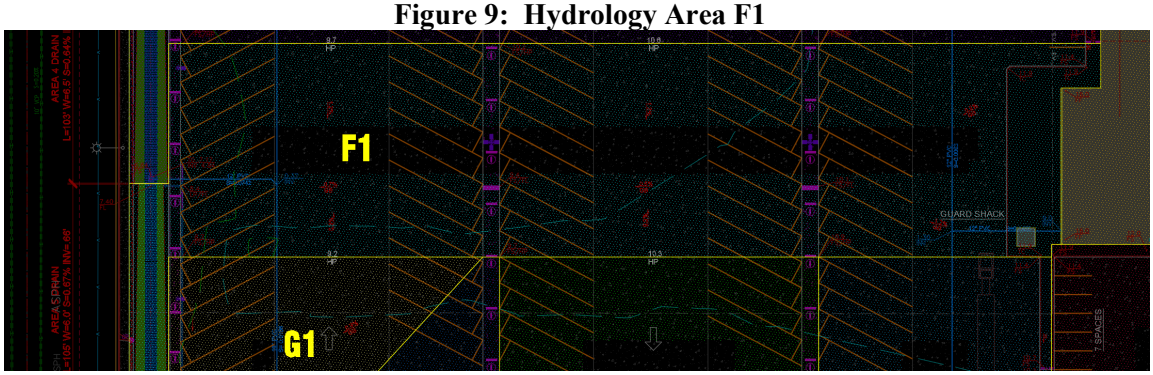


8.5.3.5 Vegetated Swale F1: Vegetated Swale F1 is located immediately to the south of Area E1 of the proposed re-development area between the existing parking lot curb and the proposed courtyard area. A site map has been provided for reference in Appendix B.

SQDF = 0.58 cfs (Area F1)

The tributary area for Area F1 includes parking lot runoff from the northern portion of the parking lot which enters the mitigation area via a pipe and slot drain inlet within the parking area.

Figure 9: Hydrology Area F1



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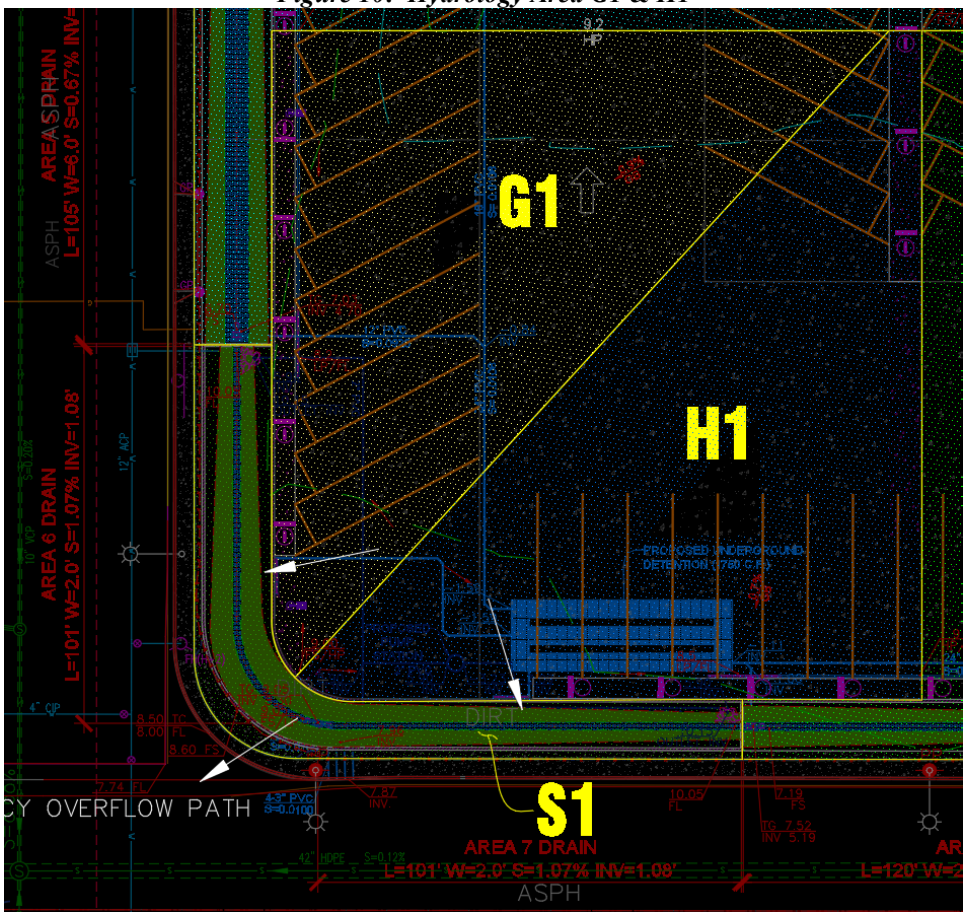
8.5.3.6 Vegetated Swale G1: Vegetated Swale G1 is located immediately to the south of Area F1 of the proposed re-development area between the existing parking lot curb and the proposed courtyard area. Area G1 drains into the low point of the project and is also one of the areas of emergency overflow if the system backs up. A site map has been provided for reference in Appendix B.

SQDF = 0.16 cfs (Area G1)

The tributary area for Area G1 includes parking lot runoff from the northern portion of the parking lot which enters the mitigation area via a pipe and slot drain inlet within the parking area.

Figure 10: Hydrology Area G1 & H1



8.5.3.7 Vegetated Swale H1: Vegetated Swale H1 is located immediately to the west of Area I1 of the proposed re-development area between the existing parking lot curb and the proposed courtyard area. Area H1 drains into the low point of the project and is

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also one of the areas of emergency overflow if the system backs up. A site map has been provided for reference in Appendix B.

SQDF = 0.18 cfs (Area H1)

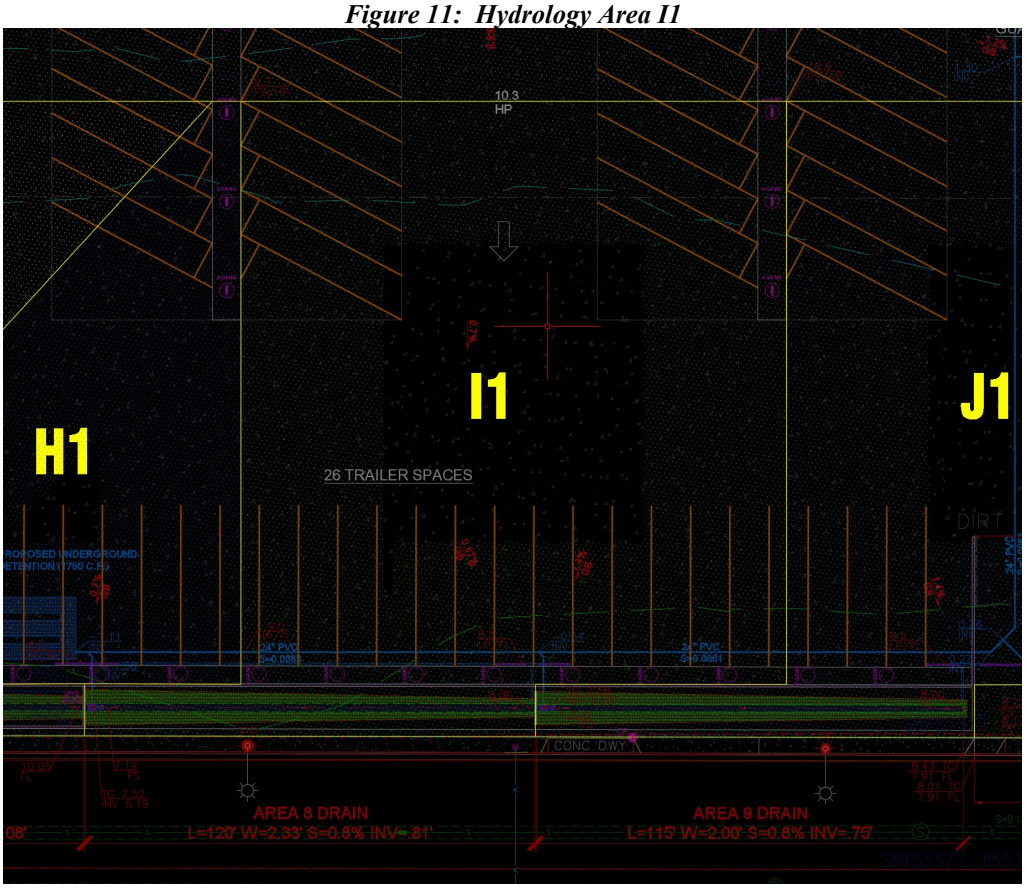
The tributary area for Area H1 includes parking lot runoff from the parking area east of Area G1 which enters the mitigation area via a pipe and slot drain inlet within the parking area. See Figure 10 above.

8.5.3.8 Vegetated Swale I1: Vegetated Swale I1 is located to the east of Area H1 of the proposed re-development area between the existing parking lot curb and the sidewalk along McWane. A site map has been provided for reference in Appendix B.

SQDF = 0.33 cfs (Area I1)

The tributary area for Area I1 includes parking lot runoff from the northern portion of the parking lot which enters the mitigation area via a pipe and slot drain inlet within the parking area.

Figure 11: Hydrology Area I1



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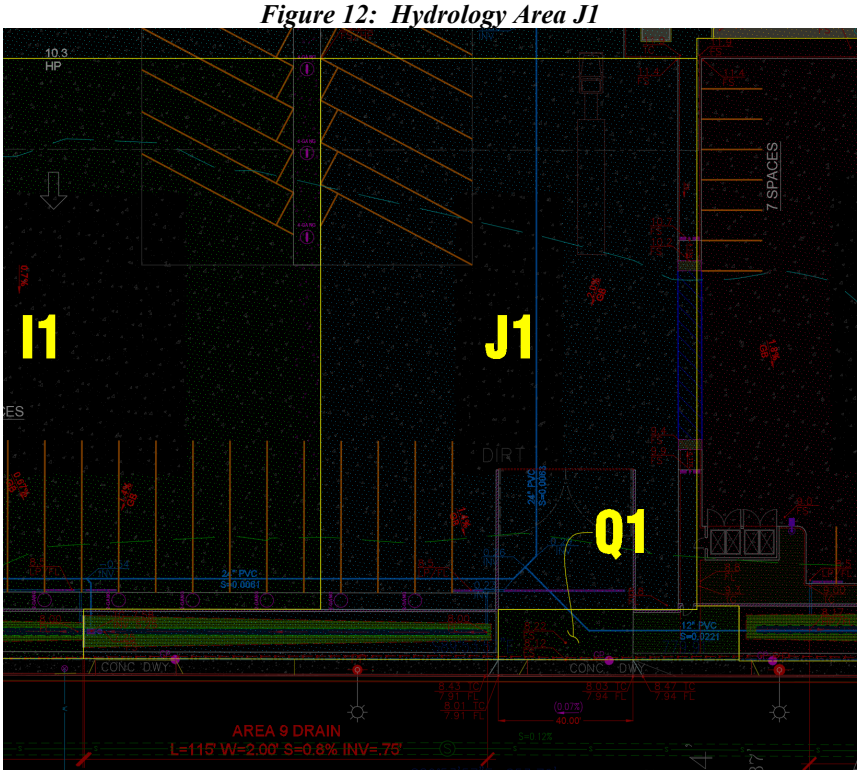
8.5.3.9 Vegetated Swale J1: Vegetated Swale J1 is located to the east of Area I1 of the proposed re-development area between the existing parking lot curb and the sidewalk along McWane. A site map has been provided for reference in Appendix B.

SQDF = 0.24 cfs (Area J1)

The tributary area for Area J1 includes parking lot runoff from the northern portion of the parking lot which enters the mitigation area via a pipe and slot drain inlet within the parking area.

Figure 12: Hydrology Area J1



8.5.3.10 Vegetated Swale K1: Vegetated Swale K1 is located to the east of Area J1 and adjacent to Area L1 of the proposed re-development area between the existing parking lot curb and the sidewalk along McWane. Both Areas K1 and L1 separate the site's proposed drainage from the rest of the areas by draining the southeastern portion of the site and share a common low point for this region which also acts as an emergency overflow. A site map has been provided for reference in Appendix B.

SQDF = 0.38 cfs (Area K1)

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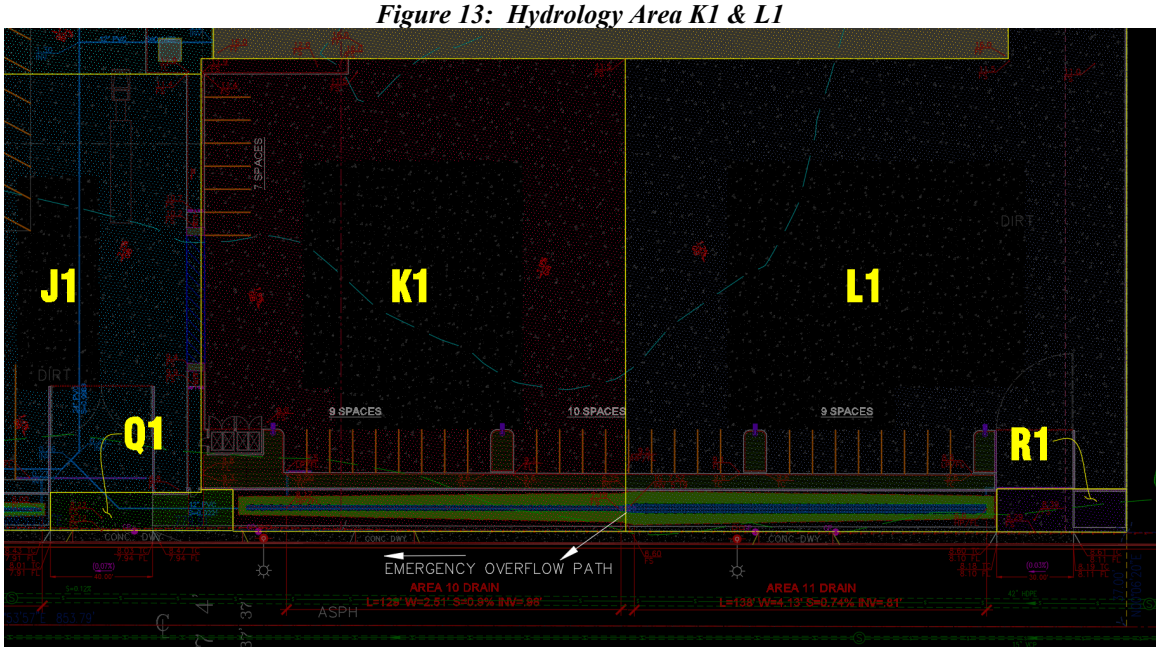
The tributary area for Area K1 includes parking lot runoff from the southeastern portion of the parking lot which enters the mitigation area via a pipe and slot drain inlet within the parking area.

Figure 13: Hydrology Area K1 & L1



8.5.3.11 Vegetated Swale L1: Vegetated Swale L1 is located to the east of Area K1 of the proposed re-development area between the existing parking lot curb and the sidewalk along McWane. Both Areas K1 and L1 separate the site's proposed drainage from the rest of the areas by draining the southeastern portion of the site and share a common low point for this region which also acts as an emergency overflow. A site map has been provided for reference in Appendix B.

SQDF = 0.58 cfs (Area L1)

The tributary area for Area L1 includes parking lot runoff from the southeastern portion of the parking lot which enters the mitigation area via a pipe and slot drain inlet within the parking area. See Figure 13 above.

8.5.3.12 Vegetated Swale M1: Vegetated Swale M1 is located on the northeastern corner of the proposed re-development area between Area A1 and Area N1. Both Areas M1 and N1 separate the site's proposed drainage from the rest of the areas by draining the northeastern portion of the site and share a common low point for this region. See Figure 14 below. A site map has been provided for reference in Appendix B.

SQDF = 0.58 cfs (Area M1)

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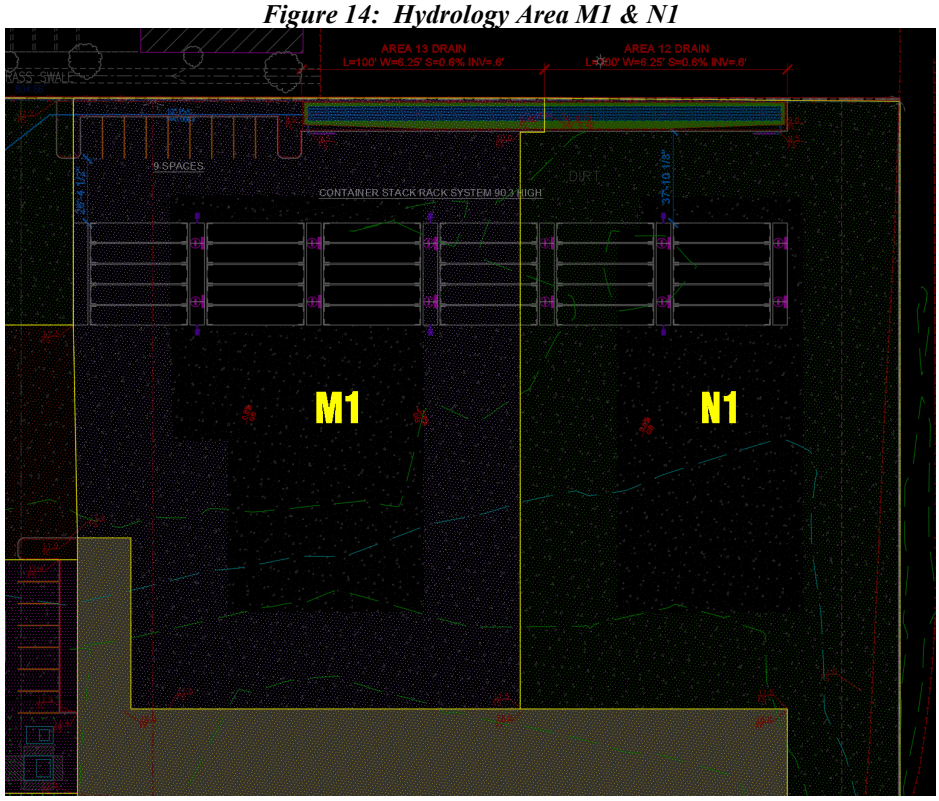
The tributary area for Area M1 includes parking lot runoff from the northeastern portion of the parking lot which enters the mitigation area via a pipe and slot drain inlet within the parking area.

Figure 14: Hydrology Area M1 & N1



8.5.3.12 Vegetated Swale N1: Vegetated Swale N1 is located on the northeastern corner of the proposed re-development area adjacent to Area M1. Both Areas M1 and N1 separate the site's proposed drainage from the rest of the areas by draining the northeastern portion of the site and share a common low point for this region. See Figure 14 above.

SQDF = 0.58 cfs (Area N1)

The tributary area for Area N1 includes parking lot runoff from the northeastern portion of the parking lot which enters the mitigation area via a pipe and slot drain inlet within the parking area.

8.5.4. Swale Outlets

The storm drain outlet has been placed 4" above the flowline of the vegetated swale to allow for the 4" of ponding to occur and infiltrate at each swale. In the event of a higher flow storm, the water will simply be held until the 4" water depth is reached and then will

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drain into the subdrain system and then conveyed to the southern portion of the project that houses an underground detention facility. If emergency flows occur or there is clogging in the storm drain system then the water will continue to fill the swale until it reaches a height that exceeds the weir/cutoff wall located at the downstream edge of the drainage area. The water will then weir over the cutoff wall and into the next downstream area until it reaches the lowest swale. At that point if the system is still inundated with flow, then it will simply flow over the adjacent sidewalk and return to the gutter and curb along McWane and sheet flow to the west as the flow has historically done.

8.5.5. Total BMP Design Flow

Total SQDF = 7.84 cfs (Site Total)

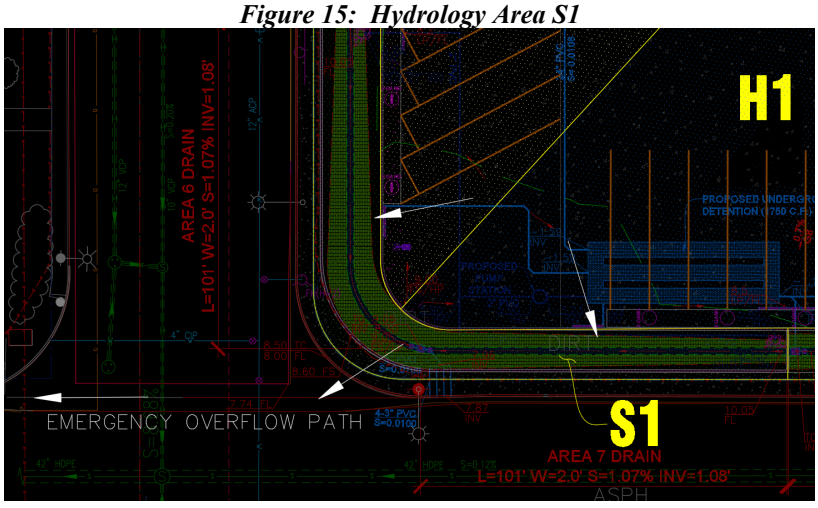
8.5.6. Underground detention

Once the flows are collected from the vegetated swales, they will be conveyed via pipes to the underground detention system. See Section 5.4 of this report.

8.5.7 Secondary Treatment

The proposed detention system will then be discharged to a final swale (Area S1) for secondary treatment prior to leaving the site via 3" curb core outlets located at the swale low points. In the event that a storm cell exceeds the design storm criteria and flows exceed the capacity of the swale Area S1, excess flows can overflow the raised swale wall on either the west or the south side of Area S1 via notches designed in the walls (see grading plan details) and sheet flow over the sidewalk and into the existing street flowline.

Figure 15: Hydrology Area S1



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8.5.7.1 Vegetated Swale S1: Vegetated Swale S1 is located on the southwestern corner of the proposed re-development area adjacent to Areas G1and H1. Areas S1 is a raised vegetative swale with the sole purpose of treating any pumped effluent out of the underground detention basin prior to the effluent being captured or overflowing and returning to the street flowline and resuming historic drainage patterns offsite. See Figure 15 above.

$SQDF_{S1A}$ = 0.82 cfs	**(Flow from Northern Swale)**
$SQDF_{S1B}$ = 0.82 cfs	**(Flow from Eastern Swale)**
SQDF = 1.64 cfs	**(Area S1 total)**

The flow for Area S1 includes all drainage from the entire site that has been captured and conveyed to the underground detention system. All flow from the system is then pumped into each of the swales within Area S1 (one outlet located to the north and one outlet located to the east).

8.6. Swale Capacity & Scour Analysis

The hydraulic conditions of the swales were further analyzed to ensure capacity beyond the SQDF for higher flow conditions as well as ensuring that the velocities within the swales were below 3.0 feet per second as requested by the City of Oxnard. The proposed swales were designed to flow the SQDF according to the Ventura County rational method calculations. However, the City of Oxnard has requested that the Cook's method be utilized, (with a 'C' factor = 80) to verify that the flow rate capacity of the swales and ensure that the flow velocities during the 10-year and 100-year events are below 3 ft/sec.

Capacity and velocity results were determined utilizing the swale bottom width, side slopes, swale depths, manning's values, grass length and longitudinal slopes. The Ventura County swale design spreadsheets utilized from the Ventura County Technical Guidance Manual have been provided in appendix F & G for reference. Additional calculation sheets have also been included demonstrating the Cook' Method flow rates for the Q10 and Q100 events in Appendix B.

The following table summarizes the flow rates and velocities for the Ventura County SQDF, the 10-year event based on the Cook's method and the 100-year event based on the Cook's method. All calculated flow rates can be conveyed within the swale limits and flow velocities are below 3 ft/sec.

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8.6.1 Swale Flow and Velocity Summary

Tributary Sub Area	V.C. SQDF (cfs)	SQDF Velocity (fps)	Q10 (Cook's Method) (cfs)	Q10 Velocity (fps)	Q100 (Cook's Method) (cfs)	Q100 Velocity (fps)
A1	0.55	0.22	2.57	0.24	5.14	0.25
B1	0.57	0.21	2.63	0.23	5.26	0.24
C1	0.57	0.21	2.63	0.23	5.26	0.24
D1	0.62	0.26	2.92	0.29	5.84	0.30
E1	0.62	0.25	2.92	0.28	5.84	0.28
F1	0.58	0.25	2.80	0.28	5.61	0.29
S1A (G1)	0.82	0.24	2.57	0.75	5.14	1.49
S1B (H1)	0.82	0.24	2.57	0.75	5.14	1.49
I1	0.33	0.24	2.65	0.31	5.30	0.31
J1	0.24	0.22	2.65	0.31	5.30	0.31
K1	0.38	0.26	2.92	0.33	5.84	0.33
L1	0.58	0.26	2.95	0.30	5.90	0.30
M1	0.58	0.24	2.65	0.27	5.30	0.27
N1	0.58	0.24	2.65	027	5.30	0.27

9.0 SUMMARY

The proposed site plan will increase the impervious surface area thereby increasing stormwater runoff potential. However, the design and implementation of an underground detention system will attenuate the increase of runoff, while maintaining the existing drainage pattern and limiting impacts downstream drainage facilities.

Overall, the existing drainage patterns and existing storm drain system in the proposed design will remain essentially unchanged. Runoff from the property will be detained and conveyed to a single bioswale for additional treatment before being collected within that bioswale and discharged the local curb and gutter at a flow rate significantly less than the existing conditions.

In the event of a storm exceeding the Q_{100} or the pump station were to malfunction, then the flow will back up into the proposed pipes and would pond in the onsite bioswales, if further flooding would occur then these bioswales would be over topped and the flow

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would sheet flow back to the existing gutters and exit the site similar to the existing drainage patterns. The first bioswale locations to overtop in the event of extreme flooding would be the Southwest and Southeast bioswales. Additionally, the parking lot would provide significant ponding capacity (see Spread Map in Appendix E) in the event that the storm drain inlets were to clog or were inundated with water.

It is the opinion of RJR Engineering that the above-described site design in conjunction with the existing storm drain facilities will have a zero to nominal impact to the neighboring properties and downstream facilities and therefore meets the City of Oxnard and the County of Ventura's Hydrology Design requirements.

It should be noted that this report has been prepared solely as a hydrology/hydraulic analysis for the proposed grading and drainage improvements. The included calculations are based on the survey provided, visual field measurements and the current civil plans designed by RJR. All recommendations described herein are based on the analysis associated with the above referenced grading and drainage design.

RJR will observe all improvements installed during construction for plan compliance and verification of the conditions of this design. Any changes in design must be submitted to the City of Oxnard for review and approval.

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APPENDIX A

Hydrology Input Data (City of Oxnard)

54

MODIFIED RATIONAL FORMULA

" C " FACTORS*

ITEMS	RUNOFF PRODUCING CHARACTERISTICS			
RELIEF	40 Steep, slopes exceed 30%	30 Hilly, slopes 10% to 30%	20 Rolling, slopes 5% to 10%	10 Flat, slopes 0 to 5%
SURFACE STORAGE	20 Negligible, surface depressions few and shallow. Drainageways steep & small , no ponds or marshes.	15 Low, well defined system of small drainageways , no ponds or marshes.	10 Normal, considerable surface depression storage, lakes and ponds less than 2% of drainage area.	5 High , surface depression storage high , drainage system not sharply defined.
SOIL SCS CLASS	20 Rock or thin soil mantle. Negligible infiltration capacity. D	15 Clay or other soil of low infiltration capacity. C	10 Normal , deep permeable soils. B	5 High , sands, loamy sands & other loose open soils. A
VEGETAL COVER	20 No effective soil cover, bare or very sparse cover.	15 Clean cultivated crops or poor natural cover , less than 10% of drainage area under good cover.	10 50% of drainage area in good grassland or woodland , 50% of area in clean cultivated crops.	5 About 90% of drainage area in good grassland woodland or equivalent cover.

REV. APPR. BY DATE

" C " FACTOR
(FOR CITY OF OXNARD)

C =40 - 45	FOR UNDEVELOPED
C = 60	FOR RESIDENTIAL
C = 70	FOR COMMERCIAL AND INDUSTRIAL

NOTE:

In hydrologic Calculations, use values of "C" given in lower table.
Use of values of "C" given in upper table have to be approved by the City Engineer.

CITY OF Oxnard

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Public Works Department

STANDARD PLAN PLATE 60 SHEET OF

FREQUENCY FACTORS – %

RETURN FREQUENCY	RETURN PERIOD	FACTOR
50%	2	25
20%	5	65
10%	10	100
4%	25	135
2%	50	170
1%	100	200
0.1%	1,000	400

RAINFALL INTENSITY CORRECTION FACTOR

OXNARD AREA	=	123%

SHAPE CORRECTION FACTORS – %

L/W \ AREA	0.01 S.M.	0.1 S.M.	1 S.M.	10 S.M.	100 S.M.	1,000 S.M.
1	115	125	132	141	154	172
1.5	112	115	119	124	131	141
2	108	110	110	113	117	122
3	100	100	100	100	100	100
4	98	95	94	91	89	86
5 or greater	95	91	88	85	82	78

1 S.M. = 1 Square Mile = 640 Acres

Just for information only

REV. APPR BY DATE

CITY OF Oxnard

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STANDARD PLAN

PLATE 61

SHEET OF







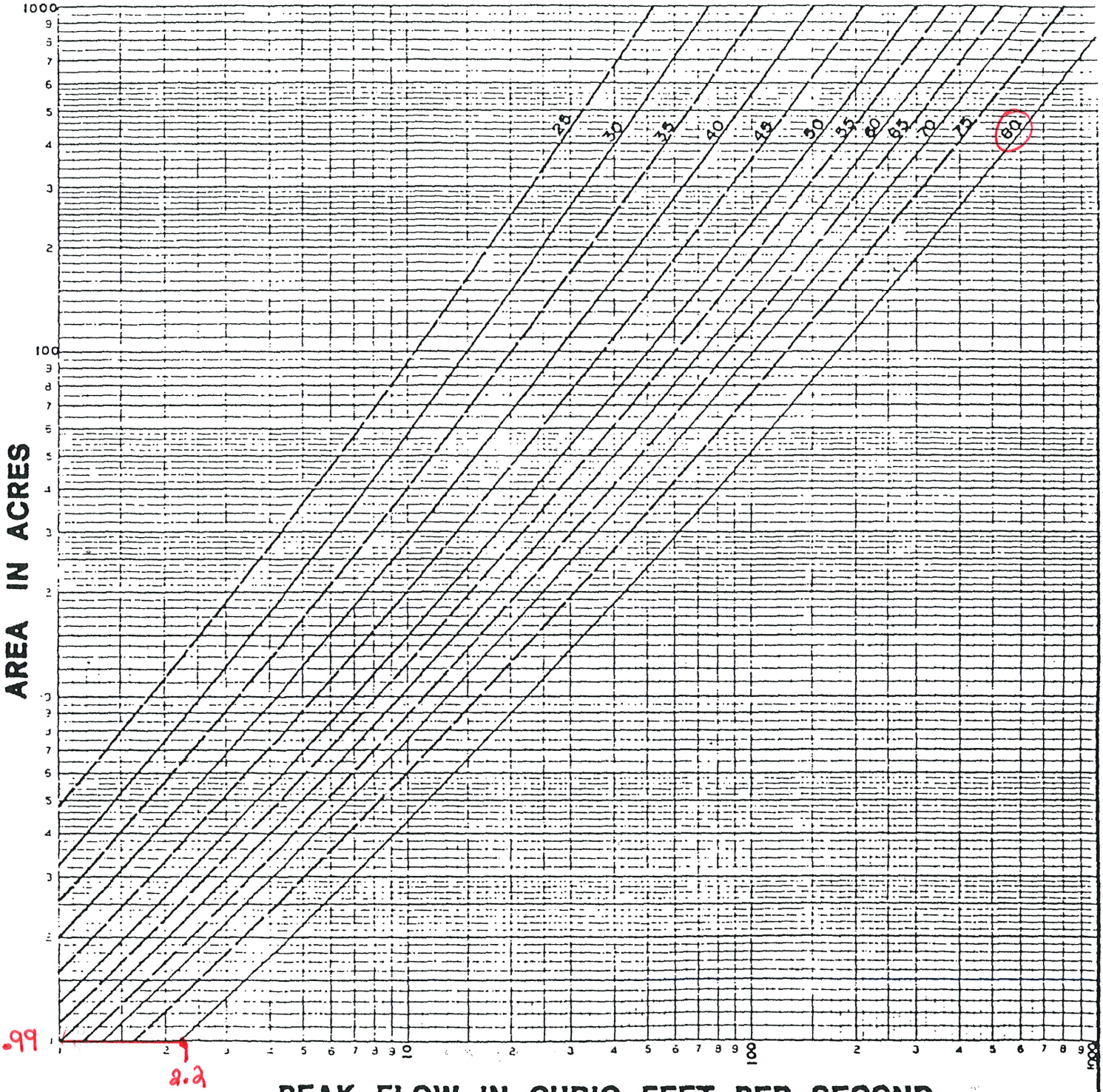


APPENDIX B

Cook's Method Hydrology Calculations

Proposed Hydrology Map

A1



CITY OF Oxnard	**GENERAL REQUIREMENTS – DRAINAGE**	STANDARD PLAN
	DRAWN: SOHER CKD. Jay Patel APPR. BY Benjamin Y. Uong	PLATE 62
Public Works Department		SHEET OF

Project	5980 & 6000 Arcturus Ave	Job No.	6064.6	Sheet	1 Of	19
Watershed	**A1**	Designed	TTA	Date	7/27/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	0.99 Acres				
Length	562.4 feet	Fall	3.66 feet	Slope	0.006508 %
Width	= (Area*43560)/(length) =	76.67923186 feet			
Length/Width	7.334450102	Shape Correcton Factor	95%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

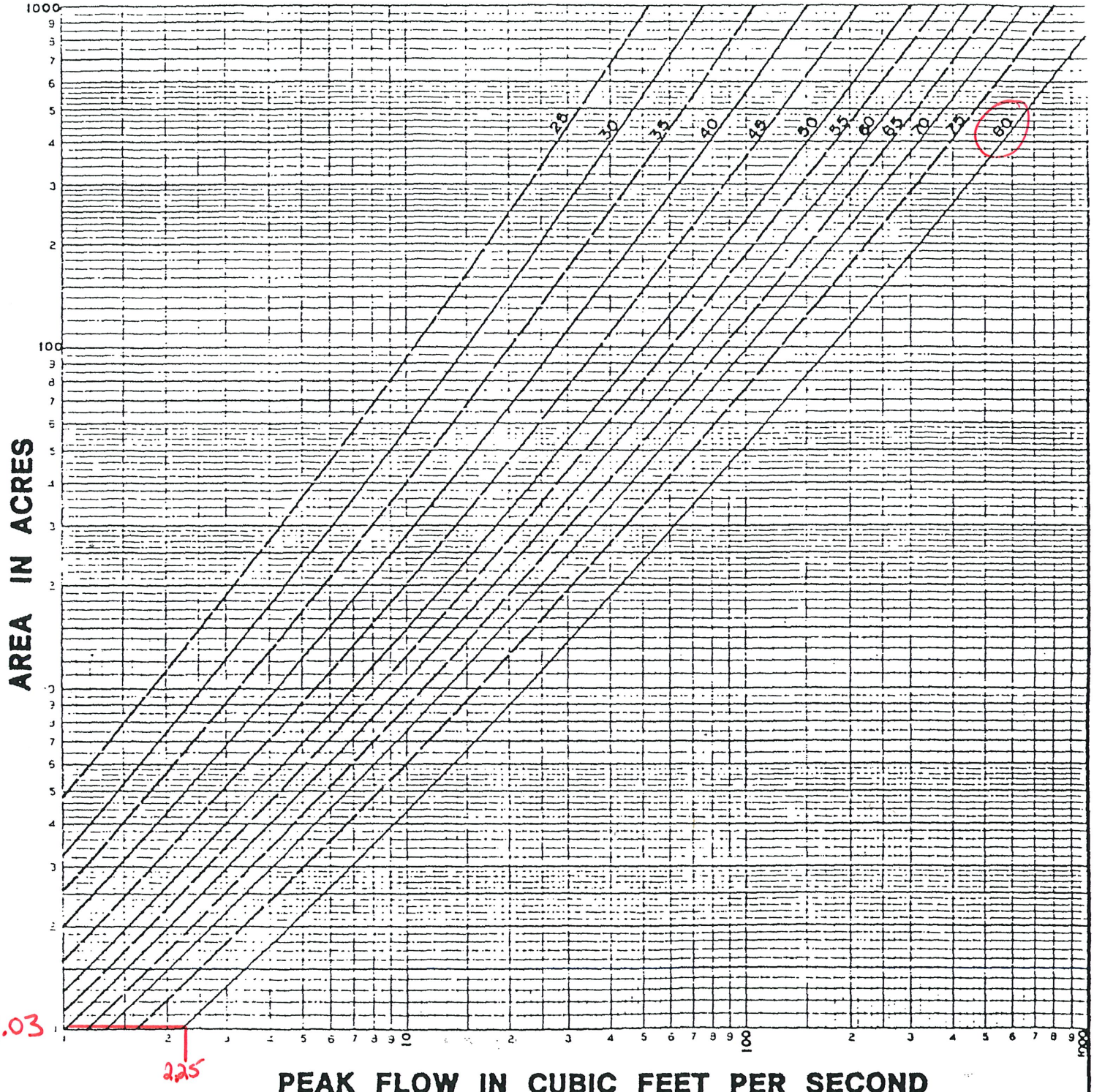
Runoff: Q from curve = 2.2 x L/W Factor= 2.09 x RI-Corr. Factor = **2.5707**

Frequency	Frequency Factor	Q	
20%	65	1.67 cfs	(5 year)
10%	100	2.57 cfs	(10 year)
4%	135	3.47 cfs	(25 year)
1%	200	5.14 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

B1



CITY OF Oxnard

GENERAL REQUIREMENTS – DRAINAGE

STANDARD PLAN

PLATE 62

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Public Works Department

SHEET OF

Project	5980 & 6000 Arcturus Ave	Job No.	6064.6	Sheet	2 OF	19
Watershed	**B1**	Designed	TTA	Date	7/28/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	1.03 Acres				
Length	560.31 feet	Fall	4.06 feet	Slope	0.007246 %
Width	= (Area*43560)/(length) =	80.07495851 feet			
Length/Width	6.997318643	Shape Correcton Factor	95%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

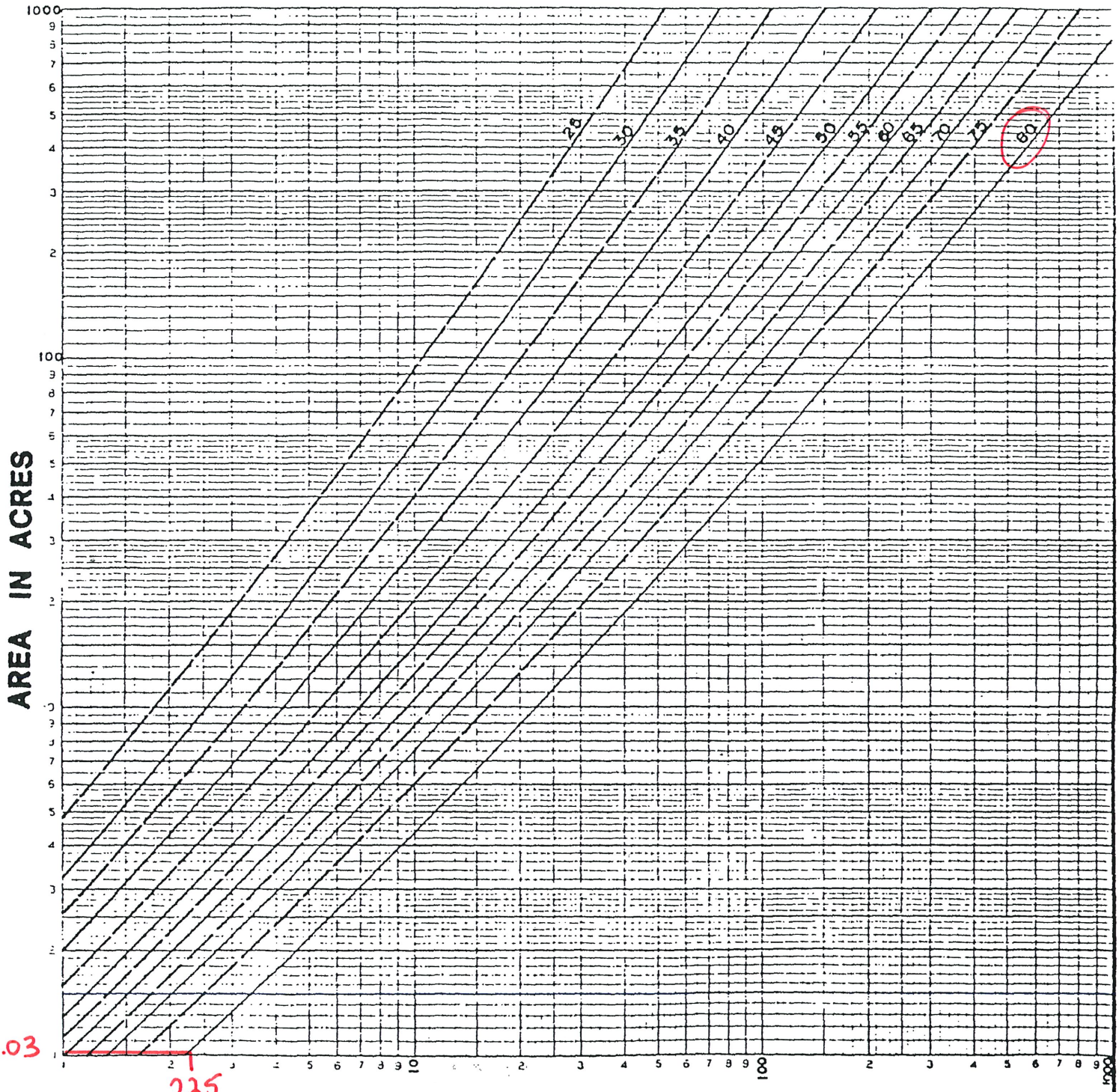
Runoff: Q from curve = 2.25 x L/W Factor= 2.1375 x RI-Corr. Factor = **2.629125**

Frequency	Frequency Factor	Q	
20%	65	1.71 cfs	(5 year)
10%	100	2.63 cfs	(10 year)
4%	135	3.55 cfs	(25 year)
1%	200	5.26 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

C.1



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Public Works Department		SHEET OF

Project	5980 & 6000 Arcturus Ave	Job No.	6064.6	Sheet	3 OF	19
Watershed	C1	Designed	TTA	Date	7/27/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	1.03 Acres				
Length	562.95 feet	Fall	4.66 feet	Slope	0.008278 %
Width	= (Area*43560)/(length) =	79.69944045 feet			
Length/Width	7.0634122	Shape Correcton Factor	95%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

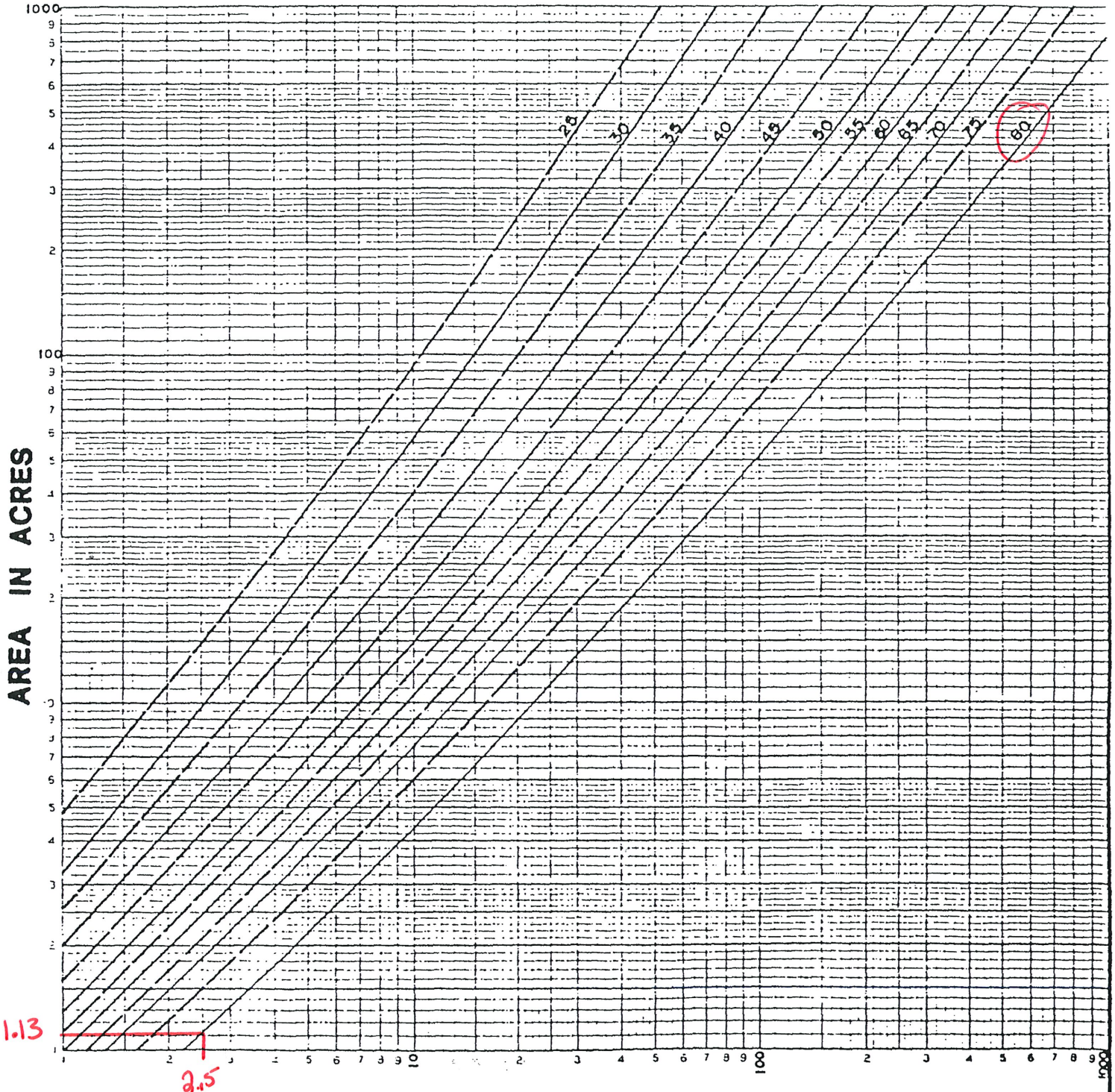
Runoff: Q from curve = 2.25 x L/W Factor= 2.1375 x RI-Corr. Factor = **2.629125**

Frequency	Frequency Factor	Q	
20%	65	1.71 cfs	(5 year)
10%	100	2.63 cfs	(10 year)
4%	135	3.55 cfs	(25 year)
1%	200	5.26 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

D1



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Public Works Department		SHEET OF

Project	5980 & 6000 Arcturus Ave	Job No.	6064.6	Sheet	4 Of	19
Watershed	D1	Designed	TTA	Date	7/27/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	1.13 Acres				
Length	562.95 feet	Fall	4.69 feet	Slope	0.008331 %
Width	= (Area*43560)/(length) =	87.4372502 feet			
Length/Width	6.438331474	Shape Correcton Factor	95%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

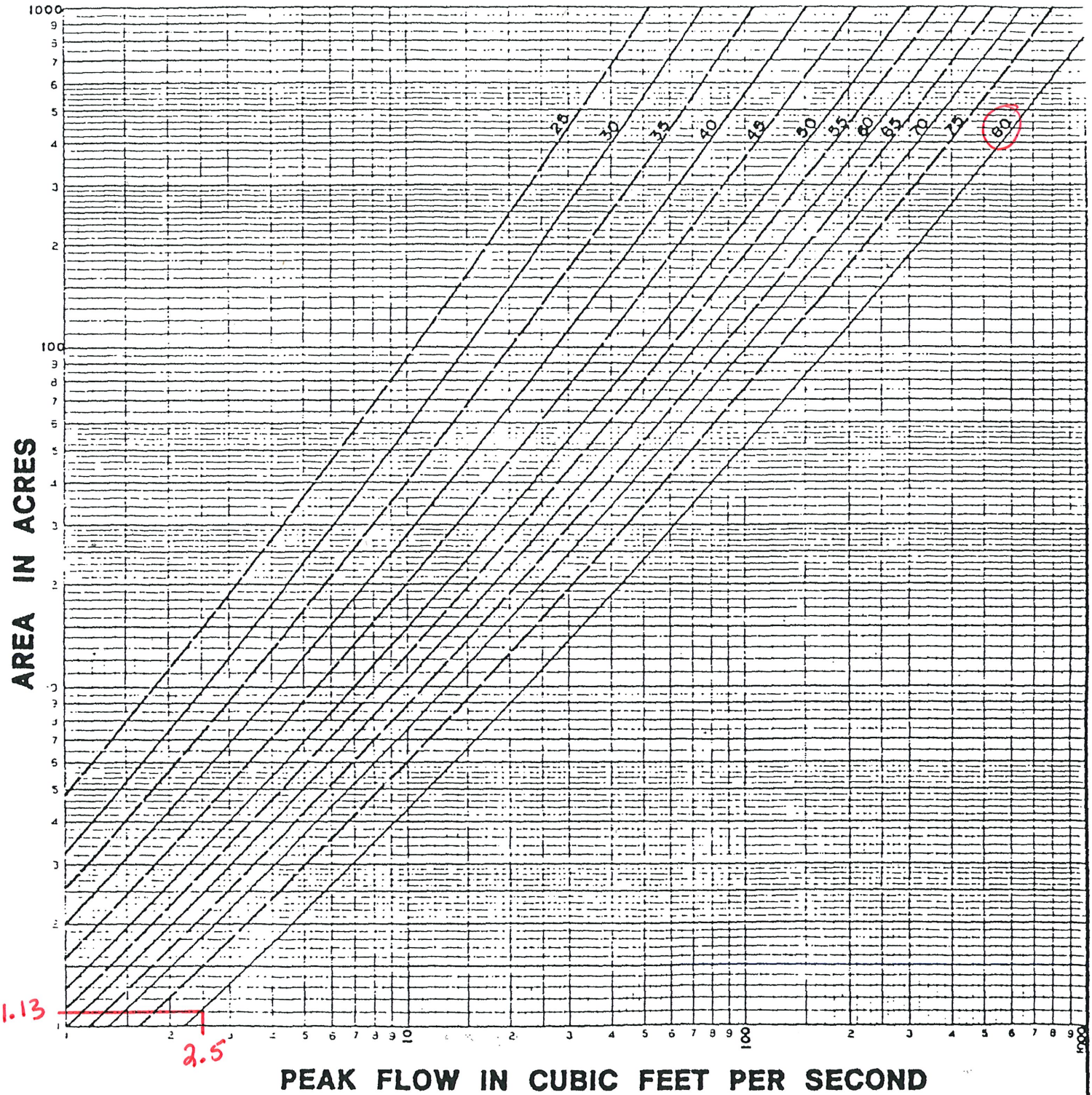
Runoff: Q from curve = 2.5 x L/W Factor= 2.375 x RI-Corr. Factor = **2.92125**

Frequency	Frequency Factor	Q	
20%	65	1.90 cfs	(5 year)
10%	100	2.92 cfs	(10 year)
4%	135	3.94 cfs	(25 year)
1%	200	5.84 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

E1



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Project	5980 & 6000 Arcturus Ave	Job No.	6064.6	Sheet	5 Of	19
Watershed	E1	Designed	TTA	Date	7/27/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	1.13 Acres				
Length	576.62 feet	Fall	5.06 feet	Slope	0.008775 %
Width	= (Area*43560)/(length) =	85.36436475 feet			
Length/Width	6.754809243	Shape Correcton Factor	95%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

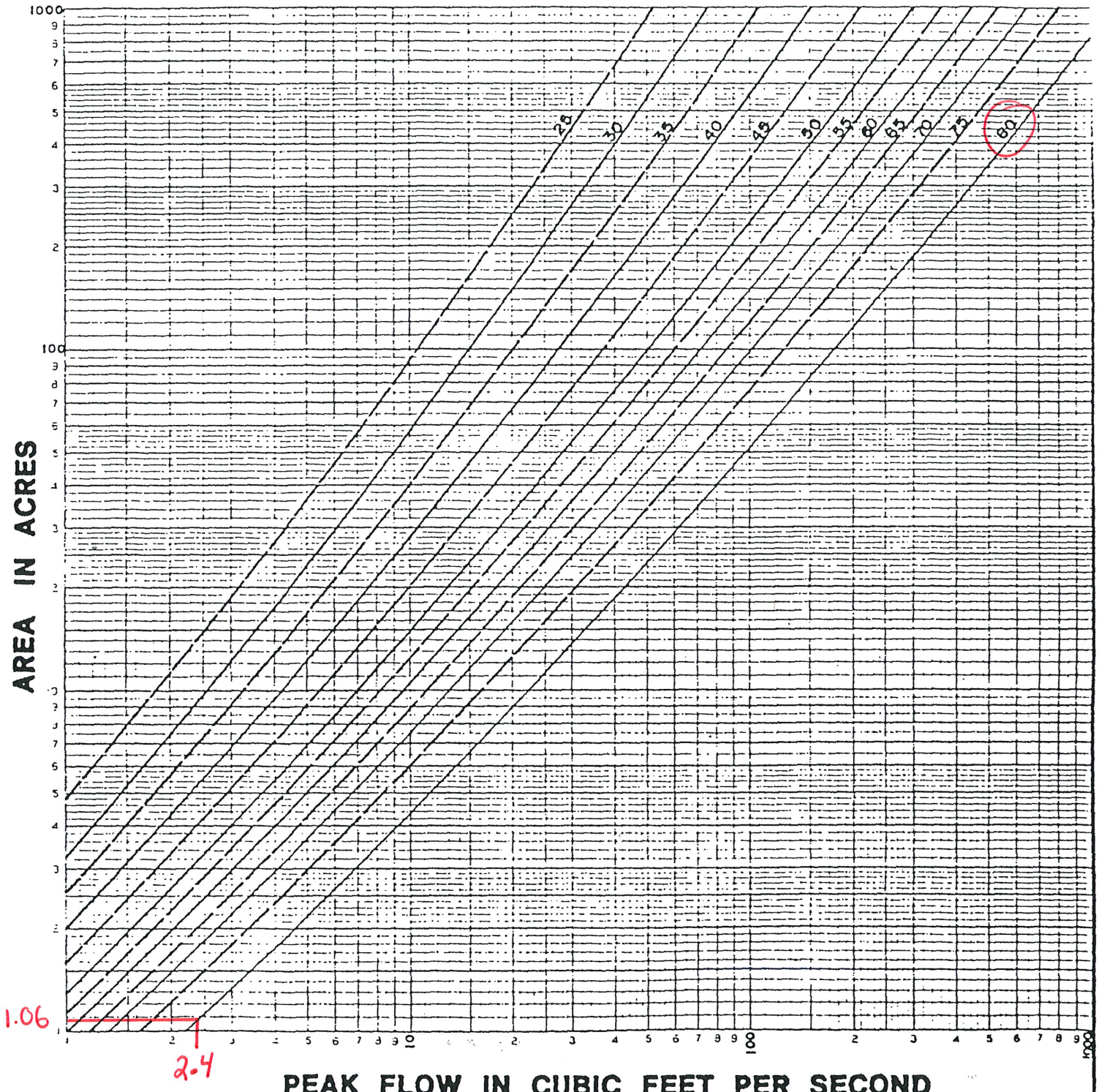
Runoff: Q from curve = 2.5 x L/W Factor= 2.375 x RI-Corr. Factor = **2.92125**

Frequency	Frequency Factor	Q	
20%	65	1.90 cfs	(5 year)
10%	100	2.92 cfs	(10 year)
4%	135	3.94 cfs	(25 year)
1%	200	5.84 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

F1



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Public Works Department

Project	5980 & 6000 Arcturus Ave	Job No.	6064.6	Sheet	6 Of	19
Watershed	F1	Designed	TTA	Date	7/27/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	1.06 Acres				
Length	580.83 feet	Fall	5.2 feet	Slope	0.008953 %
Width	= (Area*43560)/(length) =	79.49589381 feet			
Length/Width	7.306415114	Shape Correcton Factor	95%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

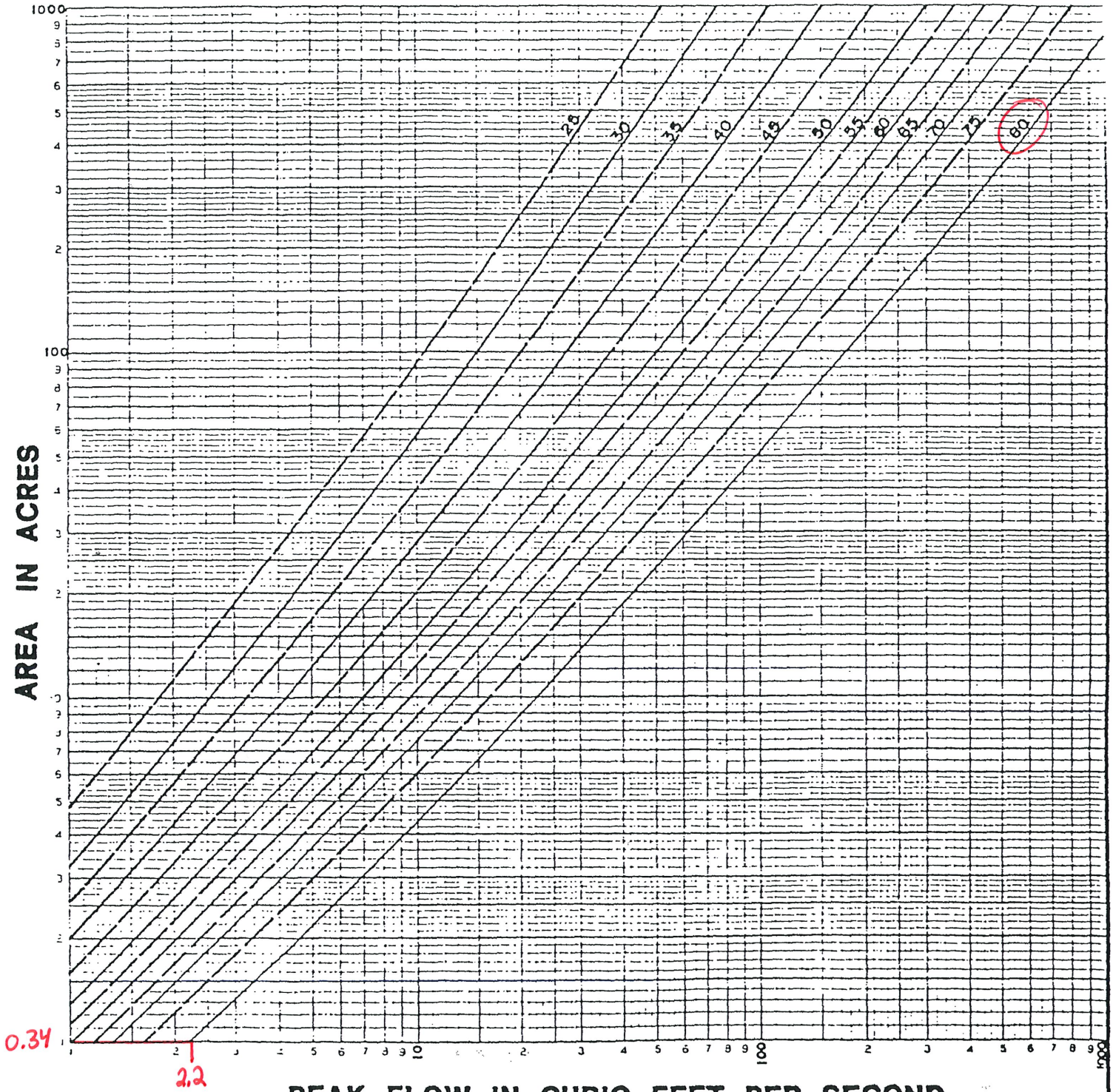
Runoff: Q from curve = 2.4 x L/W Factor= 2.28 x RI-Corr. Factor = **2.8044**

Frequency	Frequency Factor	Q	
20%	65	1.82 cfs	(5 year)
10%	100	2.80 cfs	(10 year)
4%	135	3.79 cfs	(25 year)
1%	200	5.61 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

6-1



CITY OF Oxnard	**GENERAL REQUIREMENTS – DRAINAGE**	STANDARD PLAN
	DRAWN: SOHER CKD. Jay Patel APPR. BY Benjamin Y. Wong	PLATE 62
	Public Works Department	SHEET OF

Project	5980 & 6000 Arcturus Ave	Job No.	6064.6	Sheet	7 Of	19
Watershed	G1	Designed	TTA	Date	7/27/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	0.34 Acres				
Length	286.23 feet	Fall	1.5 feet	Slope	0.005241 %
Width	= (Area*43560)/(length) =	51.74300388 feet			
Length/Width	5.531762336	Shape Correcton Factor	95%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

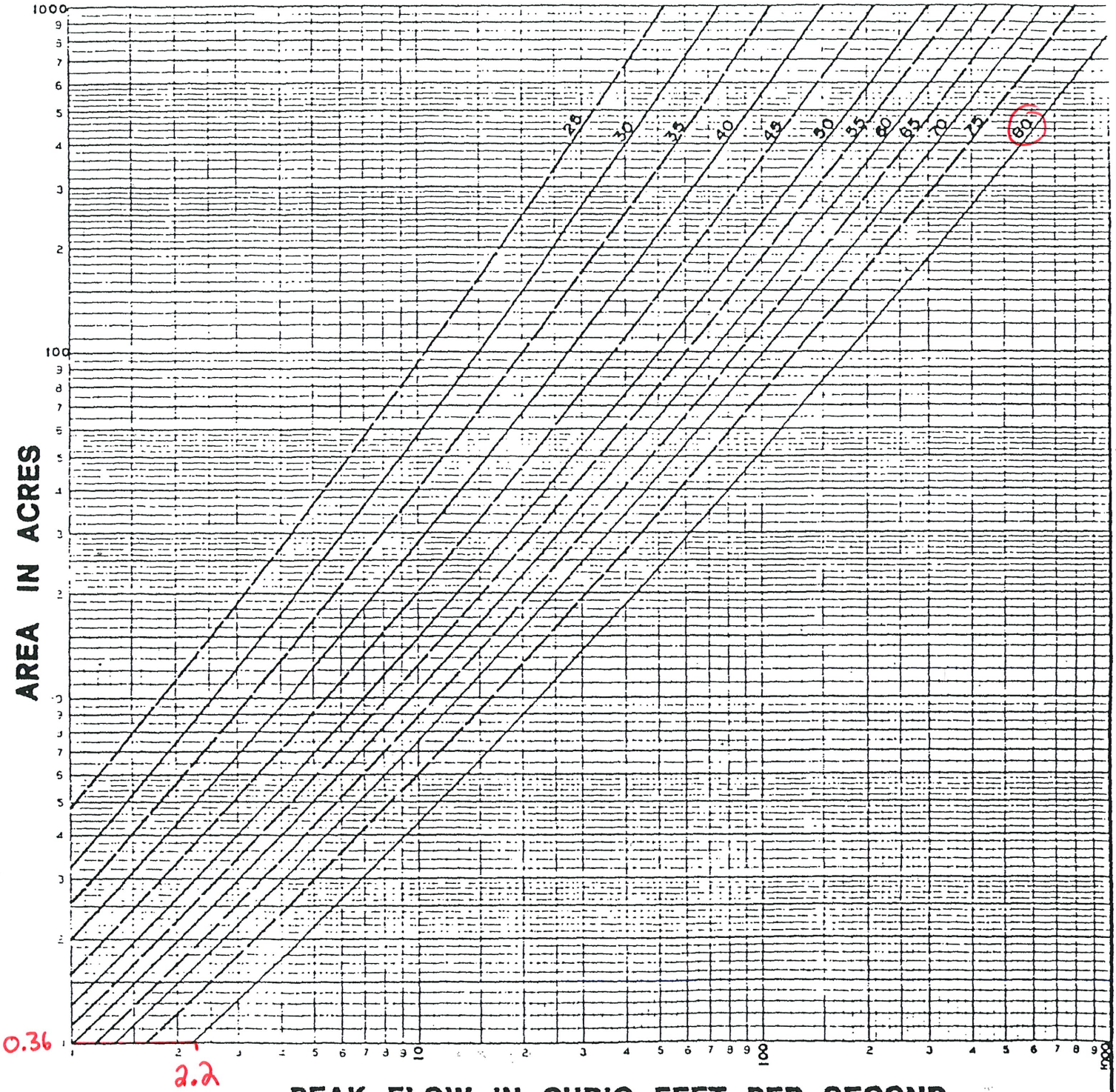
Runoff: Q from curve = 2.2 x L/W Factor= 2.09 x RI-Corr. Factor = **2.5707**

Frequency	Frequency Factor	Q	
20%	65	1.67 cfs	(5 year)
10%	100	2.57 cfs	(10 year)
4%	135	3.47 cfs	(25 year)
1%	200	5.14 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

H1



CITY OF Oxnard	**GENERAL REQUIREMENTS – DRAINAGE**	STANDARD PLAN
	DRAWN: SQHER CKD. Jay Patel APPR. BY Benjamin Y. Wong	PLATE 62
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Project	5980 & 6000 Arcturus Ave	Job No.	6064.6	Sheet	8 Of	19
Watershed	H1	Designed	TTA	Date	7/28/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	0.36 Acres				
Length	313.9 feet	Fall	1.2 feet	Slope	0.003823 %
Width	= (Area*43560)/(length) =	49.95731125 feet			
Length/Width	6.28336458	Shape Correcton Factor	95%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

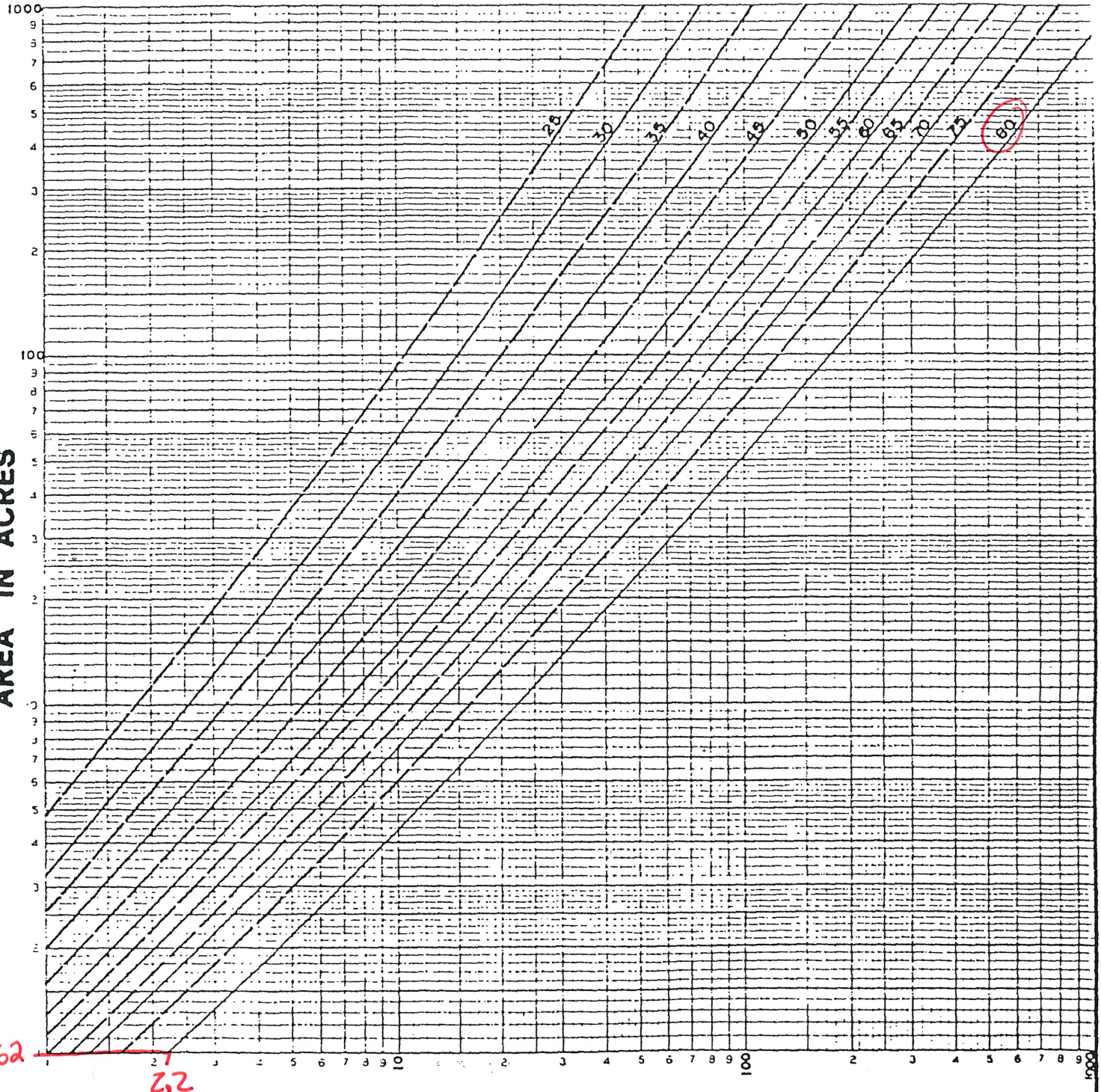
Composite "C" Factor

Runoff: Q from curve = 2.2 x L/W Factor= 2.09 x RI-Corr. Factor = **2.5707**

Frequency	Frequency Factor	Q	
20%	65	1.67 cfs	(5 year)
10%	100	2.57 cfs	(10 year)
4%	135	3.47 cfs	(25 year)
1%	200	5.14 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95



CITY OF Oxnard

GENERAL REQUIREMENTS – DRAINAGE

DRAWN: SOHER | CKD. Jay Patel | APPR. BY Benjamin Y. Wong

Public Works Department

STANDARD PLAN

PLATE 62

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Watershed	I1	Designed	TTA	Date	7/27/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	0.62 Acres				
Length	309.3 feet	Fall	2.4 feet	Slope	0.007759 %
Width	= (Area*43560)/(length) =	87.3171678 feet			
Length/Width	3.542258731	Shape Correcton Factor	98%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

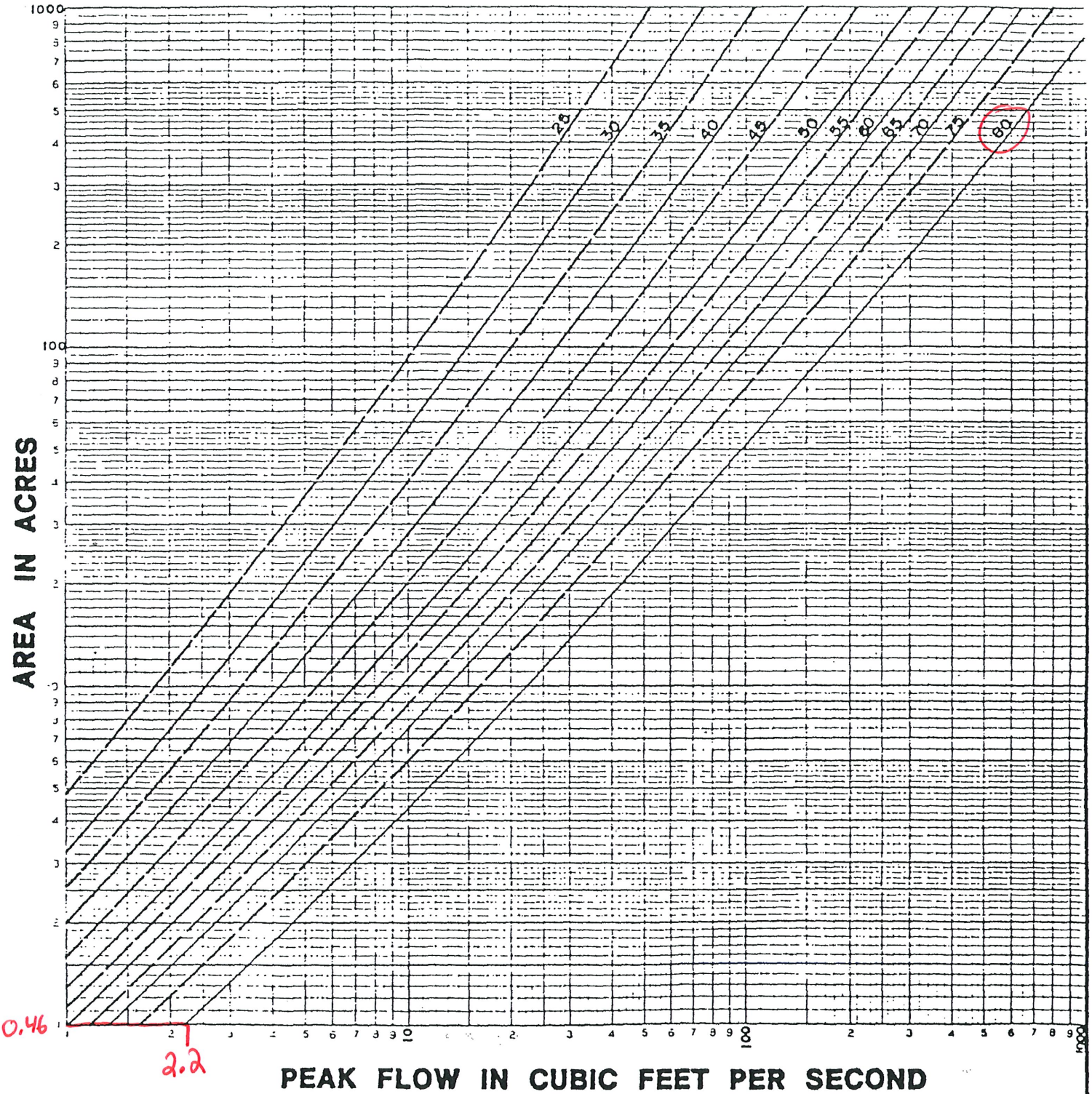
Runoff: Q from curve = 2.2 x L/W Factor= 2.156 x RI-Corr. Factor = **2.65188**

Frequency	Frequency Factor	Q	
20%	65	1.72 cfs	(5 year)
10%	100	2.65 cfs	(10 year)
4%	135	3.58 cfs	(25 year)
1%	200	5.30 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

JZ



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Watershed	J1	Designed	TTA	Date	7/28/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	0.46 Acres				
Length	311.87 feet	Fall	2.9 feet	Slope	0.009299 %
Width	= (Area*43560)/(length) =	64.24984769 feet			
Length/Width	4.854019289	Shape Correcton Factor	98%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

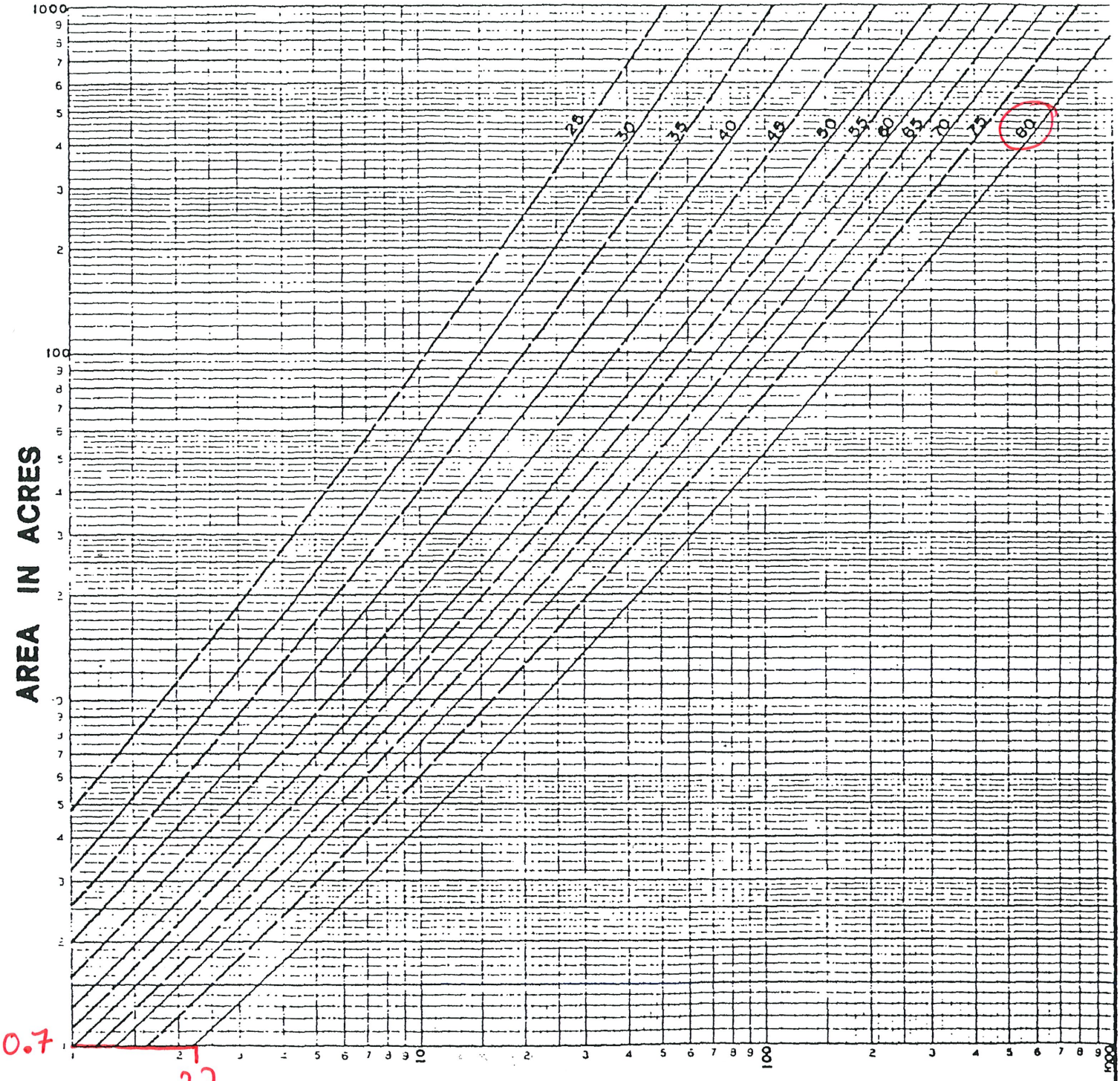
Runoff: Q from curve = 2.2 x L/W Factor= 2.156 x RI-Corr. Factor = **2.65188**

Frequency	Frequency Factor	Q	
20%	65	1.72 cfs	(5 year)
10%	100	2.65 cfs	(10 year)
4%	135	3.58 cfs	(25 year)
1%	200	5.30 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

K1



CITY OF Oxnard	**GENERAL REQUIREMENTS – DRAINAGE**	STANDARD PLAN
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Watershed	K1		Designed	TTA	Date	7/28/2023	
Concentration Point			Checked		Date		

Watershed Constraints:

Drainage Area	0.7 Acres					
Length	261.75 feet	Fall	3 feet	Slope	0.011461 %	
Width	= (Area*43560)/(length) =	116.4928367 feet				
Length/Width	2.246919274	Shape Correcton Factor	108%			
Soil Type	B	RI Correction Factor	123%			

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

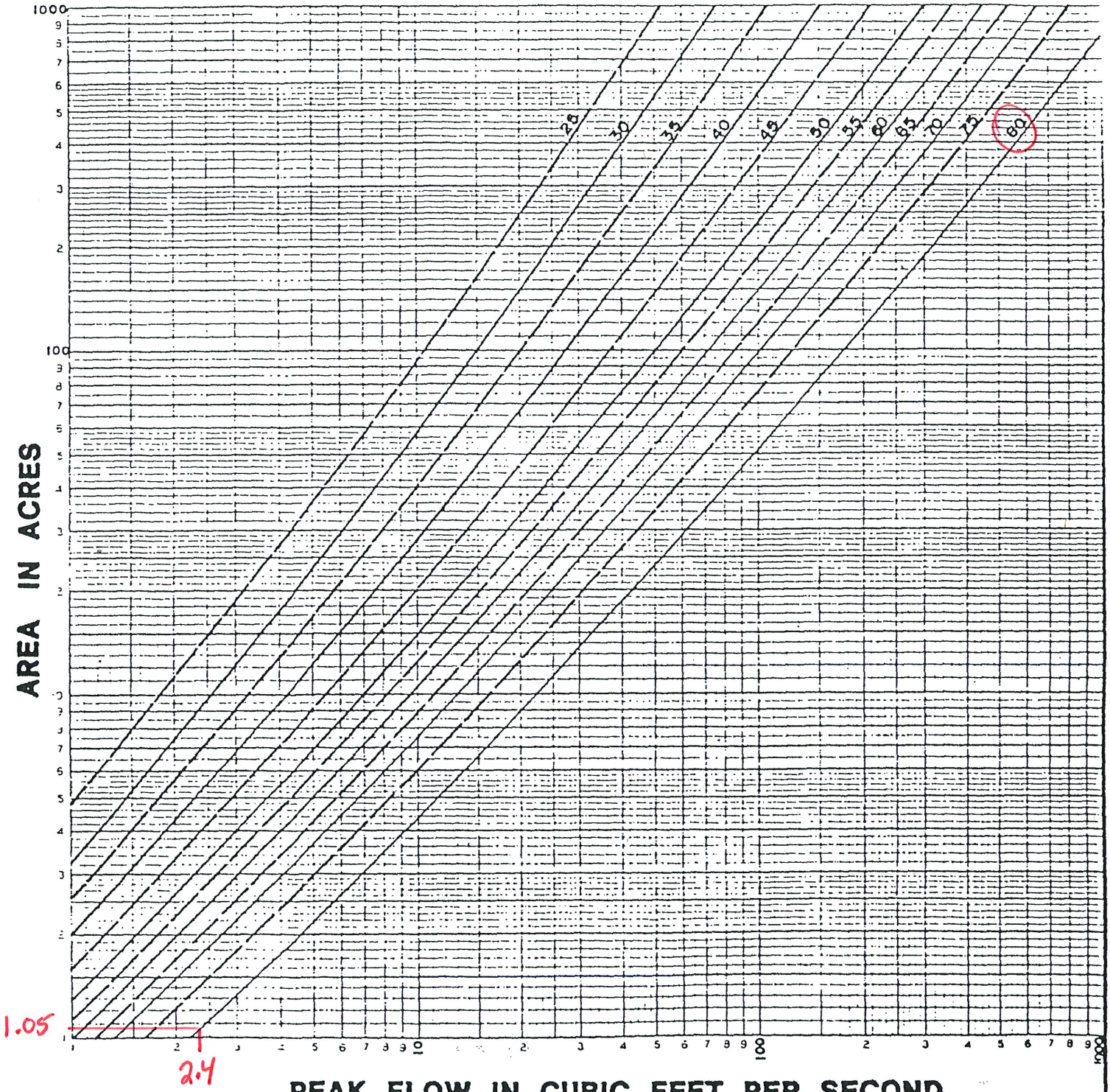
Runoff: Q from curve = 2.2 x L/W Factor= 2.376 x RI-Corr. Factor = **2.92248**

Frequency	Frequency Factor	Q	
20%	65	1.90 cfs	(5 year)
10%	100	2.92 cfs	(10 year)
4%	135	3.95 cfs	(25 year)
1%	200	5.84 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

L1



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Watershed	L1	Designed	TTA	Date	7/28/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	1.05 Acres				
Length	393.16 feet	Fall	4.2 feet	Slope	0.0106827 %
Width	= (Area*43560)/(length) =	116.3343168 feet			
Length/Width	3.379570283	Shape Correcton Factor	100%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

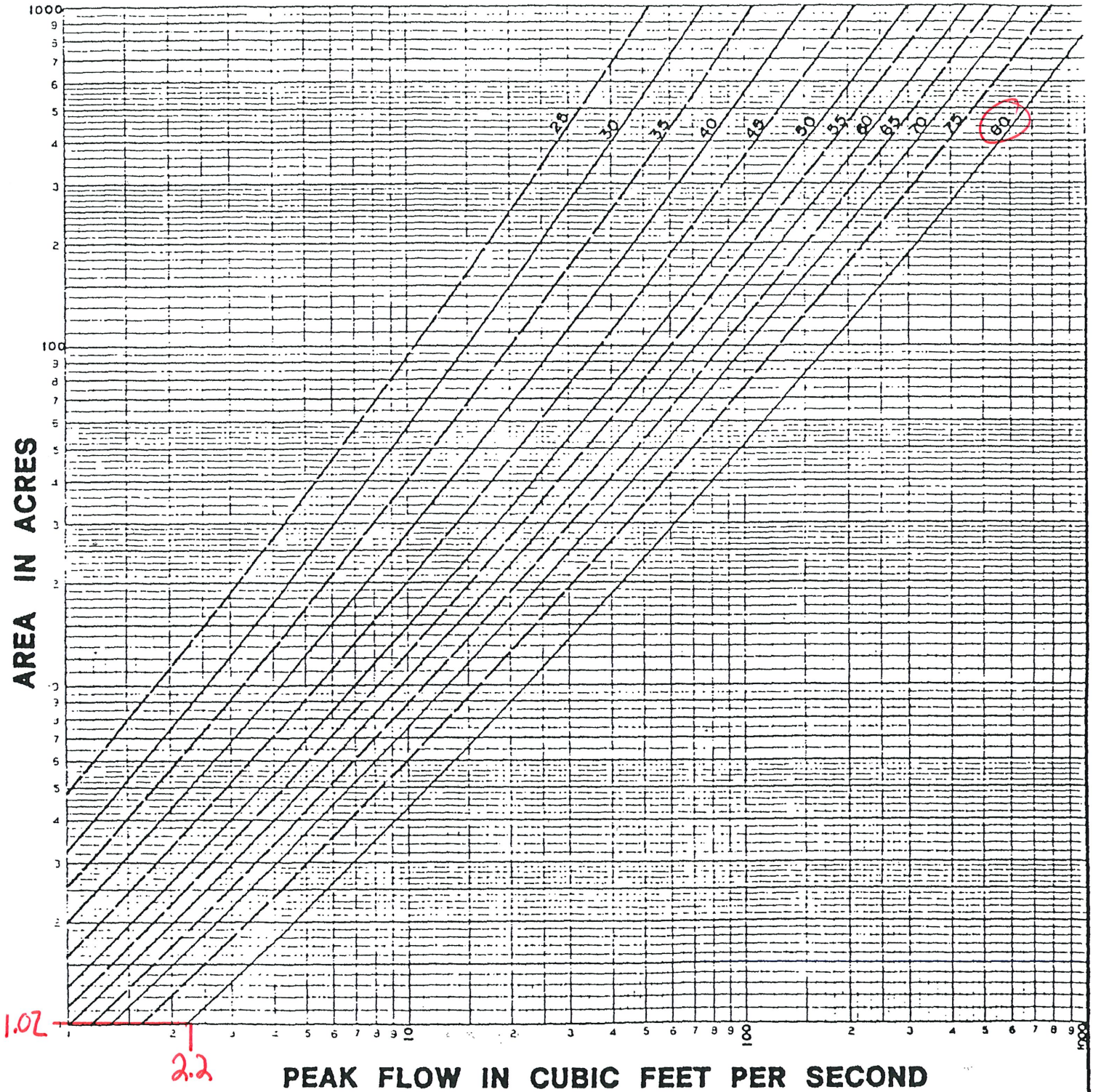
Runoff: Q from curve = 2.4 x L/W Factor= 2.4 x RI-Corr. Factor = **2.952**

Frequency	Frequency Factor	Q	
20%	65	1.92 cfs	(5 year)
10%	100	2.95 cfs	(10 year)
4%	135	3.99 cfs	(25 year)
1%	200	5.90 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

M1



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Watershed	M1		Designed	TTA	Date	7/28/2023	
Concentration Point			Checked		Date		

Watershed Constraints:

Drainage Area	1.02 Acres					
Length	447.21 feet	Fall	3 feet	Slope	0.006708 %	
Width	= (Area*43560)/(length) =	99.35198229 feet				
Length/Width	4.50126902	Shape Correcton Factor	98%			
Soil Type	B	RI Correction Factor	123%			

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

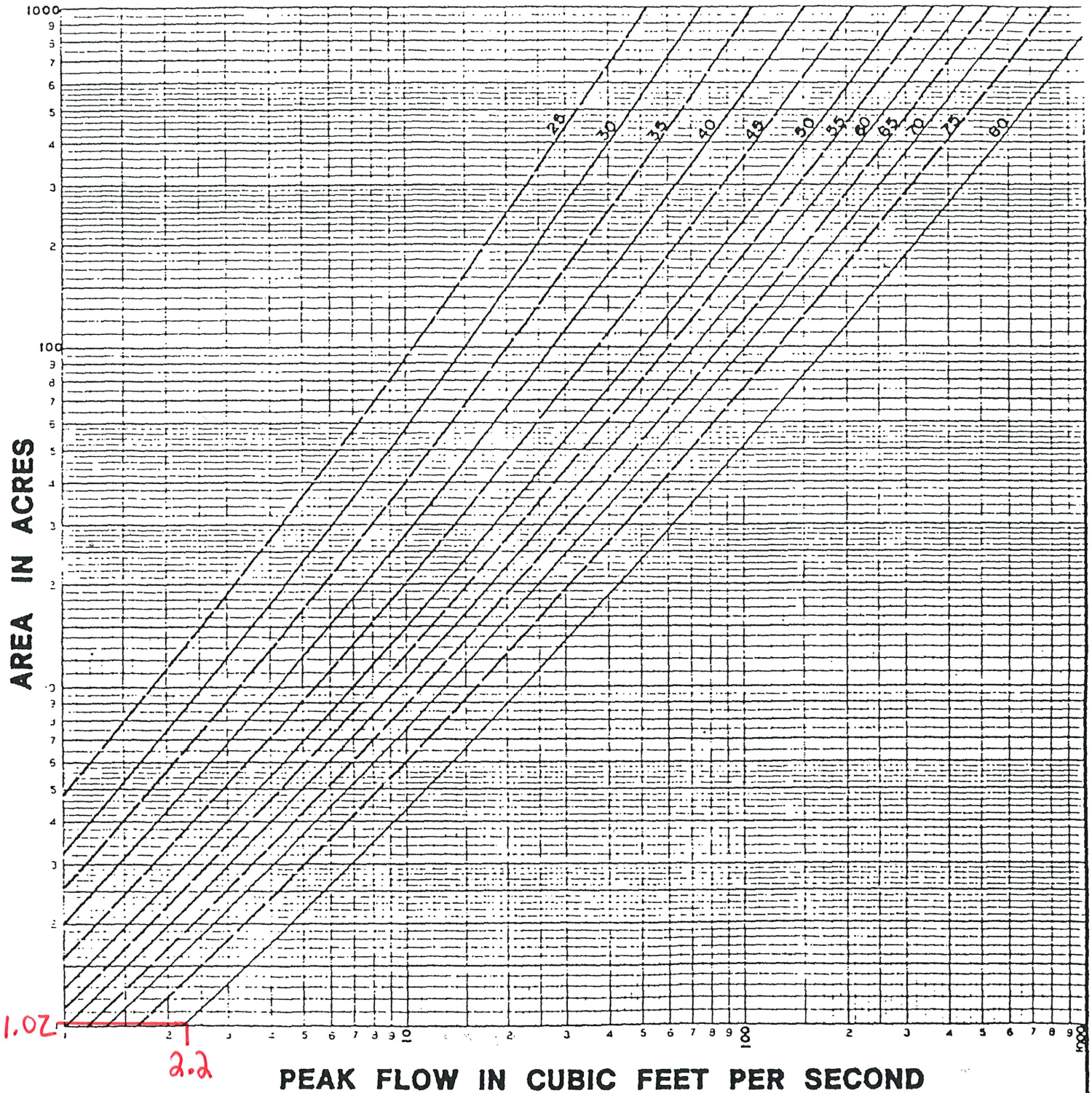
Runoff: Q from curve = 2.2 x L/W Factor= 2.156 x RI-Corr. Factor = **2.65188**

Frequency	Frequency Factor	Q	
20%	65	1.72 cfs	(5 year)
10%	100	2.65 cfs	(10 year)
4%	135	3.58 cfs	(25 year)
1%	200	5.30 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

N1



CITY OF Oxnard

GENERAL REQUIREMENTS – DRAINAGE

STANDARD PLAN

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SHEET OF

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Public Works Department

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Watershed	N1	Designed	TTA	Date	7/28/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	1.02 Acres				
Length	463.83 feet	Fall	3.97 feet	Slope	0.008559 %
Width	= (Area*43560)/(length) =	95.79199276 feet			
Length/Width	4.842053982	Shape Correcton Factor	98%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

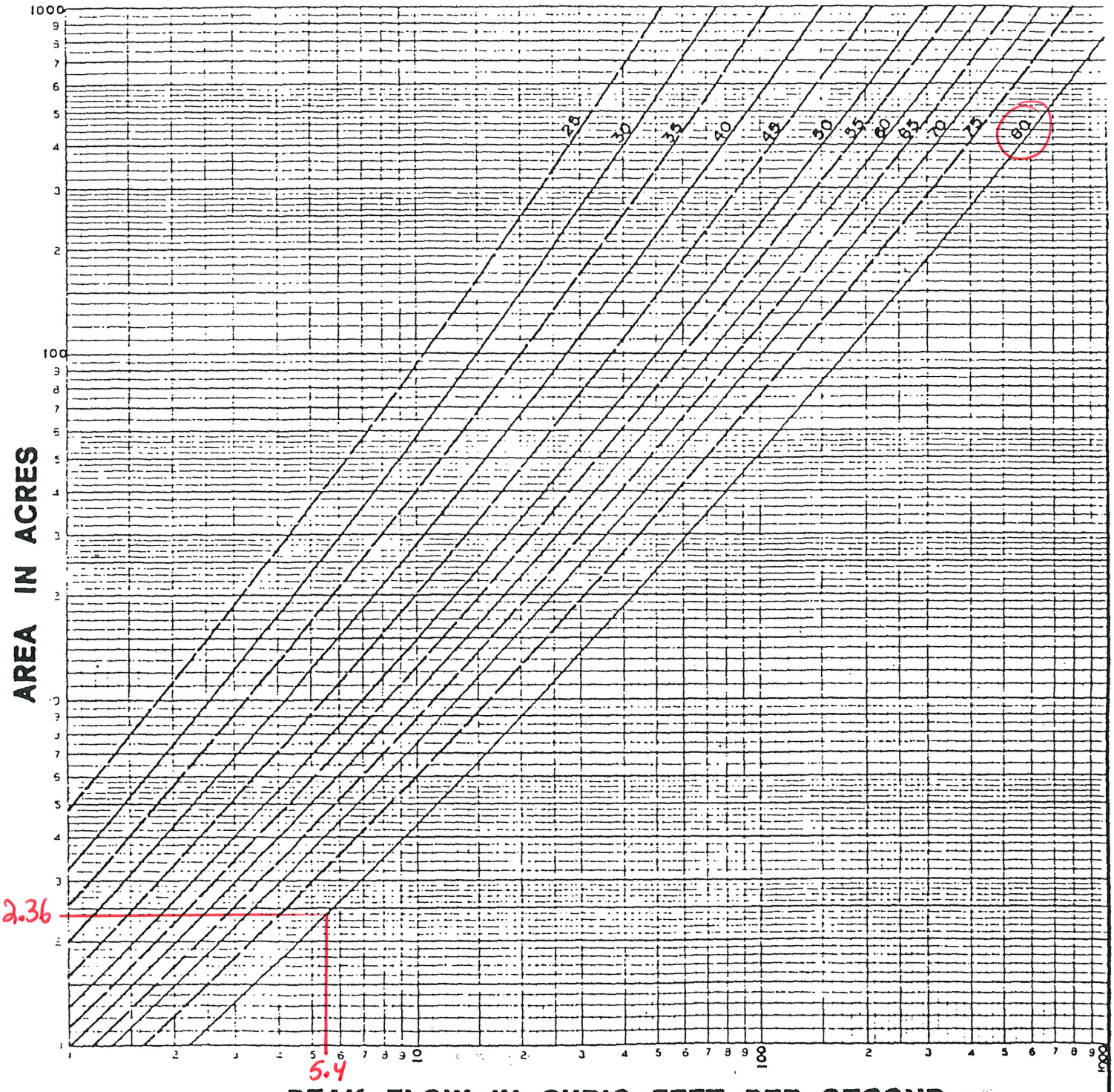
Runoff: Q from curve = 2.2 x L/W Factor= 2.156 x RI-Corr. Factor = **2.65188**

Frequency	Frequency Factor	Q	
20%	65	1.72 cfs	(5 year)
10%	100	2.65 cfs	(10 year)
4%	135	3.58 cfs	(25 year)
1%	200	5.30 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

01



CITY OF Oxnard

GENERAL REQUIREMENTS – DRAINAGE

STANDARD PLAN

PLATE 62

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Public Works Department

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Project	5980 & 6000 Arcturus Ave	Job No.	6064.6	Sheet	15 Of	19
Watershed	O1	Designed	TTA	Date	7/28/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	2.36 Acres				
Length	326.77 feet	Fall	7 feet	Slope	0.021422 %
Width	= (Area*43560)/(length) =	314.5992594 feet			
Length/Width	1.038686488	Shape Correcton Factor	112%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

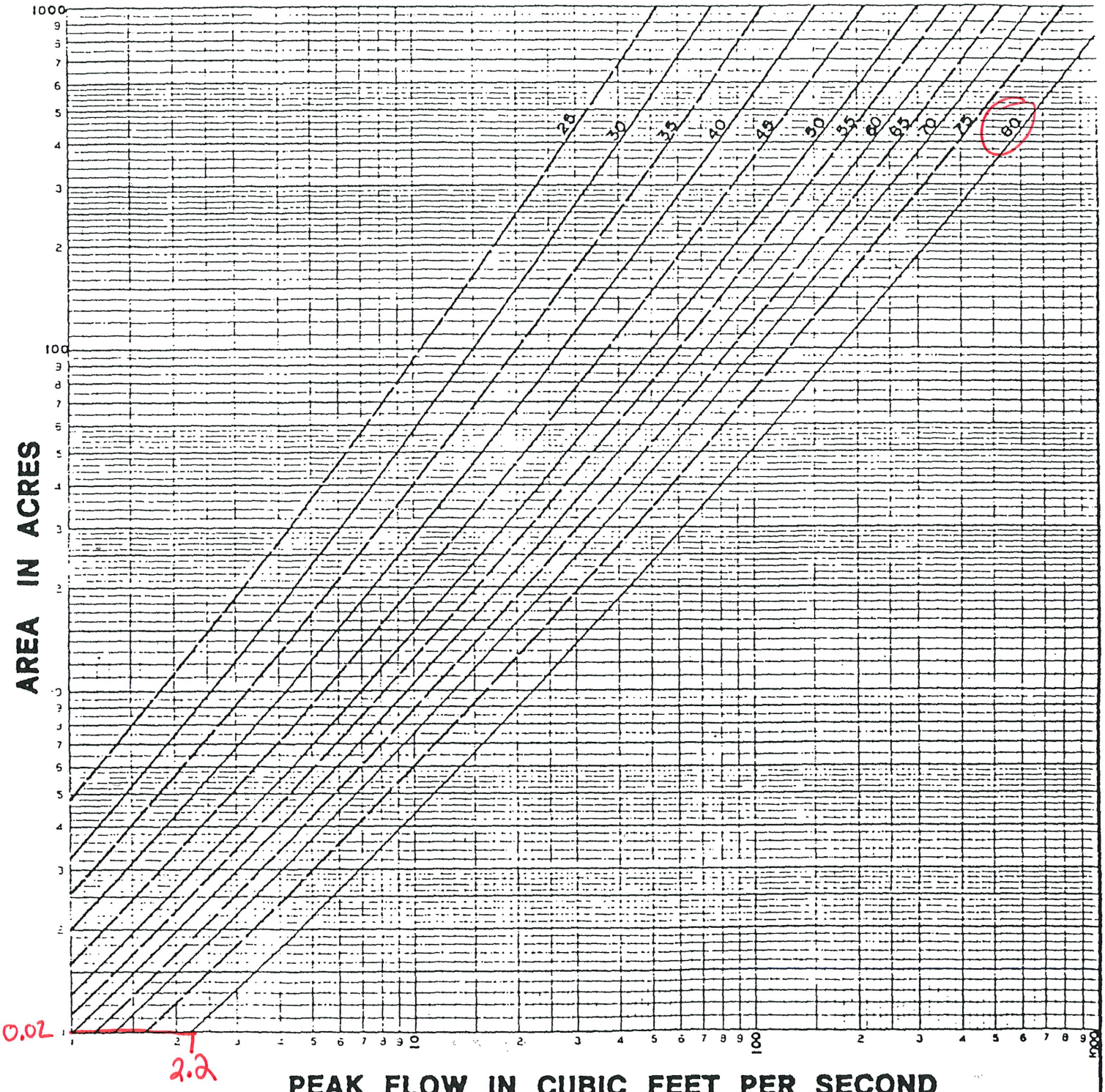
Runoff: Q from curve = 5.4 x L/W Factor= 6.048 x RI-Corr. Factor = **7.43904**

Frequency	Frequency Factor	Q	
20%	65	4.84 cfs	(5 year)
10%	100	7.44 cfs	(10 year)
4%	135	10.04 cfs	(25 year)
1%	200	14.88 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

P1



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Project	5980 & 6000 Arcturus Ave	Job No.	6064.6	Sheet	16 Of	19
Watershed	P1	Designed	TTA	Date	7/28/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	0.02 Acres				
Length	48.1 feet	Fall	0.35 feet	Slope	0.0072765 %
Width	= (Area*43560)/(length) =	18.11226611 feet			
Length/Width	2.655658861	Shape Correcton Factor	108%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

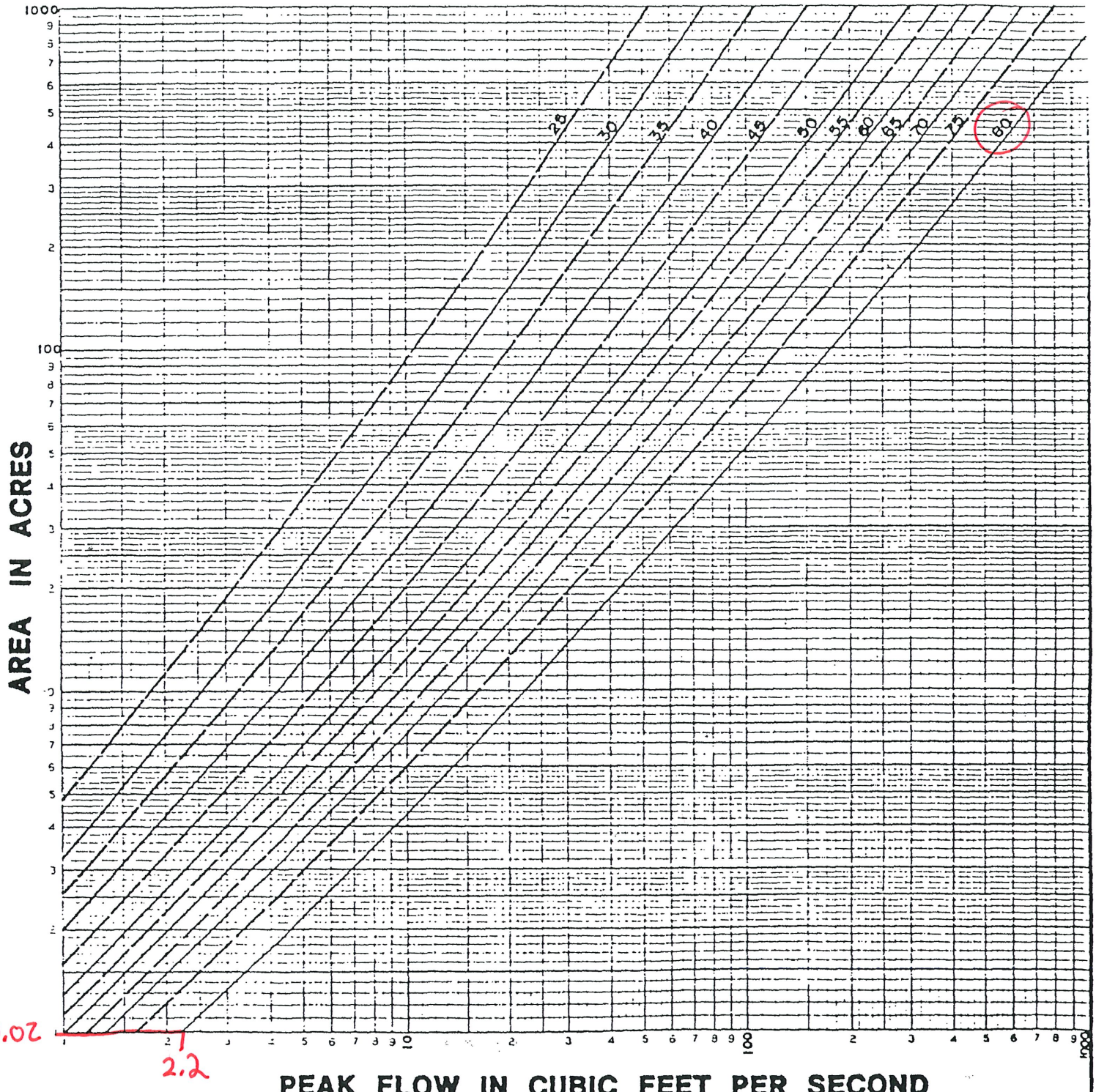
Runoff: Q from curve = 2.2 x L/W Factor= 2.376 x RI-Corr. Factor = **2.92248**

Frequency	Frequency Factor	Q	
20%	65	1.90 cfs	(5 year)
10%	100	2.92 cfs	(10 year)
4%	135	3.95 cfs	(25 year)
1%	200	5.84 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

Q1



CITY OF Oxnard

GENERAL REQUIREMENTS – DRAINAGE

DRAWN: SQHER | CKD. Jay Patel | APPR. BY Benjamin Y. Wong

Public Works Department

STANDARD PLAN

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Watershed	**Q1**	Designed	TTA	Date	7/28/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	0.02 Acres				
Length	72.53 feet	Fall	1.18 feet	Slope	0.016269 %
Width	= (Area*43560)/(length) =	12.01158141 feet			
Length/Width	6.038338958	Shape Correcton Factor	95%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

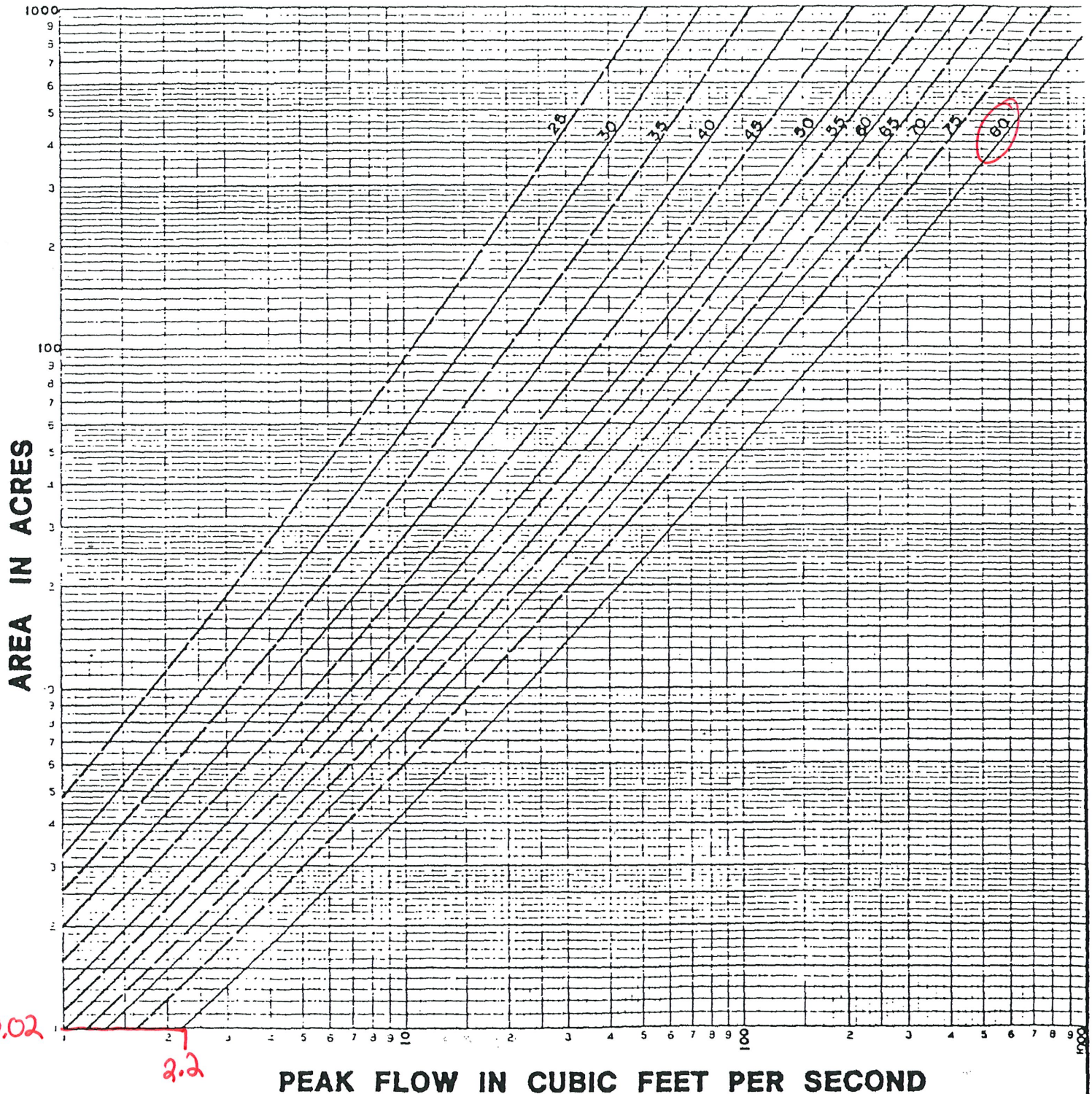
Runoff: Q from curve = 2.2 x L/W Factor= 2.09 x RI-Corr. Factor = **2.5707**

Frequency	Frequency Factor	Q	
20%	65	1.67 cfs	(5 year)
10%	100	2.57 cfs	(10 year)
4%	135	3.47 cfs	(25 year)
1%	200	5.14 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

R1



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Project	5980 & 6000 Arcturus Ave	Job No.	6064.6	Sheet	18 Of	19
Watershed	R1	Designed	TTA	Date	7/28/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	0.02 Acres				
Length	52.89 feet	Fall	0.21 feet	Slope	0.003971 %
Width	= (Area*43560)/(length) =	16.47192286 feet			
Length/Width	3.210918388	Shape Correcton Factor	100%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

Composite "C" Factor

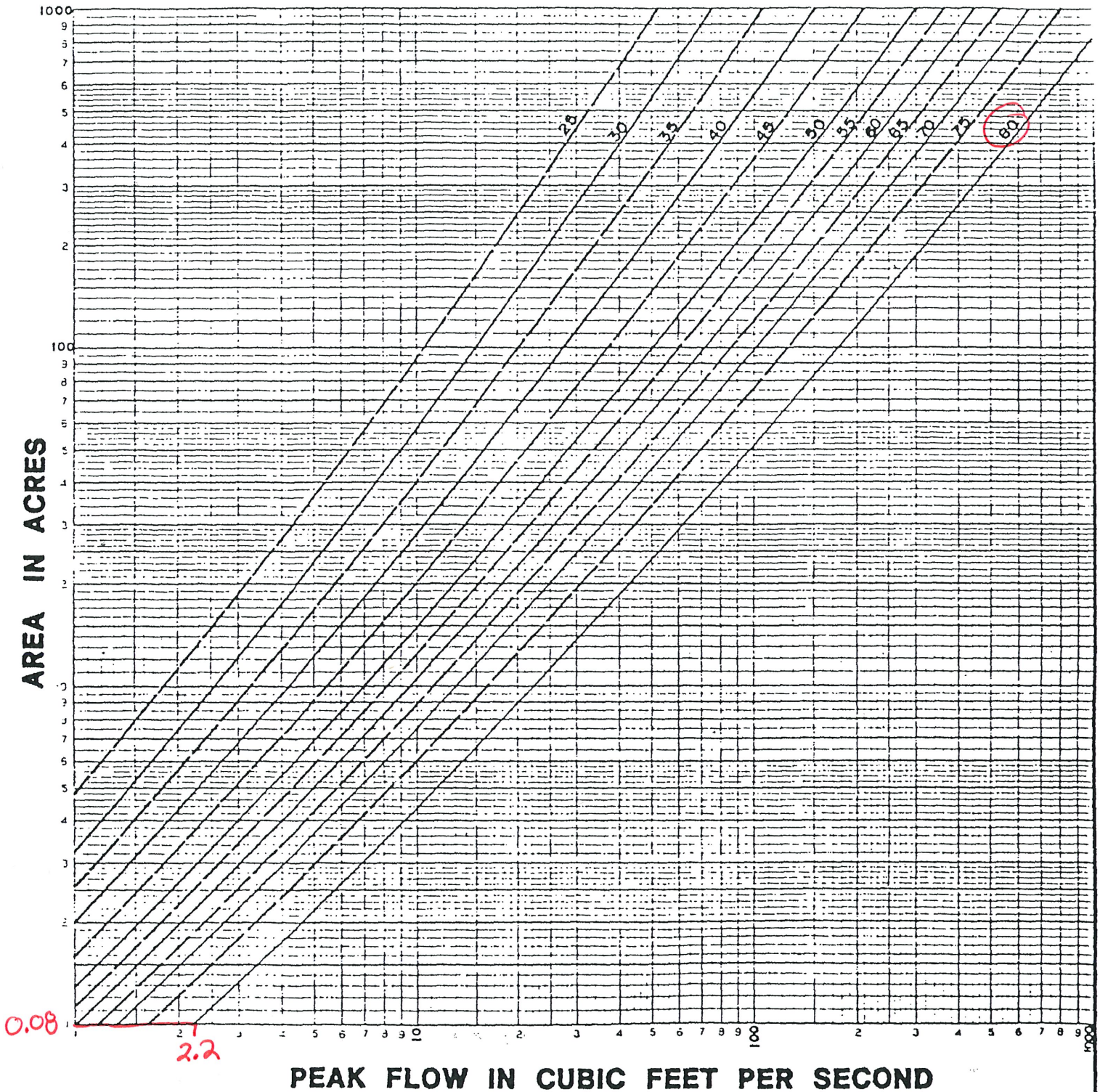
Runoff: Q from curve = 2.2 x L/W Factor= 2.2 x RI-Corr. Factor = **2.706**

Frequency	Frequency Factor	Q	
20%	65	1.76 cfs	(5 year)
10%	100	2.71 cfs	(10 year)
4%	135	3.65 cfs	(25 year)
1%	200	5.41 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95

S1



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Project	5980 & 6000 Arcturus Ave	Job No.	6064.6	Sheet	19 Of	19
Watershed	**S1**	Designed	TTA	Date	7/28/2023	
Concentration Point		Checked		Date		

Watershed Constraints:

Drainage Area	0.08 Acres				
Length	103.8 feet	Fall	0.21 feet	Slope	0.002023 %
Width	= (Area*43560)/(length) =	33.57225434 feet			
Length/Width	3.091838843	Shape Correcton Factor	100%		
Soil Type	B	RI Correction Factor	123%		

Computation of "C"

Type of Development	"C" Factor	Present	Future	
Undeveloped	40-45			
Residential	60			
Commercial & Industrial	70	80*	80*	*As required by City Reviewer

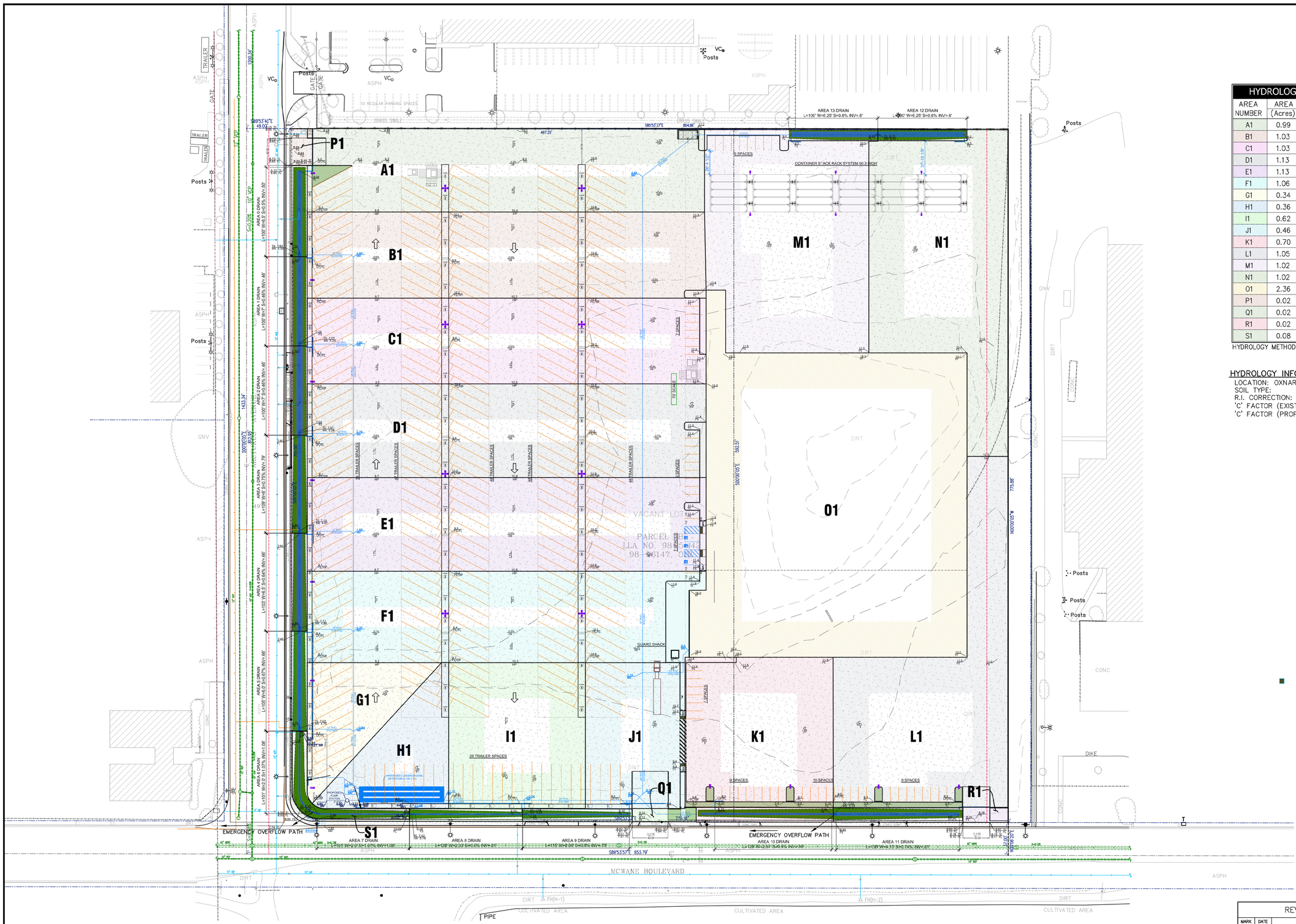
Composite "C" Factor

Runoff: Q from curve = 2.2 x L/W Factor= 2.2 x RI-Corr. Factor = **2.706**

Frequency	Frequency Factor	Q	
20%	65	1.76 cfs	(5 year)
10%	100	2.71 cfs	(10 year)
4%	135	3.65 cfs	(25 year)
1%	200	5.41 cfs	(100 year)

Shape Correction Factors - %

L/W	0.01 S.M.
1	115
1.5	112
2	108
3	100
4	98
>5	95



HYDROLOGY AREA INFORMATION				
AREA NUMBER	AREA (Acres)	**T.O.C. (Min.)	Q_{100} (cfs)	Q_{10} (cfs)
A1	0.99	7	5.14	1.67
B1	1.03	7	5.26	1.71
C1	1.03	7	5.26	1.71
D1	1.13	6	5.84	1.90
E1	1.13	6	5.84	1.90
F1	1.06	7	5.61	1.82
G1	0.34	6	5.14	1.67
H1	0.36	9	5.14	1.67
I1	0.62	5	5.30	1.72
J1	0.46	5	5.30	1.72
K1	0.70	5	5.84	1.90
L1	1.05	7	5.90	1.92
M1	1.02	5	5.30	1.72
N1	1.02	5	5.30	1.72
O1	2.36	6	14.88	4.84
P1	0.02	5	5.84	1.90
Q1	0.02	5	5.14	1.67
R1	0.02	5	5.41	1.76
S1	0.08	6	5.41	1.76

HYDROLOGY METHOD: COOK'S METHOD

HYDROLOGY INFORMATION (Cook'S Method)

LOCATION: OXNARD COASTAL PLAIN VENTURA
SOIL TYPE: B
R.I. CORRECTION: 123%
'C' FACTOR (EXISTING): 80
'C' FACTOR (PROP.): 80

GRAPHIC SCALE

0 1" 2" 3"
0 25 50 100 150
1" = 50'

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Geotechnical Engineering · Geology · Water Resources · Environmental
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(805) 485-3935
E-mail: rjr@rjreng.com

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-24 CIVIL STATE OF CALIFORNIA

REVISIONS			
MARK	DATE	DESCRIPTION	BY

REVIEWED BY: DATE DATE

CITY OF OXNARD CALIFORNIA — Development Services Department

PROPOSED HYDROLOGY MAP
6000 ARCTURUS AVE
OXNARD, CA 93033

APPROVED: CITY ENGINEER R.C.E. 46333 EXP. DATE
SCALE: HORIZ. 1" = 50' VERT. NA
DRAWN BY: T. AGUILAR
CHECKED BY: R. ANDERSON
SHEET No. 12 OF 22
DRAWING NUMBER

CD SUBMITTAL SET II - 8-15-23

HYDROLOGY MAP









APPENDIX C

Stormwater Mitigation Calculations

(Detention Basin Sizing)

VCRat Single Subarea Hydrograph, Mitigation, and Detention Basin Routing Calculations

Project Information: 5980 & 6000 Arcturus Avenue, Oxnard, CA

DEVELOPED CONDITION INPUT DATA

Watershed Area ac =	14.33	User Input
Time of Concentration Tc min =	6	User Input
% Imperviousness =	96	User Input
Land Use Description =	Commercial Impervious	User Input
Storm Zone =	K	Dropdown List
Storm Frequency =	100	Dropdown List
District Soil Number =	3	Dropdown List
NRCS Curve Number Yield in =	5.86	User Input

MITIGATION INPUT DATA

Mitigation Level	100-yr Dev	User Input
Time of Concentration Tc min =	16	User Input
Storm Frequency =	100	Dropdown List
% Effective Imperviousness =	56	User Input
Land Use Description =	Commercial Impervious	User Input

CALCULATION RESULTS

Iteration Volume Difference cf =	0.000
Dev. Subarea Outflow Peak cfs =	62.69

FLOW THROUGH BASIN RESULTS

Basin Inflow Peak cfs =	62.69
Mitigated Hydrograph Peak cfs =	35.00
Routed Hydrograph Peak cfs =	34.91
Max Basin Storage af =	0.2703
Max Basin Elevation ft =	3.54

BYPASS BASIN RESULTS

Inflow Hydrograph Peak cfs =	62.69
Mitigation Hydrograph Peak cfs =	35.00
Peak Flow into Bypass Basin cfs =	27.69
Volume into Bypass Basin cf =	6,002

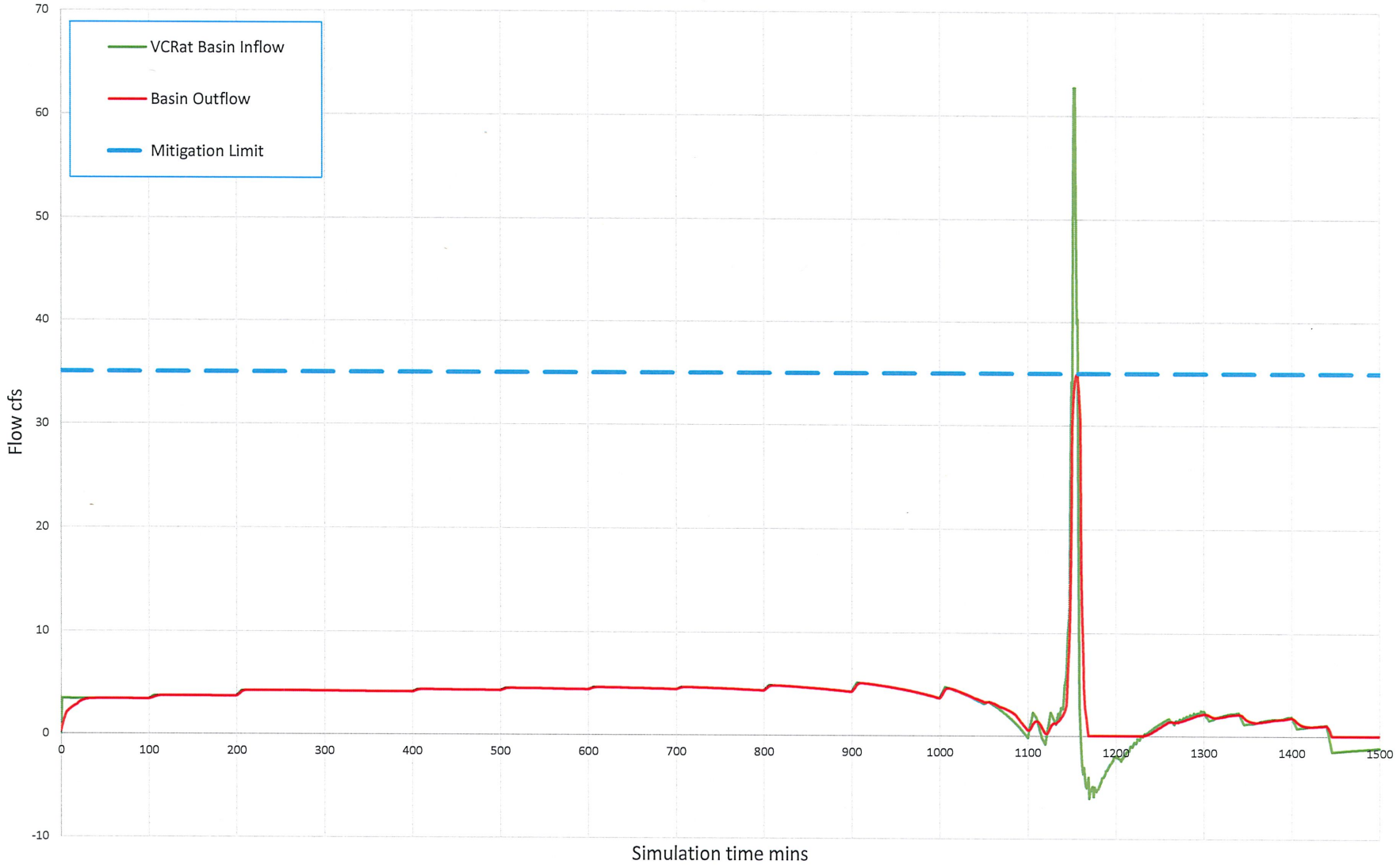
INSTRUCTIONS

1. Under File-Options-Formulas Check Iterative Calculations 200 iterations 0.001 tolerance
2. Input data in blue fields
3. Press F9 to manually calculate the hydrology data if Volume Difference in B19 is not 0.
4. Choose rain zone at: vcwatershed.net/publicMaps/data/

Flow-Through Basin Data

Elev. ft	Storage af	Disch. cfs
0.0	0.00	0.00
0.5	0.01	1.00
1.0	0.02	2.00
1.5	0.04	3.00
2.0	0.05	6.00
2.5	0.06	9.00
3.0	0.10	15.00
3.5	0.15	35.00
4.0	1.0	42.0

5980 & 6000 Arcturus Avenue, Oxnard, CA



Detention Sizing Distribution Table		
Total Required Detention Size:	6,002.00	c.f.
Available Detention Storage: Onsite Storm Drain Pipes		
limiting elev.	5.4	ft
detention inlet elev.	-1.59	ft
12" PVC (SDR-35)		
Total usable Length (elevation limited)	1590.17	ft.
Wall thickness	0.360	in.
Radius	0.47	ft
Cross Sectional Area per ft.	0.69	s.f.
Detention Volume	**1,103.54**	c.f.
18" PVC (SDR-35)		
Total usable Length (elevation limited)	431.50	ft.
Wall thickness	0.536	in.
Radius	0.71	ft
Cross Sectional Area per ft.	1.56	s.f.
Detention Volume	**674.40**	c.f.
24" PVC (SDR-35)		
Total usable Length (elevation limited)	431.33	ft.
Wall thickness	0.711	in.
Radius	0.94	ft
Cross Sectional Area per ft.	2.78	s.f.
Detention Volume	**1,199.25**	c.f.
Total Detention from Pipes	**2,977.20**	**c.f.**
Required Underground Detention Vol.	**3,024.80**	**c.f**

Stormwater Detention System Worksheet

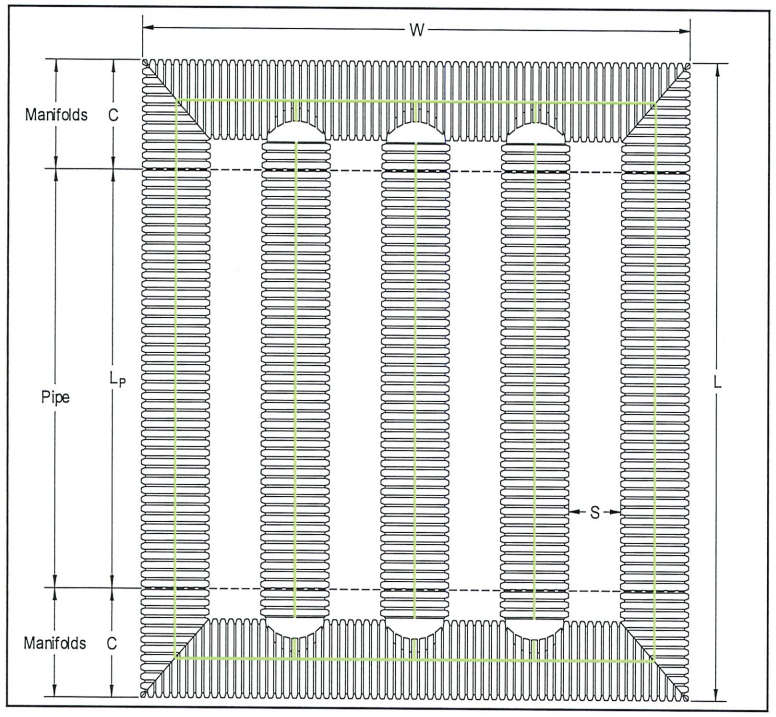
Project 5980 & 5990 ARCTURUS AVE.
Location OXNARD, CA
Engineer TTA
Date 15-Aug-23

Pipe Dia. D (in)	Outside Dia. OD (ft)	C (ft)	Clr. Span S (ft)	Det. Area Factor (ft2/ft3)
12	1.20	1.75	1.10	2.86
15	1.46	2.00	1.07	2.07
18	1.77	2.36	1.19	1.66
24	2.32	2.97	1.57	1.23
30	2.93	4.04	2.23	1.05
36	3.48	4.52	2.09	0.79
42	3.98	5.44	2.92	0.65
42HC	3.90	4.95	2.10	0.64
48HC	4.39	5.45	2.11	0.53
60HC	5.46	5.91	2.87	0.43

1.) Design Storage Volume **Vst=** 3100 **ft3**

2.) Minimum Pipe Diameter to Satisfy Design **D=** 48 **in** **Pipe OD=** 4.39 **Clear span (S)=** 2.11 **C=** 5.45

3.) Actual DAF for Selected Pipe Size **DAFact=** 0.53 **ft2/ft3**



A. If Width (W) Controls **Wmax=** 20 **ft**

Number of Pipe Runs Required (Npr): **Npr=** 3 **pipe runs**

Actual Width (Wact): **Wact=** 17.39 **ft**

System Length (L): **L=** 95 **ft**

Pipe Length Between Manifolds (Lp): **Lp=** 84 **ft**

Estimated Storage Provided **Vp=** 3603 **ft3**

Detention Surface Area Required (Ad): **Ad=** 1652 **ft2**

Vp must be greater than Vst OK? ___yes ___no

B. If Length (L) Controls **Lmax=** 40 **ft**

Number of Pipe Runs Required (Npr): **Npr=** 7 **pipe runs**

Actual Width (Wact): **Wact=** 43.39 **ft**

System Length (L): **L=** 37 **ft**

Pipe Length Between Manifolds (Lp): **Lp=** 26 **ft**

Estimated Storage Provided **Vp=** 3377 **ft3**

Detention Surface Area Required (Ad): **Ad=** 1605 **ft2**

Vp must be greater than Vst OK? ___yes ___no

1.) This worksheet is for estimations purposes only and should not take the place of a comprehensive engineering design.
2.) Estimated volumes are based on a flat detention system.



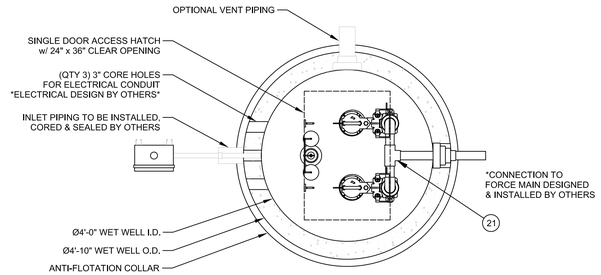




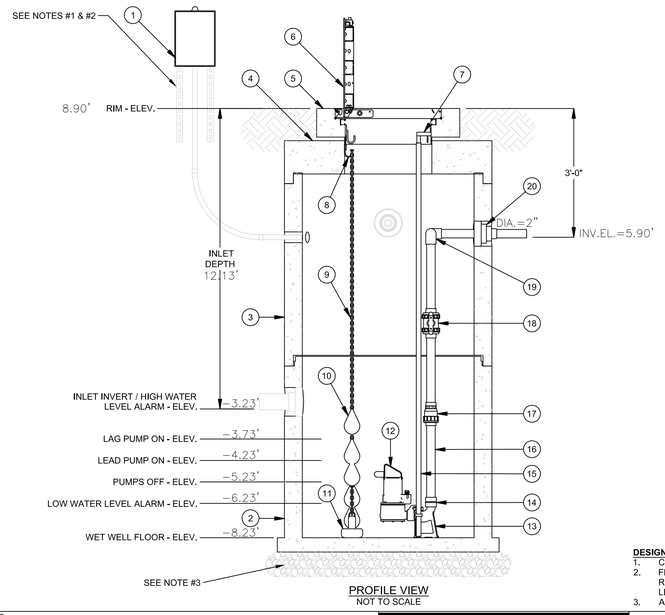


APPENDIX D

Detention Outlet Pump Details



PLAN VIEW
NOT TO SCALE



PROFILE VIEW
NOT TO SCALE

BILL OF MATERIALS		
ITEM	QTY	DESCRIPTION
1	1	DUPLEX ALTERNATING CONTROL PANEL
2	1	48IN DIA JENSEN PRECAST CONCRETE MANHOLE BASE *HEIGHT VARIES*
3	1	48IN DIA JENSEN PRECAST CONCRETE MANHOLE BARREL *HEIGHT VARIES *
4	1	48IN DIA JENSEN PRECAST CONCRETE MANHOLE FLAT TOP
5	1	JENSEN PRECAST CONCRETE HATCH RISER
6	1	SINGLE DOOR HATCH WITH A CLEAR OPENING OF 24IN X 36IN
7	2	UPPER GUIDE RAIL BRACKET 2IN
8	1	FLOAT BRACKET 3 HOOK TYPE 316SS
9	10 LF	LF CHAIN 1/4IN 316SS
10	5	FLOAT SWITCH w/ 100' CABLE
11	1	ANCHOR 15LB PVC COATED
12	2	2IN SUBMERSIBLE PUMP
13	2	AUTOCOUPLING ASSY 2IN STD
14	2	ADAPTER 2IN FML THRD X SLIP SCH 80 PVC
15	40 LF	LF PIPE 1IN SCH40 GUIDE RAIL 304SS
16	20 LF	LF PIPE PVC SCH 80 2IN DIA
17	2	BALL CHECK VALVE 2IN SCH 80 PVC SLIP
18	2	BALL VALVE 2IN SCH 80 PVC SLIP
19	2	90 DEG ELBOW 2IN SCH 80 PVC SLIP
20	1	FLEXIBLE PIPE CONNECTOR
21	1	FITTING PVC TEE 2IN SCH 80 SLIP

PROJECT SPECIFIC INFORMATION	
FINISHED GRADE (Ft.)	8.90'
RIM ELEV. (Ft.)	8.90'
INLET ELEV. (Ft.)	-3.23'
FORCE MAIN DISCHARGE ELEV. (Ft.)	5.90'
AVAILABLE POWER SUPPLY	120V [ ] 240V [ ] 480V [ ]
AVAILABLE POWER PHASE	Single [ ] Three [ ]

SYSTEM CHARACTERISTICS	
APPLICATION	SEWAGE [ ] STORM WATER [X]
DESIGN FLOW (gpm)	25-80 GPM (Q_{100EV}=40 CFS MAX.)
TOTAL DYNAMIC HEAD (Ft.)	TO BE DESIGNED BY OTHERS
STATIC HEAD (Ft.)	11.13'
PUMP MOTOR (Std / XP)	Standard [X] XP/FM [ ]
PUMP TYPE	Non-Clog [X] Grinder [ ] Chopper [ ] Vortex [ ]
PUMP RATED HP & CURRENT	
ACCESS HATCH LOAD LEVEL	Pedestrian [ ] Incidental H-20 [X] Parking Lot H-20 [ ] Full Traffic H-20 [ ]

ADDITIONAL OPTIONS		
OPTION	YES	NO
CONTROL PANEL SS ENCLOSURE	[ ]	[ ]
CONTROL PANEL AC UNIT	[ ]	[ ]
CONTROL PANEL REMOTE ALARM MONITORING	[ ]	[ ]
AIR RELEASE/VACUUM VALVE	[ ]	[ ]
INTERIOR LINER	[ ]	[ ]
CONCRETE WATERPROOFING	[ ]	[ ]
VENT PIPE	[ ]	[ ]
ODOR CONTROL VALVE	[ ]	[ ]
LIFTING CRANE	[ ]	[ ]
GENERATOR RECEPTACLE	[ ]	[ ]

DESIGN NOTES / DISCLAIMERS:
1. CONTROL PANEL INSTALLATION, MOUNTING DESIGN & HARDWARE BY OTHERS.
2. FINAL CONTROL PANEL LOCATION TO BE DETERMINED ACCORDING TO PROJECT REQUIREMENTS. CONSULT ALL SUBMITTED PUMP AND LEVEL CONTROL CABLE LENGTHS WHEN DETERMINING THE CONTROL PANEL LOCATION.
3. ALL FOUNDATION, SUBGRADE, AND BACKFILL DESIGNED BY OTHERS.

DISCLAIMERS, INCLUDING BUT NOT LIMITED TO:
1.) All elevations have been provided by others, and have not been verified by Jensen Precast. Contractor to verify all dimensions and elevations in field prior to installation.
2.) These layout drawings are intended to show overall system design only. All concrete component thicknesses, dimensions, and joint orientations may vary across Jensen Precast's manufacturing facilities. Contractor to confirm all thicknesses, dimensions, and joint orientations prior to installation.
3.) System design criteria has been provided to Jensen Precast. Others are responsible for verification that system meets intended application.
4.) Foundation, subgrade, and backfill to be designed by others.

JENSEN PRECAST PUMP STATIONS

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DESCRIPTION: 248-D SERIES STANDARD
MECHANICAL DETAIL

PART NUMBER:	248-D Series Standard	DRAWN BY:	T. Handke
CREATED:		MODIFIED:	4/29/2020

REV:
SHEET: 2 OF 2

248-D Series Standard.idw

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17
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Storm Water Management-Land Planning/Entitlements
2340 Palma Drive, Suite 200, Ventura, CA 93003
(805) 485-3935
E-mail: rjr@rjreng.com

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-22 CIVIL STATE OF CALIFORNIA

DEL NORTE FOODS

DATE: 9-09-22

REVISIONS			
MARK	DATE	DESCRIPTION	BY

REVIEWED BY: _____ DATE _____ DATE

CITY OF OXNARD CALIFORNIA
Development Services Department

DETAILS
6000 ARCTURUS AVE
OXNARD, CA 93033

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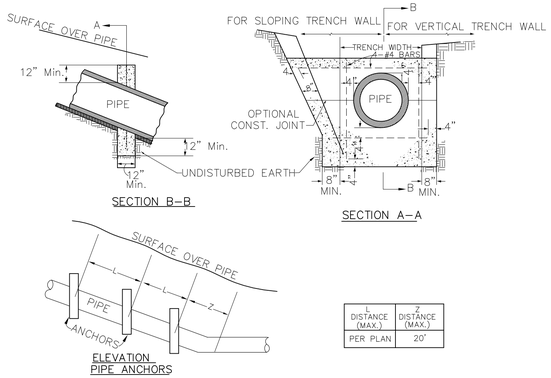
DRAWN BY: R. THOMAS
CHECKED BY: R. ANDERSON
DRAWING NUMBER

PLANNING SET (NOT FOR CONSTRUCTION) 9-09-22

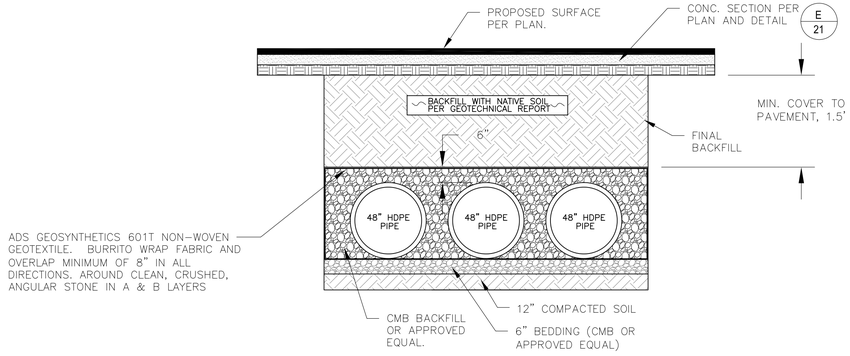
DETAILS(1)



L DISTANCE (MAX.)	Z DISTANCE (MAX.)
PER PLAN	20'

NOTES:
1. ANCHORS SHALL BE CLASS 420–C–2000 CONCRETE.
2. FOR CLAY PIPE, ANCHORS SHALL NOT BE PLACED WITHIN 6 INCHES OF THE PIPE JOINT.
3. TRENCH SHALL BE BACK FILLED PER SPECIAL NOTE SECTION: TRENCHING AND BACKFILL NOTES SHEET CE–2.
4. SPACING OF ANCHORS FOR PIPE SLOPES BETWEEN VALUES SHOWN IN TABLE 'A' MAY BE PROPORTIONED.

AC / 21 SLOPE ANCHOR DETAIL
N.T.S.



SECTION VIEW

RECOMMENDED MINIMUM SPACING

PIPE DIAM.	MIN. "x"	MIN. "Z"
12" (300mm)	8" (203mm)	12" (305mm)
15" (375mm)	8" (203mm)	12" (305mm)
18" (450mm)	9" (229mm)	12" (305mm)
24" (600mm)	10" (254mm)	12" (305mm)
30" (750mm)	18" (457mm)	15" (381mm)
36" (900mm)	18" (457mm)	18" (457mm)
42" (1050mm)	18" (457mm)	21" (533mm)
48" (1200mm)	18" (457mm)	24" (610mm)
60" (1500mm)	18" (457mm)	30" (762mm)

MINIMUM SPACING ("S") MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION

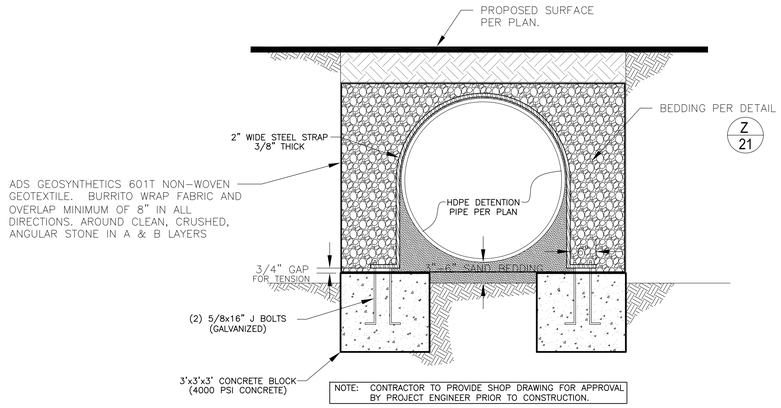
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"–24" (100mm–600mm); 6" (150mm) FOR 30"–60" (750mm–1500mm).

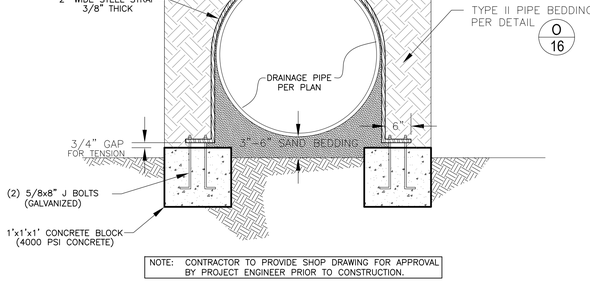
5. BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING TO THE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

6. MINIMUM COVER: MINIMUM COVER, H, IN NON–TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.



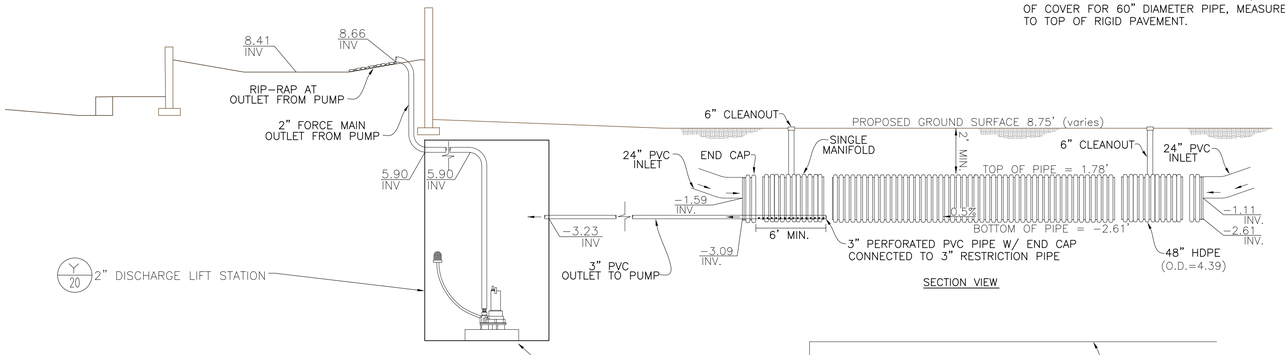
NOTE: CONTRACTOR TO PROVIDE SHOP DRAWING FOR APPROVAL BY PROJECT ENGINEER PRIOR TO CONSTRUCTION.

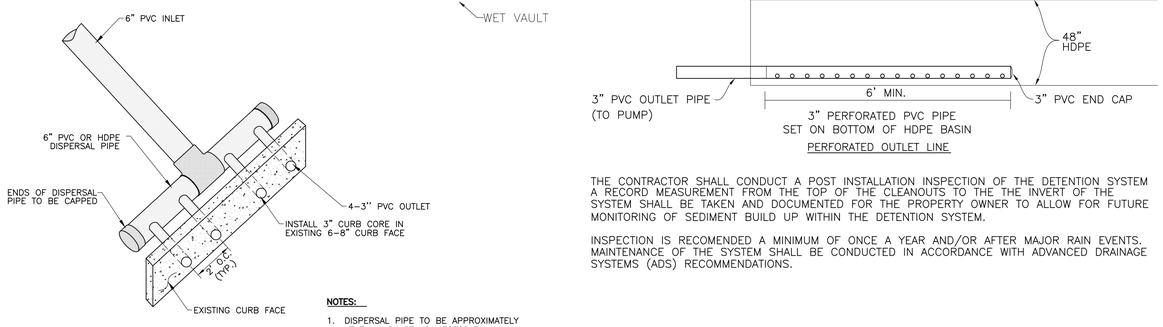
AA / 21 DETENTION PIPE ANCHOR
NTS



NOTE: CONTRACTOR TO PROVIDE SHOP DRAWING FOR APPROVAL BY PROJECT ENGINEER PRIOR TO CONSTRUCTION.

AB / 21 SITE DRAIN PIPE ANCHOR
NTS



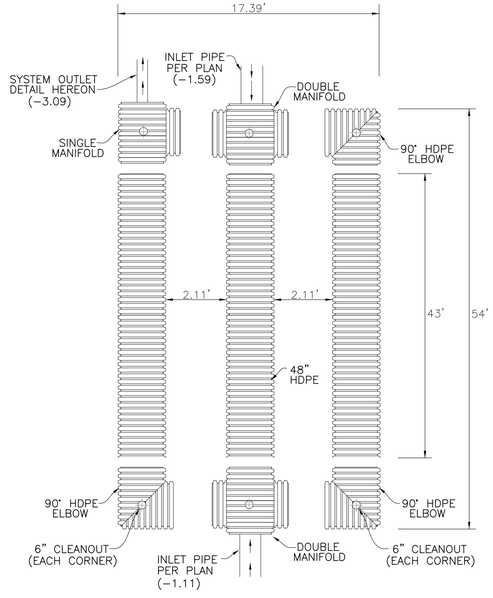


THE CONTRACTOR SHALL CONDUCT A POST INSTALLATION INSPECTION OF THE DETENTION SYSTEM A RECORD MEASUREMENT FROM THE TOP OF THE CLEANOUTS TO THE THE INVERT OF THE SYSTEM SHALL BE TAKEN AND DOCUMENTED FOR THE PROPERTY OWNER TO ALLOW FOR FUTURE MONITORING OF SEDIMENT BUILD UP WITHIN THE DETENTION SYSTEM.

INSPECTION IS RECOMENDED A MINIMUM OF ONCE A YEAR AND/OR AFTER MAJOR RAIN EVENTS. MAINTENANCE OF THE SYSTEM SHALL BE CONDUCTED IN ACCORDANCE WITH ADVANCED DRAINAGE SYSTEMS (ADS) RECOMMENDATIONS.

AD / 21 DISPERSAL OUTLET STRUCTURE
NTS

Z / 21 48" HDPE DETENTION SYSTEM
NTS



PLAN VIEW

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DATE: 8–15–23

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Planning–Civil Engineering–Flood Control/Hydrology
Storm Water Management–Land Planning/Entitlements
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(805) 485–3935
E-mail: rjr@rjreng.com

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5980 & 6000 ARCTURUS AVE
OXNARD, CA 93033

APPROVED: _____ CITY ENGINEER R.C.E. 46333 EXP. DATE

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SHEET No. 21 OF 22

DRAWN BY: C. KAMINSKY / T. AGUILAR

CHECKED BY: R. HAJAS / R. ANDERSON

DRAWING NUMBER

CD SUBMITTAL SET II - 8-15-23

DETAILS









APPENDIX E

Drainage Structure Hydraulics

Spread Map

Project Description

File Name	Line A&B_8-16-23_Cooks Q10.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	User-Defined
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Oct 24, 2022	00:00:00
End Analysis On	Oct 25, 2022	00:00:00
Start Reporting On	Oct 24, 2022	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins	0
Nodes	50
Junctions	25
Outfalls	2
Flow Diversions	0
Inlets	23
Storage Nodes	0
Links	48
Channels	0
Pipes	48
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

Return Period	10 year(s)

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	A-10	Junction	-1.59	8.90	-1.59	0.43	0.00	10.71	-0.71	0.00	9.61	0 00:00	0.00	0.00
2	A-2	Junction	4.93	9.15	4.93	5.94	0.00	1.67	5.37	0.00	3.78	0 00:00	0.00	0.00
3	A-3	Junction	4.90	9.20	4.90	0.00	0.00	1.67	5.34	0.00	3.86	0 00:00	0.00	0.00
4	A-4	Junction	3.82	9.10	3.82	7.68	0.00	3.38	4.32	0.00	4.78	0 00:00	0.00	0.00
5	A-5	Junction	2.74	9.00	2.74	6.60	0.00	5.09	3.36	0.00	5.64	0 00:00	0.00	0.00
6	A-6	Junction	1.55	8.90	1.55	5.41	0.00	6.99	2.29	0.00	6.61	0 00:00	0.00	0.00
7	A-7	Junction	0.37	9.00	0.37	4.23	0.00	8.89	1.23	0.00	7.77	0 00:00	0.00	0.00
8	A-8	Junction	-0.84	9.10	-0.84	3.02	0.00	10.71	0.02	0.00	9.08	0 00:00	0.00	0.00
9	A-9	Junction	-1.58	-0.50	-1.58	-0.50	0.00	10.71	-0.69	0.00	1.12	0 00:00	0.00	0.00
10	B-2	Junction	5.13	8.11	5.13	8.11	0.00	3.44	5.90	0.00	2.21	0 00:00	0.00	0.00
11	B-3	Junction	4.65	-6.07	4.65	-6.07	0.00	3.44	5.42	0.00	0.23	0 00:00	0.00	0.00
12	B-4	Junction	0.29	0.29	0.29	0.29	0.00	8.28	1.11	0.00	1.18	0 00:00	0.00	0.00
13	B-6	Junction	0.23	0.23	0.23	0.23	0.00	12.10	1.26	0.00	0.97	0 00:00	0.00	0.00
14	B-7	Junction	-0.54	3.32	-0.54	3.32	0.00	13.82	0.71	0.00	2.60	0 00:00	0.00	0.00
15	B-8	Junction	-1.08	2.78	-1.08	2.78	0.00	15.54	0.32	0.00	2.46	0 00:00	0.00	0.00
16	B-B1-5	Junction	0.26	4.12	0.26	4.12	0.00	12.10	1.28	0.00	2.83	0 00:00	0.00	0.00
17	Jun-01	Junction	1.30	11.00	1.30	2.50	0.00	8.28	2.12	0.00	8.88	0 00:00	0.00	0.00
18	Lat A1-2	Junction	3.91	-3.67	3.91	-3.67	0.00	1.71	4.24	0.00	0.66	0 00:00	0.00	0.00
19	Lat A2-2	Junction	2.89	-3.67	2.89	-3.67	0.00	1.71	3.18	0.00	0.71	0 00:00	0.00	0.00
20	Lat A3-2	Junction	1.75	-3.67	1.75	-3.67	0.00	1.90	2.04	0.00	0.71	0 00:00	0.00	0.00
21	Lat A4-2	Junction	0.65	-3.67	0.65	-3.67	0.00	1.90	0.91	0.00	0.74	0 00:00	0.00	0.00
22	Lat A5-2	Junction	-0.50	-3.67	-0.50	-3.67	0.00	1.82	-0.26	0.00	0.76	0 00:00	0.00	0.00
23	Lat B1-2	Junction	0.85	1.39	0.85	1.39	0.00	3.82	1.38	0.00	0.47	0 00:00	0.00	0.00
24	Lat B2-2	Junction	-0.54	0.00	-0.54	0.00	0.00	1.72	0.16	0.00	0.30	0 00:00	0.00	0.00
25	Lat B3-3	Junction	-0.95	-0.41	-0.95	-0.41	0.00	1.72	-0.58	0.00	0.18	0 00:00	0.00	0.00
26	Out-1A-10	Outfall	-1.60					10.71	-0.79					
27	Out-1B-8	Outfall	-1.11					15.54	0.29					

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	A-1	Pipe	A-1	A-2	57.78	5.50	4.93	0.9900	12.000	0.0100	1.67	4.60	0.36	5.39	0.42	0.42	0.00	Calculated
2	A-10	Pipe	A-10	Out-1A-10	0.89	-1.59	-1.60	1.1300	24.000	0.0100	10.71	31.25	0.34	9.01	0.81	0.40	0.00	Calculated
3	A-1a	Pipe	A-1a	A-1	2.62	5.51	5.50	0.3800	12.000	0.0100	1.67	2.86	0.58	3.78	0.55	0.55	0.00	Calculated
4	A-2	Pipe	A-2	A-3	3.78	4.93	4.90	0.7900	12.000	0.0100	1.67	4.13	0.40	4.98	0.44	0.44	0.00	Calculated
5	A-3	Pipe	A-3	A-4	99.98	4.90	3.82	1.0800	12.000	0.0100	1.67	4.81	0.35	5.57	0.41	0.41	0.00	Calculated
6	A-4	Pipe	A-4	A-5	100.02	3.82	2.74	1.0800	18.000	0.0100	3.38	14.19	0.24	6.58	0.50	0.33	0.00	Calculated
7	A-5	Pipe	A-5	A-6	109.79	2.74	1.55	1.0800	18.000	0.0100	5.09	14.22	0.36	7.37	0.62	0.41	0.00	Calculated
8	A-6	Pipe	A-6	A-7	109.84	1.55	0.37	1.0700	18.000	0.0100	6.99	14.15	0.49	7.98	0.74	0.50	0.00	Calculated
9	A-7	Pipe	A-7	A-8	111.84	0.37	-0.84	1.0800	18.000	0.0100	8.89	14.20	0.63	8.48	0.86	0.57	0.00	Calculated
10	A-8	Pipe	A-8	A-9	68.01	-0.84	-1.58	1.0800	24.000	0.0100	10.71	30.57	0.35	8.87	0.82	0.41	0.00	Calculated
11	A-9	Pipe	A-9	A-10	1.84	-1.58	-1.59	0.8200	24.000	0.0100	10.71	26.58	0.40	8.00	0.88	0.44	0.00	Calculated
12	B-1	Pipe	B-1	B-1b	2.62	6.40	6.40	0.0000	12.000	0.0100	1.72	2.07	0.83	2.95	0.70	0.70	0.00	Calculated
13	B-1a	Pipe	B-1a	B-1	2.62	6.40	6.40	0.0000	12.000	0.0100	1.72	2.07	0.83	2.95	0.70	0.70	0.00	Calculated
14	B-1b	Pipe	B-1b	B-2	201.04	6.40	5.13	0.6300	12.000	0.0100	3.44	3.68	0.93	5.32	0.77	0.77	0.00	Calculated
15	B-2	Pipe	B-2	B-3	76.22	5.13	4.65	0.6300	12.000	0.0100	3.44	3.68	0.94	5.32	0.77	0.77	0.00	Calculated
16	B-3	Pipe	B-3	Jun-01	530.00	4.65	1.30	0.6300	12.000	0.0100	3.44	3.68	0.93	5.32	0.77	0.77	0.00	Calculated
17	B-4	Pipe	B-4	B-B1-5	4.80	0.29	0.26	0.6300	24.000	0.0100	8.28	23.26	0.36	6.77	0.82	0.41	0.00	Calculated
18	B-5	Pipe	B-B1-5	B-6	4.80	0.26	0.23	0.6300	24.000	0.0100	12.10	23.26	0.52	7.48	1.02	0.51	0.00	Calculated
19	B-6	Pipe	B-6	B-7	126.79	0.23	-0.54	0.6100	24.000	0.0100	12.10	22.92	0.53	7.39	1.03	0.52	0.00	Calculated
20	B-7	Pipe	B-7	B-8	126.00	-0.54	-1.08	0.4300	24.000	0.0100	13.82	19.25	0.72	6.66	1.25	0.63	0.00	Calculated
21	B-8	Pipe	B-8	Out-1B-8	7.50	-1.08	-1.11	0.4000	24.000	0.0100	15.54	18.60	0.84	6.62	1.40	0.70	0.00	Calculated
22	Lat A1-1	Pipe	Lat A1-1	Lat A1-2	57.78	5.24	3.91	2.3000	12.000	0.0100	1.71	7.03	0.24	7.38	0.34	0.34	0.00	Calculated
23	Lat A1-1a	Pipe	A1-1a	Lat A1-1	2.62	5.24	5.24	0.0400	12.000	0.0100	1.71	2.07	0.83	2.95	0.69	0.69	0.00	Calculated
24	Lat A1-2	Pipe	Lat A1-2	A-4	3.78	3.91	3.82	2.3500	12.000	0.0100	1.71	7.11	0.24	7.44	0.33	0.33	0.00	Calculated
25	Lat A2-1	Pipe	Lat A2-1	Lat A2-2	57.78	5.24	2.89	4.0600	12.000	0.0100	1.71	9.33	0.18	9.04	0.29	0.29	0.00	Calculated
26	Lat A2-1a	Pipe	A2-1a	Lat A2-1	2.62	5.24	5.24	0.0400	12.000	0.0100	1.71	2.07	0.83	2.95	0.69	0.69	0.00	Calculated
27	Lat A2-2	Pipe	Lat A2-2	A-5	3.78	2.89	2.74	4.0700	12.000	0.0100	1.71	9.35	0.18	9.05	0.29	0.29	0.00	Calculated
28	Lat A3-1	Pipe	Lat A3-1	Lat A3-2	57.78	4.81	1.75	5.3000	12.000	0.0100	1.90	10.66	0.18	10.24	0.29	0.29	0.00	Calculated
29	Lat A3-1a	Pipe	A3-1a	Lat A3-1	2.62	4.81	4.81	0.0400	12.000	0.0100	1.90	2.07	0.92	2.99	0.75	0.75	0.00	Calculated
30	Lat A3-2	Pipe	Lat A3-2	A-6	3.78	1.75	1.55	5.2900	12.000	0.0100	1.90	10.65	0.18	10.23	0.29	0.29	0.00	Calculated
31	Lat A4-1	Pipe	Lat A4-1	Lat A4-2	57.78	4.84	0.65	7.2600	12.000	0.0100	1.90	12.48	0.15	11.48	0.26	0.26	0.00	Calculated
32	Lat A4-1a	Pipe	A4-1a	Lat A4-1	2.62	4.84	4.84	0.0400	12.000	0.0100	1.90	2.07	0.92	2.99	0.75	0.75	0.00	Calculated
33	Lat A4-2	Pipe	Lat A4-2	A-7	3.78	0.65	0.37	7.2700	12.000	0.0100	1.90	12.49	0.15	11.48	0.26	0.26	0.00	Calculated
34	Lat A5-1	Pipe	Lat A5-1	Lat A5-2	57.78	4.70	-0.50	9.0000	12.000	0.0100	1.82	13.89	0.13	12.24	0.24	0.24	0.00	Calculated
35	Lat A5-1a	Pipe	A5-1a	Lat A5-1	2.62	4.71	4.70	0.3800	12.000	0.0100	1.82	2.86	0.64	3.86	0.58	0.58	0.00	Calculated
36	Lat A5-2	Pipe	Lat A5-2	A-8	3.78	-0.50	-0.84	8.9900	12.000	0.0100	1.82	13.89	0.13	12.24	0.24	0.24	0.00	Calculated
37	Lat B1 - 1b	Pipe	Lat B1-1	B1-1b	2.62	5.18	5.17	0.3800	12.000	0.0100	1.92	2.07	0.93	2.99	0.76	0.76	0.00	Calculated
38	Lat B1-1	Pipe	B1-1b	Lat B1-2	196.49	5.19	0.85	2.2100	12.000	0.0100	3.82	6.88	0.55	8.99	0.53	0.53	0.00	Calculated
39	Lat B1-1a	Pipe	B1-1a	Lat B1-1	2.62	5.19	5.18	0.3800	12.000	0.0100	1.92	2.07	0.93	2.99	0.76	0.76	0.00	Calculated
40	Lat B1-2	Pipe	Lat B1-2	B-B1-5	26.70	0.85	0.26	2.2100	12.000	0.0100	3.82	6.89	0.55	8.99	0.53	0.53	0.00	Calculated
41	Lat B2-1	Pipe	Lat B2-1	Lat B2-2	14.35	5.25	-0.54	40.3300	6.000	0.0100	1.72	4.63	0.37	21.83	0.21	0.42	0.00	Calculated
42	Lat B2-1a	Pipe	B2-1a	Lat B2-1	2.62	5.25	5.24	0.4200	6.000	0.0100	0.30	0.33	0.92	1.88	0.38	0.76	0.00	Calculated
43	Lat B2-2	Pipe	Lat B2-2	B-7	1.84	-0.54	-0.54	0.0500	12.000	0.0100	1.72	2.07	0.83	2.95	0.70	0.70	0.00	Calculated
44	Lat B3-2	Pipe	Lat B3-2	Lat B3-3	14.35	5.18	-0.95	42.7000	6.000	0.0100	1.72	4.77	0.36	22.29	0.21	0.42	0.00	Calculated
45	Lat B3-3	Pipe	Lat B3-3	B-8	1.84	-0.95	-1.11	8.7700	6.000	0.0100	1.72	1.95	0.88	11.19	0.37	0.73	0.00	Calculated
46	Link-02	Pipe	B3-1	Lat B3-2	1.00	5.19	5.18	1.1000	6.000	0.0100	0.72	0.77	0.94	4.43	0.39	0.77	0.00	Calculated
47	Link-03	Pipe	Jun-01	B-4	160.00	1.30	0.29	0.6300	24.000	0.0100	8.28	23.37	0.35	6.80	0.82	0.41	0.00	Calculated
48	Link-04	Pipe	ROOFDOWNSPOUT1	Jun-01	52.50	9.00	1.30	14.6700	12.000	0.0150	4.84	11.83	0.41	14.30	0.45	0.45	0.00	Calculated

Inlet Summary

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Initial Water Elevation (ft)	Ponded Area (ft²)	Peak Flow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (ft)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)
1	A-1	CALTRANS	GCP	On Sag	1	5.50	7.83	5.50	1449.95	0.00	N/A	N/A	N/A	7.00	0.00	7.83
2	A1-1a	CALTRANS	G1	On Sag	1	5.24	7.57	7.57	1475.00	1.71	N/A	N/A	N/A	7.00	37.07	7.84
3	A-1a	CALTRANS	G1	On Sag	1	5.50	7.73	7.73	1449.95	1.67	N/A	N/A	N/A	7.00	36.47	8.00
4	A2-1a	CALTRANS	G1	On Sag	1	5.24	7.57	7.57	1465.00	1.71	N/A	N/A	N/A	7.00	37.07	7.84
5	A3-1a	CALTRANS	G1	On Sag	1	4.81	7.14	7.14	1730.00	1.90	N/A	N/A	N/A	7.00	39.91	7.42
6	A4-1a	CALTRANS	G1	On Sag	1	4.84	7.17	7.17	1760.00	1.90	N/A	N/A	N/A	7.00	39.91	7.45
7	A5-1a	CALTRANS	G1	On Sag	1	4.70	7.03	7.03	1730.00	1.82	N/A	N/A	N/A	7.00	38.71	7.31
8	B-1	CALTRANS	GCP	On Sag	1	6.40	8.73	6.40	0.00	0.00	N/A	N/A	N/A	7.00	0.00	8.73
9	B1-1a	CALTRANS	G1	On Sag	1	5.19	7.52	7.52	2960.00	1.92	N/A	N/A	N/A	7.00	40.21	7.80
10	B1-1b	CALTRANS	G1	On Sag	1	5.19	7.19	7.19	2132.00	1.90	N/A	N/A	N/A	7.00	39.91	7.47
11	B-1a	CALTRANS	G1	On Sag	1	6.40	8.73	8.73	1290.00	1.72	N/A	N/A	N/A	7.00	37.22	9.00
12	B-1b	CALTRANS	G1	On Sag	1	6.40	8.73	8.73	1270.00	1.72	N/A	N/A	N/A	7.00	37.22	9.00
13	B2-1a	CALTRANS	G1	On Sag	1	5.25	7.58	7.58	1362.00	0.30	N/A	N/A	N/A	7.00	7.93	7.64
14	B3-1	CALTRANS	G1	On Sag	1	5.19	7.52	7.52	1332.00	0.72	N/A	N/A	N/A	7.00	19.04	7.68
15	Lat A1-1	CALTRANS	GCP	On Sag	1	5.24	7.57	5.24	1475.00	0.00	N/A	N/A	N/A	7.00	0.00	7.57
16	Lat A2-1	CALTRANS	GCP	On Sag	1	5.24	8.59	5.24	1465.00	0.00	N/A	N/A	N/A	7.00	0.00	8.59
17	Lat A3-1	CALTRANS	GCP	On Sag	1	4.81	8.16	4.81	1730.00	0.00	N/A	N/A	N/A	7.00	0.00	8.16
18	Lat A4-1	CALTRANS	GCP	On Sag	1	4.84	8.19	4.84	1760.00	0.00	N/A	N/A	N/A	7.00	0.00	8.19
19	Lat A5-1	CALTRANS	GCP	On Sag	1	4.70	8.05	4.70	0.00	0.00	N/A	N/A	N/A	7.00	0.00	8.05
20	Lat B1-1	CALTRANS	GCP	On Sag	1	5.19	7.52	5.19	0.00	0.00	N/A	N/A	N/A	7.00	0.00	7.52
21	Lat B2-1	CALTRANS	GCP	On Sag	1	5.25	8.60	5.25	1362.00	1.42	N/A	N/A	N/A	7.00	28.34	8.83
22	Lat B3-2	CALTRANS	GCP	On Sag	1	5.18	7.52	5.18	1332.00	1.00	N/A	N/A	N/A	7.00	23.03	7.72
23	ROOFDOWNSPOUT1	FHWA HEC-22 GENERIC	N/A	On Sag	1	9.00	11.40	11.40	102634.00	4.84	N/A	N/A	N/A	7.00	21.81	12.00

Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	A-10	-1.59	8.90	10.49	-1.59	0.00	0.43	-8.47	0.00	0.00
2	A-2	4.93	9.15	4.22	4.93	0.00	5.94	-3.21	0.00	0.00
3	A-3	4.90	9.20	4.30	4.90	0.00	0.00	-9.20	0.00	0.00
4	A-4	3.82	9.10	5.28	3.82	0.00	7.68	-1.42	0.00	0.00
5	A-5	2.74	9.00	6.26	2.74	0.00	6.60	-2.40	0.00	0.00
6	A-6	1.55	8.90	7.35	1.55	0.00	5.41	-3.49	0.00	0.00
7	A-7	0.37	9.00	8.63	0.37	0.00	4.23	-4.77	0.00	0.00
8	A-8	-0.84	9.10	9.94	-0.84	0.00	3.02	-6.08	0.00	0.00
9	A-9	-1.58	-0.50	1.08	-1.58	0.00	-0.50	0.00	0.00	0.00
10	B-2	5.13	8.11	2.98	5.13	0.00	8.11	0.00	0.00	0.00
11	B-3	4.65	-6.07	-10.72	4.65	0.00	-6.07	0.00	0.00	0.00
12	B-4	0.29	0.29	0.00	0.29	0.00	0.29	0.00	0.00	0.00
13	B-6	0.23	0.23	0.00	0.23	0.00	0.23	0.00	0.00	0.00
14	B-7	-0.54	3.32	3.86	-0.54	0.00	3.32	0.00	0.00	0.00
15	B-8	-1.08	2.78	3.86	-1.08	0.00	2.78	0.00	0.00	0.00
16	B-B1-5	0.26	4.12	3.86	0.26	0.00	4.12	0.00	0.00	0.00
17	Jun-01	1.30	11.00	9.70	1.30	0.00	2.50	-8.50	0.00	0.00
18	Lat A1-2	3.91	-3.67	-7.58	3.91	0.00	-3.67	0.00	0.00	0.00
19	Lat A2-2	2.89	-3.67	-6.57	2.89	0.00	-3.67	0.00	0.00	0.00
20	Lat A3-2	1.75	-3.67	-5.42	1.75	0.00	-3.67	0.00	0.00	0.00
21	Lat A4-2	0.65	-3.67	-4.32	0.65	0.00	-3.67	0.00	0.00	0.00
22	Lat A5-2	-0.50	-3.67	-3.17	-0.50	0.00	-3.67	0.00	0.00	0.00
23	Lat B1-2	0.85	1.39	0.54	0.85	0.00	1.39	0.00	0.00	0.00
24	Lat B2-2	-0.54	0.00	0.54	-0.54	0.00	0.00	0.00	0.00	0.00
25	Lat B3-3	-0.95	-0.41	0.54	-0.95	0.00	-0.41	0.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	A-10	10.71	0.00	-0.71	0.88	0.00	9.61	-0.71	0.88	0 00:20	0 00:00	0.00	0.00
2	A-2	1.67	0.00	5.37	0.44	0.00	3.78	5.37	0.44	0 00:16	0 00:00	0.00	0.00
3	A-3	1.67	0.00	5.34	0.44	0.00	3.86	5.34	0.44	0 00:16	0 00:00	0.00	0.00
4	A-4	3.38	0.00	4.32	0.50	0.00	4.78	4.32	0.50	0 00:16	0 00:00	0.00	0.00
5	A-5	5.09	0.00	3.36	0.62	0.00	5.64	3.36	0.62	0 00:16	0 00:00	0.00	0.00
6	A-6	6.99	0.00	2.29	0.74	0.00	6.61	2.29	0.74	0 00:18	0 00:00	0.00	0.00
7	A-7	8.89	0.00	1.23	0.86	0.00	7.77	1.23	0.86	0 00:19	0 00:00	0.00	0.00
8	A-8	10.71	0.00	0.02	0.86	0.00	9.08	0.02	0.86	0 00:20	0 00:00	0.00	0.00
9	A-9	10.71	0.00	-0.69	0.89	0.00	1.12	-0.69	0.89	0 00:20	0 00:00	0.00	0.00
10	B-2	3.44	0.00	5.90	0.77	0.00	2.21	5.90	0.77	0 00:15	0 00:00	0.00	0.00
11	B-3	3.44	0.00	5.42	0.77	0.00	0.23	5.42	0.77	0 00:15	0 00:00	0.00	0.00
12	B-4	8.28	0.00	1.11	0.82	0.00	1.18	1.07	0.78	1 00:00	0 00:00	0.00	0.00
13	B-6	12.10	0.00	1.26	1.03	0.00	0.97	1.22	0.99	1 00:00	0 00:00	0.00	0.00
14	B-7	13.82	0.00	0.71	1.25	0.00	2.60	0.67	1.21	1 00:00	0 00:00	0.00	0.00
15	B-8	15.54	0.00	0.32	1.40	0.00	2.46	0.27	1.35	1 00:00	0 00:00	0.00	0.00
16	B-B1-5	12.10	0.00	1.28	1.02	0.00	2.83	1.24	0.98	1 00:00	0 00:00	0.00	0.00
17	Jun-01	8.28	0.00	2.12	0.82	0.00	8.88	2.10	0.80	1 00:00	0 00:00	0.00	0.00
18	Lat A1-2	1.71	0.00	4.24	0.33	0.00	0.66	4.24	0.33	0 00:16	0 00:00	0.00	0.00
19	Lat A2-2	1.71	0.00	3.18	0.29	0.00	0.71	3.18	0.29	0 00:16	0 00:00	0.00	0.00
20	Lat A3-2	1.90	0.00	2.04	0.29	0.00	0.71	2.04	0.29	0 00:20	0 00:00	0.00	0.00
21	Lat A4-2	1.90	0.00	0.91	0.26	0.00	0.74	0.91	0.26	0 00:21	0 00:00	0.00	0.00
22	Lat A5-2	1.82	0.00	-0.26	0.24	0.00	0.76	-0.26	0.24	0 00:20	0 00:00	0.00	0.00
23	Lat B1-2	3.82	0.00	1.38	0.53	0.00	0.47	1.38	0.53	0 01:45	0 00:00	0.00	0.00
24	Lat B2-2	1.72	0.00	0.16	0.70	0.00	0.30	0.16	0.70	0 03:07	0 00:00	0.00	0.00
25	Lat B3-3	1.72	0.00	-0.58	0.37	0.00	0.18	-0.58	0.37	0 02:27	0 00:00	0.00	0.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate
1	A-1	57.78	5.50	0.00	4.93	0.00	0.57	0.9900	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
2	A-10	0.89	-1.59	0.00	-1.60	0.00	0.01	1.1300	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
3	A-1a	2.62	5.51	0.01	5.50	0.00	0.01	0.3800	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
4	A-2	3.78	4.93	0.00	4.90	0.00	0.03	0.7900	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
5	A-3	99.98	4.90	0.00	3.82	0.00	1.08	1.0800	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
6	A-4	100.02	3.82	0.00	2.74	0.00	1.08	1.0800	CIRCULAR	18.000	18.000	0.0100	0.5000	0.5000	0.0000	0.00	No
7	A-5	109.79	2.74	0.00	1.55	0.00	1.19	1.0800	CIRCULAR	18.000	18.000	0.0100	0.5000	0.5000	0.0000	0.00	No
8	A-6	109.84	1.55	0.00	0.37	0.00	1.18	1.0700	CIRCULAR	18.000	18.000	0.0100	0.5000	0.5000	0.0000	0.00	No
9	A-7	111.84	0.37	0.00	-0.84	0.00	1.21	1.0800	CIRCULAR	18.000	18.000	0.0100	0.5000	0.5000	0.0000	0.00	No
10	A-8	68.01	-0.84	0.00	-1.58	0.00	0.74	1.0800	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
11	A-9	1.84	-1.58	0.00	-1.59	0.00	0.02	0.8200	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
12	B-1	2.62	6.40	0.00	6.40	0.00	0.00	0.0000	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
13	B-1a	2.62	6.40	0.00	6.40	0.00	0.00	0.0000	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
14	B-1b	201.04	6.40	0.00	5.13	0.00	1.27	0.6300	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
15	B-2	76.22	5.13	0.00	4.65	0.00	0.48	0.6300	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
16	B-3	530.00	4.65	0.00	1.30	0.00	3.35	0.6300	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
17	B-4	4.80	0.29	0.00	0.26	0.00	0.03	0.6300	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
18	B-5	4.80	0.26	0.00	0.23	0.00	0.03	0.6300	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
19	B-6	126.79	0.23	0.00	-0.54	0.00	0.77	0.6100	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
20	B-7	126.00	-0.54	0.00	-1.08	0.00	0.54	0.4300	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
21	B-8	7.50	-1.08	0.00	-1.11	0.00	0.03	0.4000	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
22	Lat A1-1	57.78	5.24	0.00	3.91	0.00	1.33	2.3000	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
23	Lat A1-1a	2.62	5.24	0.00	5.24	0.00	0.00	0.0400	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
24	Lat A1-2	3.78	3.91	0.00	3.82	0.00	0.09	2.3500	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
25	Lat A2-1	57.78	5.24	0.00	2.89	0.00	2.35	4.0600	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
26	Lat A2-1a	2.62	5.24	0.00	5.24	0.00	0.00	0.0400	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
27	Lat A2-2	3.78	2.89	0.00	2.74	0.00	0.15	4.0700	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
28	Lat A3-1	57.78	4.81	0.00	1.75	0.00	3.06	5.3000	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
29	Lat A3-1a	2.62	4.81	0.00	4.81	0.00	0.00	0.0400	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
30	Lat A3-2	3.78	1.75	0.00	1.55	0.00	0.20	5.2900	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
31	Lat A4-1	57.78	4.84	0.00	0.65	0.00	4.20	7.2600	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
32	Lat A4-1a	2.62	4.84	0.00	4.84	0.00	0.00	0.0400	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
33	Lat A4-2	3.78	0.65	0.00	0.37	0.00	0.28	7.2700	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
34	Lat A5-1	57.78	4.70	0.00	-0.50	0.00	5.20	9.0000	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
35	Lat A5-1a	2.62	4.71	0.01	4.70	0.00	0.01	0.3800	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
36	Lat A5-2	3.78	-0.50	0.00	-0.84	0.00	0.34	8.9900	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
37	Lat B1 - 1b	2.62	5.18	-0.01	5.17	-0.02	0.01	0.3800	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
38	Lat B1-1	196.49	5.19	0.00	0.85	0.00	4.34	2.2100	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
39	Lat B1-1a	2.62	5.19	0.00	5.18	-0.01	0.01	0.3800	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
40	Lat B1-2	26.70	0.85	0.00	0.26	0.00	0.59	2.2100	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
41	Lat B2-1	14.35	5.25	0.00	-0.54	0.00	5.79	40.3300	CIRCULAR	6.000	6.000	0.0100	0.5000	0.5000	0.0000	0.00	No
42	Lat B2-1a	2.62	5.25	0.00	5.24	-0.01	0.01	0.4200	CIRCULAR	6.000	6.000	0.0100	0.5000	0.5000	0.0000	0.00	No
43	Lat B2-2	1.84	-0.54	0.00	-0.54	0.00	0.00	0.0500	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
44	Lat B3-2	14.35	5.18	0.00	-0.95	0.00	6.13	42.7000	CIRCULAR	6.000	6.000	0.0100	0.5000	0.5000	0.0000	0.00	No
45	Lat B3-3	1.84	-0.95	0.00	-1.11	-0.03	0.16	8.7700	CIRCULAR	6.000	6.000	0.0100	0.5000	0.5000	0.0000	0.00	No
46	Link-02	1.00	5.19	0.00	5.18	0.00	0.01	1.1000	CIRCULAR	6.000	6.000	0.0100	0.5000	0.5000	0.0000	0.00	No
47	Link-03	160.00	1.30	0.00	0.29	0.00	1.01	0.6300	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
48	Link-04	52.50	9.00	0.00	1.30	0.00	7.70	14.6700	CIRCULAR	12.000	12.000	0.0150	0.5000	0.5000	0.0000	0.00	No

Pipe Results

SN	Element ID	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Travel Time (min)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Froude Number	Reported Condition
1	A-1	1.67	0 00:16	4.60	0.36	5.39	0.18	0.42	0.42	0.00		Calculated
2	A-10	10.71	0 00:20	31.25	0.34	9.01	0.00	0.81	0.40	0.00		Calculated
3	A-1a	1.67	0 00:16	2.86	0.58	3.78	0.01	0.55	0.55	0.00		Calculated
4	A-2	1.67	0 00:16	4.13	0.40	4.98	0.01	0.44	0.44	0.00		Calculated
5	A-3	1.67	0 00:17	4.81	0.35	5.57	0.30	0.41	0.41	0.00		Calculated
6	A-4	3.38	0 00:16	14.19	0.24	6.58	0.25	0.50	0.33	0.00		Calculated
7	A-5	5.09	0 00:16	14.22	0.36	7.37	0.25	0.62	0.41	0.00		Calculated
8	A-6	6.99	0 00:18	14.15	0.49	7.98	0.23	0.74	0.50	0.00		Calculated
9	A-7	8.89	0 00:20	14.20	0.63	8.48	0.22	0.86	0.57	0.00		Calculated
10	A-8	10.71	0 00:20	30.57	0.35	8.87	0.13	0.82	0.41	0.00		Calculated
11	A-9	10.71	0 00:20	26.58	0.40	8.00	0.00	0.88	0.44	0.00		Calculated
12	B-1	1.72	0 00:13	2.07	0.83	2.95	0.01	0.70	0.70	0.00		Calculated
13	B-1a	1.72	0 00:14	2.07	0.83	2.95	0.01	0.70	0.70	0.00		Calculated
14	B-1b	3.44	0 00:15	3.68	0.93	5.32	0.63	0.77	0.77	0.00		Calculated
15	B-2	3.44	0 00:15	3.68	0.94	5.32	0.24	0.77	0.77	0.00		Calculated
16	B-3	3.44	0 00:18	3.68	0.93	5.32	1.66	0.77	0.77	0.00		Calculated
17	B-4	8.28	1 00:00	23.26	0.36	6.77	0.01	0.82	0.41	0.00		Calculated
18	B-5	12.10	1 00:00	23.26	0.52	7.48	0.01	1.02	0.51	0.00		Calculated
19	B-6	12.10	1 00:00	22.92	0.53	7.39	0.29	1.03	0.52	0.00		Calculated
20	B-7	13.82	1 00:00	19.25	0.72	6.66	0.32	1.25	0.63	0.00		Calculated
21	B-8	15.54	1 00:00	18.60	0.84	6.62	0.02	1.40	0.70	0.00		Calculated
22	Lat A1-1	1.71	0 00:16	7.03	0.24	7.38	0.13	0.34	0.34	0.00		Calculated
23	Lat A1-1a	1.71	0 00:15	2.07	0.83	2.95	0.01	0.69	0.69	0.00		Calculated
24	Lat A1-2	1.71	0 00:16	7.11	0.24	7.44	0.01	0.33	0.33	0.00		Calculated
25	Lat A2-1	1.71	0 00:16	9.33	0.18	9.04	0.11	0.29	0.29	0.00		Calculated
26	Lat A2-1a	1.71	0 00:15	2.07	0.83	2.95	0.01	0.69	0.69	0.00		Calculated
27	Lat A2-2	1.71	0 00:16	9.35	0.18	9.05	0.01	0.29	0.29	0.00		Calculated
28	Lat A3-1	1.90	0 00:20	10.66	0.18	10.24	0.09	0.29	0.29	0.00		Calculated
29	Lat A3-1a	1.90	0 00:20	2.07	0.92	2.99	0.01	0.75	0.75	0.00		Calculated
30	Lat A3-2	1.90	0 00:20	10.65	0.18	10.23	0.01	0.29	0.29	0.00		Calculated
31	Lat A4-1	1.90	0 00:21	12.48	0.15	11.48	0.08	0.26	0.26	0.00		Calculated
32	Lat A4-1a	1.90	0 00:22	2.07	0.92	2.99	0.01	0.75	0.75	0.00		Calculated
33	Lat A4-2	1.90	0 00:21	12.49	0.15	11.48	0.01	0.26	0.26	0.00		Calculated
34	Lat A5-1	1.82	0 00:20	13.89	0.13	12.24	0.08	0.24	0.24	0.00		Calculated
35	Lat A5-1a	1.82	0 00:21	2.86	0.64	3.86	0.01	0.58	0.58	0.00		Calculated
36	Lat A5-2	1.82	0 00:21	13.89	0.13	12.24	0.01	0.24	0.24	0.00		Calculated
37	Lat B1 - 1b	1.92	0 01:44	2.07	0.93	2.99	0.01	0.76	0.76	0.00		Calculated
38	Lat B1-1	3.82	0 01:45	6.88	0.55	8.99	0.36	0.53	0.53	0.00		Calculated
39	Lat B1-1a	1.92	0 01:43	2.07	0.93	2.99	0.01	0.76	0.76	0.00		Calculated
40	Lat B1-2	3.82	0 01:45	6.89	0.55	8.99	0.05	0.53	0.53	0.00		Calculated
41	Lat B2-1	1.72	0 03:07	4.63	0.37	21.83	0.01	0.21	0.42	0.00		Calculated
42	Lat B2-1a	0.30	0 02:35	0.33	0.92	1.88	0.02	0.38	0.76	0.00		Calculated
43	Lat B2-2	1.72	0 03:07	2.07	0.83	2.95	0.01	0.70	0.70	0.00		Calculated
44	Lat B3-2	1.72	0 02:27	4.77	0.36	22.29	0.01	0.21	0.42	0.00		Calculated
45	Lat B3-3	1.72	0 02:27	1.95	0.88	11.19	0.00	0.37	0.73	0.00		Calculated
46	Link-02	0.72	0 02:21	0.77	0.94	4.43	0.00	0.39	0.77	0.00		Calculated
47	Link-03	8.28	1 00:00	23.37	0.35	6.80	0.39	0.82	0.41	0.00		Calculated
48	Link-04	4.84	1 00:00	11.83	0.41	14.30	0.06	0.45	0.45	0.00		Calculated

Inlet Input

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Inlet Depth (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Ponded Area (ft^2)	Grate Clogging Factor (%)
1	A-1	CALTRANS	GCP	On Sag	1	5.50	7.83	2.33	5.50	0.00	1449.95	0.00
2	A1-1a	CALTRANS	G1	On Sag	1	5.24	7.57	2.33	7.57	2.33	1475.00	0.00
3	A-1a	CALTRANS	G1	On Sag	1	5.50	7.73	2.23	7.73	2.23	1449.95	0.00
4	A2-1a	CALTRANS	G1	On Sag	1	5.24	7.57	2.33	7.57	2.33	1465.00	0.00
5	A3-1a	CALTRANS	G1	On Sag	1	4.81	7.14	2.33	7.14	2.33	1730.00	0.00
6	A4-1a	CALTRANS	G1	On Sag	1	4.84	7.17	2.33	7.17	2.33	1760.00	0.00
7	A5-1a	CALTRANS	G1	On Sag	1	4.70	7.03	2.33	7.03	2.33	1730.00	0.00
8	B-1	CALTRANS	GCP	On Sag	1	6.40	8.73	2.33	6.40	0.00	0.00	0.00
9	B1-1a	CALTRANS	G1	On Sag	1	5.19	7.52	2.33	7.52	2.33	2960.00	0.00
10	B1-1b	CALTRANS	G1	On Sag	1	5.19	7.19	2.00	7.19	2.00	2132.00	0.00
11	B-1a	CALTRANS	G1	On Sag	1	6.40	8.73	2.33	8.73	2.33	1290.00	0.00
12	B-1b	CALTRANS	G1	On Sag	1	6.40	8.73	2.33	8.73	2.33	1270.00	0.00
13	B2-1a	CALTRANS	G1	On Sag	1	5.25	7.58	2.33	7.58	2.33	1362.00	0.00
14	B3-1	CALTRANS	G1	On Sag	1	5.19	7.52	2.33	7.52	2.33	1332.00	0.00
15	Lat A1-1	CALTRANS	GCP	On Sag	1	5.24	7.57	2.33	5.24	0.00	1475.00	0.00
16	Lat A2-1	CALTRANS	GCP	On Sag	1	5.24	8.59	3.35	5.24	0.00	1465.00	0.00
17	Lat A3-1	CALTRANS	GCP	On Sag	1	4.81	8.16	3.35	4.81	0.00	1730.00	0.00
18	Lat A4-1	CALTRANS	GCP	On Sag	1	4.84	8.19	3.35	4.84	0.00	1760.00	0.00
19	Lat A5-1	CALTRANS	GCP	On Sag	1	4.70	8.05	3.35	4.70	0.00	0.00	0.00
20	Lat B1-1	CALTRANS	GCP	On Sag	1	5.19	7.52	2.33	5.19	0.00	0.00	0.00
21	Lat B2-1	CALTRANS	GCP	On Sag	1	5.25	8.60	3.35	5.25	0.00	1362.00	0.00
22	Lat B3-2	CALTRANS	GCP	On Sag	1	5.18	7.52	2.34	5.18	0.00	1332.00	0.00
23	ROOFDOWNSPOUT1	FHWA HEC-22 GENERIC	N/A	On Sag	1	9.00	11.40	2.40	11.40	2.40	102634.00	0.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (ft/ft)	Roadway Cross Slope (ft/ft)	Roadway Manning's Roughness	Gutter Cross Slope (ft/ft)	Gutter Width (ft)	Gutter Depression (in)	Allowable Spread (ft)
1	A-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
2	A1-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
3	A-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
4	A2-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
5	A3-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
6	A4-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
7	A5-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
8	B-1	N/A	0.0050	0.0250	0.0050	2.00	0.0328	7.00
9	B1-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
10	B1-1b	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
11	B-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
12	B-1b	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
13	B2-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
14	B3-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
15	Lat A1-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
16	Lat A2-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
17	Lat A3-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
18	Lat A4-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
19	Lat A5-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
20	Lat B1-1	N/A	0.0200	0.0160	0.0620	2.00	0.0656	7.00
21	Lat B2-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
22	Lat B3-2	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
23	ROOFDOWNSPOUT1	N/A	0.0200	0.0100	0.0200	2.00	0.0656	7.00

Inlet Results

SN	Element ID	Peak Flow (cfs)	Peak Lateral Inflow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)	Max Gutter Water Depth during Peak Flow (ft)	Time of Max Depth Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	A-1	0.00	0.00	N/A	N/A	N/A	0.00	7.83	0.00	0 00:16	0.00	0.00
2	A1-1a	1.71	1.71	N/A	N/A	N/A	37.07	7.84	0.27	0 00:00	0.00	0.00
3	A-1a	1.67	1.67	N/A	N/A	N/A	36.47	8.00	0.27	0 00:00	0.00	0.00
4	A2-1a	1.71	1.71	N/A	N/A	N/A	37.07	7.84	0.27	0 00:00	0.00	0.00
5	A3-1a	1.90	1.90	N/A	N/A	N/A	39.91	7.42	0.28	0 00:00	0.00	0.00
6	A4-1a	1.90	1.90	N/A	N/A	N/A	39.91	7.45	0.28	0 00:00	0.00	0.00
7	A5-1a	1.82	1.82	N/A	N/A	N/A	38.71	7.31	0.28	0 00:00	0.00	0.00
8	B-1	0.00	0.00	N/A	N/A	N/A	0.00	8.73	0.00	0 00:14	0.00	0.00
9	B1-1a	1.92	1.92	N/A	N/A	N/A	40.21	7.80	0.28	0 00:00	0.00	0.00
10	B1-1b	1.90	1.90	N/A	N/A	N/A	39.91	7.47	0.28	0 00:00	0.00	0.00
11	B-1a	1.72	1.72	N/A	N/A	N/A	37.22	9.00	0.27	0 00:00	0.00	0.00
12	B-1b	1.72	1.72	N/A	N/A	N/A	37.22	9.00	0.27	0 00:00	0.00	0.00
13	B2-1a	0.30	0.30	N/A	N/A	N/A	7.93	7.64	0.06	0 00:00	0.00	0.00
14	B3-1	0.72	0.72	N/A	N/A	N/A	19.04	7.68	0.16	0 00:00	0.00	0.00
15	Lat A1-1	0.00	0.00	N/A	N/A	N/A	0.00	7.57	0.00	0 00:15	0.00	0.00
16	Lat A2-1	0.00	0.00	N/A	N/A	N/A	0.00	8.59	0.00	0 00:15	0.00	0.00
17	Lat A3-1	0.00	0.00	N/A	N/A	N/A	0.00	8.16	0.00	0 00:20	0.00	0.00
18	Lat A4-1	0.00	0.00	N/A	N/A	N/A	0.00	8.19	0.00	0 00:22	0.00	0.00
19	Lat A5-1	0.00	0.00	N/A	N/A	N/A	0.00	8.05	0.00	0 00:21	0.00	0.00
20	Lat B1-1	0.00	0.00	N/A	N/A	N/A	0.00	7.52	0.00	0 01:43	0.00	0.00
21	Lat B2-1	1.42	1.42	N/A	N/A	N/A	28.34	8.83	0.23	0 02:35	0.00	0.00
22	Lat B3-2	1.00	1.00	N/A	N/A	N/A	23.03	7.72	0.20	0 02:21	0.00	0.00
23	ROOFDOWNSPOUT1	4.84	4.84	N/A	N/A	N/A	21.81	12.00	0.60	0 00:00	0.00	0.00

Project Description

File Name	Line A&B_8-16-23_Cooks Q100.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	User-Defined
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Oct 24, 2022	00:00:00
End Analysis On	Oct 25, 2022	00:00:00
Start Reporting On	Oct 24, 2022	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins	0
Nodes	50
Junctions	25
Outfalls	2
Flow Diversions	0
Inlets	23
Storage Nodes	0
Links	48
Channels	0
Pipes	48
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

Return Period	100 year(s)

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	A-10	Junction	-1.59	8.90	-1.59	0.43	0.00	19.83	-0.30	0.00	9.20	0 00:00	0.00	0.00
2	A-2	Junction	4.93	9.15	4.93	5.94	0.00	4.93	9.15	0.00	0.00	0 00:15	18.94	1436.00
3	A-3	Junction	4.90	9.20	4.90	0.00	0.00	4.32	5.90	0.00	3.30	0 00:00	0.00	0.00
4	A-4	Junction	3.82	9.10	3.82	7.68	0.00	9.32	4.71	0.00	4.39	0 00:00	0.00	0.00
5	A-5	Junction	2.74	9.00	2.74	6.60	0.00	14.58	9.00	0.00	0.00	0 00:14	8.63	1434.00
6	A-6	Junction	1.55	8.90	1.55	5.41	0.00	20.26	8.90	0.00	0.00	0 00:16	144.84	1437.00
7	A-7	Junction	0.37	9.00	0.37	4.23	0.00	19.99	9.00	0.00	0.00	0 00:18	137.41	1437.00
8	A-8	Junction	-0.84	9.10	-0.84	3.02	0.00	19.85	0.66	0.00	8.44	0 00:00	0.00	0.00
9	A-9	Junction	-1.58	-0.50	-1.58	-0.50	0.00	19.83	-0.29	0.00	0.71	0 00:00	0.00	0.00
10	B-2	Junction	5.13	8.11	5.13	8.11	0.00	3.78	8.11	0.00	0.00	0 00:02	0.13	1439.00
11	B-3	Junction	4.65	-6.07	4.65	-6.07	0.00	3.76	5.65	0.00	0.00	0 00:02	0.00	1.00
12	B-4	Junction	0.29	0.29	0.29	0.29	0.00	16.42	1.53	0.00	0.76	0 00:00	0.00	0.00
13	B-6	Junction	0.23	0.23	0.23	0.23	0.00	23.29	2.23	0.00	0.00	0 06:07	0.35	101.00
14	B-7	Junction	-0.54	3.32	-0.54	3.32	0.00	25.44	3.32	0.00	0.00	0 06:11	114.06	1344.00
15	B-8	Junction	-1.08	2.78	-1.08	2.78	0.00	22.17	2.78	0.00	0.00	0 01:55	58.45	1369.00
16	B-B1-5	Junction	0.26	4.12	0.26	4.12	0.00	23.31	4.12	0.00	0.00	0 06:07	0.01	18.00
17	Jun-01	Junction	1.30	11.00	1.30	2.50	0.00	16.42	2.54	0.00	8.46	0 00:00	0.00	0.00
18	Lat A1-2	Junction	3.91	-3.67	3.91	-3.67	0.00	5.20	4.55	0.00	0.36	0 00:00	0.00	0.00
19	Lat A2-2	Junction	2.89	-3.67	2.89	-3.67	0.00	5.26	3.43	0.00	0.46	0 00:00	0.00	0.00
20	Lat A3-2	Junction	1.75	-3.67	1.75	-3.67	0.00	5.82	2.28	0.00	0.47	0 00:00	0.00	0.00
21	Lat A4-2	Junction	0.65	-3.67	0.65	-3.67	0.00	5.84	1.13	0.00	0.52	0 00:00	0.00	0.00
22	Lat A5-2	Junction	-0.50	-3.67	-0.50	-3.67	0.00	5.64	-0.06	0.00	0.56	0 00:00	0.00	0.00
23	Lat B1-2	Junction	0.85	1.39	0.85	1.39	0.00	7.17	1.85	0.00	0.00	0 00:06	0.00	2.00
24	Lat B2-2	Junction	-0.54	0.00	-0.54	0.00	0.00	4.96	0.46	0.00	0.00	0 00:07	68.33	1439.00
25	Lat B3-3	Junction	-0.95	-0.41	-0.95	-0.41	0.00	5.09	-0.41	0.00	0.00	0 02:24	74.58	1439.00
26	Out-1A-10	Outfall	-1.60					19.83	-0.44					
27	Out-1B-8	Outfall	-1.11					20.04	0.89					

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	A-1	Pipe	A-1	A-2	57.78	5.50	4.93	0.9900	12.000	0.0100	4.93	4.60	1.07	6.60	0.98	1.00	0.00	> CAPACITY
2	A-10	Pipe	A-10	Out-1A-10	0.89	-1.59	-1.60	1.1300	24.000	0.0100	19.83	31.25	0.63	10.53	1.16	0.58	0.00	Calculated
3	A-1a	Pipe	A-1a	A-1	2.62	5.51	5.50	0.3800	12.000	0.0100	2.86	2.86	1.00	4.16	0.82	0.91	0.00	> CAPACITY
4	A-2	Pipe	A-2	A-3	3.78	4.93	4.90	0.7900	12.000	0.0100	4.32	4.13	1.05	5.97	1.00	1.00	1435.00	SURCHARGED
5	A-3	Pipe	A-3	A-4	99.98	4.90	3.82	1.0800	12.000	0.0100	4.33	4.81	0.90	6.97	0.73	0.74	0.00	Calculated
6	A-4	Pipe	A-4	A-5	100.02	3.82	2.74	1.0800	18.000	0.0100	9.32	14.19	0.66	8.56	0.89	0.59	0.00	Calculated
7	A-5	Pipe	A-5	A-6	109.79	2.74	1.55	1.0800	18.000	0.0100	14.44	14.22	1.02	9.16	1.38	0.92	0.00	> CAPACITY
8	A-6	Pipe	A-6	A-7	109.84	1.55	0.37	1.0700	18.000	0.0100	14.65	14.15	1.04	8.83	1.50	1.00	1436.00	SURCHARGED
9	A-7	Pipe	A-7	A-8	111.84	0.37	-0.84	1.0800	18.000	0.0100	14.20	14.20	1.00	8.79	1.50	1.00	1437.00	SURCHARGED
10	A-8	Pipe	A-8	A-9	68.01	-0.84	-1.58	1.0800	24.000	0.0100	19.83	30.57	0.65	10.35	1.17	0.59	0.00	Calculated
11	A-9	Pipe	A-9	A-10	1.84	-1.58	-1.59	0.8200	24.000	0.0100	19.83	26.58	0.75	9.28	1.29	0.64	0.00	Calculated
12	B-1	Pipe	B-1	B-1b	2.62	6.40	6.40	0.0000	12.000	0.0100	2.07	2.07	1.00	2.64	1.00	1.00	1441.00	SURCHARGED
13	B-1a	Pipe	B-1a	B-1	2.62	6.40	6.40	0.0000	12.000	0.0100	2.07	2.07	1.00	3.01	0.82	0.82	0.00	Calculated
14	B-1b	Pipe	B-1b	B-2	201.04	6.40	5.13	0.6300	12.000	0.0100	3.78	3.68	1.03	4.82	1.00	1.00	1439.00	SURCHARGED
15	B-2	Pipe	B-2	B-3	76.22	5.13	4.65	0.6300	12.000	0.0100	3.76	3.68	1.02	4.97	0.91	0.92	0.00	> CAPACITY
16	B-3	Pipe	B-3	Jun-01	530.00	4.65	1.30	0.6300	12.000	0.0100	3.68	3.68	1.00	5.34	0.82	0.82	0.00	Calculated
17	B-4	Pipe	B-4	B-B1-5	4.80	0.29	0.26	0.6300	24.000	0.0100	16.42	23.26	0.71	8.02	1.24	0.62	0.00	Calculated
18	B-5	Pipe	B-B1-5	B-6	4.80	0.26	0.23	0.6300	24.000	0.0100	23.29	23.26	1.00	8.44	1.82	0.91	0.00	> CAPACITY
19	B-6	Pipe	B-6	B-7	126.79	0.23	-0.54	0.6100	24.000	0.0100	23.37	22.92	1.02	8.49	1.83	0.91	0.00	> CAPACITY
20	B-7	Pipe	B-7	B-8	126.00	-0.54	-1.08	0.4300	24.000	0.0100	20.22	19.25	1.05	6.98	2.00	1.00	1325.00	SURCHARGED
21	B-8	Pipe	B-8	Out-1B-8	7.50	-1.08	-1.11	0.4000	24.000	0.0100	20.04	18.60	1.08	6.75	2.00	1.00	1345.00	SURCHARGED
22	Lat A1-1	Pipe	Lat A1-1	Lat A1-2	57.78	5.24	3.91	2.3000	12.000	0.0100	5.20	7.03	0.74	9.79	0.64	0.64	0.00	Calculated
23	Lat A1-1a	Pipe	A1-1a	Lat A1-1	2.62	5.24	5.24	0.0400	12.000	0.0100	2.17	2.07	1.05	3.00	0.99	0.99	0.00	> CAPACITY
24	Lat A1-2	Pipe	Lat A1-2	A-4	3.78	3.91	3.82	2.3500	12.000	0.0100	5.20	7.11	0.73	9.88	0.64	0.64	0.00	Calculated
25	Lat A2-1	Pipe	Lat A2-1	Lat A2-2	57.78	5.24	2.89	4.0600	12.000	0.0100	5.26	9.33	0.56	12.23	0.54	0.54	0.00	Calculated
26	Lat A2-1a	Pipe	A2-1a	Lat A2-1	2.62	5.24	5.24	0.0400	12.000	0.0100	2.07	2.07	1.00	3.01	0.82	0.82	0.00	Calculated
27	Lat A2-2	Pipe	Lat A2-2	A-5	3.78	2.89	2.74	4.0700	12.000	0.0100	5.26	9.35	0.56	12.25	0.54	0.54	0.00	Calculated
28	Lat A3-1	Pipe	Lat A3-1	Lat A3-2	57.78	4.81	1.75	5.3000	12.000	0.0100	5.82	10.66	0.55	13.87	0.53	0.53	0.00	Calculated
29	Lat A3-1a	Pipe	A3-1a	Lat A3-1	2.62	4.81	4.81	0.0400	12.000	0.0100	2.09	2.07	1.01	3.01	1.00	1.00	0.00	> CAPACITY
30	Lat A3-2	Pipe	Lat A3-2	A-6	3.78	1.75	1.55	5.2900	12.000	0.0100	5.82	10.65	0.55	13.86	0.53	0.53	0.00	Calculated
31	Lat A4-1	Pipe	Lat A4-1	Lat A4-2	57.78	4.84	0.65	7.2600	12.000	0.0100	5.84	12.48	0.47	15.63	0.48	0.48	0.00	Calculated
32	Lat A4-1a	Pipe	A4-1a	Lat A4-1	2.62	4.84	4.84	0.0400	12.000	0.0100	2.07	2.07	1.00	3.01	0.82	0.82	0.00	Calculated
33	Lat A4-2	Pipe	Lat A4-2	A-7	3.78	0.65	0.37	7.2700	12.000	0.0100	5.84	12.49	0.47	15.63	0.48	0.48	0.00	Calculated
34	Lat A5-1	Pipe	Lat A5-1	Lat A5-2	57.78	4.70	-0.50	9.0000	12.000	0.0100	5.64	13.89	0.41	16.78	0.44	0.44	0.00	Calculated
35	Lat A5-1a	Pipe	A5-1a	Lat A5-1	2.62	4.71	4.70	0.3800	12.000	0.0100	2.87	2.86	1.00	4.16	0.82	0.91	0.00	> CAPACITY
36	Lat A5-2	Pipe	Lat A5-2	A-8	3.78	-0.50	-0.84	8.9900	12.000	0.0100	5.65	13.89	0.41	16.78	0.44	0.44	0.00	Calculated
37	Lat B1 - 1b	Pipe	Lat B1-1	B1-1b	2.62	5.18	5.17	0.3800	12.000	0.0100	2.07	2.07	1.00	2.64	1.00	1.00	1441.00	SURCHARGED
38	Lat B1-1	Pipe	B1-1b	Lat B1-2	196.49	5.19	0.85	2.2100	12.000	0.0100	7.17	6.88	1.04	9.78	1.00	1.00	1434.00	SURCHARGED
39	Lat B1-1a	Pipe	B1-1a	Lat B1-1	2.62	5.19	5.18	0.3800	12.000	0.0100	2.22	2.07	1.07	3.00	1.00	1.00	1432.00	SURCHARGED
40	Lat B1-2	Pipe	Lat B1-2	B-B1-5	26.70	0.85	0.26	2.2100	12.000	0.0100	7.05	6.89	1.02	10.04	0.82	0.99	0.00	> CAPACITY
41	Lat B2-1	Pipe	Lat B2-1	Lat B2-2	14.35	5.25	-0.54	40.3300	6.000	0.0100	4.96	4.63	1.07	26.85	0.49	0.99	0.00	> CAPACITY
42	Lat B2-1a	Pipe	B2-1a	Lat B2-1	2.62	5.25	5.24	0.4200	6.000	0.0100	0.35	0.33	1.08	1.89	0.50	1.00	1433.00	SURCHARGED
43	Lat B2-2	Pipe	Lat B2-2	B-7	1.84	-0.54	-0.54	0.0500	12.000	0.0100	2.07	2.07	1.00	2.88	1.00	1.00	1439.00	SURCHARGED
44	Lat B3-2	Pipe	Lat B3-2	Lat B3-3	14.35	5.18	-0.95	42.7000	6.000	0.0100	5.09	4.77	1.07	27.60	0.49	0.99	0.00	> CAPACITY
45	Lat B3-3	Pipe	Lat B3-3	B-8	1.84	-0.95	-1.11	8.7700	6.000	0.0100	1.95	1.95	1.00	11.07	0.50	1.00	1439.00	SURCHARGED
46	Link-02	Pipe	B3-1	Lat B3-2	1.00	5.19	5.18	1.1000	6.000	0.0100	0.47	0.77	0.61	4.09	0.28	0.57	0.00	Calculated
47	Link-03	Pipe	Jun-01	B-4	160.00	1.30	0.29	0.6300	24.000	0.0100	16.42	23.37	0.70	8.11	1.24	0.62	0.00	Calculated
48	Link-04	Pipe	ROOFDOWNSPOUT1	Jun-01	52.50	9.00	1.30	14.6700	12.000	0.0150	12.74	11.83	1.08	17.16	1.00	1.00	1070.00	SURCHARGED

Inlet Summary

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Initial Water Elevation (ft)	Ponded Area (ft²)	Peak Flow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (ft)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)
1	A-1	CALTRANS	GCP	On Sag	1	5.50	7.83	5.50	1449.95	2.28	N/A	N/A	N/A	7.00	38.65	8.11
2	A1-1a	CALTRANS	G1	On Sag	1	5.24	7.57	7.57	1475.00	2.23	N/A	N/A	N/A	7.00	44.29	7.87
3	A-1a	CALTRANS	G1	On Sag	1	5.50	7.73	7.73	1449.95	2.86	N/A	N/A	N/A	7.00	52.19	8.08
4	A2-1a	CALTRANS	G1	On Sag	1	5.24	7.57	7.57	1465.00	2.07	N/A	N/A	N/A	7.00	42.28	7.86
5	A3-1a	CALTRANS	G1	On Sag	1	4.81	7.14	7.14	1730.00	2.11	N/A	N/A	N/A	7.00	42.78	7.44
6	A4-1a	CALTRANS	G1	On Sag	1	4.84	7.17	7.17	1760.00	2.07	N/A	N/A	N/A	7.00	42.28	7.46
7	A5-1a	CALTRANS	G1	On Sag	1	4.70	7.03	7.03	1730.00	2.86	N/A	N/A	N/A	7.00	52.19	7.37
8	B-1	CALTRANS	GCP	On Sag	1	6.40	8.73	6.40	0.00	3.23	N/A	N/A	N/A	7.00	48.47	9.06
9	B1-1a	CALTRANS	G1	On Sag	1	5.19	7.52	7.52	2960.00	2.86	N/A	N/A	N/A	7.00	52.19	7.86
10	B1-1b	CALTRANS	G1	On Sag	1	5.19	7.19	7.19	2132.00	5.84	N/A	N/A	N/A	7.00	83.53	7.69
11	B-1a	CALTRANS	G1	On Sag	1	6.40	8.73	8.73	1290.00	2.07	N/A	N/A	N/A	7.00	42.28	9.02
12	B-1b	CALTRANS	G1	On Sag	1	6.40	8.73	8.73	1270.00	5.30	N/A	N/A	N/A	7.00	78.34	9.21
13	B2-1a	CALTRANS	G1	On Sag	1	5.25	7.58	7.58	1362.00	0.47	N/A	N/A	N/A	7.00	12.43	7.68
14	B3-1	CALTRANS	G1	On Sag	1	5.19	7.52	7.52	1332.00	0.47	N/A	N/A	N/A	7.00	12.43	7.62
15	Lat A1-1	CALTRANS	GCP	On Sag	1	5.24	7.57	5.24	1475.00	3.03	N/A	N/A	N/A	7.00	46.58	7.89
16	Lat A2-1	CALTRANS	GCP	On Sag	1	5.24	8.59	5.24	1465.00	3.19	N/A	N/A	N/A	7.00	48.09	8.91
17	Lat A3-1	CALTRANS	GCP	On Sag	1	4.81	8.16	4.81	1730.00	3.73	N/A	N/A	N/A	7.00	53.21	8.51
18	Lat A4-1	CALTRANS	GCP	On Sag	1	4.84	8.19	4.84	1760.00	3.77	N/A	N/A	N/A	7.00	53.59	8.54
19	Lat A5-1	CALTRANS	GCP	On Sag	1	4.70	8.05	4.70	0.00	2.75	N/A	N/A	N/A	7.00	43.64	8.36
20	Lat B1-1	CALTRANS	GCP	On Sag	1	5.19	7.52	5.19	0.00	3.04	N/A	N/A	N/A	7.00	11.74	8.01
21	Lat B2-1	CALTRANS	GCP	On Sag	1	5.25	8.60	5.25	1362.00	4.83	N/A	N/A	N/A	7.00	62.99	9.00
22	Lat B3-2	CALTRANS	GCP	On Sag	1	5.18	7.52	5.18	1332.00	4.83	N/A	N/A	N/A	7.00	62.99	7.92
23	ROOFDOWNSPOUT1	FHWA HEC-22 GENERIC	N/A	On Sag	1	9.00	11.40	11.40	102634.00	14.88	N/A	N/A	N/A	7.00	64.35	12.85

Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	A-10	-1.59	8.90	10.49	-1.59	0.00	0.43	-8.47	0.00	0.00
2	A-2	4.93	9.15	4.22	4.93	0.00	5.94	-3.21	0.00	0.00
3	A-3	4.90	9.20	4.30	4.90	0.00	0.00	-9.20	0.00	0.00
4	A-4	3.82	9.10	5.28	3.82	0.00	7.68	-1.42	0.00	0.00
5	A-5	2.74	9.00	6.26	2.74	0.00	6.60	-2.40	0.00	0.00
6	A-6	1.55	8.90	7.35	1.55	0.00	5.41	-3.49	0.00	0.00
7	A-7	0.37	9.00	8.63	0.37	0.00	4.23	-4.77	0.00	0.00
8	A-8	-0.84	9.10	9.94	-0.84	0.00	3.02	-6.08	0.00	0.00
9	A-9	-1.58	-0.50	1.08	-1.58	0.00	-0.50	0.00	0.00	0.00
10	B-2	5.13	8.11	2.98	5.13	0.00	8.11	0.00	0.00	0.00
11	B-3	4.65	-6.07	-10.72	4.65	0.00	-6.07	0.00	0.00	0.00
12	B-4	0.29	0.29	0.00	0.29	0.00	0.29	0.00	0.00	0.00
13	B-6	0.23	0.23	0.00	0.23	0.00	0.23	0.00	0.00	0.00
14	B-7	-0.54	3.32	3.86	-0.54	0.00	3.32	0.00	0.00	0.00
15	B-8	-1.08	2.78	3.86	-1.08	0.00	2.78	0.00	0.00	0.00
16	B-B1-5	0.26	4.12	3.86	0.26	0.00	4.12	0.00	0.00	0.00
17	Jun-01	1.30	11.00	9.70	1.30	0.00	2.50	-8.50	0.00	0.00
18	Lat A1-2	3.91	-3.67	-7.58	3.91	0.00	-3.67	0.00	0.00	0.00
19	Lat A2-2	2.89	-3.67	-6.57	2.89	0.00	-3.67	0.00	0.00	0.00
20	Lat A3-2	1.75	-3.67	-5.42	1.75	0.00	-3.67	0.00	0.00	0.00
21	Lat A4-2	0.65	-3.67	-4.32	0.65	0.00	-3.67	0.00	0.00	0.00
22	Lat A5-2	-0.50	-3.67	-3.17	-0.50	0.00	-3.67	0.00	0.00	0.00
23	Lat B1-2	0.85	1.39	0.54	0.85	0.00	1.39	0.00	0.00	0.00
24	Lat B2-2	-0.54	0.00	0.54	-0.54	0.00	0.00	0.00	0.00	0.00
25	Lat B3-3	-0.95	-0.41	0.54	-0.95	0.00	-0.41	0.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time of Max HGL Occurrence (days hh:mm)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	A-10	19.83	0.00	-0.30	1.29	0.00	9.20	-0.30	1.29	0 19:26	0 00:00	0.00	0.00
2	A-2	4.93	0.00	9.15	4.22	0.00	0.00	9.14	4.21	0 00:05	0 00:15	18.94	1436.00
3	A-3	4.32	0.00	5.90	1.00	0.00	3.30	5.90	1.00	0 00:06	0 00:00	0.00	0.00
4	A-4	9.32	0.00	4.71	0.89	0.00	4.39	4.71	0.89	0 00:13	0 00:00	0.00	0.00
5	A-5	14.58	0.00	9.00	6.26	0.00	0.00	8.97	6.23	0 00:07	0 00:14	8.63	1434.00
6	A-6	20.26	0.00	8.90	7.35	0.00	0.00	8.88	7.33	0 00:04	0 00:16	144.84	1437.00
7	A-7	19.99	0.00	9.00	8.63	0.00	0.00	8.98	8.61	0 00:04	0 00:18	137.41	1437.00
8	A-8	19.85	0.00	0.66	1.50	0.00	8.44	0.66	1.50	0 00:04	0 00:00	0.00	0.00
9	A-9	19.83	0.00	-0.29	1.29	0.00	0.71	-0.29	1.29	0 19:26	0 00:00	0.00	0.00
10	B-2	3.78	0.00	8.11	2.98	0.00	0.00	8.11	2.98	0 00:02	0 00:02	0.13	1439.00
11	B-3	3.76	0.00	5.65	1.00	0.00	0.00	5.47	0.82	0 00:02	0 00:02	0.00	1.00
12	B-4	16.42	0.00	1.53	1.24	0.00	0.76	1.45	1.16	0 06:07	0 00:00	0.00	0.00
13	B-6	23.29	0.00	2.23	2.00	0.00	0.00	1.81	1.58	0 04:31	0 06:07	0.35	101.00
14	B-7	25.44	0.00	3.32	3.86	0.00	0.00	3.15	3.69	0 01:37	0 06:11	114.06	1344.00
15	B-8	22.17	0.00	2.78	3.86	0.00	0.00	2.65	3.73	0 01:12	0 01:55	58.45	1369.00
16	B-B1-5	23.31	0.00	4.12	3.86	0.00	0.00	1.83	1.57	0 05:53	0 06:07	0.01	18.00
17	Jun-01	16.42	0.00	2.54	1.24	0.00	8.46	2.46	1.16	0 06:08	0 00:00	0.00	0.00
18	Lat A1-2	5.20	0.00	4.55	0.64	0.00	0.36	4.55	0.64	0 00:13	0 00:00	0.00	0.00
19	Lat A2-2	5.26	0.00	3.43	0.54	0.00	0.46	3.43	0.54	0 00:14	0 00:00	0.00	0.00
20	Lat A3-2	5.82	0.00	2.28	0.53	0.00	0.47	2.28	0.53	0 00:16	0 00:00	0.00	0.00
21	Lat A4-2	5.84	0.00	1.13	0.48	0.00	0.52	1.13	0.48	0 00:17	0 00:00	0.00	0.00
22	Lat A5-2	5.64	0.00	-0.06	0.44	0.00	0.56	-0.06	0.44	0 12:15	0 00:00	0.00	0.00
23	Lat B1-2	7.17	0.00	1.85	1.00	0.00	0.00	1.85	1.00	0 00:05	0 00:06	0.00	2.00
24	Lat B2-2	4.96	0.00	0.46	1.00	0.00	0.00	0.46	1.00	0 00:02	0 00:07	68.33	1439.00
25	Lat B3-3	5.09	0.00	-0.41	0.54	0.00	0.00	-0.41	0.54	0 00:02	0 02:24	74.58	1439.00

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate
1	A-1	57.78	5.50	0.00	4.93	0.00	0.57	0.9900	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
2	A-10	0.89	-1.59	0.00	-1.60	0.00	0.01	1.1300	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
3	A-1a	2.62	5.51	0.01	5.50	0.00	0.01	0.3800	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
4	A-2	3.78	4.93	0.00	4.90	0.00	0.03	0.7900	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
5	A-3	99.98	4.90	0.00	3.82	0.00	1.08	1.0800	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
6	A-4	100.02	3.82	0.00	2.74	0.00	1.08	1.0800	CIRCULAR	18.000	18.000	0.0100	0.5000	0.5000	0.0000	0.00	No
7	A-5	109.79	2.74	0.00	1.55	0.00	1.19	1.0800	CIRCULAR	18.000	18.000	0.0100	0.5000	0.5000	0.0000	0.00	No
8	A-6	109.84	1.55	0.00	0.37	0.00	1.18	1.0700	CIRCULAR	18.000	18.000	0.0100	0.5000	0.5000	0.0000	0.00	No
9	A-7	111.84	0.37	0.00	-0.84	0.00	1.21	1.0800	CIRCULAR	18.000	18.000	0.0100	0.5000	0.5000	0.0000	0.00	No
10	A-8	68.01	-0.84	0.00	-1.58	0.00	0.74	1.0800	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
11	A-9	1.84	-1.58	0.00	-1.59	0.00	0.02	0.8200	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
12	B-1	2.62	6.40	0.00	6.40	0.00	0.00	0.0000	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
13	B-1a	2.62	6.40	0.00	6.40	0.00	0.00	0.0000	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
14	B-1b	201.04	6.40	0.00	5.13	0.00	1.27	0.6300	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
15	B-2	76.22	5.13	0.00	4.65	0.00	0.48	0.6300	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
16	B-3	530.00	4.65	0.00	1.30	0.00	3.35	0.6300	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
17	B-4	4.80	0.29	0.00	0.26	0.00	0.03	0.6300	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
18	B-5	4.80	0.26	0.00	0.23	0.00	0.03	0.6300	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
19	B-6	126.79	0.23	0.00	-0.54	0.00	0.77	0.6100	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
20	B-7	126.00	-0.54	0.00	-1.08	0.00	0.54	0.4300	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
21	B-8	7.50	-1.08	0.00	-1.11	0.00	0.03	0.4000	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
22	Lat A1-1	57.78	5.24	0.00	3.91	0.00	1.33	2.3000	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
23	Lat A1-1a	2.62	5.24	0.00	5.24	0.00	0.00	0.0400	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
24	Lat A1-2	3.78	3.91	0.00	3.82	0.00	0.09	2.3500	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
25	Lat A2-1	57.78	5.24	0.00	2.89	0.00	2.35	4.0600	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
26	Lat A2-1a	2.62	5.24	0.00	5.24	0.00	0.00	0.0400	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
27	Lat A2-2	3.78	2.89	0.00	2.74	0.00	0.15	4.0700	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
28	Lat A3-1	57.78	4.81	0.00	1.75	0.00	3.06	5.3000	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
29	Lat A3-1a	2.62	4.81	0.00	4.81	0.00	0.00	0.0400	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
30	Lat A3-2	3.78	1.75	0.00	1.55	0.00	0.20	5.2900	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
31	Lat A4-1	57.78	4.84	0.00	0.65	0.00	4.20	7.2600	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
32	Lat A4-1a	2.62	4.84	0.00	4.84	0.00	0.00	0.0400	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
33	Lat A4-2	3.78	0.65	0.00	0.37	0.00	0.28	7.2700	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
34	Lat A5-1	57.78	4.70	0.00	-0.50	0.00	5.20	9.0000	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
35	Lat A5-1a	2.62	4.71	0.01	4.70	0.00	0.01	0.3800	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
36	Lat A5-2	3.78	-0.50	0.00	-0.84	0.00	0.34	8.9900	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
37	Lat B1 - 1b	2.62	5.18	-0.01	5.17	-0.02	0.01	0.3800	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
38	Lat B1-1	196.49	5.19	0.00	0.85	0.00	4.34	2.2100	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
39	Lat B1-1a	2.62	5.19	0.00	5.18	-0.01	0.01	0.3800	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
40	Lat B1-2	26.70	0.85	0.00	0.26	0.00	0.59	2.2100	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
41	Lat B2-1	14.35	5.25	0.00	-0.54	0.00	5.79	40.3300	CIRCULAR	6.000	6.000	0.0100	0.5000	0.5000	0.0000	0.00	No
42	Lat B2-1a	2.62	5.25	0.00	5.24	-0.01	0.01	0.4200	CIRCULAR	6.000	6.000	0.0100	0.5000	0.5000	0.0000	0.00	No
43	Lat B2-2	1.84	-0.54	0.00	-0.54	0.00	0.00	0.0500	CIRCULAR	12.000	12.000	0.0100	0.5000	0.5000	0.0000	0.00	No
44	Lat B3-2	14.35	5.18	0.00	-0.95	0.00	6.13	42.7000	CIRCULAR	6.000	6.000	0.0100	0.5000	0.5000	0.0000	0.00	No
45	Lat B3-3	1.84	-0.95	0.00	-1.11	-0.03	0.16	8.7700	CIRCULAR	6.000	6.000	0.0100	0.5000	0.5000	0.0000	0.00	No
46	Link-02	1.00	5.19	0.00	5.18	0.00	0.01	1.1000	CIRCULAR	6.000	6.000	0.0100	0.5000	0.5000	0.0000	0.00	No
47	Link-03	160.00	1.30	0.00	0.29	0.00	1.01	0.6300	CIRCULAR	24.000	24.000	0.0100	0.5000	0.5000	0.0000	0.00	No
48	Link-04	52.50	9.00	0.00	1.30	0.00	7.70	14.6700	CIRCULAR	12.000	12.000	0.0150	0.5000	0.5000	0.0000	0.00	No

No. of Barrels
1
1
1

Pipe Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		(min)		
1	A-1	4.93	0 00:14	4.60	1.07	6.60	0.15	0.98	1.00	0.00		> CAPACITY
2	A-10	19.83	0 11:58	31.25	0.63	10.53	0.00	1.16	0.58	0.00		Calculated
3	A-1a	2.86	0 00:15	2.86	1.00	4.16	0.01	0.82	0.91	0.00		> CAPACITY
4	A-2	4.32	0 00:05	4.13	1.05	5.97	0.01	1.00	1.00	1435.00		SURCHARGED
5	A-3	4.33	0 00:05	4.81	0.90	6.97	0.24	0.73	0.74	0.00		Calculated
6	A-4	9.32	0 00:12	14.19	0.66	8.56	0.19	0.89	0.59	0.00		Calculated
7	A-5	14.44	0 00:14	14.22	1.02	9.16	0.20	1.38	0.92	0.00		> CAPACITY
8	A-6	14.65	0 00:04	14.15	1.04	8.83	0.21	1.50	1.00	1436.00		SURCHARGED
9	A-7	14.20	0 00:04	14.20	1.00	8.79	0.21	1.50	1.00	1437.00		SURCHARGED
10	A-8	19.83	0 19:26	30.57	0.65	10.35	0.11	1.17	0.59	0.00		Calculated
11	A-9	19.83	0 19:26	26.58	0.75	9.28	0.00	1.29	0.64	0.00		Calculated
12	B-1	2.07	0 00:00	2.07	1.00	2.64	0.02	1.00	1.00	1441.00		SURCHARGED
13	B-1a	2.07	0 00:12	2.07	1.00	3.01	0.01	0.82	0.82	0.00		Calculated
14	B-1b	3.78	0 00:02	3.68	1.03	4.82	0.70	1.00	1.00	1439.00		SURCHARGED
15	B-2	3.76	0 00:02	3.68	1.02	4.97	0.26	0.91	0.92	0.00		> CAPACITY
16	B-3	3.68	0 00:39	3.68	1.00	5.34	1.65	0.82	0.82	0.00		Calculated
17	B-4	16.42	0 06:07	23.26	0.71	8.02	0.01	1.24	0.62	0.00		Calculated
18	B-5	23.29	0 06:07	23.26	1.00	8.44	0.01	1.82	0.91	0.00		> CAPACITY
19	B-6	23.37	0 06:11	22.92	1.02	8.49	0.25	1.83	0.91	0.00		> CAPACITY
20	B-7	20.22	0 01:55	19.25	1.05	6.98	0.30	2.00	1.00	1325.00		SURCHARGED
21	B-8	20.04	0 01:35	18.60	1.08	6.75	0.02	2.00	1.00	1345.00		SURCHARGED
22	Lat A1-1	5.20	0 00:13	7.03	0.74	9.79	0.10	0.64	0.64	0.00		Calculated
23	Lat A1-1a	2.17	0 00:13	2.07	1.05	3.00	0.01	0.99	0.99	0.00		> CAPACITY
24	Lat A1-2	5.20	0 00:13	7.11	0.73	9.88	0.01	0.64	0.64	0.00		Calculated
25	Lat A2-1	5.26	0 00:14	9.33	0.56	12.23	0.08	0.54	0.54	0.00		Calculated
26	Lat A2-1a	2.07	0 00:13	2.07	1.00	3.01	0.01	0.82	0.82	0.00		Calculated
27	Lat A2-2	5.26	0 00:14	9.35	0.56	12.25	0.01	0.54	0.54	0.00		Calculated
28	Lat A3-1	5.82	0 00:16	10.66	0.55	13.87	0.07	0.53	0.53	0.00		Calculated
29	Lat A3-1a	2.09	0 00:16	2.07	1.01	3.01	0.01	1.00	1.00	0.00		> CAPACITY
30	Lat A3-2	5.82	0 00:15	10.65	0.55	13.86	0.00	0.53	0.53	0.00		Calculated
31	Lat A4-1	5.84	0 00:17	12.48	0.47	15.63	0.06	0.48	0.48	0.00		Calculated
32	Lat A4-1a	2.07	0 00:16	2.07	1.00	3.01	0.01	0.82	0.82	0.00		Calculated
33	Lat A4-2	5.84	0 00:18	12.49	0.47	15.63	0.00	0.48	0.48	0.00		Calculated
34	Lat A5-1	5.64	0 12:15	13.89	0.41	16.78	0.06	0.44	0.44	0.00		Calculated
35	Lat A5-1a	2.87	0 00:16	2.86	1.00	4.16	0.01	0.82	0.91	0.00		> CAPACITY
36	Lat A5-2	5.65	0 12:15	13.89	0.41	16.78	0.00	0.44	0.44	0.00		Calculated
37	Lat B1 - 1b	2.07	0 00:00	2.07	1.00	2.64	0.02	1.00	1.00	1441.00		SURCHARGED
38	Lat B1-1	7.17	0 00:06	6.88	1.04	9.78	0.33	1.00	1.00	1434.00		SURCHARGED
39	Lat B1-1a	2.22	0 00:09	2.07	1.07	3.00	0.01	1.00	1.00	1432.00		SURCHARGED
40	Lat B1-2	7.05	0 00:06	6.89	1.02	10.04	0.04	0.82	0.99	0.00		> CAPACITY
41	Lat B2-1	4.96	0 00:08	4.63	1.07	26.85	0.01	0.49	0.99	0.00		> CAPACITY
42	Lat B2-1a	0.35	0 00:07	0.33	1.08	1.89	0.02	0.50	1.00	1433.00		SURCHARGED
43	Lat B2-2	2.07	0 00:02	2.07	1.00	2.88	0.01	1.00	1.00	1439.00		SURCHARGED
44	Lat B3-2	5.09	0 02:19	4.77	1.07	27.60	0.01	0.49	0.99	0.00		> CAPACITY
45	Lat B3-3	1.95	0 00:02	1.95	1.00	11.07	0.00	0.50	1.00	1439.00		SURCHARGED
46	Link-02	0.47	0 02:18	0.77	0.61	4.09	0.00	0.28	0.57	0.00		Calculated
47	Link-03	16.42	0 06:07	23.37	0.70	8.11	0.33	1.24	0.62	0.00		Calculated
48	Link-04	12.74	0 06:08	11.83	1.08	17.16	0.05	1.00	1.00	1070.00		SURCHARGED

Inlet Input

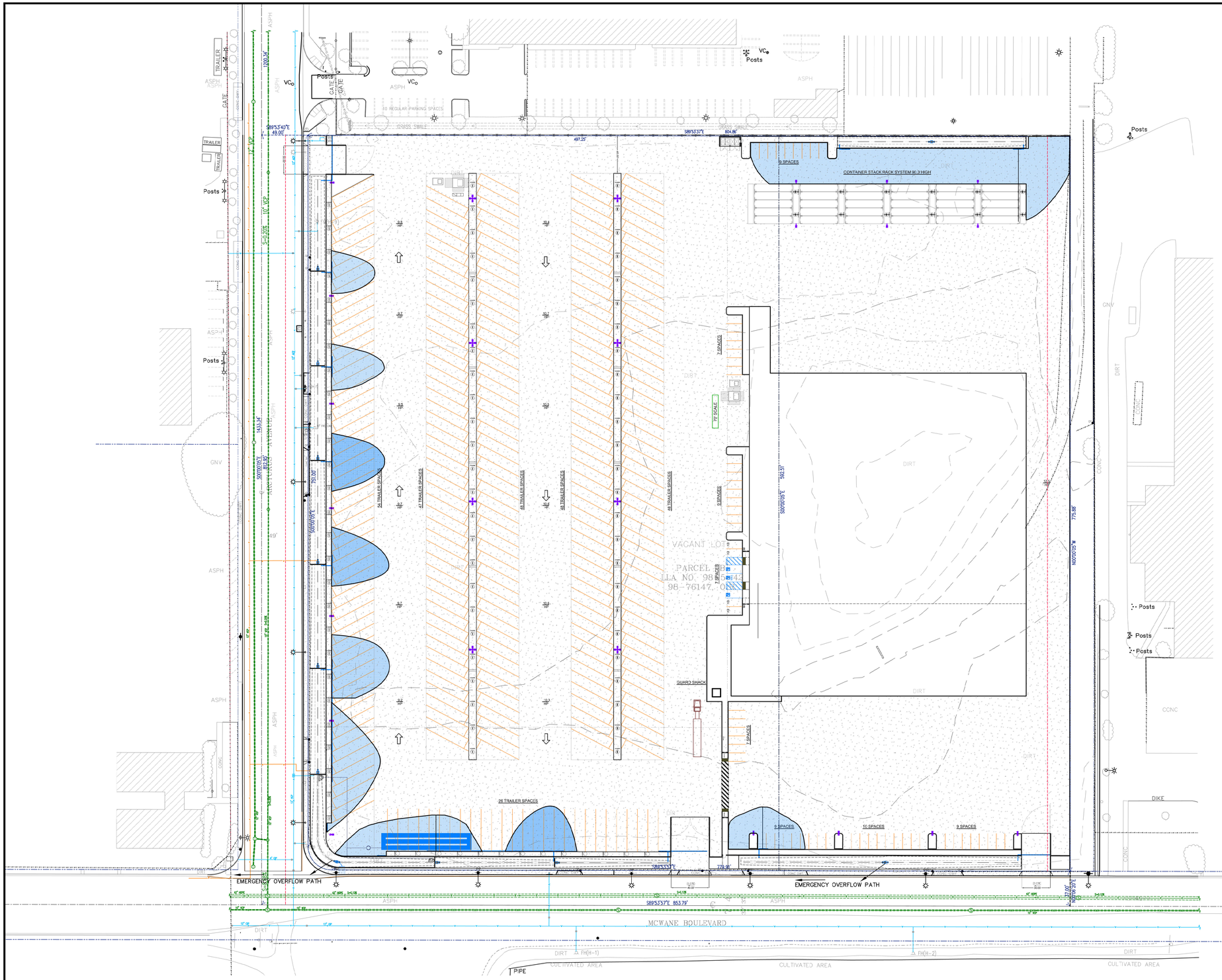
SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Inlet Depth (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Ponded Area (ft^2)	Grate Clogging Factor (%)
1	A-1	CALTRANS	GCP	On Sag	1	5.50	7.83	2.33	5.50	0.00	1449.95	0.00
2	A1-1a	CALTRANS	G1	On Sag	1	5.24	7.57	2.33	7.57	2.33	1475.00	0.00
3	A-1a	CALTRANS	G1	On Sag	1	5.50	7.73	2.23	7.73	2.23	1449.95	0.00
4	A2-1a	CALTRANS	G1	On Sag	1	5.24	7.57	2.33	7.57	2.33	1465.00	0.00
5	A3-1a	CALTRANS	G1	On Sag	1	4.81	7.14	2.33	7.14	2.33	1730.00	0.00
6	A4-1a	CALTRANS	G1	On Sag	1	4.84	7.17	2.33	7.17	2.33	1760.00	0.00
7	A5-1a	CALTRANS	G1	On Sag	1	4.70	7.03	2.33	7.03	2.33	1730.00	0.00
8	B-1	CALTRANS	GCP	On Sag	1	6.40	8.73	2.33	6.40	0.00	0.00	0.00
9	B1-1a	CALTRANS	G1	On Sag	1	5.19	7.52	2.33	7.52	2.33	2960.00	0.00
10	B1-1b	CALTRANS	G1	On Sag	1	5.19	7.19	2.00	7.19	2.00	2132.00	0.00
11	B-1a	CALTRANS	G1	On Sag	1	6.40	8.73	2.33	8.73	2.33	1290.00	0.00
12	B-1b	CALTRANS	G1	On Sag	1	6.40	8.73	2.33	8.73	2.33	1270.00	0.00
13	B2-1a	CALTRANS	G1	On Sag	1	5.25	7.58	2.33	7.58	2.33	1362.00	0.00
14	B3-1	CALTRANS	G1	On Sag	1	5.19	7.52	2.33	7.52	2.33	1332.00	0.00
15	Lat A1-1	CALTRANS	GCP	On Sag	1	5.24	7.57	2.33	5.24	0.00	1475.00	0.00
16	Lat A2-1	CALTRANS	GCP	On Sag	1	5.24	8.59	3.35	5.24	0.00	1465.00	0.00
17	Lat A3-1	CALTRANS	GCP	On Sag	1	4.81	8.16	3.35	4.81	0.00	1730.00	0.00
18	Lat A4-1	CALTRANS	GCP	On Sag	1	4.84	8.19	3.35	4.84	0.00	1760.00	0.00
19	Lat A5-1	CALTRANS	GCP	On Sag	1	4.70	8.05	3.35	4.70	0.00	0.00	0.00
20	Lat B1-1	CALTRANS	GCP	On Sag	1	5.19	7.52	2.33	5.19	0.00	0.00	0.00
21	Lat B2-1	CALTRANS	GCP	On Sag	1	5.25	8.60	3.35	5.25	0.00	1362.00	0.00
22	Lat B3-2	CALTRANS	GCP	On Sag	1	5.18	7.52	2.34	5.18	0.00	1332.00	0.00
23	ROOFDOWNSPOUT1	FHWA HEC-22 GENERIC	N/A	On Sag	1	9.00	11.40	2.40	11.40	2.40	102634.00	0.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (ft/ft)	Roadway Cross Slope (ft/ft)	Roadway Manning's Roughness	Gutter Cross Slope (ft/ft)	Gutter Width (ft)	Gutter Depression (in)	Allowable Spread (ft)
1	A-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
2	A1-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
3	A-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
4	A2-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
5	A3-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
6	A4-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
7	A5-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
8	B-1	N/A	0.0050	0.0250	0.0050	2.00	0.0328	7.00
9	B1-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
10	B1-1b	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
11	B-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
12	B-1b	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
13	B2-1a	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
14	B3-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
15	Lat A1-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
16	Lat A2-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
17	Lat A3-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
18	Lat A4-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
19	Lat A5-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
20	Lat B1-1	N/A	0.0200	0.0160	0.0620	2.00	0.0656	7.00
21	Lat B2-1	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
22	Lat B3-2	N/A	0.0050	0.0240	0.0050	2.00	0.0328	7.00
23	ROOFDOWNSPOUT1	N/A	0.0200	0.0100	0.0200	2.00	0.0656	7.00

Inlet Results

SN	Element ID	Peak Flow (cfs)	Peak Lateral Inflow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)	Max Gutter Water Depth during Peak Flow (ft)	Time of Max Depth Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	A-1	2.28	2.28	N/A	N/A	N/A	38.65	8.11	0.28	0 00:05	0.00	0.00
2	A1-1a	2.23	2.23	N/A	N/A	N/A	44.29	7.87	0.30	0 00:00	0.00	0.00
3	A-1a	2.86	2.86	N/A	N/A	N/A	52.19	8.08	0.34	0 00:00	0.00	0.00
4	A2-1a	2.07	2.07	N/A	N/A	N/A	42.28	7.86	0.29	0 00:00	0.00	0.00
5	A3-1a	2.11	2.11	N/A	N/A	N/A	42.78	7.44	0.30	0 00:00	0.00	0.00
6	A4-1a	2.07	2.07	N/A	N/A	N/A	42.28	7.46	0.29	0 00:00	0.00	0.00
7	A5-1a	2.86	2.86	N/A	N/A	N/A	52.19	7.37	0.34	0 00:00	0.00	0.00
8	B-1	3.23	3.23	N/A	N/A	N/A	48.47	9.06	0.33	0 00:00	0.00	0.00
9	B1-1a	2.86	2.86	N/A	N/A	N/A	52.19	7.86	0.34	0 00:00	0.00	0.00
10	B1-1b	5.84	5.84	N/A	N/A	N/A	83.53	7.69	0.50	0 00:00	0.00	0.00
11	B-1a	2.07	2.07	N/A	N/A	N/A	42.28	9.02	0.29	0 00:00	0.00	0.00
12	B-1b	5.30	5.30	N/A	N/A	N/A	78.34	9.21	0.48	0 00:00	0.00	0.00
13	B2-1a	0.47	0.47	N/A	N/A	N/A	12.43	7.68	0.10	0 00:00	0.00	0.00
14	B3-1	0.47	0.47	N/A	N/A	N/A	12.43	7.62	0.10	0 00:00	0.00	0.00
15	Lat A1-1	3.03	3.03	N/A	N/A	N/A	46.58	7.89	0.32	0 00:07	0.00	0.00
16	Lat A2-1	3.19	3.19	N/A	N/A	N/A	48.09	8.91	0.32	0 00:13	0.00	0.00
17	Lat A3-1	3.73	3.73	N/A	N/A	N/A	53.21	8.51	0.35	0 00:11	0.00	0.00
18	Lat A4-1	3.77	3.77	N/A	N/A	N/A	53.59	8.54	0.35	0 00:16	0.00	0.00
19	Lat A5-1	2.75	2.75	N/A	N/A	N/A	43.64	8.36	0.31	0 00:16	0.00	0.00
20	Lat B1-1	3.04	3.04	N/A	N/A	N/A	11.74	8.01	0.49	0 00:00	0.00	0.00
21	Lat B2-1	4.83	4.83	N/A	N/A	N/A	62.99	9.00	0.40	0 00:04	0.00	0.00
22	Lat B3-2	4.83	4.83	N/A	N/A	N/A	62.99	7.92	0.40	0 00:04	0.00	0.00
23	ROOFDOWNSPOUT1	14.88	14.88	N/A	N/A	N/A	64.35	12.85	1.45	0 00:00	0.00	0.00



HYDROLOGY INFORMATION (Cook)

LOCATION: OXNARD COASTAL PLAIN VENTURA
SOIL TYPE: B
R.I. CORRECTION: 123%
'C' FACTOR (EXISTING): 80
'C' FACTOR (PROP.): 80

EMERGENCY OVERFLOW PATH

LOCAL Q_{100} SPREAD LIMITS (WITH 50% CLOGGING)

GRAPHIC SCALE

0 1" 2" 3"
0 25 50 100 150
1" = 50'

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PREPARED BY:

RJR ENGINEERING & CONSULTING INC.
Planning · Civil Engineering · Flood Control/Hydrology
Geotechnical Engineering · Geology · Water Resources · Environmental
2340 Palma Drive, Suite 200, Ventura, CA 93003
(805) 485-3935
E-mail: rjr@rjreng.com

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 Exp. 12-31-24 CIVIL STATE OF CALIFORNIA

REVISIONS			
MARK	DATE	DESCRIPTION	BY

REVIEWED BY:
DATE
DATE

CITY OF OXNARD CALIFORNIA — Development Services Department

PROPOSED SPREAD MAP
5980 & 6000 ARCTURUS AVE
OXNARD, CA 93033

APPROVED: CITY ENGINEER R.C.E. 46333 EXP. DATE
SCALE: HORIZ. 1" = 50' VERT. NA
DRAWN BY: T. AGUILAR
CHECKED BY: R. ANDERSON
SHEET No. 13 OF 22
DRAWING NUMBER

CD SUBMITTAL SET II - 8-15-23
HYDROLOGY MAP









APPENDIX F

WQMP Vegetated Swale Design

Swale A-1 Design (SQDF)

Step 1: Determine Water Quality Design Flow			
1-1 Enter Project Area (acres)	A_{design} =	**0.95**	acres
1-2 Enter Impervious Fraction	Imp =	**0.80**	
1-3 Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4 Calculate Runoff Coefficent	C =	**0.77**	
1-5 Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6 Calculate Water Quality Desgn Flow	SQDF =	0.55	cfs

Step 2: Calculate Swale Bottom Swale			
2-1 Water Quality Design Flows	SQDF =	0.55	cfs
2-2 Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3 Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.68	feet
$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4 Longitudinal Slope (along direction of flow)	s =	**0.005**	ft/ft
2-5 Calculate Bottom Width of Swale	b =	**6.52**	feet
$b = (SQDF * n_{wq}) / (1.49 y^{1.67} s^{0.5})$			
2-6 If b is between 2 and 10, go to Step 3			
2-7 If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8 If b is greater than 10 feet, one of the following design adjustments must be made:			
i. Increase the longitudinal slope to a maximum of 0.06 ft/ft		N/A	
ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			

Step 3: Determined Design Flow Velocity			
3-1 Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2 Bottom Width of Swale	b =	6.52	feet
3-3 Design Flow Depth	y =	0.33	feet

Swale A-1 Design (SQDF)

3-4	Calculate the Cross- Sectional Area of Flow at Design Depth $A_{wq} = by + Zy^2$	A_{wq} =	2.51	$feet^2$
3-5	Calculate Design Flow Velocity V_{wq} = SQDF / A_{wq}	V_{wq} =	0.22	feet/sec
3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4			

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7	min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**100.00**	feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6	N/A		

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	6.52	feet
5-2	Design Flow Depth	y =	0.33	feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0	
5-4	Additional Top Width above the Slide Slope for the Design Water Depth b_{slope} = 2Zy	b_{slope} =	2.00	feet
5-5	Intial Length Calculated (Li = L)	L_i =	100	feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	852	$feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	100	feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	6.52	feet

Swale A-1 Design (SQDF)

5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.51	$feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.22	feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes) $t_{hr} = L_f / (60V_{wq})$ t_{hr} must be > 10 minutes	t_{hr} =	7.62	min.
5-12	When Recalculate V_{wq} and t_{hr}, then move to Step 6			

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.		
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Swale B-1 Design (SQDF)

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	A_{design} =	**0.98**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	0.57	cfs
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	0.57	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.71	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0046**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**7.02**	feet
	$b = (SQDF * n_{wq}) / (1.49 y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:			
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft		N/A	
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	7.02	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.67	$feet^2$
	$A_{wq} = by + Zy^2$			

Swale B-1 Design (SQDF)

3-5	Calculate Design Flow Velocity V_{wq} = SQDF / A_{wq}	V_{wq} =	0.21	feet/sec
3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4			

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7	min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**100.00**	feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6	N/A		

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	7.02	feet
5-2	Design Flow Depth	y =	0.33	feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0	
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00	feet
5-5	Intial Length Calculated (Li = L)	L_i =	100	feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	902	$feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	100	feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	7.02	feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.67	$feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf}	V_{wq} =	0.21	feet/sec

Swale B-1 Design (SQDF)

Revise Design if Velocity > 1fps

5-11	Recalculate Hydraulic Residence Time (min 7 minutes) $t_{hr} = L_f / (60V_{wq})$ t_{hr} must be > 10 minutes	t_{hr} =	7.87	min.
5-12	When Recalculate V_{wq} and t_{hr}, then move to Step 6			

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.		
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Swale C-1 Design (SQDF)

Step 1: Determine Water Quality Design Flow			
1-1	Enter Project Area (acres)	A_{design} =	**0.98** acres
1-2	Enter Impervious Fraction	Imp =	**0.80**
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**
1-4	Calculate Runoff Coefficent	C =	**0.77**
1-5	Enter Design Ranfall Intensity	i =	**0.75** in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	0.57 cfs
Step 2: Calculate Swale Bottom Swale			
2-1	Water Quality Design Flows	SQDF =	0.57 cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.71 feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33** feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0046** ft/ft
2-5	Calculate Bottom Width of Swale	b =	**7.02** feet
	$b = (SQDF * n_{wq}) / (1.49 y^{1.67} s^{0.5})$		
2-6	If b is between 2 and 10, go to Step 3		
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	- feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft		N/A
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)		
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width		
Step 3: Determined Design Flow Velocity			
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**
3-2	Bottom Width of Swale	b =	7.02 feet
3-3	Design Flow Depth	y =	0.33 feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.67 $feet^2$
	$A_{wq} = by + Zy^2$		

Swale C-1 Design (SQDF)

3-5	Calculate Design Flow Velocity V_{wq} = SQDF / A_{wq}	V_{wq} =	0.21	feet/sec
3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4			

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7	min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	100.00	feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6	N/A		

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	7.02	feet
5-2	Design Flow Depth	y =	0.33	feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0	
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00	feet
5-5	Intial Length Calculated (Li = L)	L_i =	100	feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	902	$feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	100	feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	7.02	feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.67	$feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf}	V_{wq} =	0.21	feet/sec

Swale C-1 Design (SQDF)

Revise Design if Velocity > 1fps

5-11	Recalculate Hydraulic Residence Time (min 7 minutes) $t_{hr} = L_f / (60V_{wq})$ t_{hr} must be > 10 minutes	t_{hr} =	7.87	min.
5-12	When Recalculate V_{wq} and t_{hr}, then move to Step 6			

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.		
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Swale D-1 Design (SQDF)

Step 1: Determine Water Quality Design Flow			
1-1	Enter Project Area (acres)	A_{design} =	**1.07** acres
1-2	Enter Impervious Fraction	Imp =	**0.80**
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**
1-4	Calculate Runoff Coefficent	C =	**0.77**
1-5	Enter Design Ranfall Intensity	i =	**0.75** in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	0.62 cfs
Step 2: Calculate Swale Bottom Swale			
2-1	Water Quality Design Flows	SQDF =	0.62 cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.65 feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33** feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0072** ft/ft
2-5	Calculate Bottom Width of Swale	b =	**6.12** feet
	$b = (SQDF * n_{wq}) / (1.49 y^{1.67} s^{0.5})$		
2-6	If b is between 2 and 10, go to Step 3		
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	- feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft		N/A
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)		
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width		
Step 3: Determined Design Flow Velocity			
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**
3-2	Bottom Width of Swale	b =	6.12 feet
3-3	Design Flow Depth	y =	0.33 feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.37 $feet^2$
	$A_{wq} = by + Zy^2$		

Swale D-1 Design (SQDF)

3-5	Calculate Design Flow Velocity V_{wq} = SQDF / A_{wq}	V_{wq} =	0.26	feet/sec
3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4			

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7	min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	109.32	feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6	N/A		

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	6.12	feet
5-2	Design Flow Depth	y =	0.33	feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0	
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00	feet
5-5	Intial Length Calculated (Li = L)	L_i =	109	feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	888	$feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	109	feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	6.12	feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.37	$feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf}	V_{wq} =	0.26	feet/sec

Swale D-1 Design (SQDF)

Revise Design if Velocity > 1fps

5-11	Recalculate Hydraulic Residence Time (min 7 minutes) $t_{hr} = L_f / (60V_{wq})$ t_{hr} must be > 10 minutes	t_{hr} =	7.00	min.
5-12	When Recalculate V_{wq} and t_{hr}, then move to Step 6			

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.		
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Swale E-1 Design (SQDF)

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	A_{design} =	**1.07**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	0.62	cfs
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	0.62	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.67	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0064**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**6.49**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	6.49	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.50	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.25	feet/sec

Swale E-1 Design (SQDF)

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**103.90** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	6.49 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	104 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	882 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	104 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	6.49 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.50 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.25 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7.00 min.

Swale E-1 Design (SQDF)

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p = - feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.	

Swale F-1 Design (SQDF)

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	A_{design} =	**1.01**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	0.58	cfs
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	0.58	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.64	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0067**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**5.99**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	5.99	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.33	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.25	feet/sec

Swale F-1 Design (SQDF)

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**105.13** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	5.99 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	105 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	840 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	105 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	5.99 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.33 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.25 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7.00 min.

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p = - feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.	

Swale S1A (G1) - Design (SQDF)

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	A_{design} =	**1.42**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	0.82	cfs
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	0.82	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.68	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0107**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**2.00**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**25.0**	
3-2	Bottom Width of Swale	b =	2.00	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	3.44	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.24	feet/sec

Swale S1A (G1) - Design (SQDF)

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	99.99 feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	2.00 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	25.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	16.67 feet
5-5	Intial Length Calculated (Li = L)	L_i =	100 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	1,867 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	100 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	2.00 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	3.44 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.24 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7.00 min.

Swale S1A (G1) - Design (SQDF)

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.		
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Swale S1A (H1) - Design (SQDF)

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	A_{design} =	**1.42**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	0.82	cfs
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	0.82	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.68	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0107**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**2.00**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**25.0**	
3-2	Bottom Width of Swale	b =	2.00	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	3.44	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.24	feet/sec

Swale S1A (H1) - Design (SQDF)

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	99.99 feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	2.00 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	25.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	16.67 feet
5-5	Intial Length Calculated (Li = L)	L_i =	100 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	1,867 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	100 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	2.00 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	3.44 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.24 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7.00 min.

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p = - feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.	

Swale I-1 Design (SQDF)

Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	0.33	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.43	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.008**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**3.12**	feet
	$b = (SQDF * n_{wq}) / (1.49 y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:			
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft		N/A	
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	3.12	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	1.37	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.24	feet/sec
	V_{wq} = SQDF / A_{wq}			
3-6	If Design Velocity > 1fps, Revise Step 2 Design			
	If Design Velocity < 1fps, Proceed to Step 4			
Step 4: Calculate Swale Length				
4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7	min.
4-2	Calculate Swale Length	L =	**101.48**	feet
	$L = 60 t_{hr} V_{wq}$			

Swale I-1 Design (SQDF)

4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6	N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	3.12	feet
5-2	Design Flow Depth	y =	0.33	feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0	
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00	feet
5-5	Intial Length Calculated (Li = L)	L_i =	101	feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	519	$feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	120	feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	2.33	feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	1.11	$feet^2$
5-10	Re-calculate Design Flow Velocity $V_{wq} = SQDF / A_{wqf}$ Revise Design if Velocity > 1fps	V_{wq} =	0.30	feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes) $t_{hr} = L_f / (60V_{wq})$ t_{hr} must be > 10 minutes	t_{hr} =	6.69	min.
5-12	When Recalculate V_{wq} and t_{hr}, then move to Step 6			

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.		
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura	V_p =	-	feet/sec

Swale I-1 Design (SQDF)

6-2 Flood Control Design Peak Flows." Calculate the Capital Peak Flow Velocity per Ventura County.

6-3 If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less.

If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.

Swale J-1 Design (SQDF)

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	A_{design} =	**0.42**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	0.24	cfs
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	0.24	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.36	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.008**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**2.28**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	2.28	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	1.09	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.22	feet/sec

Swale J-1 Design (SQDF)

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**93.18** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6	N/A	

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	2.28 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	93 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	399 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	115 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	1.47 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	0.82 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.29 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	6.50 min.

Swale J-1 Design (SQDF)

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.		
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Swale K-1 Design (SQDF)

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	A_{design} =	**0.65**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	0.38	cfs
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	0.38	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.45	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.009**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**3.33**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	3.33	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	1.44	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.26	feet/sec

Swale K-1 Design (SQDF)

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**109.32** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	3.33 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	109 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	582 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	129 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	2.51 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	1.17 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.32 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	6.71 min.

Swale K-1 Design (SQDF)

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p = - feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.	

Swale L-1 Design (SQDF)

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	A_{design} =	**1.01**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	0.58	cfs
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	0.58	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.62	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0074**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**5.70**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	5.70	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.23	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.26	feet/sec

Swale L-1 Design (SQDF)

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	109.69 feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	5.70 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	110 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	845 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	138 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	4.13 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	1.71 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.34 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	6.73 min.

Swale L-1 Design (SQDF)

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.		
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Swale M-1 Design (SQDF)

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	A_{design} =	**1.00**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	0.58	cfs
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	0.58	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.66	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.006**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**6.27**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	6.27	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.42	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.24	feet/sec

Swale M-1 Design (SQDF)

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**100.12** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	6.27 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	100 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	828 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	100 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	6.27 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.42 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.24 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7.00 min.

Swale M-1 Design (SQDF)

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.		
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Swale N-1 Design (SQDF)

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	A_{design} =	**1.00**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	0.58	cfs
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	0.58	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	0.66	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.006**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**6.27**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	6.27	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.42	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.24	feet/sec

Swale N-1 Design (SQDF)

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**100.12** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	6.27 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	100 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	828 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	100 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	6.27 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.42 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.24 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7.00 min.

Swale N-1 Design (SQDF)

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.	Swale inlets restricted to SQDF. See Section 8.6 herein.		
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			









APPENDIX G

Vegetated Swale Capacity/Scour Analysis

SQDF flows have been increased to Q10 Flows for analysis.

Area A1 - Q10 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	*A_{design} =	**2.89**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.67	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.67	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.32	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.005**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**6.50**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:			
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft		N/A	
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	6.50	feet
3-3	Design Flow Depth	y =	0.33	feet

Area A1 - Q10 - Cook's Method
Worst Case Scenario

3-4	Calculate the Cross- Sectional Area of Flow at Design Depth $A_{wq} = by + Zy^2$	A_{wq} =	2.50	$feet^2$
3-5	Calculate Design Flow Velocity $V_{wq} = SQDF / A_{wq}$	V_{wq} =	0.67	feet/sec
3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4			

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7	min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**100.00**	feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A	

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	6.50	feet
5-2	Design Flow Depth	y =	0.33	feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0	
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00	feet
5-5	Intial Length Calculated (Li = L)	L_i =	100	feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	850	$feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	100	feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	6.50	feet

Area A1 - Q10 - Cook's Method
Worst Case Scenario

5-9 Recalculate the Cross-Sectional Area of Flow at Design Depth

$A_{wqf} = b_f y + Zy^2$

A_{wqf} = 2.50 feet^2

5-10 Re-calculate Design Flow Velocity

V_{wq} = SQDF / A_{wqf}

Revise Design if Velocity > 1fps

V_{wq} = 0.67 feet/sec

5-11 Recalculate Hydraulic Residence Time (min 7 minutes)

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

t_{hr} = 2.50 min.

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1 If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.

6-2 If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.

V_p = - feet/sec

6-3 If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less.

If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.

Area B1 - Q10 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	*A_{design} =	**2.96**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.71	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.71	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.37	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0046**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**7.00**	feet
	$b = (SQDF * n_{wq}) / (1.49 y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:			
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft		N/A	
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	7.00	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.67	$feet^2$
	$A_{wq} = by + Zy^2$			

Area B1 - Q10 - Cook's Method
Worst Case Scenario

3-5	Calculate Design Flow Velocity V_{wq} = SQDF / A_{wq}	V_{wq} =	0.64	feet/sec
3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4			

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7	min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**100.00**	feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6	N/A		

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	7.00	feet
5-2	Design Flow Depth	y =	0.33	feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0	
5-4	Additional Top Width above the Slide Slope for the Design Water Depth b_{slope} = 2Zy	b_{slope} =	2.00	feet
5-5	Intial Length Calculated (Li = L)	L_i =	100	feet
5-6	Calculate the Top Area at the Design Treatment Depth A_{top} = (b_i + b_{slope}) * L_i	A_{top} =	900	$feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	100	feet
5-8	Calculate the Increased Bottom Width b_f = (A_{top} / L_f) - b_{slope}	b_f =	7.00	feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.67	$feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf}	V_{wq} =	0.64	feet/sec

Area B1 - Q10 - Cook's Method
Worst Case Scenario

Revise Design if Velocity > 1fps

5-11	Recalculate Hydraulic Residence Time (min 7 minutes) $t_{hr} = L_f / (60V_{wq})$ t_{hr} must be > 10 minutes	t_{hr} =	2.60	min.
5-12	When Recalculate V_{wq} and t_{hr}, then move to Step 6			

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.			
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Area C1 - Q10 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	*A_{design} =	**2.96**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.71	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.71	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.37	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0046**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**7.00**	feet
	$b = (SQDF * n_{wq}) / (1.49 y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	7.00	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.67	$feet^2$
	$A_{wq} = by + Zy^2$			

Area C1 - Q10 - Cook's Method
Worst Case Scenario

3-5	Calculate Design Flow Velocity V_{wq} = SQDF / A_{wq}	V_{wq} =	0.64	feet/sec
3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4			

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7	min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	100.00	feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6	N/A		

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	7.00	feet
5-2	Design Flow Depth	y =	0.33	feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0	
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00	feet
5-5	Intial Length Calculated (Li = L)	L_i =	100	feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	900	$feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	100	feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	7.00	feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.67	$feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf}	V_{wq} =	0.64	feet/sec

Area C1 - Q10 - Cook's Method
Worst Case Scenario

Revise Design if Velocity > 1fps

5-11	Recalculate Hydraulic Residence Time (min 7 minutes) $t_{hr} = L_f / (60V_{wq})$ t_{hr} must be > 10 minutes	t_{hr} =	2.60	min.
5-12	When Recalculate V_{wq} and t_{hr}, then move to Step 6			

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.			
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Area D1 - Q10 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	*A_{design} =	**3.29**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.90	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.90	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.28	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0072**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**6.00**	feet
	$b = (SQDF * n_{wq}) / (1.49 y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:			
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft		N/A	
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	6.00	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.33	$feet^2$
	$A_{wq} = by + Zy^2$			

Area D1 - Q10 - Cook's Method
Worst Case Scenario

3-5	Calculate Design Flow Velocity V_{wq} = SQDF / A_{wq}	V_{wq} =	0.81	feet/sec
3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4			

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7	min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	109.00	feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6	N/A		

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	6.00	feet
5-2	Design Flow Depth	y =	0.33	feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0	
5-4	Additional Top Width above the Slide Slope for the Design Water Depth b_{slope} = 2Zy	b_{slope} =	2.00	feet
5-5	Intial Length Calculated (Li = L)	L_i =	109	feet
5-6	Calculate the Top Area at the Design Treatment Depth A_{top} = (b_i + b_{slope}) * L_i	A_{top} =	872	$feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	109	feet
5-8	Calculate the Increased Bottom Width b_f = (A_{top} / L_f) - b_{slope}	b_f =	6.00	feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.33	$feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf}	V_{wq} =	0.81	feet/sec

Area D1 - Q10 - Cook's Method
Worst Case Scenario

Revise Design if Velocity > 1fps

5-11	Recalculate Hydraulic Residence Time (min 7 minutes) $t_{hr} = L_f / (60V_{wq})$ t_{hr} must be > 10 minutes	t_{hr} =	2.23	min.
5-12	When Recalculate V_{wq} and t_{hr}, then move to Step 6			

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.			
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Area E1 - Q10 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	A_{design} =	**3.29**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.90	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.90	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.32	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0064**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**6.50**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	6.50	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.50	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.76	feet/sec

Area E1 - Q10 - Cook's Method
Worst Case Scenario

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**103.00** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	6.50 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	103 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	876 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	103 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	6.50 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.50 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.76 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	2.26 min.

Area E1 - Q10 - Cook's Method
Worst Case Scenario

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1 If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.

6-2 If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.

V_p = - feet/sec

6-3 If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less.

If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.

Area F1 - Q10 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	*A_{design} =	**3.16**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.82	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.82	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.27	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0067**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**6.00**	feet
	$b = (SQDF * n_{wq}) / (1.49 y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	6.00	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.33	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.78	feet/sec

Area F1 - Q10 - Cook's Method
Worst Case Scenario

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**105.00** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	6.00 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	105 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	840 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	105 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	6.00 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.33 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.78 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	2.24 min.

Area F1 - Q10 - Cook's Method
Worst Case Scenario

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1 If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.

6-2 If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.

V_p = - feet/sec

6-3 If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less.

If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.

Area G - Q10 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	*A_{design} =	**2.89**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.67	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.67	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.05	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0107**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**2.00**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**25.0**	
3-2	Bottom Width of Swale	b =	2.00	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	3.44	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.48	feet/sec

Area G - Q10 - Cook's Method
Worst Case Scenario

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**101.00** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	2.00 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	25.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	16.67 feet
5-5	Intial Length Calculated (Li = L)	L_i =	101 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	1,885 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	101 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	2.00 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	3.44 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.48 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	3.47 min.

Area G - Q10 - Cook's Method
Worst Case Scenario

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1 If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.

6-2 If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.

V_p = - feet/sec

6-3 If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less.

If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.

Area H - Q100 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	A_{design} =	**2.89**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.67	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.67	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.05	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0107**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**2.00**	feet
	$b = (SQDF * n_{wq}) / (1.49 y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:			
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft		N/A	
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**25.0**	
3-2	Bottom Width of Swale	b =	2.00	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	3.44	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.48	feet/sec

Area H - Q100 - Cook's Method
Worst Case Scenario

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**107.00** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	2.00 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	25.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	16.67 feet
5-5	Intial Length Calculated (Li = L)	L_i =	107 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	1,997 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	107 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	2.00 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	3.44 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.48 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	3.68 min.

Area H - Q100 - Cook's Method
Worst Case Scenario

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.			
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Area I1 - Q10 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	*A_{design} =	**2.98**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.72	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.72	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.17	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.008**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**2.33**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	2.33	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	1.11	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	1.55	feet/sec

Area I1 - Q10 - Cook's Method
Worst Case Scenario

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**120.00** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	2.33 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	120 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	520 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	120 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	2.33 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	1.11 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	1.55 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	1.29 min.

Area I1 - Q10 - Cook's Method
Worst Case Scenario

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.			
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Area J1 - Q10 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	*A_{design} =	**2.98**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.72	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.72	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.17	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.008**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**2.00**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:			
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft		N/A	
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	2.00	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	1.00	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	1.72	feet/sec

Area J1 - Q10 - Cook's Method
Worst Case Scenario

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**115.00** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	2.00 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	115 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	460 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	115 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	2.00 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	1.00 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	1.72 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	1.11 min.

Area J1 - Q10 - Cook's Method
Worst Case Scenario

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.			
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Area K1 - Q10 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	*A_{design} =	**3.29**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.90	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.90	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.19	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.009**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**2.51**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	2.51	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	1.17	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	1.62	feet/sec

Area K1 - Q10 - Cook's Method
Worst Case Scenario

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**129.00** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	2.51 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	129 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	582 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	129 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	2.51 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	1.17 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	1.62 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	1.32 min.

Area K1 - Q10 - Cook's Method
Worst Case Scenario

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1 If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.

6-2 If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.

V_p = - feet/sec

6-3 If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less.

If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.

Area L1 - Q10 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	*A_{design} =	**3.33**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.92	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.92	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.28	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.0074**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**4.13**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	4.13	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	1.71	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	1.12	feet/sec

Area L1 - Q10 - Cook's Method
Worst Case Scenario

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**138.00** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	4.13 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	138 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	846 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	138 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	4.14 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	1.71 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	1.12 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	2.05 min.

Area L1 - Q10 - Cook's Method
Worst Case Scenario

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1 If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.

6-2 If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.

V_p = - feet/sec

6-3 If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less.

If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.

Area M1 - Q10 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	*A_{design} =	**2.98**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.72	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.72	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.27	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.006**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**6.25**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:		N/A	
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft			
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	6.25	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.42	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.71	feet/sec

Area M1 - Q10 - Cook's Method
Worst Case Scenario

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	100.00 feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	6.25 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	100 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	825 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	100 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	6.25 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.42 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.71 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	2.34 min.

Area M1 - Q10 - Cook's Method
Worst Case Scenario

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1	If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.			
6-2	If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.	V_p =	-	feet/sec
6-3	If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less. If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.			

Area N1 - Q10 - Cook's Method
Worst Case Scenario

Step 1: Determine Water Quality Design Flow				
1-1	Enter Project Area (acres)	*A_{design} =	**2.98**	acres
1-2	Enter Impervious Fraction	Imp =	**0.80**	
1-3	Determine Pervious Runoff Coefficient Using Table E-1	C_p =	**0.05**	
1-4	Calculate Runoff Coefficent	C =	**0.77**	
1-5	Enter Design Ranfall Intensity	i =	**0.75**	in/hr
1-6	Calculate Water Quality Desgn Flow	SQDF =	1.72	cfs
	* manually adjusted to create Cook's Q10 per Oxnard City Reviewer request			
Step 2: Calculate Swale Bottom Swale				
2-1	Water Quality Design Flows	SQDF =	1.72	cfs
2-2	Manning's Roughness Coefficient for Shallow Flow Conditions	n_{wq} =	0.20	
2-3	Calculate Design Flow Depth (6 inch tall grass - so use 2/3 depth)	y =	1.27	feet
	$y = ((SQFD * n_{wq}) / (2.98 s^{0.5}))^{0.6}$	y_{design} =	**0.33**	feet
2-4	Longitudinal Slope (along direction of flow)	s =	**0.006**	ft/ft
2-5	Calculate Bottom Width of Swale	b =	**6.25**	feet
	$b = (SQDF * n_{wq}) / (1.49y^{1.67} s^{0.5})$			
2-6	If b is between 2 and 10, go to Step 3			
2-7	If b < 2 feet, assume b = 2 feet and recalculate flow depth	y =	-	feet
2-8	If b is greater than 10 feet, one of the following design adjustments must be made:			
	i. Increase the longitudinal slope to a maximum of 0.06 ft/ft		N/A	
	ii. Increase the design flow depth to a maximum of 4 inches (0.33 feet)			
	iii. Place divider along the swale bottom 3/4 of length). Max 16 feet width			
Step 3: Determined Design Flow Velocity				
3-1	Side Slope Length per Unit Height (H:V)	Z =	**3.0**	
3-2	Bottom Width of Swale	b =	6.25	feet
3-3	Design Flow Depth	y =	0.33	feet
3-4	Calculate the Cross- Sectional Area of Flow at Design Depth	A_{wq} =	2.42	$feet^2$
	$A_{wq} = by + Zy^2$			
3-5	Calculate Design Flow Velocity	V_{wq} =	0.71	feet/sec

Area N1 - Q10 - Cook's Method
Worst Case Scenario

V_{wq} = SQDF / A_{wq}

3-6	If Design Velocity > 1fps, Revise Step 2 Design If Design Velocity < 1fps, Proceed to Step 4		

Step 4: Calculate Swale Length

4-1	Hydraulic Residence Time (min 7 minutes)	t_{hr} =	7 min.
4-2	Calculate Swale Length $L = 60 t_{hr} V_{wq}$	L =	**100.00** feet
4-3	If L is too Long for Site, proceed to Step 5 to Adjust Layout If L > 100 and Fits Site, Proceed to Step 6 If L < 100, Increase L to 100 feet, Proceed to Step 6		N/A

Step 5: Adjust Swale Length to Fit witin Site Constraints

5-1	Bottom Width of Swale from Step 2 (b_i = b)	b_i =	6.25 feet
5-2	Design Flow Depth	y =	0.33 feet
5-3	Side Slope Length per Unit Height (H:V)	Z =	3.0
5-4	Additional Top Width above the Slide Slope for the Design Water Depth $b_{slope} = 2Zy$	b_{slope} =	2.00 feet
5-5	Intial Length Calculated (Li = L)	L_i =	100 feet
5-6	Calculate the Top Area at the Design Treatment Depth $A_{top} = (b_i + b_{slope}) * L_i$	A_{top} =	825 $feet^2$
5-7	Reduced Swale Length based on Site Constraints	L_f =	100 feet
5-8	Calculate the Increased Bottom Width $b_f = (A_{top} / L_f) - b_{slope}$	b_f =	6.25 feet
5-9	Recalculate the Cross-Sectional Area of Flow at Design Depth $A_{wqf} = b_f y + Zy^2$	A_{wqf} =	2.42 $feet^2$
5-10	Re-calculate Design Flow Velocity V_{wq} = SQDF / A_{wqf} Revise Design if Velocity > 1fps	V_{wq} =	0.71 feet/sec
5-11	Recalculate Hydraulic Residence Time (min 7 minutes)	t_{hr} =	2.34 min.

Area N1 - Q10 - Cook's Method
Worst Case Scenario

$t_{hr} = L_f / (60V_{wq})$

t_{hr} must be > 10 minutes

5-12 When Recalculate V_{wq} and t_{hr}, then move to Step 6

Step 6: Provide Conveyance Capacity for Flows Higher than SQDF (if swale is on-line)

6-1 If Swale Provides a High-Flow Bypass to Convey Flows Higher than the Water Quality Design Flow Rate, Skip Step 6.

6-2 If Swale Does Not Provide a High-Flow Bypass, Determine that the Swale can Convey Flood Control Design Peak Flows. Calculate the Capital Peak Flow Velocity per Ventura County.

V_p = - feet/sec

6-3 If Vp >3.0 fps, Return to Step 2 and Increase the Bottom Width or Flatten the Longitudinal Slope as Necessary to Reduce the Flood Control Design Storm Peak Flow Velocity to 3.0 fps or Less.

If the Longitudinal Slope is Flattened, the Swale Bottom Width must be Recalculated (Step 2) and Must Meet all Design Criteria.

F2 Erosion and Sediment Control Plan

EROSION AND SEDIMENT CONTROL PLAN

CITY OF OXNARD

5980 & 6000 ARCTURUS AVENUE
OXNARD, CALIFORNIA

EROSION AND SEDIMENT CONTROL PLAN (ESCP) GENERAL NOTES:

1. IN CASE OF EMERGENCY, CALL ROBERT W. ANDERSON AT 805-485-3935.

2. TOTAL DISTURBED AREA 14.33 ACRES WDID # N/A (LOCAL ONLY).

3. A STAND-BY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (NOVEMBER 1 TO APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE ON-SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF EMERGENCY DEVICES WHEN RAIN IS IMMINENT.

4. EROSION CONTROL DEVICES SHOWN ON THIS PLAN MAY BE REMOVED WHEN APPROVED BY THE BUILDING OFFICIAL IF THE GRADING OPERATION HAS PROGRESSED TO THE POINT WHERE THEY ARE NO LONGER REQUIRED.

5. GRADED AREAS ADJACENT TO FILL SLOPES LOCATED AT THE SITE PERIMETER MUST DRAIN AWAY FROM THE TOP OF SLOPE AT TEH CONCLUSION OF EACH WORKING DAY. ALL LOOSE SOILS AND DEBRIS THAT MAY CREATE A POTENTIAL HAZARD TO OFF-SITE PROPERTY SHALL BE STABILIZED OR REMOVED FROM THE SITE ON A DAILY BASIS.

6. ALL SILT AND DEBRIS SHALL BE REMOVED FROM ALL DEVICES WITHIN 24 HOURS AFTER EACH RAINSTORM AND BE DISPOSED OF PROPERLY.

7. A GUARD SHALL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN ANY DEVICE EXCEEDS TWO FEET. THE DEVICE SHALL BE DRAINED OR PUMPED DRY WITHIN 24 HOURS AFTER EACH RAINSTORM. PUMPING AND DRAINING OF ALL BASINS AND DRAINAGE DEVICES MUST COMPLY WITH THE APPROPRIATE BMP FOR DEWATERING OPERATIONS.

8. THE PLACEMENT OF ADDITIONAL DEVICES TO REDUCE EROSION DAMAGE AND CONTAIN POLLUTANTS WITHIN THE SITE IS LEFT TO THE DISCRETION OF THE FIELD ENGINEER. ADDITIONAL DEVICES AS NEEDED SHALL BE INSTALLED TO RETAIN SEDIMENTS AND OTHER POLLUTANTS ON SITE.

9. DESILTING BASINS MAY NOT BE REMOVED OR MADE INOPERABLE BETWEEN NOVEMBER 1 AND APRIL 15 OF THE FOLLOWING YEAR WITHOUT THE APPROVAL OF THE BUILDING OFFICIAL.

10. STORM WATER POLLUTION AND EROSION CONTROL DEVICES ARE TO BE MODIFIED, AS NEEDED, AS THE PROJECT PROGRESSES, THE DESIGN AND PLACEMENT OF THESE DEVICES IS THE RESPONSIBILITY OF THE FIELD ENGINEER. PLANS REPRESENTING CHANGES MUST BE SUBMITTED FOR APPROVAL IF REQUESTED BY THE BUILDING OFFICIAL.

11. EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON-STORM WATER FROM THE PROJECT SITES AT ALL TIMES.

12. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON-SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.

13. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.

14. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOILS AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.

15. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON-SITE AND DISPOSED OF IN A A PROPER MANNER.

16. DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO INSPECT ALL EROSION CONTROL DEVICES AND BMPs ARE INSTALLED AND FUNCTIONING PROPERLY IF THERE IS A 50% OR GREATER PROBABILITY OF PREDICTED PRECIPITATION, AND AFTER ACTUAL PRECIPITATION. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL (COPIES OF THE SELF-INSPECTION CHECK LIST AND INSPECTION LOGS ARE AVAILABLE UPON REQUEST.)

17. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.

18. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.

19. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.

20. AS THE ENGINEER/QSD OF RECORD, I HAVE SELECTED APPROPRIATE BMPS TO EFFECTIVELY MINIMIZE THE NEGATIVE IMPACTS OF THIS PROJECT'S CONSTRUCTION ACTIVITIES ON STORM WATER QUALITY. THE PROJECT OWNER AND CONTRACTOR ARE AWARE THAT THE SELECTED BMPs MUST BE INSTALLED, MONITORED AND MAINTAINED TO ENSURE THEIR EFFECTIVENESS.

_____ _____
CIVIL ENGINEER/QSD DATE

21. AS THE PROJECT OWNER OR AUTHORIZED AGENT OF THE OWNER, i CERTIFY THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH TEH SYSTEM DESIGNED TO ENSURE THAT A QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION SUBMITTED IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT SUBMITTING FALSE AND/OR INACCURATE INFORMATION, FAILING TO UPDATE THE ESCP TO REFLECT CURRENT CONDITIONS, OR FAILING TO PROPERLY AND/OR ADEQUATELY IMPLEMENT THE ESCP MAY RESULT IN REVOCATION OF GRADINGAND/OR OTHER PERMITS OR OTHER SANCTIONS PROVIDED BY LAW.

_____ _____
OWNER OR AUTHORIZED REPRESENTATIVE DATE

22. DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO INSPECT ALL EROSION CONTROL DEVICES AND BMPs ARE INSTALLED AND FUNCTIONING PROPERLY AS REQUIRED BY THE STATE CONSTRUCTION GENERAL PERMIT. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL.

23. THE FOLLOWING BMPs FROM THE "2009 CONSTRUCTION BMPHANDBOOK/PORTAL" MUST BE IMPLEMENTED FOR ALL CONSTRUCTION ACTIVITIES AS APPLICABLE. AS AN ALTERNATIVE, DETAILS FROM "CALTRANS STORM WATER QUALITY HANDBOOKS, CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (BMP) MANUAL" MAY BE USED. ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY THE BUILDING OFFICIAL.

STORM WATER POLLUTION CONTROL PLAN - STANDARD NOTES

This SWPCP Plan has been provided to address a local storm water requirements and supplement the SWPPP report, where applicable.

Erosion and sediment controls are required to provide effective reduction or elimination of sediment related pollutants in stormwater discharges and authorized non-stormwater discharges from the Site. Non-stormwater discharges consist of discharges, which do not originate from precipitation events. Wherever possible, erosion and sediment control measures and applicable BMP's should be implemented to reduce the potential for sediment related pollutants from being discharged from the site.

The following is a list of construction materials that will be used and activities that will be performed that will have the potential to contribute pollutants, other than sediment, to storm water runoff:

- Vehicle fluids, including oil, grease, petroleum, and coolants
- Solvents, thinners
- Concrete curing compounds
- Cement materials including underground structures and above ground structures
- General Litter Base and sub-base materials
- Paints Solvents and Thinners
- Mortar Mix
- BMP materials
- Treated Lumber
- PCC rubble
- Landscape materials (Herbicides)

Construction activities that have the potential to contribute sediment to storm water discharges include:

- Clear and grub operations
- Grading operations
- Soil import operations
- Utility (overhead and underground operations)
- Landscaping

1. EROSION CONTROL MEASURES

Erosion control, also referred to as soil stabilization, consists of source control measures that are designed to prevent soil particles from detaching and becoming transported in stormwater runoff. Erosion control BMPs protect the soil surface by covering and/or binding soil particles.

Only areas that will be subject immediate construction activities (within 7 days) will be clear and grubbed. The primary goal of this plan will be to preserve existing vegetation and prioritize erosion control measures, wherever possible, to reduce the potential for potential for sediment related pollutants from being discharged from the site.

This construction project will implement the following practices to provide effective temporary and final erosion control during construction:

i. Preserve existing vegetation where required and when feasible.
ii. The area of soil disturbing operations shall be controlled such that the Contractor is able to implement erosion control BMPs quickly and effectively.
iii. Apply temporary erosion control to remaining active and non-active areas as required. Reapply as necessary to maintain effectiveness.
iv. Stabilize non-active areas within 14 days of cessation of construction activities or sooner if stipulated by local requirements.
v. Control erosion in concentrated flow paths by applying erosion control blankets, check dams, erosion control seeding or alternate methods.
vi. Apply seed, planting, mulch, sod, or other erosion control measures to areas deemed substantially complete by the Owner during the defined rainy season.
vii. Prior to the completion of construction, apply permanent erosion control to remaining disturbed soil areas.

Sufficient erosion control materials shall be maintained onsite to allow implementation in conformance with this Stormwater Management Plan(s). Table 1 provides a list of approved erosion control measures and the corresponding specifications from CASQA.

Table 1: Standard Erosion Control BMP

CASQA Fact Sheet	BMP Name
EC-1	Scheduling
EC-2	Preservation of Existing Vegetation
EC-3	Hydraulic Mulch
EC-4	Hydroseed
EC-5	Soil Binders
EC-6	Straw Mulch
EC-7	Geotextiles and Mats
EC-8	Wood Mulching
EC-9	Earth Dike and Drainage Swales
EC-10	Velocity Dissipation Devices
EC-11	Slope Drains
EC-12	Stream Bank Stabilization
EC-14	Compost Blankets
EC-15	Soil Preparation-Roughening
EC-16	Non-Vegetated Stabilization
WE-1	Wind Erosion Control

Special attention is draw to the following minimum measures:

EC-1, Scheduling

- Major grading operations are scheduled to occur during non-rainy periods.
- Erosion and sediment control practices are conducted year-round.
- Soil exposure shall be limited and staged as appropriate.
- Schedule road grading and hauling during dry periods.
- Implement temporary cover erosion practices prior to the rainy season.

EC-2, Preservation of Existing Vegetation

- Existing vegetation shall be preserved to the maximum extent practicable.
- Approximately 80% of the project area will be left undisturbed.
- Minimize contractor access through communications to preserve existing vegetation outside of the road grading and lay-down areas.

EC-3, Hydraulic Mulch

- Use of non-paper based hydraulic mulch should be used for temporary cover of exposed soils prior to significant forecasted rain events.
- Apply hydraulic mulches to stockpiles or other exposed soils adjacent to access roads for temporary cover.
- Allow 24 hours for drying prior to a forecasted rain event.

EC-4, Hydro seeding

- Contractor should consult the local NRCS office for seed mixtures
- Apply hydro seeding prior to rainy season on final graded areas
- Hydro seeding should be used in conjunction with EC-3 for temporary cover
- Additional applications may be necessary until adequate vegetation is established (70% coverage)

EC-5, Soil Binders

- Soil binders may be applied to any areas that will remain disturbed for more than two weeks.
- Soil binders shall be reapplied as needed.
- Apply soil binders for temporary wind erosion protection
- Apply soil binders on access roads for wind erosion protection and erosion
- Use of soil binder material shall be selected by the contractor for particular applications and shall meet CASQA standards and specifications.

EC-7, Geotextiles and Mats

- Erosion control blankets may be used to stabilize areas that will remain disturbed for more than two weeks.
- Erosion control blankets may be used in areas of concentrated flow which has
- Erosion control blankets may be used for areas around the Arizona Crossing
- Erosion control blankets will be repaired or replaced as needed.
- Stapling and material of blankets shall be selected by the contractor applied according to CASQA standards and specifications.
- Use of 10-mil plastic sheeting may be used for temporary cover of stock piles or spoil piles of material should be secured with gravel bags, and a fiber roll or berm around the base for perimeter control shall be implemented in accordance with CASPA requirements.

The SWPCP will implement erosion control BMPs as needed to minimize or prevent soil movement from water forces from the disturbed limits of the project. BMPs will be applied following progress of grading operations.

The locations of erosion control BMPs may change as the project progresses and disturbed areas are expanded. Copies of outdated plans will be maintained as required.

2. SEDIMENT CONTROLS

Sediment controls are temporary or permanent structural measures that are intended to complement the selected erosion control measures and reduce sediment discharges from active construction areas. Sediment controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water.

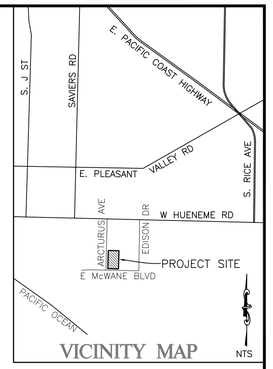
Sufficient quantities of temporary sediment control materials will be maintained on-site throughout the duration of the project, to allow implementation of temporary sediment controls in the event of predicted rain, and for rapid response to failures or emergencies, in conformance with other Permit requirements (and as described in this SWPPP, where applicable). This includes implementation requirement for active areas and non-active areas before the onset of rain.

Sufficient sediment control measures should be in place at all times, to control sediment on the construction site. Table 2 provides a list of approved sediment control measures and the corresponding specifications from CASQA.

Table 2: Standard Sediment Control BMP

CASQA Fact Sheet	BMP Name
SE-1	Silt Fence
SE-2	Sediment Basin
SE-3	Sediment Trap
SE-4	Check Dams
SE-5	Fiber Rolls
SE-6	Gravel Bag Berm
SE-7	Street Sweeping
SE-8	Sandbag Barrier
SE-10	Storm Drain Inlet Protection
SE-12	Manufactured Linear Sediment Controls
SE-13	Compost Sock and Berm
SE-14	Biofilter Bags

These temporary sediment control BMPs shall be implemented in on the site, as necessary in conformance with the guidelines within these plans and in accordance with the BMP Fact Sheets. Where conflicts exist, the interpretation and recommendations of the QSD (for CGP coverage) or registered engineer, shall govern. Special attention is drawn to the following measures:



INDEX TO PROJECT DRAWINGS

DESCRIPTION	SHEET NO.
ESCP GENERAL NOTES	SW-1
ESCP NOTES	SW-2
ESCP – ROUGH GRADING	SW-3
ESCP – LANDSCAPING & FINAL BMP'S	SW-4
ESCP DETAILS	SW-5

Total Disturbed Area = 14.33 Acre

State WDID No. N/A (LOCAL ONLY)

DEL NORTE FOODS

DATE: 11-05-22

BENCHMARK

BM ID : HUE-14
DESCRIPTION : FOUND BM AT CENTERLINE INTERSECTION OF HUENEME ROAD & CYPRESS ROAD
ELEVATION : 9.327 FT

LEGAL DESCRIPTION

PARCEL B, AS SHOWN AND DESIGNED ON THAT CERTAIN LOT LINE ADJUSTMENT (PLANNING AND ZONING PERMIT NO. 98-5-42), RECORDED MAY 14, 1998, AS DOCUMENT NO. 98-76147 OF OFFICIAL RECORDS, IN THE CITY OF OXNARD, COUNTY OF VENTURA, STATE OF CALIFORNIA; AND BEING ALL OF PARCEL 2 OF LOT MERGER (PLANNING AND ZONING PERMIT NO. 98-5-41), RECORDED MAY 11, 1998, AS DOCUMENT NO. 98-73258 OF OFFICIAL RECORDS, EXCEPT FOR THE NORTHERLY 620.50 FEET OF SAID PARCEL 2.

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PREPARED BY:

RJR ENGINEERING & CONSULTING, INC
Planning-Civil Engineering-Flood Control/Hydrology
Storm Water Management-Land Planning/Entitlements
2340 Palma Drive, Suite 200, Ventura, CA 93003
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E-mail: rjr@rjreng.com

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-22 CIVIL STATE OF CALIFORNIA

REVISIONS

MARK	DATE	DESCRIPTION	BY

REVIEWED BY:
DATE
DATE

CITY OF OXNARD Development Services Department

EROSION CONTROL NOTES
5980 & 6000 ARCTURUS AVENUE
OXNARD, CA 93033

APPLICANT:
APPROVED:
CITY ENGINEER R.C.E. 46333 EXP. DATE 12-31-22
SCALE: HORIZ. NONE VERT. NONE
SHEET No. SW-1 OF SW-5
DRAWN BY: C. KAMINSKY / T. AGUILAR
CHECKED BY: R. HAJAS / R. ANDERSON
DRAWING NUMBER

CD SUBMITTAL SET I - 11-05-22

SWPPP COVER SHEET

STORM WATER POLLUTION CONTROL PLAN - STANDARD NOTES (CONTINUED)

SE-1, Silt fence

- Silt fence may be used as site perimeter where conditions warrant such as around the staging / lay down area along contour only.
- Silt fence could be used in areas of sheet flow to protect adjacent conveyances and is not permitted in areas of concentrated flow.
- Silt fence will be repaired and replaced as needed according to findings of inspections.

SE-4, Check dams

- Check dams (and similar devices) shall not be composed of sand, but will be filled with gravel sized materials only.
- Spacing and bag placement shape shall be per specific details presented herein or per CASQA
- Check dams shall be installed and maintained according to CASQA

SE-5, Fiber Rolls

- Fiber Rolls may be used around temporary stockpiles for perimeter control.
- Fiber rolls may be used as perimeter control for short duration exposed / active areas in place of silt fence.
- Fiber rolls shall be installed and maintained according to CASQA specifications.

Note: All bags used in sediment control measures shall utilize gravel sized materials, and no sand will be permitted.

1. TRACKING CONTROL MEASURES

Table 3 provides provides a list of approved tracking control measures and the corresponding specifications from CASQA that shall be implemented on the project.

Table 3: Standard Tracking Control BMP Measures

CASQA Fact Sheet	BMP Name
TC-1	Stabilized Construction Entrance and Exit
TC-2	Stabilized Construction Roadway
TC-3	Entrance Outlet Tire Wash

Special attention is drawn to the following to reduce sediment tracking from the construction site onto private or public roads::

TC-1, Stabilized construction entrance

- A stabilized construction entrance will be installed where pavement ends to minimize tracking.
- Gravel/rock shall placed to a depth of 12 inches shall be used for stabilized entrance. Specific dimension will vary per location.
- Gravel/rock will be cleaned and maintained as needed
- Shaker plates will be installed on the gravel and shall be located at least 10 feet from the roadway, extend to within 10 feet of the termination of the layout, to allow adequate dislodging of sediment and debris.

TC-2, Stabilized construction roadway

- A stabilized construction roadway will be used for access and hauling
- Use of WE-1 or EC-5 will likely be needed to minimize wind erosion
- Minimize traffic speed to prevent excess dust generation along roads

The SWPCP shall construct stabilized construction entrances / exits for the project site. Stabilized constructed roadways will be implemented by the SWPCP as necessary to minimize potential of dust and erosion of exposed soils during construction.

2. WIND EROSION CONTROL

Special attention is drawn to the following BMPs to control dust for construction sites:

WE-1, Wind erosion control

- Potable water will be applied to disturbed soil areas of the project to control dust and maintain moisture levels for compaction.
- Water will be applied by water trucks as needed. Water application rates will be concentrated during the summer and fall months.
- Water conservation practices will be used in conjunction with dust control measures to prevent discharges associated with dust control applications.
- Plastic covers shall be used to prevent dispersal of sediment from stockpiles as necessary.

EC-5, Soil Binders

- Soil binders may be applied to any areas that will remain disturbed for more than two weeks.
- erosion control shall be applied at intervals sufficient enough to adequately control wind erosion. Additionally, vehicle traffic speed limits should be kept low to minimize dust generation; application of dust palliatives to haul roads or access roads shall be implemented at intervals sufficient enough to minimize dust generation from vehicle traffic.
- Soil binders shall be reapplied as needed.
- Apply soil binders for temporary wind erosion protection
- Apply soil binders on access roads for wind erosion protection and erosion control
- Use of soil binder material shall be selected by the contractor for particular applications and shall meet CASQA standards and specifications.

Application of water shall be used to minimize dust generation from wind erosion forces. During windy conditions (forecasted and / or actual over 20 mph or greater) wind erosion shall be applied at intervals sufficient enough to adequately control wind erosion. Additionally, vehicle traffic speed limits should be kept low to minimize dust generation; application of dust palliatives to haul roads or access roads shall be implemented at intervals sufficient enough to minimize dust generation from vehicle traffic.

3. NON-STORMWATER CONTROLS AND WASTE AND MATERIALS MANAGEMENT

The following non-stormwater control BMP selection table indicates the BMPs that shall be implemented to control sediment on the construction site.

Table 4: Standard Non-Stormwater and Waste and Materials Management

CASQA Fact Sheet	BMP Name
NS-1	Water Conservation Practices
NS-2	Dewatering Operation
NS-3	Paving and Grinding Operation
NS-4	Temporary Stream Crossing
NS-5	Clear Water Diversion
NS-6	Illicit Connection/Discharge
NS-7	Potable Water/Irrigation
NS-8	Vehicle and Equipment Cleaning
NS-9	Vehicle and Equipment Fueling
NS-10	Vehicle and Equipment Maintenance
NS-11	File Driving Operation
NS-12	Concrete Curing
NS-13	Concrete Finishing
NS-14	Material and Equipment Use Over Water
NS-15	Demolition Removal Adjacent to Water
NS-16	Temporary Batch Plants

Non-stormwater, as applicable, BMPs shall be implemented at all times during site activities.

4. MATERIALS MANAGEMENT AND WASTE MANAGEMENT

Materials management control practices consist of implementing procedural and structural BMPs for handling, storing and using construction materials to prevent the release of those materials into stormwater discharges. The amount and type of construction materials to be utilized at the Site will depend upon the type of construction and the length of the construction period. The materials may be used continuously, such as fuel for vehicles and equipment, or the materials may be used for a discrete period, such as soil binders for temporary stabilization.

Waste management consist of implementing procedural and structural BMPs for handling, storing and ensuring proper disposal of wastes to prevent the release of those wastes into stormwater discharges.

Materials and waste management pollution control BMPs shall be implemented to minimize stormwater contact with construction materials, wastes and service areas; and to prevent materials and wastes from being discharged off-site. The primary mechanisms for stormwater contact that shall be addressed include:

- Direct contact with precipitation
- Contact with stormwater run-on and runoff
- Wind dispersion of loose materials
- Direct discharge to the storm drain system through spills or dumping
- Extended contact with some materials and wastes, such as asphalt cold mix and treated wood products, which can leach pollutants into stormwater.

Table 5: Standard Temporary Maeterials Management BMPs

CASQA Fact Sheet	BMP Name
WM-01	Material Delivery and Storage
WM-02	Material Use
WM-03	Stockpile Management
WM-04	Spill Prevention and Control
WM-05	Solid Waste Management
WM-06	Hazardous Waste Management
WM-07	Contaminated Soil Management
WM-08	Concrete Waste Management
WM-09	Sanitary-Septic Waste Management
WM-10	Liquid Waste Management

5. POST CONSTRUCTION STORMWATER MANAGEMENT MEASURES

Post construction BMPs are permanent measures installed during construction, designed to reduce or eliminate pollutant discharges from the site after construction is completed.

Where the site is subject to an MS4, an approved SWMP report and plan is required.

Post-Construction BMP's are noted on the plan (or as specified per the SWPPP).

6. BMP INSPECTION AND MAINTENANCE

Routine weekly inspections of BMPs, along with inspections before, during (as applicable), and after qualifying rain events are required (or as specified by the SWPPP, if applicable). A BMP inspection checklist must be filled out for inspections and maintained on-site with the SWPPP, where required).

BMPs shall be maintained regularly to ensure proper and effective functionality and as soon as practicable after a rain event. If necessary, corrective actions shall be implemented within 72 hours of identified deficiencies.

7. CONSTRUCTION SITE MONITORING PROGRAM

This Construction Site Monitoring Program was developed to address the following objectives:

1. To demonstrate that the site is in compliance with the intent of these plans, and excess discharge (or standards established under the SWPPP, if applicable) are maintained;
2. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;
3. To determine whether immediate corrective actions, additional Best Management Practices (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in stormwater discharges and authorized non-stormwater discharges;
4. To determine whether BMPs are effective in preventing or reducing pollutants in stormwater discharges and authorized non-stormwater discharges.

8. ROUTINE SITE OBSERVATIONS AND INSPECTIONS

Unless otherwise determined by a SWPPPP, the site will be requried to undergo the following:

- Visual inspections of Best Management Practices (BMPs);
- Visual monitoring of the site for storm related runoff to determine if excess stormwater discharges are occurring that require additional or modifications to this plan;
- Visual monitoring of the site for non-stormwater discharges;

9. ROUTINE BMP INSPECTIONS

Inspections of BMPs are conducted to identify and record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

Table 6 provides a general checklist for use in routine inspections

Table 6: General Checklist for Review of Site Conditions

NO.	DESCRIPTION
1.	Are all erosion control devices in-place and functioning in accordance with the SWPPP and erosion control site map?
2.	Are all sediment traps, barriers, and basins clean and functioning properly?
3.	Are sediment controls in place at the site perimeter and storm drain inlets?
4.	Are all discharge points free of any noticeable pollutants?
5.	Are construction accesses stabilized adequately?
6.	Is sediment, debris, or mud being cleaned from public roads where they intersect with site access roads?
7.	Are all exposed slopes protected from erosion?
8.	Are all temporary stockpiles or construction materials located in approved areas (as shown on map) and protected from erosion?
9.	Are dust control measures being appropriately implemented?
10.	Are all materials and equipment properly covered?
11.	Are all material (paint, fuel, oil, etc.) handling and storage areas clean and free of spills and leaks?
12.	Are all equipment storage and maintenance areas clean and free of spills and leaks?
13.	Are all on-site traffic routes, parking, and storage of equipment and supplies restricted to designated areas as shown on site map?
14.	Is concrete washing conducted on-site? If so, are wash-out areas defined and maintained properly?
15.	Are there areas where construction activities have temporarily or permanently ended?
16.	Is construction debris or other litter being blown off-site?
17.	Are fuel storage areas equipped with secondary containment?
18.	Are off-site material storage areas being managed properly?
19.	Is the Notice of Permit Coverage posted in a location where the public can view it without entering the site?
20.	Other:

9.1 NON-STORMWATER DISCHARGE OBSERVATIONS

Each drainage area will be inspected for the presence of or indications of prior unauthorized and authorized non-stormwater discharges. Inspections will record:

- Presence or evidence of any non-stormwater discharge (authorized or unauthorized);
- Pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.); and
- Source of discharge.

Table 7 provides a list of non-visble pollutants that me be encountered at sites that should be of particular concern. (See Adjacent Column)

10. CONTRACTOR LIST

General Contractor

_____

_____

Sub-Contractor Responsible for Stormwater Management Implementation

_____

Table 7: Common Non-Visible Pollutants and Water Quality Indicator Constituents Worksheet

General Work Activity / Potential Pollutants	Water Quality Indicators of Potential Constituents
Adhesives	COD, Phenols, SVOCs
Asphalt Work	VOC
Cleaning	
Acids	pH
Bleaches	Residual Chlorine
TSP	Phosphate
Solvent	VOC's, SVOC
Detergents	MBA's
Concrete / Masonry Work	
Sealant (Methyl methacrylate)	SVOC
Curing Compounds	VOCs, SVOC's, pH
Ash, Slag, Sand	pH, Al, Ca, Va, Zn
Drywall	Cu, Al, General Minerals
Framing / Carpentry	
Treated Wood	Cu, Cr, As, Zn
Particle Board	Formaldehyde
Untreated Wood	BOD
Grading / Earthwork	
Gypsum / Lime Amendments	pH
Contaminated Soil	Constituents Specific to Contaminate
Heating, Ventilation, Air Conditioning	Freon
Insulation	Al, Zn
Landscaping	
Pesticides / Herbicides	Product Dependent – See Label
Fertilizer	TKN, NO_3, BOD, COD, DOC, Sulfate, NH_3, Phosphate, Potassium
Aluminum Sulfate	Al, TDS, Sulfate
Liquid Waste	Constituents specific to product
Painting	
Resin	COD, VOCs
Thinners	COD, SVOCs
Paint Strippers	VOCs, SVOCs, Metals
Lacquers, Varnishes, Enamels	COD, VOCs, SVOCs
Sealants	COD
Adhesives	Phenols, SVOCs
Planting / Vegetation Management	
Vegetation stockpiles	BOD
Fertilizer	
Pesticides / Herbicides	Product Dependent
Plumbing	
Solder, flux, pipe fitting	Cu, Pb, Sn, Zn
Pools and Fountains	Residual Chlorine, Cu, Chloramines
Removal of Existing Structures	Zn, VOCs, PCBs, Also See Other Applicable Activity Categories Herein.
Roofing	Cu, Pb, VOCs
Sanitary Waste (Sewer Line Breaks and Portable Toilets)	BOD, Total / Fecal Coliform
Soil Preparation / Amendment / Dust Control	
Polymer / Co-polymer	TKN, NO_3, BOD, COD, DOC, Sulfate, Ni,
Lignin Sulfate	TDS. Alkalinity
Psllium	COD, TOC
Cuar / Plant Gums	COD, TOC, Ni
Solid Waste (Leakage)	BOD
Utility Line Testing and Flushing	Residual Chlorine, Cloramines
Vehicle and Equipment Use	
Batteries	Sulfuric Acid, Pb, pH

Adopted from *Attachment S, Caltrans SWPPP/WPCP Preparation Manual*, February 2003; and *CASQA Construction BMP Handbook*, 2003

DEL NORTE FOODS

DATE: 11-05-22

BENCHMARK

BM ID : HUE-14
DESCRIPTION : FOUND BM AT CENTERLINE INTERSECTION OF HUENEME ROAD & CYPRESS ROAD
ELEVATION : 9.327 FT

LEGAL DESCRIPTION

PARCEL B, AS SHOWN AND DESIGNED ON THAT CERTAIN LOT LINE ADJUSTMENT (PLANNING AND ZONING PERMIT NO. 98-5-42), RECORDED MAY 14, 1998, AS DOCUMENT NO. 98-76147 OF OFFICIAL RECORDS, IN THE CITY OF OXNARD, COUNTY OF VENTURA, STATE OF CALIFORNIA; AND BEING ALL OF PARCEL 2 OF LOT MERGER (PLANNING AND ZONING PERMIT NO. 98-5-41), RECORDED MAY 11, 1998, AS DOCUMENT NO. 98-73258 OF OFFICIAL RECORDS, EXCEPT FOR THE NORTHERLY 620.50 FEET OF SAID PARCEL 2.

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TWO WORKING DAYS BEFORE YOU DIG

PREPARED BY:
RJR ENGINEERING & CONSULTING, INC
Planning-Civil Engineering-Flood Control/Hydrology
Storm Water Management-Land Planning/Entitlements
2340 Palma Drive, Suite 200, Ventura, CA 93003
(805) 485-3935
E-mail: rjr@rjreng.com

REGISTERED PROFESSIONAL ENGINEER — ROBERT W. ANDERSON — C-058383 EXP. 12-31-22 — CIVIL — STATE OF CALIFORNIA

DATE	DESCRIPTION	BY

REVIEWED BY: _____ DATE _____ DATE

CITY OF OXNARD — Development Services Department

EROSION CONTROL NOTES, CONT.
5980 & 6000 ARCTURUS AVENUE
OXNARD, CA 93033

APPROVED: _____ CITY ENGINEER R.C.E. 46333 EXP. DATE 12-31-22

SCALE: HORIZ. NONE VERT. NONE

DRAWN BY: C. KAMINSKY / T. AGUILAR

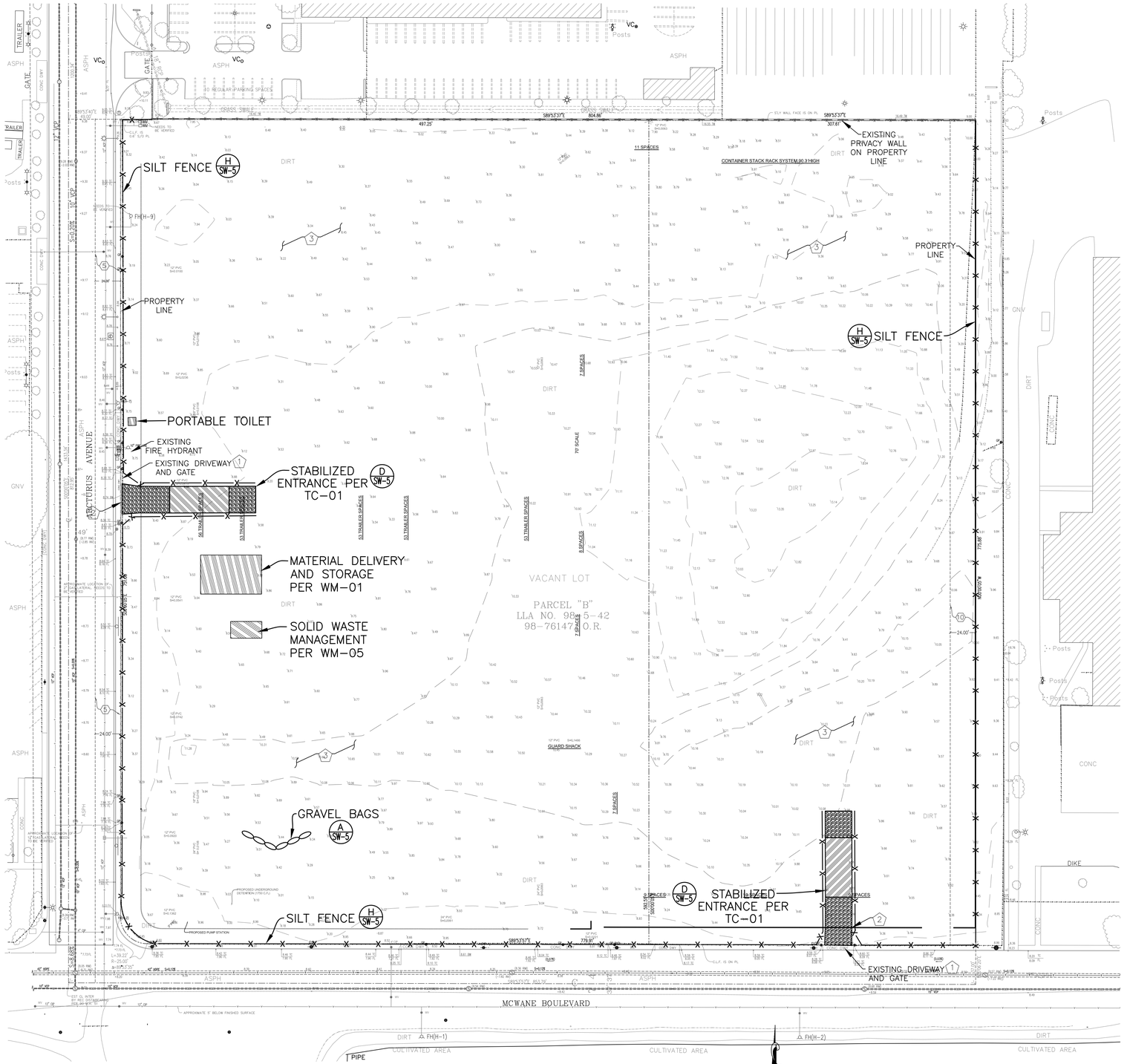
CHECKED BY: R. HAJAS / R. ANDERSON

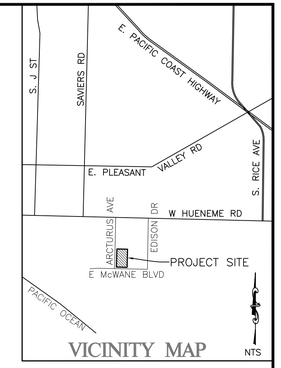
SHEET No. SW-2 OF SW-5

DRAWING NUMBER

CD SUBMITTAL SET I - 11-05-22

SWPPP NOTES





EROSION CONTROL LEGEND

- SILT FENCE PER DETAIL H SW-5
- GRAVEL BAGS
- FIBER ROLES PER DETAIL E SW-5
- FILTREXX SOXX INLET PROTECTION PER G SW-5
- FILTREXX SOXX CHECK DAM PER B SW-5

START OF PROJECT EROSION AND SEDIMENT CONTROL NOTES

1. ENSURE EXISTING FENCE AND GATES ARE ADEQUATE FOR SITE SECURITY. USE ADDITIONAL MEANS AS NECESSARY TO SECURE SITE.
2. CUT ACCESS ROAD AND INSTALL STABILIZED ENTRANCE. INSTALL D_{50} = 2" DIA. ROCK TO EDGE OF EXISTING DRIVEWAY APRON AS SHOWN.
3. CLEAR AND GRUB WITHIN LIMITS SHOWN ON PLAN.
4. INSTALL EROSION CONTROL MEASURES AS SHOWN ON PLAN.

NOTE TO CONTRACTOR:

1. THE CONTRACTOR IS TO USE THE NECESSARY MEANS TO ENSURE ZERO SEDIMENT IS TRANSPORTED OFF-SITE VIA VEHICLE, STORMWATER, WIND, ETC. VEHICLE TIRES ARE TO BE WASHED FREE OF SEDIMENT PRIOR TO LEAVING SITE. CONSTRUCTION ENTRANCE IS TO BE MAINTAINED DAILY AND STREET SWEEPING MUST BE UTILIZED AS NECESSARY.
2. THE CONTRACTOR IS RESPONSIBLE FOR ADDITIONAL BMP'S, THAT MAY NOT BE NOT SHOWN HEREON, AS NECESSARY TO MAINTAIN ZERO SEDIMENT TRANSPORT OFF-SITE THROUGHOUT CONSTRUCTION PHASING.
3. NO EQUIPMENT FLUID, VEHICLE FLUID, MACHINERY FLUID, ETC. IS TO COME IN CONTACT WITH THE ENGINEERING MATERIALS, I.E. SOIL, BASE MATERIAL, CONCRETE ETC.
4. UPON COMPLETION OF FINAL GRADING OF ALL DISTURBED EARTH, THE CONTRACTOR IS TO APPLY FLEXTERRA HYDROSEED (OR AN APPROVED EQUAL), WITH AN APPROVED SEED MIX, APPROVED BY THE LANDSCAPE ARCHITECT AND THE CITY OF OXNARD. TEMPORARY BMP'S ARE TO REMAIN IN PLACE UNTIL 70% GROWTH COVERAGE HAS BEEN ESTABLISHED AND AT WHICH TIME THE APPROVAL OF THE PROJECT ENGINEER MUST BE OBTAINED PRIOR TO THE REMOVAL OF ANY TEMPORARY BMP'S.

DEL NORTE FOODS

DATE: 11-05-22

BENCHMARK

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REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-22 CIVIL STATE OF CALIFORNIA

REVISIONS			
MARK	DATE	DESCRIPTION	BY

REVIEWED BY:
DATE
DATE

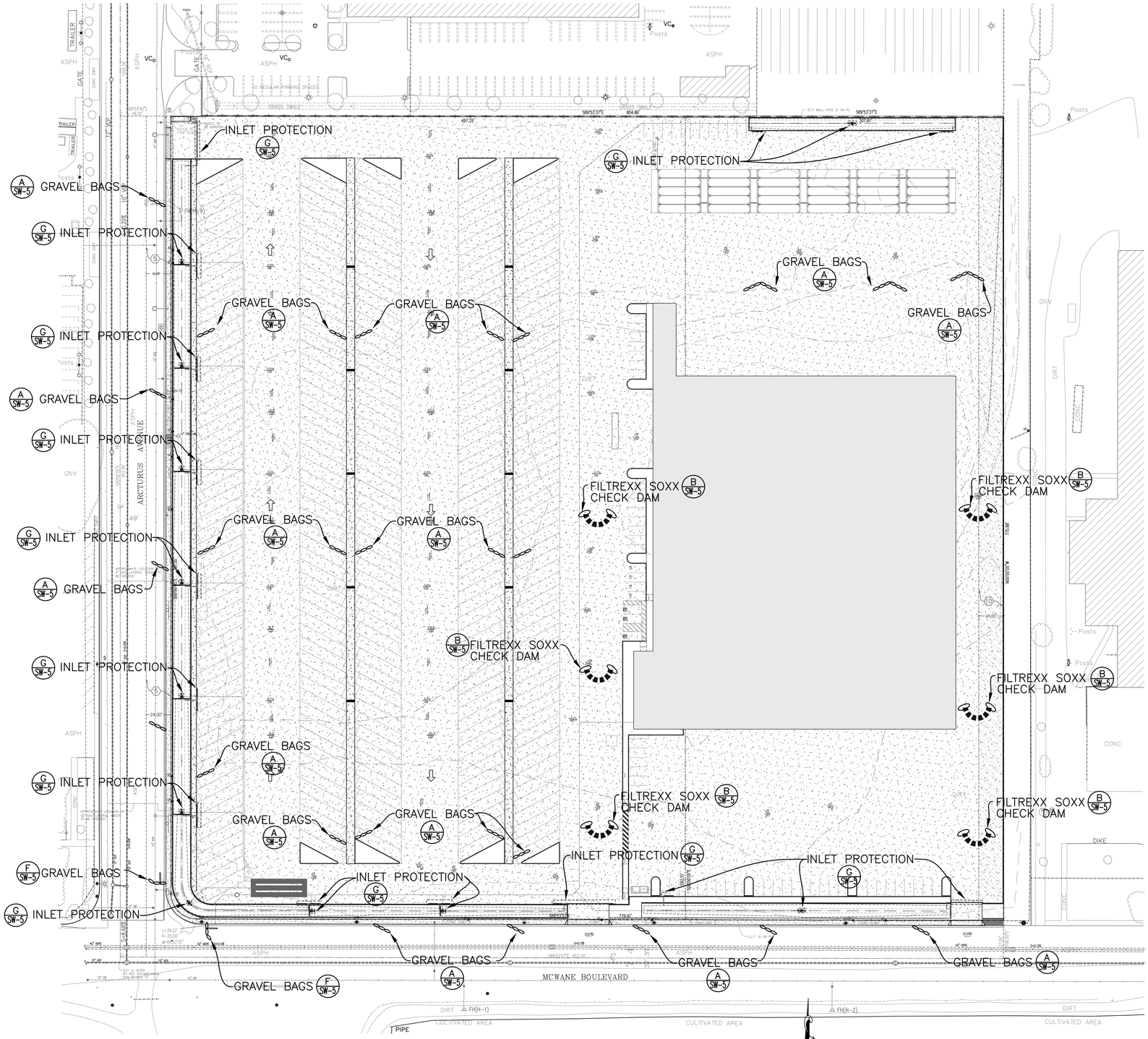
CITY OF OXNARD CALIFORNIA — Development Services Department

STORMWATER CONTROL PLAN
5980 & 6000 ARCTURUS AVE
OXNARD, CA 93033

APPROVED:
CITY ENGINEER R.C.E. 46333 EXP. DATE 12-31-22

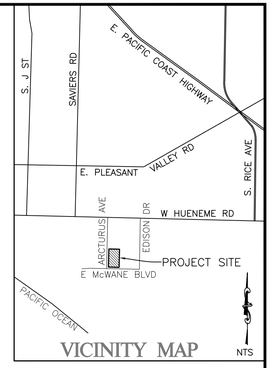
SCALE: HORIZ. 1" = 50'
VERT. NONE
DRAWN BY: C. KAMINSKY / T. AGUILAR
CHECKED BY: R. HAJAS / R. ANDERSON
SHEET No. SW-3 OF SW-5
DRAWING NUMBER

CD SUBMITTAL SET | - 11-05-22
SWPPP_ROUGH GRADE



EROSION CONTROL LEGEND

- SILT FENCE PER DETAIL (H / SW-5)
- GRAVEL BAGS
- FIBER ROLES PER DETAIL (E / SW-5)
- FILTREXX SOXX INLET PROTECTION PER (G / SW-5)
- FILTREXX SOXX CHECK DAM PER (B / SW-5)



NOTE TO CONTRACTOR:

1. THE CONTRACTOR IS TO USE THE NECESSARY MEANS TO ENSURE ZERO SEDIMENT IS TRANSPORTED OFF-SITE VIA VEHICLE, STORMWATER, WIND, ETC. VEHICLE TIRES ARE TO BE WASHED FREE OF SEDIMENT PRIOR TO LEAVING SITE. CONSTRUCTION ENTRANCE IS TO BE MAINTAINED DAILY AND STREET SWEEPING MUST BE UTILIZED AS NECESSARY.
2. THE CONTRACTOR IS RESPONSIBLE FOR ADDITIONAL BMP'S, THAT MAY NOT BE NOT SHOWN HEREON, AS NECESSARY TO MAINTAIN ZERO SEDIMENT TRANSPORT OFF-SITE THROUGHOUT CONSTRUCTION PHASING.
3. NO EQUIPMENT FLUID, VEHICLE FLUID, MACHINERY FLUID, ETC. IS TO COME IN CONTACT WITH THE ENGINEERING MATERIALS, I.E. SOIL, BASE MATERIAL, CONCRETE ETC.
4. UPON COMPLETION OF FINAL GRADING OF ALL DISTURBED EARTH, THE CONTRACTOR IS TO APPLY FLEXTERRA HYDROSEED (OR AN APPROVED EQUAL), WITH AN APPROVED SEED MIX, APPROVED BY THE LANDSCAPE ARCHITECT AND THE CITY OF THOUSAND OAKS. TEMPORARY BMP'S ARE TO REMAIN IN PLACE UNTIL 70% GROWTH COVERAGE HAS BEEN ESTABLISHED AND AT WHICH TIME THE APPROVAL OF THE PROJECT ENGINEER MUST BE OBTAINED PRIOR TO THE REMOVAL OF ANY TEMPORARY BMP'S.

DEL NORTE FOODS

GRAPHIC SCALE
0 1" 2" 3"
0 25 50 100 150
1" = 50'

DATE: 11-05-22

BENCHMARK

BM ID : HUE-14
DESCRIPTION : FOUND BM AT CENTERLINE INTERSECTION OF HUENEME ROAD & CYPRESS ROAD
ELEVATION : 9.327 FT

LEGAL DESCRIPTION

PARCEL B, AS SHOWN AND DESIGNED ON THAT CERTAIN LOT LINE ADJUSTMENT (PLANNING AND ZONING PERMIT NO. 98-5-42), RECORDED MAY 14, 1998, AS DOCUMENT NO. 98-76147 OF OFFICIAL RECORDS, IN THE CITY OF OXNARD, COUNTY OF VENTURA, STATE OF CALIFORNIA; AND BEING ALL OF PARCEL 2 OF LOT MERGER (PLANNING AND ZONING PERMIT NO. 98-5-41), RECORDED MAY 11, 1998, AS DOCUMENT NO. 98-73258 OF OFFICIAL RECORDS, EXCEPT FOR THE NORTHERLY 620.50 FEET OF SAID PARCEL 2.

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PREPARED BY:
RJR ENGINEERING & CONSULTING, INC
Planning-Civil Engineering-Flood Control/Hydrology
Storm Water Management-Land Planning/Entitlements
2340 Palma Drive, Suite 200, Ventura, CA 93003
(805) 485-3935
E-mail: rjr@rjreng.com

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-058383 EXP. 12-31-22 CIVIL STATE OF CALIFORNIA

REVISIONS			
MARK	DATE	DESCRIPTION	BY

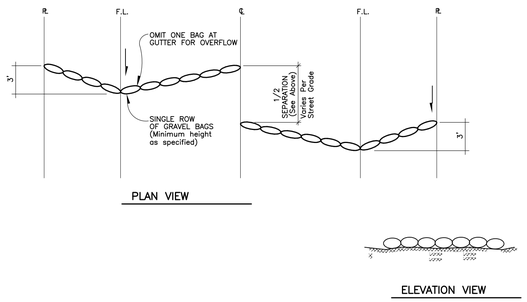
REVIEWED BY:
DATE
DATE

CITY OF OXNARD — Development Services Department

STORMWATER CONTROL PLAN
5980 & 6000 ARCTURUS AVE
OXNARD, CA 93033

APPROVED:
CITY ENGINEER R.C.E. 46333 EXP. DATE 12-31-22
SCALE: HORIZ. 1" = 50'
VERT. NONE
SHEET No. SW-4 OF SW-5
DRAWN BY: C. KAMINSKY / T. AGUILAR
DRAWING NUMBER
CHECKED BY: R. HAJAS / R. ANDERSON

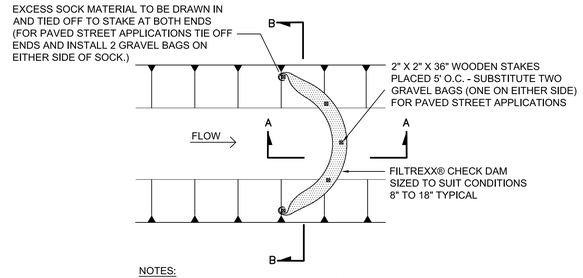
CD SUBMITTAL SET | - 11-05-22
SWPPP - LANDSCAPING & FINAL BMP'S



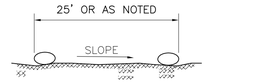
PLAN VIEW

ELEVATION VIEW

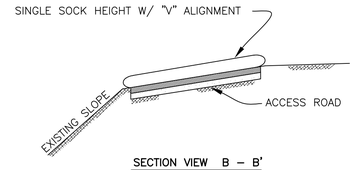
A SW-5 GRAVEL BAG CHECK DAM
NO SCALE



NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. CHECK DAM SHOULD BE USED IN AREAS THAT DRAIN 10 ACRES OR LESS.
3. SEDIMENT SHOULD BE REMOVED FROM BEHIND CHECK DAM ONCE THE ACCUMULATED HEIGHT HAS REACHED ½ THE HEIGHT OF THE CHECK DAM.
4. CHECK DAM CAN BE DIRECT SEEDED AT THE TIME OF INSTALLATION.
5. CONTRACTOR IS REQUIRED TO BE A FILTREXX CERTIFIED™ INSTALLER.

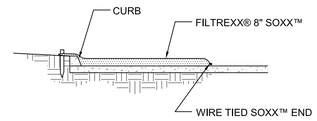


FRONT VIEW A – A'

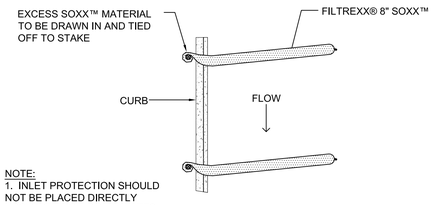


SECTION VIEW B – B'

B SW-5 FILTREXX SOXX CHECK DAM
NO SCALE



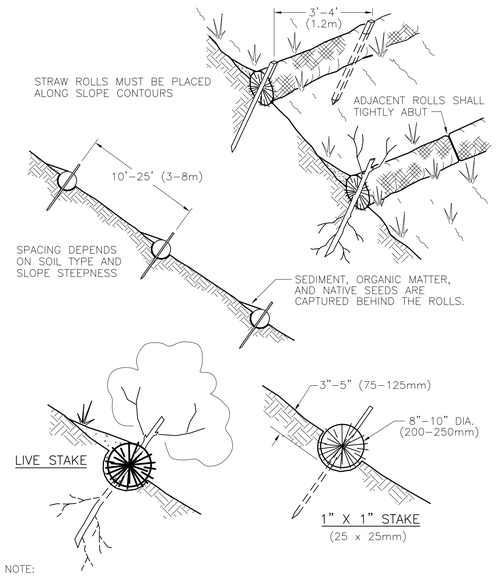
SECTION
NTS



NOTE:
1. INLET PROTECTION SHOULD NOT BE PLACED DIRECTLY UPSLOPE FROM DRAIN INLETS

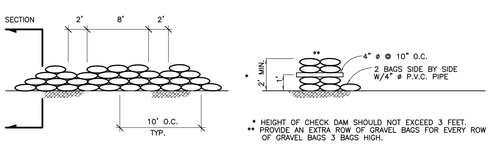
PLAN
NTS

C SW-5 CHECK DAM W/ ROADWAY "V" ALIGNMENT
NO SCALE



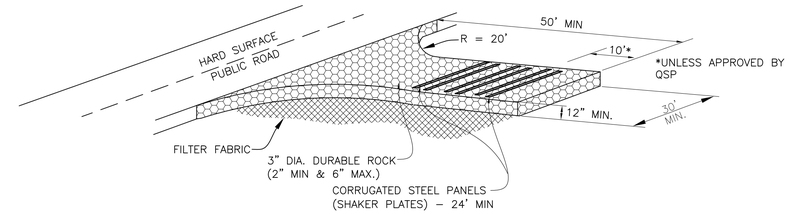
NOTE:
1. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" (75-125mm) DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.

E SW-5 FIBER ROLL PLACEMENT (STRAW WATTLES)
NO SCALE

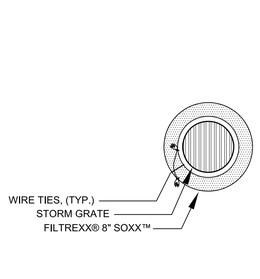


* HEIGHT OF CHECK DAM SHOULD NOT EXCEED 3 FEET.
** PROVIDE AN EXTRA ROW OF GRAVEL BAGS FOR EVERY ROW OF GRAVEL BAGS 3 BAGS HIGH.

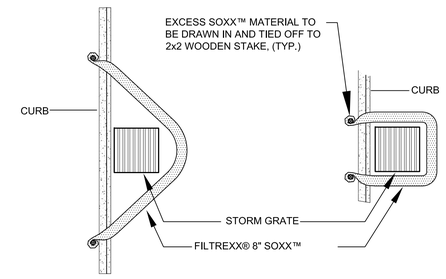
F SW-5 GRAVEL BAG CHECK DAM W/ 4" PVC PIPE
NO SCALE



D SW-5 STABILIZED CONSTRUCTION ENTRANCE
NO SCALE



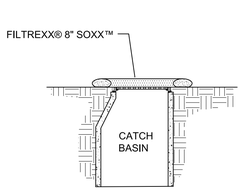
DRAIN INLET PLAN



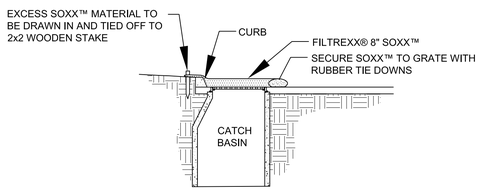
CURBSIDE OPTION "A" PLAN*

CURBSIDE OPTION "B" PLAN*

*ADJUST PER ACTUAL FIELD CONDITIONS



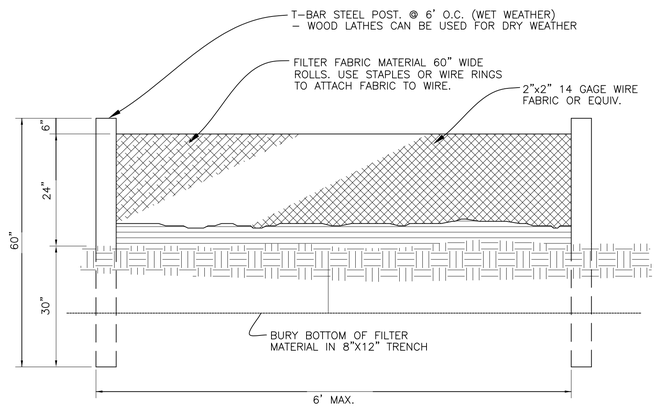
DRAIN INLET SECTION

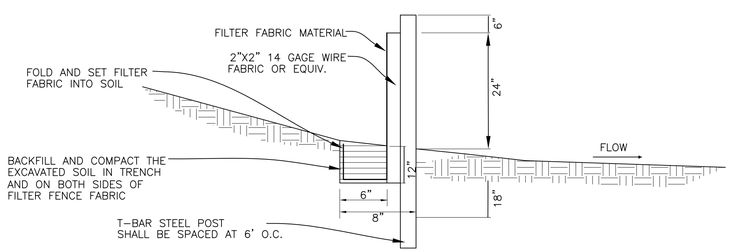


CURBSIDE SECTION

NOTES:
1. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
2. FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

G SW-5 AREA DRAIN/ CATCH BASIN INLET PROTECTION
NO SCALE





H SW-5 SILT FENCE DETAIL

DEL NORTE FOODS

DATE: 11-05-22

BENCHMARK

BM ID : HUE-14
DESCRIPTION : FOUND BM AT CENTERLINE INTERSECTION OF HUENEME ROAD & CYPRESS ROAD
ELEVATION : 9.327 FT

LEGAL DESCRIPTION

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PREPARED BY:
RJR ENGINEERING & CONSULTING, INC
Planning-Civil Engineering-Flood Control/Hydrology
Storm Water Management-Land Planning/Entitlements
2340 Palma Drive, Suite 200, Ventura, CA 93003
(805) 485-3935
E-mail: rjr@rjreng.com

REGISTERED PROFESSIONAL ENGINEER ROBERT W. ANDERSON C-059383 EXP. 12-31-22 CIVIL STATE OF CALIFORNIA

REVISIONS			
MARK	DATE	DESCRIPTION	BY

REVIEWED BY: _____ DATE _____
_____ DATE _____

CITY OF OXNARD — Development Services Department

EROSION CONTROL DETAILS
5980 & 6000 ARCTURUS AVENUE
OXNARD, CA 93033

APPROVED: _____
CITY ENGINEER R.C.E. 46333 EXP. DATE 12-31-22
SCALE: HORIZ. NONE VERT. NONE
SHEET No. SW-5 OF SW-5
DRAWN BY: C. KAMINSKY / T. AGUILAR
CHECKED BY: R. HAJAS / R. ANDERSON
DRAWING NUMBER

CD SUBMITTAL SET I - 11-05-22

SWPPP DETAILS

Appendix G
Ground Contamination Reports

ESA

G1 Phase I Environmental Assessment Report

PHASE I ENVIRONMENTAL SITE ASSESSMENT

5980 and 6000 Arcturus Avenue
Oxnard, California

Prepared For:

Controlled Environments Construction
1562 Parkway Loop, Suite E
Tustin, California 92780

Prepared By:

Northgate Environmental Management, Inc.
24411 Ridge Route Drive, Suite 130
Laguna Hills, California 92653

June 19, 2015

Project No. 2036.04

Phase I Environmental Site Assessment

5980 and 6000 Arcturus Avenue
Oxnard, California

June 19, 2015

Prepared For:

Controlled Environments Construction
1562 Parkway Loop, Suite E
Tustin, California 92780

Prepared By:

Northgate Environmental Management, Inc.
24411 Ridge Route Drive, Suite 130
Laguna Hills, California 92653

Derrick S. Willis
Principal

Nicky E. Galloway, P.E.
Project Engineer

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F The EDR Historical Topographic Map Report
G The EDR-City Directory Abstract
H Phase I Environmental Site Assessment Questionnaire
I Environmental Professional Qualifications

1.0 EXECUTIVE SUMMARY

This report presents the results of a Phase I Environmental Site Assessment (ESA) performed by Northgate Environmental Management, Inc. (Northgate) for Controlled Environments Construction (CEC) at 5980 and 6000 Arcturus Avenue in the City of Oxnard, California (the Site). The Site currently consists of approximately 13.65 acres of vacant land with a railroad spur extending through the central portion of the Site.

Our review indicates that the site was utilized as agricultural land from the 1930s to the 1960s. Subsequently, a portion of the Site located at 5980 Arcturus Avenue was formerly developed for chemical manufacturing processes in the southern portion of the Site. Diamond Shamrock Chemical Company (DSCC) purchased the Site in 1966 and developed it with a sodium silicate production area in 1967 and a polyester resin plant in 1969. The polyester resin plant occupied approximately 3.5 acres of the Site and was sold to Koppers Company in 1978 before being purchased by Reichhold Chemical (Reichhold) in 1989. The Site was sold to Cook Composites and Polymer Company (CCPC) in January 1996. Reichhold entered into a Voluntary Cleanup Agreement (VCA) with the Department of Toxic Substance Control (DTSC) for the Site on January 2, 2002. This portion of the Site is historically known to use raw materials including bromine, styrene, maleic anhydride, and methylene chloride, which were previously stored in aboveground storage tanks (ASTs). Several recorded incidents of spills and releases are reported for this portion of the Site as well as the principal waste streams of permitted wastewater discharges to the City of Oxnard's wastewater treatment plant, permitted air emissions, and off-site disposal of acid distillate and non-recycled resins.

Site assessment investigations for the portion of the Site located at 5980 Arcturus Avenue, which included sampling and analyzing soil and groundwater, between 1996 and 2006 indicated that surface soil, shallow soil, and groundwater had been variously impacted with ethylbenzene, chlorinated solvents, xylenes, and benzene. The results of the investigations indicated that the concentrations of volatile organic compounds (VOCs) have decreased over time in soil and groundwater and that biodegradation of VOCs has been occurring and is projected to continue to occur. Cadmium was also reported in shallow groundwater beneath the Site above drinking water standards. No significant adverse risks to human health as a result of this impact were notes as the groundwater is perched beneath the Site and not used for potable water, the detected concentrations of contaminants are relatively were low, localized, and not migrating off-Site. A Human Health Risk Assessment was prepared for the Site, which concluded that the potential for unacceptable adverse human health effects are not expected for future commercial and/or industrial land use at this Site from exposure to the contaminants of potential concern in soil, soil gas, and shallow groundwater. A no further action (NFA) letter was issued for this portion of the

Site on January 15, 2008; however, the implementation of a Land Use Covenant for commercial and/or industrial land use will be necessary per the requirements of the NFA.

The portion of the Site identified at 6000 Arcturus Avenue was original constructed by either DSCC or its predecessor Diamond Alkali between 1966 and 1967. Sodium silicate production was initiated in 1967 followed by the production of polyester resin beginning in 1969. This portion of the Site was sold to Koppers Company followed by Occidental Chemical Corporation (OCC). Listings for this facility indicate that sodium silicate glass was previously produced until July 1995. Soil was found to have been impacted and a VCA was entered in to for this portion of the Site by OCC and the DTSC on May 2, 1995. A NFA letter for this portion of the Site is recorded in the Voluntary Cleanup Program (VCP) notes dated February 27, 1997 that reportedly indicates no land use restrictions. Historically, the remainder of the Site at 5980 and 6000 Arcturus Avenue has been used for commercial agriculture prior to 1993 followed by vacant, undeveloped land after 1993.

One off-Site facility was identified in the vicinity with the potential to impact soil, groundwater, and/or soil vapor quality at the Site, the Arcturus Manufacturing Corporation, located approximately 0.01 miles downgradient of the Site. This site is also listed on the leaking underground storage tank (LUST) database for a release of diesel impacting groundwater that received regulatory closure in 2000. No further information was available regarding this release. Based on the relative proximity to the Site and the lack of available data showing the extent of the contamination plume, impacts to soil, groundwater, and/or soil vapor quality at the subject Site due to this facility could not be ruled out.

In summary, we have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527 at 5980 and 6000 Arcturus Avenue in Oxnard, California. Any exceptions to, or deletions from, this practice are described in Section 2.3 of this report. This assessment has revealed no evidence of Recognized Environmental Conditions (RECs) in connection with the property. Our review also identified the following historic REC (HREC):

- Soil and groundwater have historically been reported to have been variously impacted by ethylbenzene, chlorinated solvents, xylenes, benzene, and cadmium. NFA letters have been issued for the Site with land use restricted to commercial and/or industrial development.

Our review also identified the following potential environmental concerns:

- An off-Site source located at 6001 Arcturus Avenue was identified on the LUST database as a closed case as of 1994, but no further information was available. Based on the

proximity to the Site and the lack of available information regarding the release, possible impacts to groundwater as a result of this release could not be ruled out.

- The site was used for agricultural purposes and may pesticides may have been used.
- An undocumented soil pile was observed on the Site.

Northgate recommends the following:

- A Phase II investigation to document the current conditions of soil, soil vapor and groundwater beneath the Site.
- A Soil Management Plan be completed and implemented to address the handling of soil during excavation and Site activities during development. The plan should address required monitoring and actions required should impacted soil be encountered.

2.0 INTRODUCTION

This report presents the results of a Phase I ESA performed by Northgate for CEC at the facility located at 5980 and 6000 Arcturus Avenue in the City of Oxnard, California. The Site consists of approximately 13.65 acres of land vacant land formerly developed with chemical manufacturing processes. A Site Vicinity Map is shown on Figure 1 and a Site Location Map is shown on Figure 2.

2.1 Purpose

The purpose of this ESA has been to acquire and review information regarding the history of activities on the Site and adjacent areas to evaluate the potential for on-Site soil, groundwater, and/or soil vapor contamination. Northgate has endeavored to perform the ESA in general conformance with the scope and limitations of ASTM E-1527-13, *Standard Practices for Environmental Site Assessments* and 40 CFR Part 312, *Standards and Practices for All Appropriate Inquiry – Final Rule*.

2.2 Scope of Services

This investigation was performed Nicky Galloway, Project Engineer. The scope of work for the investigation included the following services:

- Review of readily available information regarding the history of the Site, including historic aerial photographs, maps, previous reports, and other information, and discussions with individuals familiar with the Site, if available;
- A reconnaissance of the Site and near vicinity;
- Discussions with regulatory officials and review of regulatory agency publications and files, as applicable;
- A review of historic aerial photographs, city directories, and maps of the Site; and
- Preparation of this report.

2.3 Limitations and Exceptions

2.3.1 Limitations

The purpose of an environmental assessment is to reasonably evaluate the potential for, or actual impact of, past practices on a given site area. In performing an environmental assessment, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an exhaustive analysis of each conceivable issue of potential concern. No

investigation is thorough enough to absolutely rule out the presence of hazardous materials at a given site. If hazardous conditions have not been identified during the assessment, such a finding should not be construed as a guarantee of the absence of such materials on the Site, but rather as the result of the services performed within the scope, limitations, and cost of the work performed.

Environmental conditions may exist at the Site that cannot be identified by visual observation. Where subsurface work was performed, our professional opinions are based in part on interpretation of data from discrete sampling locations that may not represent actual conditions at un-sampled locations.

Except where there is express concern of our client, or where specific environmental contaminants have been previously reported by others, naturally occurring toxic substances, potential environmental contaminants inside buildings, or contaminant concentrations that are not of current environmental concern may not be reflected in this document.

Where the scope of services is limited to interview and/or review of readily available reports and literature, any conclusions and/or recommendations are necessarily based largely on information supplied by others, the accuracy or sufficiency of which may not be independently reviewed by Northgate.

Any opinions and/or recommendations presented apply to Site conditions existing at the time of performance of services. We are unable to report on, or accurately predict, generally unforeseeable events that may impact the Site following performance of services, whether occurring naturally or caused by external forces. Therefore, we cannot assume responsibility for such events or their impact. We also cannot assume responsibility for changes in environmental standards, practices, or regulations.

2.3.2 Exceptions

The time intervals between some historical information sources may exceed five (5) years, due to the availability of such records. However, in our opinion, this does not significantly impact our ability to evaluate historic land use conditions at the Site.

At the time this report was prepared, response to request for file reviews were not received from the Oxnard City Fire Department and the Ventura County Air Pollution Control District. This represents a data gap that could potentially impact our ability to evaluate environmental conditions at the Site. Northgate will provide an updated addendum or report once the requested

have all been received and reviewed if the results of the file reviews change the conclusions and recommendations presented.

2.4 User Reliance

This report has been prepared for the exclusive use of CEC, and its parent corporations, subsidiaries, affiliates, partner, partnerships, and lenders in evaluating environmental conditions at the Site. Others may not use or rely on the information contained in this report without the express written consent of Northgate.

3.0 SITE DESCRIPTION

3.1 Location and Legal Description

The Site consists of approximately 13.65 acres of improved land located at 5980 and 6000 Arcturus Avenue in the City of Oxnard, California. The Site consists of two parcels identified as Assessor's Parcel Numbers (APNs) 231-009-313, and -315 in Ventura County. A Site Vicinity Map is shown on Figure 1 and a Site Location Map is shown on Figure 2.

3.2 Site and Vicinity General Characteristics

The Site consists of approximately 13.65 acres of vacant land. A former railroad spur extends into the central portion of the Site and some vegetated dirt mounds are present. The Site vicinity is primarily occupied by commercial and industrial manufacturing development The Site is bordered to the north by a BMW automotive facility, to the east by an industrial facility, Aluminum Precision Manufacturing, to the south by East McWane Boulevard followed by vacant land, and to the west by Arcturus Avenue followed by industrial and manufacturing facilities.

3.3 Geology and Groundwater

3.3.1 Geology

The Site is located in the Oxnard Plain, which is comprised primarily of unconsolidated coalesced alluvial-fan deposits that extend to a depth of more than 2,000 feet below ground surface (bgs). The deposits are formed from the Santa Clara River as well as other local drainages and sediments in the uppermost 40 to 50 feet are reported to consist primarily of sand and gravel. The subsurface materials are reported to become increasingly finer with increasing depth, with silt and clay predominate to depths of approximately 40 to 50 feet bgs followed by sand and gravel to depths of approximately 50 to 150 feet bgs (CH2M Hill, 2004).

Subsurface investigations performed at the Site by others indicate that the Site geology is mainly comprised of mixtures of fine grained sand and silt to depths of approximately 9 to 10 feet bgs. Fill material is present in the surface soils in some locations at depths of up to approximately 2 to 7 feet bgs (WCC, 1996). An approximate 11-foot thick layer of silty clay is reported to underlay the surface materials followed by a sandy silt (CH2M Hill, 2004).

3.3.2 Groundwater

The Site lies within the Oxnard Plain, which is known to have both a relatively shallow groundwater zone and several regionally defined deeper aquifers. The shallow groundwater zone is perched above a thick near-surface clay unit located with approximately the uppermost 40 feet of the subsurface. Some of the deeper, regional aquifers are utilized as water supply sources for the local area (CH2M Hill, 2004). Groundwater monitoring data at the Site from the 1990s indicates a depths to groundwater of approximately 6 to 9 feet bgs. The inferred groundwater flow direction in the area is reported to general be directed toward the northwest and west. Due to the proximity to the Pacific Ocean, it is anticipated that water table elevations in the Site vicinity fluctuate and are both seasonally and tidally influenced, which may be highly variable (WCC, 1996).

3.4 Current Use of the Property

The Site is currently undeveloped, vacant land with a historic rail spur in the central portion of the Site.

3.5 Description of Structures, Roads, Sewage, and Potable Water Sources

The Site is undeveloped, vacant land. There are no roads or structures present at the Site. The City of Oxnard provides water and sewer service to the area.

3.6 Current Uses of Adjoining Properties

The Site is bordered to the north by a BMW automobile facility that also includes emissions testing followed by additional commercial and industrial development. The Site is bordered to the east by industrial development, including Aluminum Precision Manufacturing. East McWane Boulevard followed by vacant, agricultural land border the Site to the south. The Site is bordered to the west by Arcturus Avenue followed by commercial and industrial development. The Site vicinity is primarily occupied by commercial development and industrial/manufacturing facilities.

4.0 USER PROVIDED INFORMATION

4.1 Environmental Liens or Activity Use Limitations

Northgate was not provided with title records for the Site. A review of and environmental lien and activity use limitation (AUL) search provided by EDR indicates that no environmental liens of AULs were found for the Site (EDR, 2015a). However, a NFA letter for the Site indicates that the site land use is limited to commercial or industrial development and use only.

4.2 Valuation Reduction for Environmental Issues

Northgate was not provided with any information indicating that the property values of the Site had been reduced due to environmental issues.

4.3 Owner, Property Manager, and Occupant Information

The Site has been owned by CCPC since 1995. The Site is presently vacant and unoccupied land.

4.4 Specialized Knowledge

CEC has not indicated that it possesses any specialized knowledge regarding the Site beyond the publicly available reports and documents.

4.5 Reason for Performing the Phase I ESA

CEC intends to develop the Site for commercial use as a refrigerated warehouse facility on behalf of a client.

5.0 RECORDS REVIEW

5.1 Standard Environmental Record Sources

To determine if the Site has documented environmental concerns, or if other sites with documented environmental concerns exist within the search radii of the Site prescribed by ASTM 1527-13 and *All Appropriate Inquiry*, Northgate reviewed a summary of regulatory agency databases prepared by Environmental Data Resources (EDR).

The EDR report presenting a summary of the agency databases reviewed and a map showing the location of the identified facilities is provided as Appendix B (EDR, 2015b). The results of the database search and internet follow-up agency file review are summarized below.

5.1.1 Site

The Site is listed on the National Pollutant Discharge Elimination System (NPDES), Emergency Response Notification System (ERNS), CHMIRS, HAZNET, VCP, CERC-NFRAP, Resource Conservation and Recovery Act – Small Quantity Generator (RCRA-SQG), Resource Conservation and Recovery Act – Large Quantity Generator (RCRA-LQG), RAATS, HIST CORTESE, Historic Underground Storage Tanks (HIST UST), Notify 65, WDS, FINDS, EMI, and ENVIROSTOR databases. The facility was listed on the ERNS database for several spills and releases at the Site at 5980 Arcturus Avenue. Listings on the ERNS database for the Site document multiple different releases of chemicals including bromine and dilute caustic soda solution that impacts soil, groundwater, and/or other media. The CHMIRS database additionally lists releases and indicates several unknown releases and releases of several chemicals including styrene, phthalic anhydride, and maleic anhydride between 1988 and 1994. The Site is further listed at this address on the HAZNET database for waste streams including laboratory waste chemicals, aqueous solutions, waste oil, and mixed oil.

A VCA was entered into between Reichhold and the DTSC on January 2, 2002 which is reported on the VCP database the portion of the Site located at 5980 Arcturus Avenue. The listing indicates that the facility was previously used for manufacturing chemicals and that soil and potential other media were impacted. Several reports were prepared for the facility under this VCP and are maintained by the DTSC on their Envirostor website, as discussed in more detail in section 5.6 below. The VCP notes that the Site has a NFA status as January 15, 2008. The EMI database lists the facility for annual emissions of total organic hydrocarbon gases, reactive organic gases, oxides of nitrogen, and carbon monoxide in 1987, 1990, and 1995 to 2010. Additionally, particulate matter was reported between 1998 and 2010 and particulate matter 10 micrometers and smaller was additionally reported in 2002 and between 2004 and 2008.

The Site is listed on the RCRA-LQG database for multiple waste streams including ignitable waste, corrosive waste, lead, mercury, methyl-ethyl-ketone, various halogenated solvents, 2,5-furandione (OR) maleic anhydride, 2-butanone, peroxide (R,T) (OR) methyl ethyl ketone peroxide (R,T), 1,3-isobenzofurandioane (OR) phthalic anhydride in 2004, 2006, and 2008. The HIST UST database indicates that an approximate 1,500-gallon waste UST was formerly located on the Site that was installed in 1968.

The Site is listed on the NPDES and HAZNET databases at 6000 Arcturus Avenue for various waste streams including laboratory waste chemicals, waste oil and mixed oil, aqueous solutions, paint sludge, and asbestos containing waste. The former facility at 6000 Arcturus Avenue is also listed on the VCP, EMI, and Envirostor databases. The VCP database listing for the facility results from a VCA entered between OCC and the DTSC on May 2, 1995. The facility is listed as a previous manufacturer and producer of sodium silicate glasses until July 1995. Soil and soil vapor were indicated to have been impacted but no contaminants of potential concern were reported. The Envirostor listing indicated that the contaminant of concern was oil/water separation sludge. The VCP notes that the Site has a NFA status and no land use restrictions as February 27, 1997. In 1987 and 1990, the facility was listed on the EMI database for annual emissions of carbon monoxide, oxides of nitrogen, oxides of sulphur, particulate matter, and particulate matter 10 micrometers and smaller.

The database listings indicate that contamination has historically been present in shallow soils and groundwater at the subject Site. Additional details of previous investigations at the Site are presented in Section 5.6.

5.1.2 Off-Site Sources

The regulatory agency database search prepared by EDR indicates the presence of 105 agency listings for facilities within an approximate one-mile radius of the Site. Facilities with releases impacting groundwater located within 0.25-mile upgradient and/or cross gradient of the Site, or otherwise judged to be of potential impact to soil or groundwater quality at the Site, are summarized in the table on the following pages. Relevant documents pertaining to the reviews are located in Appendix C.

Property Name	Agency Database	Location Relative to Site	Potential Environmental Concern
Arcturus Manufacturing Corporation, 6001 Arcturus Road, Oxnard	RCRA-SQG, ICIS, FINDS, NPDES, HIST CORTESE, LUST, HIST UST, HAZNET, WDS, CA FID UST, SWEEPS UST, and EMI	Approximately 0.01-miles west-northwest (downgradient) of the Site	The facility is listed as a precision cast parts corporation that is listed on the LUST database for a release of diesel impacting groundwater that received regulatory closure in 1994. No further information was available regarding this release, the cleanup actions, or analytical data. Based on the relative distance and location, the potential threat to groundwater at the Site could not be ruled out.
BMW, 5650 and 5900 Arcturus Avenue, Oxnard	LUST, EDR US Hist Auto Stat, RCRA-LQG, FINDS, NPDES, SLIC, and AST	Approximately 0.02-miles northwest (downgradient) of the Site	The facility is listed on the LUST database as a BMW engineering and emissions test center that includes two gasoline ASTs and seven fuel dispensers with a leak reported in 2001. Soil excavation and confirmation sampling were conducted and approximately 0.33 cubic yards of gasoline contaminated soil were identified and removed from beneath the damaged piping that cause the leak. Soil and groundwater samples collected were analyzed for VOCs and the limited detected concentrations of VOCs were below regulatory screening levels. Based on these results, the Regional Water Quality Control Board (RWQCB) issued a NFA letter for the investigated area. Based on the relatively small impacted area and the regulatory NFA letter, the facility does not appear the represent a significant threat to soil, groundwater, and/or soil vapor quality at the Site.

Property Name	Agency Database	Location Relative to Site	Potential Environmental Concern
Oxnard Harbor District, 5851 Arcturus Avenue, Oxnard	HIST CORTESE, LUST, and UST	Approximately 0.10-miles north-northwest (downgradient) of the Site	The facility is listed on the LUST database for a leaking gasoline UST that impacted groundwater that received regulatory closure in 1998. No further information was available regarding this release, the cleanup actions, or analytical data. Based on the relative distance, it is not likely that this release has the potential be a significant threat to soil, groundwater, and/or soil vapor quality at the Site.
Aluminum Precision Products, 1001 McWane Boulevard, Oxnard	NPDES, SLIC, CHMIRS, ENVIROSTOR, WDS, RCRA-LQG, ICIS, FINDS, and LUST	Approximately 0.11-miles east-southeast (crossgradient) of the Site	The facility is listed for a release of tetrachloroethylene (PCE) vapor resulting from a mixer not being on when chemicals were added, which results in a cloud release. This release is reported to have received regulatory closure in 2006. The facility is also listed on the LUST database with no further information available. Based on the relative distance, crossgradient location, and regulatory closure status, it is Northgate's opinion that the releases at this facility at not likely to be a significant threat to soil, groundwater, and/or soil vapor quality at the Site.
Borla Performance Industries/Irwin Industries Inc., 5901 Edison Road, Oxnard	RCRA-SQG, FINDS, LUST, UST, NPDES, and HIST CORTESE	Approximately 0.16-miles east (upgradient) of the Site	The facility is listed on the LUST database for a release of gasoline impacting groundwater in 1988. The impacted area was reported to be excavated and treated after site assessments were performed. The case received regulatory closure in 1995. Based on the relative distance and regulatory closure status, it is Northgate's opinion that the release at this facility at not likely to be a significant threat to soil, groundwater, and/or soil vapor quality at the Site.

Property Name	Agency Database	Location Relative to Site	Potential Environmental Concern
Halaco Engineering Company, 6200 Perkins, Oxnard	NPL, CERCLIS, LUST, HIST UST, PRP, and LEAD SMELTERS	Approximately 0.41-miles west (downgradient) of the Site	The facility is listed on the LUST database for impacts to soil from a leaking gasoline UST discovered in 1993 and a leaking diesel UST that was discovered in 1995. The soil was excavated and disposed off-site and both listings received regulatory closure. Based on downgradient location, the reported cleanup actions, and the regulatory closure status, this release is not considered to be a potential threat to soil, groundwater, and/or soil vapor quality at the Site.

5.2 Additional Environmental Record Sources

Northgate contacted local regulatory agencies for information regarding the use or storage of hazardous materials at the Site. During the course of the review the following agencies were contacted for environmental records:

- DTSC EnviroStor web site;
- State Water Resources Control Board (SWRCB) GeoTracker web site;
- City of Oxnard Fire Department;
- County of Ventura, Department of Environmental Health;
- County of Ventura Fire Department;
- County of Ventura Assessor's Office.

The results of our review are described in the following sections.

5.2.1 DTSC EnviroStor Website

The Site was listed on the DTSC EnviroStor website at both the 5980 and 6000 Arcturus Avenue addresses. EnviroStor maintains a record of the VCA with Reichhold for the portion of the Site identified as 5980 Arcturus Avenue dated January 2002. This document indicates that the Site soils were contaminated with ethylbenzene, chlorinated solvents, and xylenes and that groundwater beneath the Site is impacted by ethylbenzene, chlorinated solvents, styrene, xylene, and benzene.

Envirostor also maintains copies of the Preliminary Endangerment Assessment (PEA) Report Addendum dated March 2007 and the Updated Human Health Risk Assessment dated October 2007. The results of the review of these reports in provided below in Section 5.6.

A letter from the DTSC dated January 15, 2008 reviews the PEA and concludes that the soil at the Site poses an acceptable risk for industrial/commercial use and NFA is necessary for soil, if the use is limited to commercial or light industrial use. However, the DTSC stated that the risk is unacceptable for sensitive land use. As a result, the implementation of a Land Use Covenant for commercial and/or industrial land use will be necessary.

5.2.2 SWRCB GeoTracker Website

The Site was not listed on the SWRCB GeoTracker website and no files were available to review for the property.

5.2.3 City of Oxnard Fire Department

Northgate submitted a file review request with the City of Oxnard Fire Department. The City of Oxnard Fire Department indicated that it had one file available for the portion of the Site located at 5980 Arcturus Avenue. At the time this report was prepared, no file review was able to be arranged. Based on the files received from Envirostor and the other public agencies, it is Northgate's opinion that the materials within the City of Oxnard Fire Department's records are not likely to change the conclusions and recommendations presented. After the file review is conducted, if changes to the conclusions and recommendations are required, a separate addendum will be issued.

5.2.4 County of Ventura, Department of Environmental Health

The County of Ventura, Department of Environmental Health maintains an online file review system. This system contained record of incidents, releases, and spills that have historically occurred at the Site. The results of this review are presented in the table below:

Date	Suspected Material	Maximum Concentration	Quantity	Physical State	Incident
3/19/1987	Methylene Chloride	660 ppb	Unknown	Liquid	Found in water samples
10/30/1987	Epichlorohydein and styrene	Unknown	Unknown	Liquid	Construction worker became sick from vapors from contaminated soil
12/28/1987	Maleic Anhydride	Unknown	4,200 lbs.	Solid	Seal rupture in pipe rack, all material removed from ground and stored in drums
3/8/1988	Methylene Chloride	Unknown	200 gallons	Liquid	Equipment failure, some material entered sewer
4/11/1990	Bromine	Unknown	<5 lbs.	Vapor	Ruptured disc from emergency relief valve
7/12/1991	Maleic Anhydride Phthalic Anhydride Diethyl Glycol Bromine Styrene Methyl Chloride Methyl Methacrylate Methanol Epichlorohydrin	Unknown	279.99 lb./yr. 49.30 lb./yr 4.95 lb.yr 8.03 lb/yr 8,886.9 lb/yr 109,575 lb/yr 1,572.9 lb/yr 0.352 lb/yr 0.611 lb/yr	Gas	Routine emissions, Human Health Risk Assessment (HHRA) ordered

Date	Suspected Material	Maximum Concentration	Quantity	Physical State	Incident
7/1/2001	Dicyclopentadiene		Unknown	Liquid	Release from former aboveground tank to soil

5.2.5 County of Ventura Fire Department

The County of Ventura Fire Department does not maintain files for the subject Site. Northgate was referred to the City of Oxnard Fire Department for any available information.

5.2.6 Ventura County Air Pollution Control District

Northgate submitted a file review request with the Ventura County Air Pollution Control District. At the time this report was prepared, no response had been received from the Ventura County Air Pollution Control District. Based on the files received from Envirostor and the other public agencies, it is Northgate's opinion that the materials within the Ventura County Air Pollution Control District's records are not likely to change the conclusions and recommendations presented. After the file review is conducted, if changes to the conclusions and recommendations are required, a separate addendum will be issued.

5.2.7 County of Ventura Assessor's Office

Northgate reviewed files available on the County of Ventura Assessor's Office's website. The available files indicate that the 5980 Arcturus property is 6.15 acres that was developed in 1968. Information available from the County of Ventura Assessor's Office reported that the property located at 6000 Arcturus Avenue is 7.49 acres. Aerial imagery shows that the entire Site was cleared and all former operations removed between 2012 and 2014

Copies of the agency records for the subject Site are attached in Appendix D.

5.3 Other Environmental Issues

Northgate performed a reconnaissance-level evaluation of other environmental issues, as outlined in Section 13.1.5 of ASTM E1527-13.

5.3.1 Floodplain Maps

Northgate viewed an online version of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Ventura County, Panel 0918E. According to the FIRM, the northwestern corner of the Site is located within Other Flood Areas Zone X – areas of 0.2-

percent annual chance flood; areas of one-percent chance flood with average depths of less than one-foot or with drainage areas less than one square mile, and areas protected by levees from one-percent chance flood. The remainder of the Site is located in Flood Zone X – areas determined to be outside the 0.2-percent annual chance floodplain. A portion of the Site does lie within the 100- or 500-year flood zones.

5.3.2 Radon

The California Department of Health Services' (DHS's) online list of indoor radon levels indicates that radon concentrations from 14 indoor air samples collected in zip code area 93033 were less than 4.0 pico-curies per liter (pCi/L) (DHS, 2010). According to the EDR Radius Report (Appendix B), the federal Environmental Protection Agency (EPA) radon zone for Ventura is Zone 1 (indoor average level greater than 4 pCi/L).

The State of California Division of Drinking Water and Environmental Management maintains a database of radon test results indicating that out of 5 samples collected in Ventura County in California, in the living area-first floor, all of samples in the living area-first floor were less than 4 pCi/L and that the average activity was 0.780 pCi/L. The DHS and the EPA recommend that some form of mitigation be conducted for houses with indoor radon concentrations of 4 pCi/L or greater.

These results indicate that radon gas does not appear to constitute a significant environmental concern at the Site.

5.3.3 Oil and Gas Wells

According to the EDR GeoCheck® - Physical Setting Source Addendum, located in the Radius Report (Appendix B), there is one oil wells located within 1-mile of the Site. The well is located approximately 0.6 miles north-northwest (cross gradient) of the Site. This well is listed as a dryhole oil and gas well operated by Southern California Petroleum Corporation.

Information available on the Division of Oil, Gas & Geothermal Resources (DOGGR) web site indicates that no active or abandoned oil/gas wells are present on the Site and that the well located north-northwest of the Site is a plugged. This well is designated as "Merchants-Hartman" 1 and is reported to have been abandoned in 1955 with a total depth of 10,056 feet. The wells do not appear to represent an environmental concern to the Sites based on their relative locations, distances, and/or status.

5.4 Land Use History

Information on historical land use at the Sites and adjacent area was evaluated by reviewing historic aerial photographs, maps, and other documents. A summary of our investigation findings is presented below.

5.4.1 Aerial Photographs

Northgate reviewed historic aerial photographs of the Sites from 1938, 1947, 1953, 1959, 1967, 1977, 1985, 1994, 2005, 2009, 2010, and 2012 obtained from EDR (EDR, 2015c). Copies of the aerial photographs are provided in Appendix E. A summary of our aerial photograph review is presented below.

Year: 1938	**Scale: 1" =** 500'	**Source:** USGS
The Site is shown as vacant agricultural land with a canal present through the central portion of the Site running from the northeast to the southwest. The Site is bordered to the north by vacant agricultural land followed by a dirt road in the location of the present day East Hueneme Road with several small residences along this road. A creek is present to the northwest of the Site. The Site is bordered to the east by vacant agricultural land and to the south by a dirt road in the location of the present day East McWane Boulevard followed by vacant agricultural land. A small residence is present to the southeast of the Site and another is present to the southwest of the Site just beyond the road. A dirt road is present to the west of the Site in the location of the present day Arcturus Avenue followed by vacant agricultural land. The Site vicinity is predominantly vacant agricultural land.		
Year: 1947	**Scale:** 1" = 500'	**Source:** USGS
The Site and vicinity appear similar to the 1938 photograph.		
Year: 1953	**Scale:** 1" = 500'	**Source:** USGS
The Site and vicinity appear similar to the 1947 photograph except that the creek channel through the central portion of the Site appears to have been paved and the vacant agricultural land in the vicinity appears to be graded for row crops. A dirt road is present to the east of the Site and a small industrial facility with an apparent aboveground tank is present to the northwest of the Site beyond the creek.		
Year: 1959	**Scale:** 1" = 500'	**Source:** Robinson
The Site and vicinity appear similar to the 1953 photograph except that the industrial facility to the northwest of the Site and the residence to the southwest of the Site appear to have been further developed.		

Year: 1967	**Scale:** 1" = 500'	**Source:** USGS
The Site is now developed with an industrial structure in the central portion of the southern area of the Site along East McWane Boulevard. Approximately one dozen aboveground tanks are present to the west of this structure in the southwestern corner of the Site. A dirt road extends from the eastern Site boundary, along the northern side of the building and tanks, to the western Site boundary. A large industrial structure is present to the east of the Site and several smaller industrial structures are now present to the west of the Site.		
Year: 1977	**Scale:** 1" = 500'	**Source:** Teledyne
The Site has been further developed with multiple industrial structures and aboveground tanks for the chemical manufacturing facility present on the Site t this time. The southwestern corner of the Site is developed with this manufacturing facility and associated paved parking areas; the remainder of the Site remains as vacant land. The commercial or industrial facilities located east and west of the Site have been further developed and include paves parking areas. The major roads appear to be paved. Another industrial development with a large structure and two smaller structures is present to the northwest of the Site. Residential development is now present to the north of the Site beyond East Hueneme Road.		
Year: 1985	**Scale:** 1" = 500'	**Source:** USGS
The Site appears similar to the 1977 photograph. The Site vicinity to the west of the Site beyond Arcturus Avenue is nearly entirely developed with industrial facilities between East McWane Boulevard and East Hueneme Road, including large asphalt paved parking areas. The industrial facility to the east of the Site has been further developed to include several smaller industrial structures.		
Year: 1994	**Scale:** 1" = 500'	**Source:** USGS/DOQQ
The Site appears similar to the 1985 photograph. The Site is bordered to the north by vacant land followed by a large industrial facility with three large structures, a small structure, and associated paved parking. Another large industrial facility with several industrial structures and large paved parking areas is present to the northeast of the Site. The Site vicinity located north, east, and west of the Site are nearly entirely developed with industrial facilities. The Site vicinity to the south of the Site remains as vacant agricultural land. Additional industrial development and residential development are present north of the Site beyond East Hueneme Road.		
Year: 2005	**Scale:** 1" = 500'	**Source:** USDA/NAIP
The Site and vicinity appear similar to the 1994 photograph.		
Year: 2009	**Scale:** 1" = 500'	**Source:** USDA/NAIP
The Site and vicinity appear similar to the 2005 photograph.		

Year: 2010	**Scale:** 1" = 500'	**Source:** USDA/NAIP
The Site and vicinity appear similar to the 2009 photograph.		
Year: 2012	**Scale:** 1" = 500'	**Source:** USDA/NAIP
The Site is shown as vacant land with the outline of the former industrial operations and roadway visible in the southwestern corner of the Site. The Site vicinity appears similar to the 2010 photograph.		

5.4.2 Sanborn Maps

Northgate requested Sanborn maps for the Site from EDR (EDR, 2015d). However, maps covering the vicinity were not found.

5.4.3 Topographic Maps

Northgate reviewed historic topographic maps for the Sites obtained from EDR for the years 1904, 1910, 1947, 1951, and 1967. Copies of the topographic maps are provided in Appendix F (EDR, 2015e). Information from the topographic maps is summarized below.

Quadrangle: Hueneme **Scale:** 1:62,500 **Series:** **15** Minute	
1904:	The Site and vicinity are shown as vacant land. Hueneme and Hueneme Point are mapped to the northwest of the Site. The Pacific Ocean is located south and west of the Site. The City of Oxnard and the Southern Pacific Railroad are mapped to the north of the Site. Some surface streets and a few small residential and commercial structures are mapped in the vicinity of the Site.
Quadrangle: Southern CA Sheet 3 **Scale:** 1:250,000 **Series:** 60 Minute	
1910:	The Site and vicinity are similar to the 1904 map except that the scale has changed to include more of the vicinity. Rio de Santa Clara is mapped to the north of the Site and several mountains are located north and east of the Site. Mugu Point is mapped to the southeast of the Site and several streams and creeks are mapped in the vicinity running from the south to the Pacific Ocean to the south.
Quadrangle: Hueneme **Scale:** 1:50,000 **Series:** 15 Minute	
1947:	The Site is shown as vacant land. Port Hueneme is mapped to the northwest of the Site. A railroad and several surface streets are mapped to the north and northwest of the Site. Ormond beach followed by the Pacific Ocean is located south and southwest of the Site. An apparent wetlands area is mapped to the southeast of the Site along the ocean. Some residential structures, agricultural land, and associated paved roads are located to the north and east of the Site.

Quadrangle: Oxnard	**Scale:** 1:24,000	**Series:** 7.5 Minute
1951:	The Site is shown as vacant land with a channelized creek flowing through the central portion of the Site from the northeastern areas to the southwestern area of the Site. The Site vicinity appears similar to the 1947 map except that some additional residential development is present along the paved roads to the north and east of the Site.	
1967:	Several small industrial structures or tanks are located in the southwestern corner of the Site. A large industrial structure is located to the east of the Site and several small industrial structures are mapped to the west of the Site. Duck ponds are mapped to the southeast of the Site near the ocean. Residential development to the northwest of the Site has been additionally developed.	

5.4.4 City Directories

Northgate reviewed a summary of local city directory listings for the Sites and vicinity available at various intervals from 1926 to 2013, obtained from EDR. A copy of the EDR summary report is provided in Appendix G (EDR, 2015f). The subject Site at 5980 Arcturus Avenue is listed as Cooks Composites and Polymers Company between 2003 and 2008 and as Reichhold Chemicals, Inc. in 1993. The subject Site at 6000 Arcturus Avenue is listed as Diamond Shamrock Chemical Company between 1970 and 1976. A drilling fluid company in 1993, and an industrial equipment rental company between 1985 and 1986 at 5901 Edison Drive.

Listings in the vicinity consisted primarily of industrial development and manufacturing facilities. Listings to the north of the Site include the BMW car company between 2008 and 2013 at 5900 Arcturus Avenue and Waggoners Trucking between 2008 and 2013 at 801 McWane Boulevard. A listing to the northeast includes Irwin industries in 2013, Borla Performance Industries between 2002 and 2008. Listings to the east of the Site include an aluminum forging plant, aluminum products, and chemical sales between 1976 and 2013 at 1001 McWane Boulevard. No listings are provided to the south of the Site as the land appears to have remained vacant agricultural land. Listings to the west of the Site include Exxon chemical company in 1993, “Offshore Morrison Knudsen” in 2002, and “WA Group International” in 2008 at 5901 Arcturus Avenue as well as Arcturus Manufacturing Corporation between 1965 and 2013 at 6001 Arcturus Avenue.

5.5 Interviews

Northgate submitted an interview questionnaire to Mr. Gary Guesman, the owner’s agent. Mr. Guesman indicated that he has been associated with the Site as a prospective owner’s agent for approximately three years. He noted that he is aware of land use limitations from the NFA letter

issued by DTSC for the Site. Mr. Guesman noted that the Site was previously utilized as a composite manufacturing facility and that he is aware of the likely presence of contamination at the Site as documented in the reports available on the Envirostor online database, which are summarized in Section 5.6 below. He also noted that he is aware of ASTs that were previously located on the Site, but is unsure of the specific contents of these tanks. Mr. Guesman further indicated that he is not aware of any environmental cleanup liens, any pending, threatened, or past litigation or administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the Site, any fill material that has been imported to the Site, or any specific chemicals or hazardous wastes present at the property. He reported that he has experience with a property in the nearby vicinity and that he is not aware of any chemicals, releases, or cleanups at that facility.

Copies of the questionnaires are provided in Appendix H.

5.6 Previous Reports

Northgate reviewed previous reports prepared for the Site as described below. Copies of pertinent documentation from the review are provided in Appendix D.

Environmental Baseline Investigation Report, January 1996

Woodward-Clyde Consultants (WCC) prepared an Environmental Baseline Investigation Report (EBIR) for the Site dated January, 1996. The purpose of this report was to determine if previous site activities have adversely impacted the soil or groundwater at the Site and to determine preliminary baseline information if impacts have occurred. The scope of work included conducting a limited Phase I ESA and a Phase II ESA, with investigation activities including the collection and analysis of soil and groundwater samples.

The results of the Phase I ESA indicated that the subject Site, at 5980 Arcturus Avenue only, was initially owned and operated by Damon Alkali, followed by Koppers, Inc., then Reichhold Chemicals, Inc., which was the owner and operating during the investigation in 1996. The Site was previously used for agriculture and the northern portion of the Site continued to be farmed until approximately 1994, after which is became vacant land. The southern 3.5 acres of the Site was developed and operated as a polyester resin manufacturing company since 1968 and was utilized for the production of unsaturated polyester resin between at least 1968 and 1996. The Phase I ESA indicated that there have historically been several bromine releases and one spill of phthalic anhydride at the Site. Chemicals reported to have been stored at the Site include phtalic and maleic anhydride, various glycol compounds, styrene, methylene chloride, bromine, caustic soda, and relatively small quantities of solvents and hydrocarbons for cleaning purposes. During

the construction of a concrete wastewater collection sump, discolored and odorous soil was encountered and samples collected in 1987 reported detectable concentrations of styrene, ethylbenzene, and glycol compounds near the rail car unloading area. No USTs were historically reported for the Site nor was there any evidence of spills or releases observed during the Site reconnaissance with the exception of some minor staining of some concrete slabs adjacent to sumps. It was reported that all asbestos were removed from the Site several years prior to the investigation. The Phase I ESA also noted that analytical data available for the OxyChem facility located hydraulically downgradient (located southwest to southeast) of the Site indicated relatively high concentrations of VOCs including acetone and ethylbenzene present in groundwater samples collected near the property line between the OxyChem and Reichhold facilities.

The Phase II investigation was conducted in November and December of 1995 and included the advancement of three hand auger borings and 26 Strataprobe® borings on the southern portion of the Property near the former manufacturing processes. Soil samples were collected from each boring and groundwater samples were collected from 14 borings. The boring locations were determined based on knowledge of historic spills, areas where chemicals were used or drums were stored, and locations where drains, pits, and sumps were located. Soil analytical results indicated that detectable concentrations of ethylbenzene, methylene chloride, toluene, o-xylene, and bis (2-ethylhexyl) phthalate were present in the on-Site soils. Detectable concentrations of metals, including barium, chromium, cobalt, copper, nickel, vanadium, and zinc, were also reported in soil samples. Groundwater sample analysis indicated that detectable concentrations of benzene, chloroform, cis-1,2-dichloroethane, ethylbenzene, methylene chloride, toluene, 1,1,1-trichloroethane, m&p-xylenes, o-xylene, benzoic acid, and 4-methylphenol were present in groundwater. Ethylbenzene and methylene chloride were generally detected at higher concentrations than other VOCs and were reported in more often in both soil and groundwater samples. The areas of higher impact are primarily located in the southern portion of the Site near the former tanks and operations along the railroad spur (WCC, 1996).

Copies of pertinent documentation, including plume maps and tables of analytical results, are provided in Appendix D.

Preliminary Final Endangerment Assessment Report, November 2004

Given the shallow soil and groundwater impacts identified by WCC in the 1996 EBIR, CH2M Hill prepared a PEA for the Site per the requirement of the VCP that Reichhold entered into with the DTSC. The PEA notes that Reichhold entered into the VCP but is the former owner and operator as it was sold to CCPC in 1995. The report summarizes previous investigations including soil sampling and soil investigations in 1987 and 1988, a soil and groundwater

investigation in 1995, and an additional soil and groundwater investigation at the neighboring OxyChem facility in 1995. These investigations indicated that VOCs were detected in shallow groundwater above the California Maximum Contaminant Levels (MCLs) for drinking water as well as in shallow soil samples collected. In order to further characterize the Site and delineate the extent of the impacts to the subsurface by the VOCs, a PEA field investigation was performed in October 2002. This work included surface soil, shallow soil, and groundwater sampling at 13 locations at the Site for VOCs. Ethylbenzene and benzene were detected above the MCL of 300 and 1.0 micrograms per liter (µg/L), respectively in the groundwater at a maximum concentration of 639 and 1.8 µg/L, respectively. Other VOCs were detected but below regulatory standards. The report noted that the VOC concentrations between the 2002 and original investigations in the 1980s and 1990s had decreased considerably in both soil and groundwater.

The investigation in 2004 consisted of the installation of two temporary monitoring wells and the collection of groundwater samples from these wells in February and May, which were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). All BTEX concentrations were found to decrease with time and with the exception of benzene, the concentrations measured were all below their respective regulatory MCLs. Benzene was reported at concentrations ranging between 1.4 and 1.9 µg/L, which exceeds the MCL of 1.0 µg/L. Soil samples were additionally collected from two locations and analyzed for physical parameters for use in the preparation of the site-specific human health risk assessment.

The human health risk assessment concluded that the Site does not pose a significant threat to human health. CH2M Hill further concluded that the perched groundwater beneath the Site is separated from the deeper aquifers by low permeability clay layers and the impacts to shallow ground water do not pose a threat to local groundwater supplies. CH2M Hill recommended NFA for the Site and closure as the site has been fully characterized, the VOC concentrations have decreased over time in soil and groundwater, and biodegradation of VOCs has been occurring and is projected to continue to occur. It was further stated that closure is supported as no significant adverse risks to human health were identified at the Site, benzene concentrations in perched water beneath the Site do not pose an adverse human health risk, the impacted groundwater is perched and not used for potable water, the low concentrations of benzene in groundwater are localized and not migrating off site, and benzene is not a raw material used at the Site. It was also noted that no significant adverse effects to ecological receptors were identified (CH2M Hill, 2004).

Preliminary Endangerment Assessment Report Addendum, March 2007

CH2M Hill provided a report addendum to their originally prepared PEA submitted in 2004 that addresses comments from the DTSC in a letter dated June 13, 2005 and subsequent meetings and discussions. As part of their site characterization activities, CH2M Hill conducted groundwater sampling at two temporary wells (R-06 and R-10) and collected soil and soil gas samples from two borings (R-14 and R-15) in November 2006. The soil samples reported concentrations of metals below the California Human Health Screening Levels (CHHSLs) and Preliminary Remediation Goals (PRGs), except for arsenic, which was detected at a concentrations ranging from 1.8 to 2.3 milligrams per kilogram (mg/kg). All detected concentrations of metals were considered to be consistent with or lower than background concentrations. VOCs were detected in the soil samples that included ethylbenzene, isoproylbenzene, styrene, total xylenes, and acetone. All the detected concentrations of VOCs were reported to be below residential PRGs.

The results of the analysis of two groundwater samples collected reported concentrations of benzene, toluene, and xylenes at maximum concentrations of 0.85, 0.90, and 0.24 µg/L, respectively. These concentrations are below the MCLs. Soil gas samples reported concentrations of several VOCs in one primary sample and one duplicate sample collected at a depth of 5.5 feet bgs. The measured concentration of benzene slightly exceeded the residential CHHSL, but not the commercial/industrial CHHSL. No other exceedances were reported.

CH2M Hill concluded that the Site has been adequately characterized to update the HHRA and that no significant adverse risks to human health are known to exist at the Site. They further concluded that metals are below risk screening levels and at levels that are consistent with naturally occurring concentrations. CH2M Hill indicated that VOC concentrations appear to be stable and have decrease over time. Benzene concentrations in groundwater were not concluded to pose adverse human health risks. CH2M Hill noted that benzene is not a raw material used at the Site and as a result, the benzene concentrations in soil and groundwater do not indicate a significant source present to impact groundwater and are expected to decrease over time. In addition, CH2M Hill did not report any significant adverse effects to ecological receptors. Finally, it was concluded that impacted groundwater beneath the Site is perched above a clay layer that overlies the regional groundwater system; therefore, it is not used as a source for potable water. CH2M Hill recommended no further action for the Site (CH2M Hill, 2007a).

Updated Human Health Risk Assessment

CH2M Hill prepared an HHRA report dated October 15, 2007 that is intended to serve as an update to the original HHRA completed in 2004 that includes more recent collected sampling data. This assessment included analytical data collected from the investigations conducted in

October 2002, February 2004, and November 2006 for surface soil, shallow soil, soil vapor, and groundwater. The updated HHRA concludes that the potential for unacceptable adverse human health effects are not expected for future commercial and/or industrial land use at this Site from exposure to the contaminants of potential concern in soil, soil gas, and shallow groundwater (CH2M Hill, 2007b).

6.0 SITE RECONNAISSANCE

Current Site conditions were observed during a reconnaissance of the Site and near vicinity performed by Mr. Derrick Willis of Northgate on May 24, 2015. Mr. Willis was escorted by Mr. Gary Guesman of CEC. Site photographs from the reconnaissance are attached at the end of this report. A Site Location Map is shown on Figure 2 and a Historic Site Features Map is shown on Figure 3.

6.1 Methodology and Limiting Conditions

The Site reconnaissance was performed by traversing the Site on foot. There were no limiting conditions.

6.2 General Site and Vicinity Conditions

6.2.1 Site

The Site is currently vacant land that was historically used for industrial operations and as agricultural land. Presently, the Site is covered with dirt and scattered vegetation and delineated by a chain link fence. A former railroad spur is still present extending from the northeastern corner of the Site to the south and curving into the central portion of the Site. The railroad spur is composed of wood ties and gravel ballast. Two large vegetated mounds and a soil stockpile of approximately 20 cubic yards of soil are also present in the central portion of the Site. An underground water line and polyvinyl chloride (PVC) standpipe are present in the southern portion of the Site and extends north into the central portion of the Site. An overhead power line is present along the southern border of the Site on East McWane Boulevard. No current use, storage, or handling of hazardous materials or waste was observed at the Site.

6.2.2 Site Vicinity

The Site is bordered to the north by a BMW automobile facility that also includes emissions testing followed by additional commercial and industrial development. The Site is bordered to the east by industrial development, including Aluminum Precision Manufacturing. East McWane Boulevard followed by vacant, agricultural land border the Site to the south. The Site is bordered to the west by Arcturus Avenue followed by commercial and industrial development. The Site vicinity is primarily occupied by commercial development and industrial/manufacturing facilities.

7.0 PHASE I ESA CONCLUSIONS AND RECOMMENDATIONS

This report presents the results of a Phase I ESA performed by Northgate for CEC for the property located 5980 and 6000 Arcturus Avenue in the City of Oxnard, California. The Site currently consists of approximately 13.65 acres of vacant land with a railroad spur extending through the central portion of the Site.

Our review indicates that the site was utilized as agricultural land from the 1930s to the 1960s. Subsequently, a portion of the Site located at 5980 Arcturus Avenue was formerly developed for chemical manufacturing processes in the southern portion of the Site. DSCC purchased the Site in 1966 and developed it with a sodium silicate production area in 1967 and a polyester resin plant in 1969. The polyester resin plant occupied approximately 3.5 acres of the Site and was sold to Koppers Company in 1978 before being purchased by Reichhold in 1989. The Site was sold to CCPC in January 1996. Reichhold entered into a VCA with the DTSC for the Site on January 2, 2002. This portion of the Site is historically known to use raw materials including bromine, styrene, maleic anhydride, and methylene chloride, which were previously stored in ASTs. Several recorded incidents of spills and releases are reported for this portion of the Site as well as the principal waste streams of permitted wastewater discharges to the City of Oxnard's wastewater treatment plant, permitted air emissions, and off-site disposal of acid distillate and non-recycled resins.

Site assessment investigations for the portion of the Site located at 5980 Arcturus Avenue, which included sampling and analyzing soil and groundwater, between 1996 and 2006 indicated that surface soil, shallow soil, and groundwater had been variously impacted with ethylbenzene, chlorinated solvents, xylenes, and benzene. The results of the investigations indicated that the concentrations of VOCs have decreased over time in soil and groundwater and that biodegradation of VOCs has been occurring and is projected to continue to occur. Cadmium was also reported in shallow groundwater beneath the Site above drinking water standards. No significant adverse risks to human health as a result of this impact were notes as the groundwater is perched beneath the Site and not used for potable water, the detected concentrations of contaminants are relatively were low, localized, and not migrating off-Site. A Human Health Risk Assessment was prepared for the Site, which concluded that the potential for unacceptable adverse human health effects are not expected for future commercial and/or industrial land use at this Site from exposure to the contaminants of potential concern in soil, soil gas, and shallow groundwater. A NFA letter was issued for this portion of the Site on January 15, 2008; however, the implementation of a Land Use Covenant for commercial and/or industrial land use will be necessary per the requirements of the NFA.

The portion of the Site identified at 6000 Arcturus Avenue was original constructed by either DSCC or its predecessor Diamond Alkali between 1966 and 1967. Sodium silicate production was initiated in 1967 followed by the production of polyester resin beginning in 1969. This portion of the Site was sold to Koppers Company followed by OCC. Listings for this facility indicate that sodium silicate glass was previously produced until July 1995. Soil was found to have been impacted and a VCA was entered in to for this portion of the Site by OCC and the DTSC on May 2, 1995. A NFA letter for this portion of the Site is recorded in the VCP notes dated February 27, 1997 that reportedly indicates no land use restrictions. Historically, the remainder of the Site at 5980 and 6000 Arcturus Avenue has been used for commercial agriculture prior to 1993 followed by vacant, undeveloped land after 1993.

One off-Site facility was identified in the vicinity with the potential to impact soil, groundwater, and/or soil vapor quality at the Site, the Arcturus Manufacturing Corporation, located approximately 0.01 miles downgradient of the Site. This site is also listed on the LUST database for a release of diesel impacting groundwater that received regulatory closure in 2000. No further information was available regarding this release. Based on the relative proximity to the Site and the lack of available data showing the extent of the contamination plume, impacts to soil, groundwater, and/or soil vapor quality at the subject Site due to this facility could not be ruled out.

In summary, we have performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527 at 5980 and 6000 Arcturus Avenue in Oxnard, California. Any exceptions to, or deletions from, this practice are described in Section 2.3 of this report. This assessment has revealed no evidence of Recognized Environmental Conditions (RECs) in connection with the property. Our review also identified the following historic REC (HREC):

- Soil and groundwater have historically been reported to have been variously impacted by ethylbenzene, chlorinated solvents, xylenes, benzene, and cadmium. NFA letters have been issued for the Site with land use restricted to commercial and/or industrial development.

Our review also identified the following potential environmental concerns:

- An off-Site source located at 6001 Arcturus Avenue was identified on the LUST database as a closed case as of 1994, but no further information was available. Based on the proximity to the Site and the lack of available information regarding the release, possible impacts to groundwater as a result of this release could not be ruled out.

- The site was used for agricultural purposes and may pesticides may have been used.

- An undocumented soil pile was observed on the Site.

Northgate recommends the following:

- A Phase II investigation to document the current conditions of soil, soil vapor and groundwater beneath the Site.
- A Soil Management Plan be completed and implemented to address the handling of soil during excavation and Site activities during development. The plan should address required monitoring and actions required should impacted soil be encountered.

8.0 REFERENCES

California Department of Health Services (DHS). 2010. California Indoor Radon Levels Sorted by Zip Code. Online address: http://www.cdph.ca.gov/healthinfo/environhealth/Pages/Radon.aspx. Updated May 4.

CH2M Hill. 2004. Preliminary Final Preliminary Endangerment Assessment Report, 5980 Arcturus Avenue, Oxnard, California. November.

_____. 2007a. Preliminary Endangerment Assessment Report Addendum, 5980 Arcturus Avenue, Oxnard, California March.

_____. 2007b. Updated Human Health Risk Assessment, 5980 Arcturus Avenue, Oxnard, California. October 15.

Environmental Data Resources, Inc. (EDR). 2015a. EDR Environmental Lien and AUL Search, 5980 and 6000 Arcturus Avenue, Oxnard, California. May 7.

_____. 2015b. The EDR Aerial Photo Decade Package, 5980 and 6000 Arcturus Avenue, Oxnard, California. May 6.

_____. 2015c. The EDR Aerial Photo Decade Package, 5980 and 6000 Arcturus Avenue, Oxnard, California. May 6.

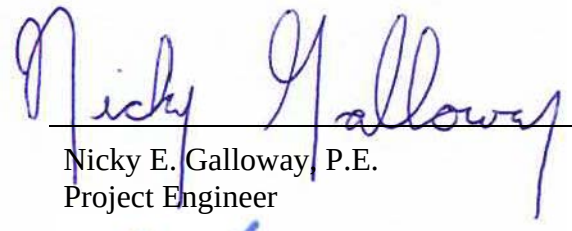
_____. 2015d. The EDR Historical Topographic Map Report, 5980 and 6000 Arcturus Avenue, Oxnard, California. May 6.

_____. 2015e. The EDR-City Directory Abstract, 5980 and 6000 Arcturus Avenue, Oxnard, California. May 6.

Woodward-Clyde Consultants (WCC), 1996. Environmental Baseline Investigation Report, 5980 Arcturus Avenue, Oxnard, California, January.

9.0 ENVIRONMENTAL PROFESSIONAL STATEMENT

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312, and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



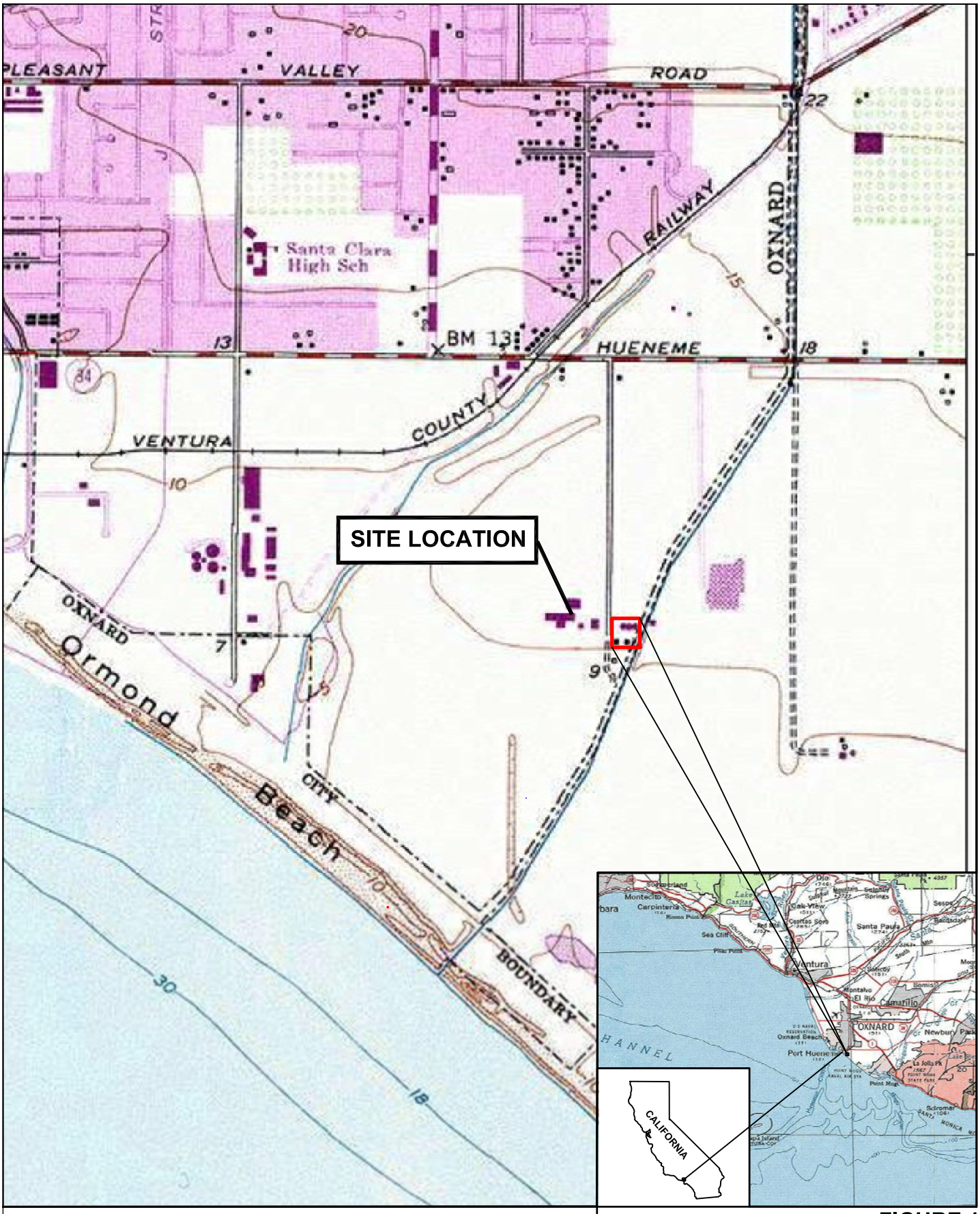
Nicky E. Galloway, P.E.
Project Engineer



Derrick S. Willis
Principal

Qualifications of the Environmental Professionals are provided in Appendix I.

FIGURES



Source: USGS Oxnard, CA 7.5 minute quadrangle

FIGURE 1
Site Vicinity Map

Phase I Environmental Site Assessment
5980 and 6000 Arcturus Avenue
Oxnard, California

northgate environmental management, inc.

Project No. 2036.04



LEGEND

Site Boundary

Parcel Boundary

0 125 250

Scale (Feet)

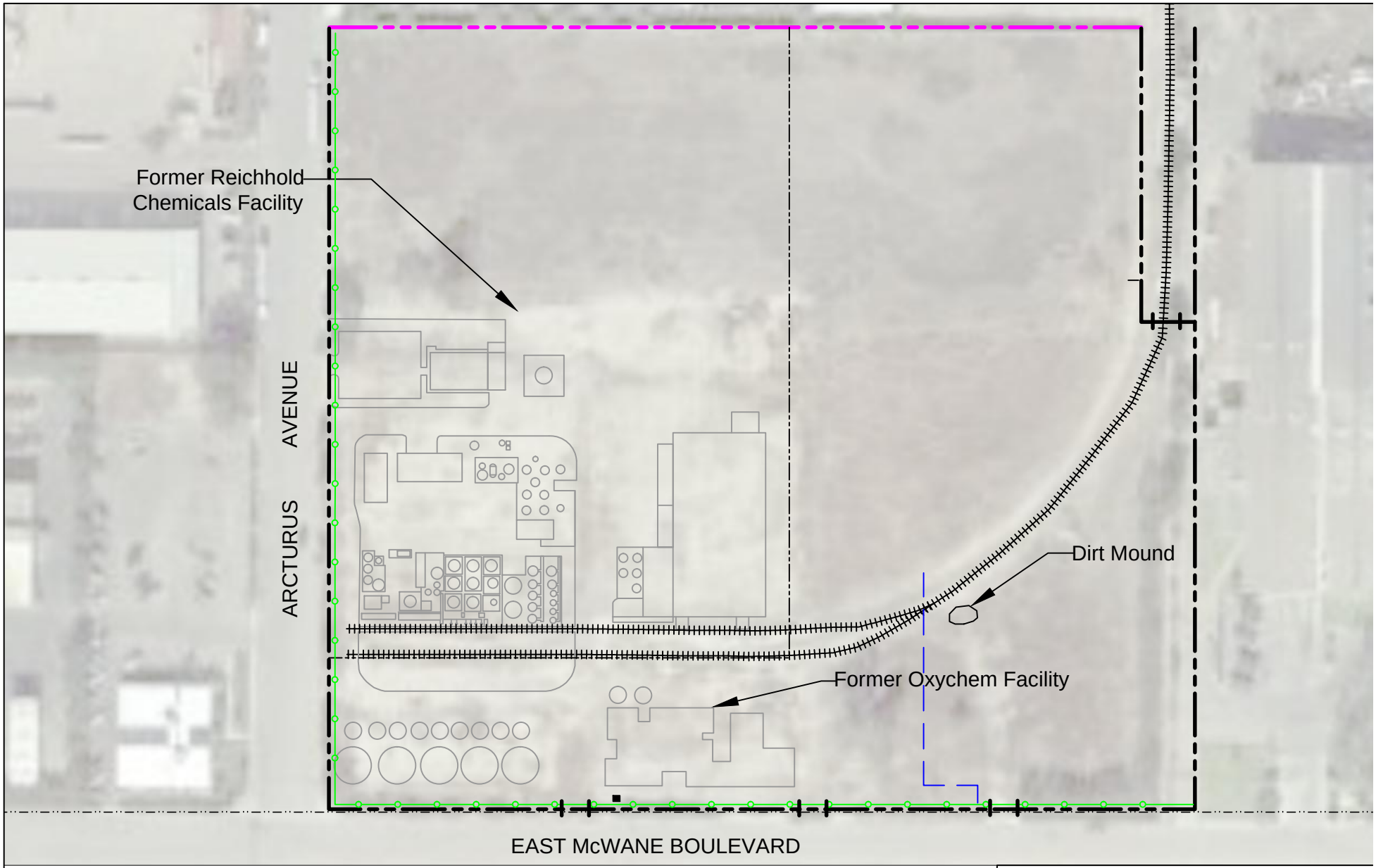
N

FIGURE 2
Site Location Map

Phase I Environmental Site Assessment
5980 and 6000 Arcturas Avenue,
Oxnard, California

northgate environmental management, inc.

Proj. No. 2036.04.01S



LEGEND

- Site boundary - block wall
- Site boundary - chain link fence
- Parcel boundary
- Overhead power line
- Railroad track
- Trace of underground water line
- Sandbags for stormwater control at Site boundary
- Electrical utility box
- Gate
- Former Above Ground Storage Tanks
- Former plant features delineated in gray

0 65 130

Scale (Feet)

N

FIGURE 3
Site Map

Phase I Environmental Site Assessment
5980 and 6000 Arcturas Avenue,
Oxnard, California

northgate environmental management, inc.

Proj. No. 2036.04.01S

SITE PHOTOGRAPHS



1. View from Arcturus Avenue of the vacant dirt lot occupying the Site – view facing east.



2. View from Arcturus Avenue of the vacant dirt lot occupying the Site – view facing southeast.



3. View from Arcturus Avenue of vacant dirt lot occupying the Site with rail road spurs visible in the background – view facing east.



4. View of vacant dirt lot occupying the Site from the northwestern corner of the property – view facing southeast.



5. Vacant dirt lot occupying the Site – view facing east from Arcturus Avenue



6. View of western perimeter of the vacant dirt lot occupying the Site – view facing south.



7. View from the central portion of the vacant dirt lot occupying the Site – view facing southeast.



8. View from the central portion of the vacant dirt lot occupying the Site – view facing north.



9. Former railroad spurs in the central portion of the Site and vacant dirt lot occupying the Site – view facing east.



10. Former railroad spur with gravel and wood ties located in the central portion of the Site – view facing east.



11. View curve of railroad spur along the eastern portion of the Site – view facing northeast.



12. View of railroad spur entering the Site along the eastern perimeter – view facing north.



13. View of the central portion of the Site – view facing east.



14. View of dirt mound in the central portion of the Site – view facing southwest.



15. Water line standpipe located in the southeastern corner of the Site.



16. Block wall along northern perimeter of the Site with BMW automotive adjoining on the northern side – view facing west.



17. View of Aluminum Precision Products manufacturing bordering the Site to the east – view facing northeast.



18. East McWane Boulevard followed by agricultural land to the south of the Site – view facing south.



19. Arcturus Manufacturing located west of the Site at the intersection of East McWane Boulevard and Arcturus Avenue – view facing southwest.



20. Industrial development located west of the Site beyond Arcturus Avenue – view facing southwest.

APPENDIX A

EDR ENVIRONMENTAL LIEN AND AUL SEARCH

5980 and 6000 Arctutus Avenue
5980 and 6000 Arctutus Avenue
Oxnard, CA 93033

Inquiry Number: 4285348.7
May 07, 2015

EDR Environmental Lien and AUL Search

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Environmental Lien and AUL Search

The EDR Environmental Lien and AUL Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

5980 and 6000 Arctutus Avenue
5980 and 6000 Arctutus Avenue
Oxnard, CA 93033

RESEARCH SOURCE

Source 1:

Ventura Recorder
Ventura, CA

PROPERTY INFORMATION

Deed 1:

Type of Deed:	deed
Title is vested in:	Retia USA LLC
Title received from:	CCP Composite US LLC
Deed Dated	10/28/2014
Deed Recorded:	11/10/2014
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	
Miscellaneous Comments:	
Legal Description:	See Exhibit
Legal Current Owner:	Retia USA LLC
Parcel # / Property Identifier:	231-0-093-135, 231-0-093-155
Comments:	See Exhibit

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found ☐ Not Found ☒

Deed Exhibit 1

RECORDING REQUESTED BY
STEWART TITLE OF CALIFORNIA

Order No. 01180-123963
Escrow No.
Loan No.
RECORDING REQUESTED BY AND
WHEN RECORDED MAIL THIS DEED AND
MAIL TAX STATEMENTS TO:

Total Petrochemicals & Refining USA, Inc.
1201 Louisiana St., Suite 1800
Houston, TX 77002
Attention: Susan D. Flynn, Legal Dept.

APN #231-0-093-135 and 231-0-093-155

SPL

20141110-00141694-0 1/6
Ventura County Clerk and Recorder
MARK A. LUNN
11/10/2014 08:00:00 AM
877204 $42.00 RE

DOCUMENTARY TRANSFER TAX $ -0-
....Computed on the consideration or value of property conveyed; OR
....Computed on the consideration or value less liens or
encumbrances remaining at time of sale.

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Signature of Declarant or Agent determining tax - Firm Name

In accordance with Section 11925(d) of the California Revenue and Taxation Code, no Documentary Transfer Tax is due as this conveyance changes the manner in which title is held, grantor and grantee remain the same and continue to hold the same proportionate interest.

GRANT DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, CCP Composites US LLC, a Delaware limited liability company, hereby GRANT(S) to RETIA USA LLC, a Delaware limited liability company, all of its right, title and interest in and to that certain the real property located in the City of Oxnard, County of Ventura, State of California described on Exhibit A attached hereto and by this reference incorporated herein (the "Property"), together with all improvements, easements, privileges and rights appurtenant thereto.

SUBJECT TO the following:

(a) All liens, encumbrances, easements, covenants, conditions, restrictions and other matters of record;

(b) All matters which a correct survey of the Property would disclose;

(c) All matters which could be ascertained by a physical inspection of the Property;

(d) Interests of tenants in possession;

(e) A lien not yet delinquent for taxes for real property and personal property, and any non-delinquent general or special assessments against the Property; and

(f) Building and zoning ordinances and regulations and any other laws, ordinances, or governmental regulations restricting, regulating or relating to the use, occupancy or enjoyment of the Property.

Commonly identified as: 5980 Arcturus Road and 6000 Arcturus Road, Oxnard, CA 93033

[signature on next page]

mail tax stmt to same as above

IN WITNESS WHEREOF, the undersigned has executed this Grant Deed dated as of October 28, 2014.

CCP COMPOSITES US LLC,
a Delaware limited liability company

By: _____
Name: Isabelle Kieffer
Title: Manager



STATE OF TEXAS)
) ss:
COUNTY OF HARRIS)

On October 28, 2014 before me, DIANA LINDA SALA, personally appeared Isabelle Kieffer, Manager of CCP Composites US LLC, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of Texas that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: _____

[Seal]

DIANA LINDA SALA
My Commission Expires
November 1, 2016

EXHIBIT "A"

All that certain real property situated in the County of Ventura, State of California, described as follows:

PARCEL "B", AS SHOWN AND DESIGNATED ON THAT CERTAIN LOT LINE ADJUSTMENT (PLANNING AND ZONING PERMIT NO. 98-5-42), RECORDED MAY 14, 1998 AS INSTRUMENT NO. 98-76147, OF OFFICIAL RECORDS, IN THE CITY OF OXNARD, COUNTY OF VENTURA, STATE OF CALIFORNIA AND BEING ALL OF PARCEL 2, OF LOT MERGER (PLANNING AND ZONING PERMIT NO. 98-5-41) RECORDED MAY 11, 1998 AS INSTRUMENT NO. 98-73258 OF OFFICIAL RECORDS.

EXCEPT THEREFROM THE NORTHERLY 620.50 FEET OF SAID PARCEL *2.*

ALSO EXCEPTING FROM A PORTION, A ONE-HALF OF ALL MINERALS, OIL, GAS AND OTHER HYDROCARBON SUBSTANCES IN AND UNDER SAID LAND, WITHOUT, HOWEVER, ANY RIGHT OF ENTRY IN AND TO THE SUBSURFACE THEREOF AT DEPTH OF LESS THAT 500 FEET BENEATH THE SURFACE FOR THE DEVELOPMENT OR REMOVAL OF SAID SUBSTANCES, AS RESERVED BY CLIFFORD B. JOHNSON AND OTHERS IN THE DEED RECORDED SEPTEMBER 22, 1961 IN BOOK 2050, PAGE 386 OF OFFICIAL RECORDS.

ALSO EXCEPTING FROM A PORTION, A ONE-FOURTH OF ALL OIL, GAS, MINERALS AND OTHER HYDROCARBON SUBSTANCES IN AND UNDER SAID LAND, WITHOUT, HOWEVER, ANY RIGHT TO SURFACE ENTRY IN AND TO THE SUBSURFACE THEREOF AT A DEPTH OF LESS THAN 500 FEET BENEATH THE SURFACE FOR DEVELOPMENT OR REMOVAL OF SAID SUBSTANCES, AS RESERVED BY T. G. M. INVESTMENT CO., INC., AS TITLE HOLDING COMPANY FOR OXNARD DEVELOPMENT CO., A JOINT VENTURE UNDER TITLE HOLDING AGREEMENT DATED FEBRUARY 13, 1960 AND RECORDED MARCH 11, 1960 IN BOOK 1842, PAGE 243 OF OFFICIAL RECORDS, IN THE DEED RECORDED DECEMBER 7, 1961, IN BOOK 2081, PAGE 67, OF OFFICIAL RECORDS.

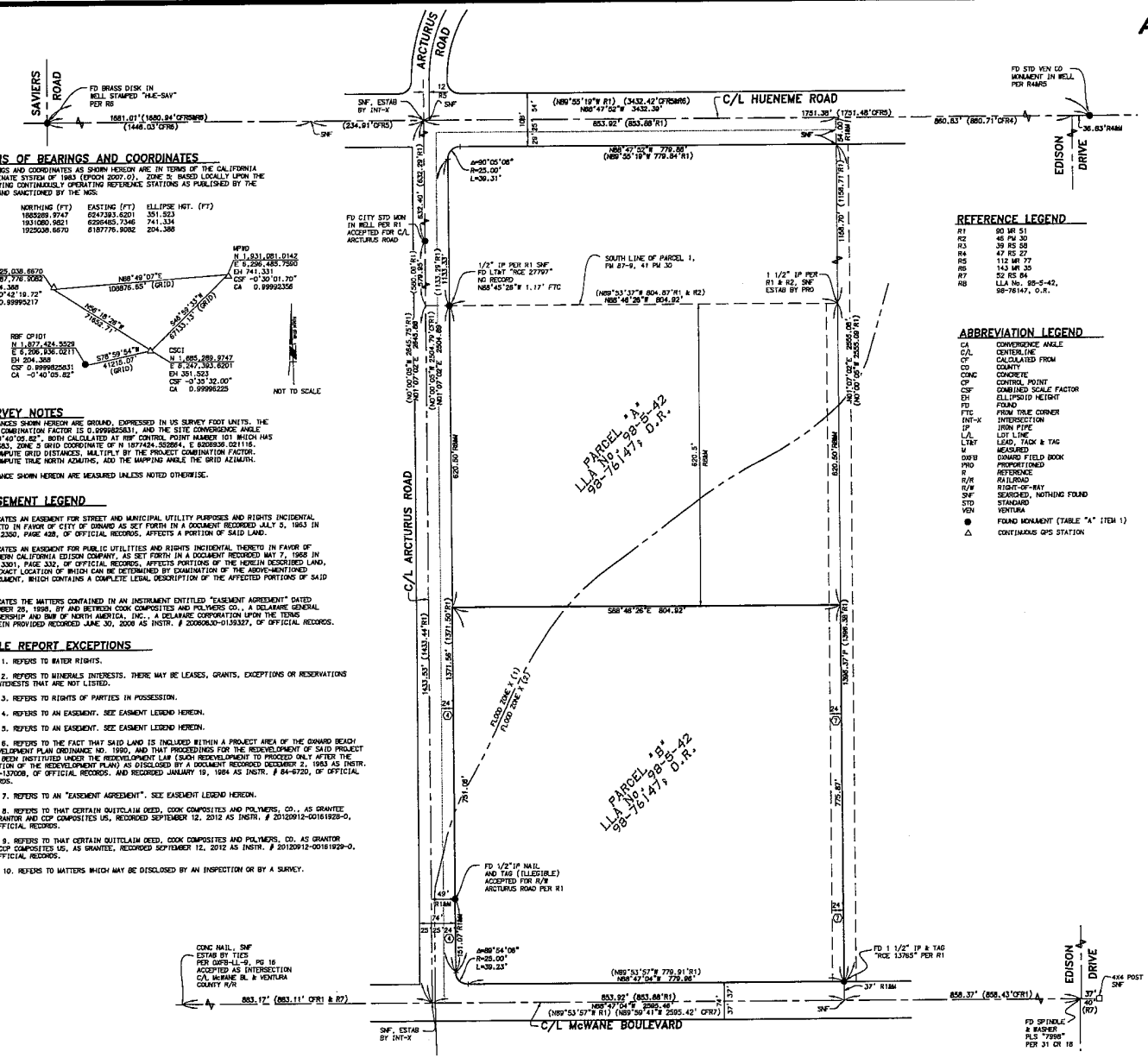
Assessor's Parcel Number: 231-0-093-135 and 231-0-093-155

RECORDING FEE $1.00 EXTRA THIS PAGE
LEGAL PENALTY FOR TOO SMALL PRINT

ALTA/ACSM LAND TITLE SURVEY

PARCEL "B" OF LLA No. 98-5-42, AS PER DOCUMENT RECORDED MAY 14, 1998 AS INSTRUMENT No. 98-76147 OF OFFICIAL RECORDS IN THE CITY OF OXNARD, COUNTY OF VENTURA STATE OF CALIFORNIA

OCTOBER 17, 2014
SHEET 1 OF 2 SHEETS



BASIS OF BEARINGS AND COORDINATES

BEARINGS AND COORDINATES AS SHOWN HEREON ARE IN TERMS OF THE CALIFORNIA COORDINATE SYSTEM OF 1983 (EPOCH 2007.0), ZONE 5; BASED LOCALLY UPON THE FOLLOWING CONTINUOUSLY OPERATING REFERENCE STATIONS AS PUBLISHED BY THE CSRC AND SANCTIONED BY THE NGS:

NAME	NORTHING (FT)	EASTING (FT)	ELLIPSE HGT. (FT)
CSCI	1885289.9747	6247393.6201	351.523
MPMO	1931080.9821	6296485.7346	741.334
VNCO	1925038.6570	6187776.9082	204.388

SURVEY NOTES

DISTANCES SHOWN HEREON ARE GROUND, EXPRESSED IN US SURVEY FOOT UNITS. THE SITE COMBINATION FACTOR IS 0.9999825831, AND THE SITE CONVERGENCE ANGLE IS -0°40'05.82", BOTH CALCULATED AT RBF CONTROL POINT NUMBER 101 WHICH HAS A GCS83, ZONE 5 GRID COORDINATE OF N 1877424.552864, E 6206836.021116. TO COMPUTE GRID DISTANCES, MULTIPLY BY THE PROJECT COMBINATION FACTOR. TO COMPUTE TRUE NORTH AZIMUTHS, ADD THE MAPPING ANGLE THE GRID AZIMUTH.

DISTANCE SHOWN HEREON ARE MEASURED UNLESS NOTED OTHERWISE.

EASEMENT LEGEND

(4) INDICATES AN EASEMENT FOR STREET AND MUNICIPAL UTILITY PURPOSES AND RIGHTS INCIDENTAL THERETO IN FAVOR OF CITY OF OXNARD AS SET FORTH IN A DOCUMENT RECORDED JULY 5, 1963 IN BOOK 2350, PAGE 428, OF OFFICIAL RECORDS. AFFECTS A PORTION OF SAID LAND.

(5) INDICATES AN EASEMENT FOR PUBLIC UTILITIES AND RIGHTS INCIDENTAL THERETO IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY, AS SET FORTH IN A DOCUMENT RECORDED MAY 7, 1968 IN BOOK 3301, PAGE 332, OF OFFICIAL RECORDS, AFFECTS PORTIONS OF THE HEREIN DESCRIBED LAND, THE EXACT LOCATION OF WHICH CAN BE DETERMINED BY EXAMINATION OF THE ABOVE-MENTIONED INSTRUMENT, WHICH CONTAINS A COMPLETE LEGAL DESCRIPTION OF THE AFFECTED PORTIONS OF SAID LAND.

(7) INDICATES THE MATTERS CONTAINED IN AN INSTRUMENT ENTITLED "EASEMENT AGREEMENT" DATED DECEMBER 28, 1998, BY AND BETWEEN COOK COMPOSITES AND POLYMERS CO., A DELAWARE GENERAL PARTNERSHIP AND BMP OF NORTH AMERICA, INC., A DELAWARE CORPORATION UPON THE TERMS THEREIN PROVIDED RECORDED JUNE 30, 2006 AS INSTR. # 20060630-0139327, OF OFFICIAL RECORDS.

TITLE REPORT EXCEPTIONS

ITEM 1. REFERS TO WATER RIGHTS.

ITEM 2. REFERS TO MINERALS INTERESTS. THERE MAY BE LEASES, GRANTS, EXCEPTIONS OR RESERVATIONS OF INTERESTS THAT ARE NOT LISTED.

ITEM 3. REFERS TO RIGHTS OF PARTIES IN POSSESSION.

ITEM 4. REFERS TO AN EASEMENT. SEE EASEMENT LEGEND HEREIN.

ITEM 5. REFERS TO AN EASEMENT. SEE EASEMENT LEGEND HEREIN.

ITEM 6. REFERS TO THE FACT THAT SAID LAND IS INCLUDED WITHIN A PROJECT AREA OF THE OXNARD BEACH REDEVELOPMENT PLAN ORDINANCE NO. 1990, AND THAT PROCEEDINGS FOR THE REDEVELOPMENT OF SAID PROJECT HAVE BEEN INSTITUTED UNDER THE REDEVELOPMENT LAW (SUCH REDEVELOPMENT TO PROCEED ONLY AFTER THE ADOPTION OF THE REDEVELOPMENT PLAN) AS DISCLOSED BY A DOCUMENT RECORDED DECEMBER 2, 1983 AS INSTR. # 83-137008, OF OFFICIAL RECORDS. AND RECORDED JANUARY 19, 1984 AS INSTR. # 84-6720, OF OFFICIAL RECORDS.

ITEM 7. REFERS TO AN "EASEMENT AGREEMENT". SEE EASEMENT LEGEND HEREON.

ITEM 8. REFERS TO THAT CERTAIN QUITCLAIM DEED, COOK COMPOSITES AND POLYMERS, CO., AS GRANTEE AS GRANTOR AND CCP COMPOSITES US, RECORDED SEPTEMBER 12, 2012 AS INSTR. # 20120912-00161928-0, OF OFFICIAL RECORDS.

ITEM 9. REFERS TO THAT CERTAIN QUITCLAIM DEED, COOK COMPOSITES AND POLYMERS, CO. AS GRANTOR AND CCP COMPOSITES US, AS GRANTEE, RECORDED SEPTEMBER 12, 2012 AS INSTR. # 20120912-00161929-0, OF OFFICIAL RECORDS.

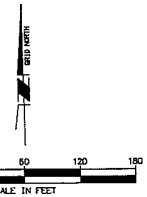
ITEM 10. REFERS TO MATTERS WHICH MAY BE DISCLOSED BY AN INSPECTION OR BY A SURVEY.

REFERENCE LEGEND

R1	80 MR 51
R2	46 PM 30
R3	39 RS 58
R4	47 RS 27
R5	112 MR 77
R6	143 MR 35
R7	52 RS 84
R8	LLA No. 98-5-42, 98-76147, O.R.

ABBREVIATION LEGEND

CA	CONVERGENCE ANGLE
C/L	CENTERLINE
CF	CALCULATED FROM
CO	COUNTY
CONC	CONCRETE
CP	CONTROL POINT
CSF	COMBINED SCALE FACTOR
EH	ELLIPSOID HEIGHT
FD	FOUND
FTC	FROM TRUE CORNER
INT-X	INTERSECTION
IP	IRON PIPE
L/L	LOT LINE
LTAT	LEAD, TACK & TAG
M	MEASURED
OXFB	OXNARD FIELD BOOK
PRO	PROPORTIONED
R	REFERENCE
R/R	RAILROAD
R/W	RIGHT-OF-WAY
SNF	SEARCHED, NOTHING FOUND
STD	STANDARD
VEN	VENTURA
●	FOUND MONUMENT (TABLE "A" ITEM 1)
△	CONTINUOUS GPS STATION



LEGAL DESCRIPTION

TITLE TO THE SAID ESTATE OR INTEREST IN SAID LAND IS AT THE EFFECTIVE DATE HEREOF VESTED IN: COOK COMPOSITES AND POLYMERS, CO., A DELAWARE GENERAL PARTNERSHIP

THE LAND REFERRED TO IN THIS COMMITMENT IS DESCRIBED AS FOLLOWS:

THE LAND REFERRED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF VENTURA, CITY OF OXNARD, AND DESCRIBED AS FOLLOWS:

PARCEL "B", AS SHOWN AND DESIGNATED ON THAT CERTAIN LOT LINE ADJUSTMENT (PLANNING AND ZONING PERMIT NO. 98-5-42), RECORDED MAY 14, 1998 AS INSTR. NO. 98-76147, OF OFFICIAL RECORDS, IN THE CITY OF OXNARD, COUNTY OF VENTURA, STATE OF CALIFORNIA AND BEING ALL OF PARCEL 2, OF LOT MERGER (PLANNING AND ZONING PERMIT NO. 98-5-41) RECORDED MAY 11, 1998 AS INSTR. NO. 98-73258 OF OFFICIAL RECORDS.

EXCEPT THEREFROM THE NORTHERLY 620.50 FEET OF SAID PARCEL 2.

ALSO EXCEPTING FROM A PORTION, A ONE-HALF OF ALL MINERALS, OIL, GAS AND OTHER HYDROCARBON SUBSTANCES IN AND UNDER SAID LAND, WITHOUT, HOWEVER, ANY RIGHT OF ENTRY IN AND TO THE SUBSURFACE THEREOF AT DEPTH OF LESS THAT 300 FEET BENEATH THE SURFACE FOR THE DEVELOPMENT OR REMOVAL OF SAID SUBSTANCES, AS RESERVED BY CLIFFORD B. JOHNSON AND OTHERS IN THE DEED RECORDED SEPTEMBER 22, 1961 IN BOOK 2050, PAGE 386 OF OFFICIAL RECORDS.

ALSO EXCEPTING FROM A PORTION, A ONE-FOURTH OF ALL OIL, GAS, MINERALS AND OTHER HYDROCARBON SUBSTANCES IN AND UNDER SAID LAND, WITHOUT, HOWEVER, ANY RIGHT TO SURFACE ENTRY IN AND TO THE SUBSURFACE THEREOF AT A DEPTH OF LESS THAN 500 FEET BENEATH THE SURFACE FOR DEVELOPMENT OR REMOVAL OF SAID SUBSTANCES, AS RESERVED BY T. G. W. INVESTMENT CO., INC., AS TITLE HOLDING COMPANY FOR OXNARD DEVELOPMENT CO., A JOINT VENTURE UNDER TITLE HOLDING AGREEMENT DATED FEBRUARY 13, 1960 AND RECORDED MARCH 11, 1960 IN BOOK 1842, PAGE 243 OF OFFICIAL RECORDS, IN THE DEED RECORDED DECEMBER 7, 1961, IN BOOK 2081, PAGE 67, OF OFFICIAL RECORDS.

GENERAL NOTES

THE BASIS OF THIS MAP IS A COMMITMENT FOR TITLE INSURANCE PREPARED BY STEWART TITLE COMPANY AS FILE No. 01150-123963 DATED SEPTEMBER 11, 2014.

GEOGRAPHICALLY LOCATABLE ITEMS FROM SAID REPORT (SUCH AS EASEMENTS) ARE DELINEATED HEREIN. SEE SHEET 2 FOR IMPROVEMENT LOCATIONS.

THE TOPOGRAPHY SHOWN HEREON WAS COMPILED BY FIELD SURVEY IN OCTOBER 2014.

THIS ALTA SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF THE PERSONS OR ENTITIES NAMED HEREON. THE SURVEYORS STATEMENT HEREON DOES NOT EXTEND TO UNNAMED PERSONS OR ENTITIES WITHOUT THE EXPRESSED CONSENT OF THE SURVEYOR.

THE DIMENSIONS SHOWN HEREON RELATIVE TO EACH OBJECT OF CULTURE (I.E. MANHOLE, STREET LIGHT, ETC.) ARE BETWEEN THE PROPERTY LINE AND THE EDGE OF THE OBJECT CLOSEST TO THE PROPERTY LINE, UNLESS NOTED OTHERWISE.

PROJECT LIES WITHIN PARTIALLY WITHIN FLOOD ZONE "X" AS PER COMMUNITY PANEL NO. 06111C0918E, DATED OCTOBER 20, 2010. (TABLE "A" ITEM 3)

ZONE X (1) AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.

ZONE X (2) AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

THE GROSS AREA OF THE LAND SHOWN HEREON IS 14.335 ACRES. (TABLE "A" ITEM 4)

SURVEYOR'S CERTIFICATE

TO TOTAL PETROCHEMICALS & REFINING USA, INC., AND STEWART TITLE COMPANY;
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1 (EXISTING),2, 3, 4, 10, AND 11a OF TABLE "A" THEREOF. THE FIELD WORK WAS COMPLETED ON OCTOBER 14, 2014.

DATE OF MAP: OCTOBER 17, 2014

MATTHEW J. VERNON, PLS
DATE SIGNED: 10/17/2014 LICENSE No. PLS 7553

MATTHEW J. VERNON No. PLS 7553 PROFESSIONAL LAND SURVEYOR STATE OF CALIFORNIA

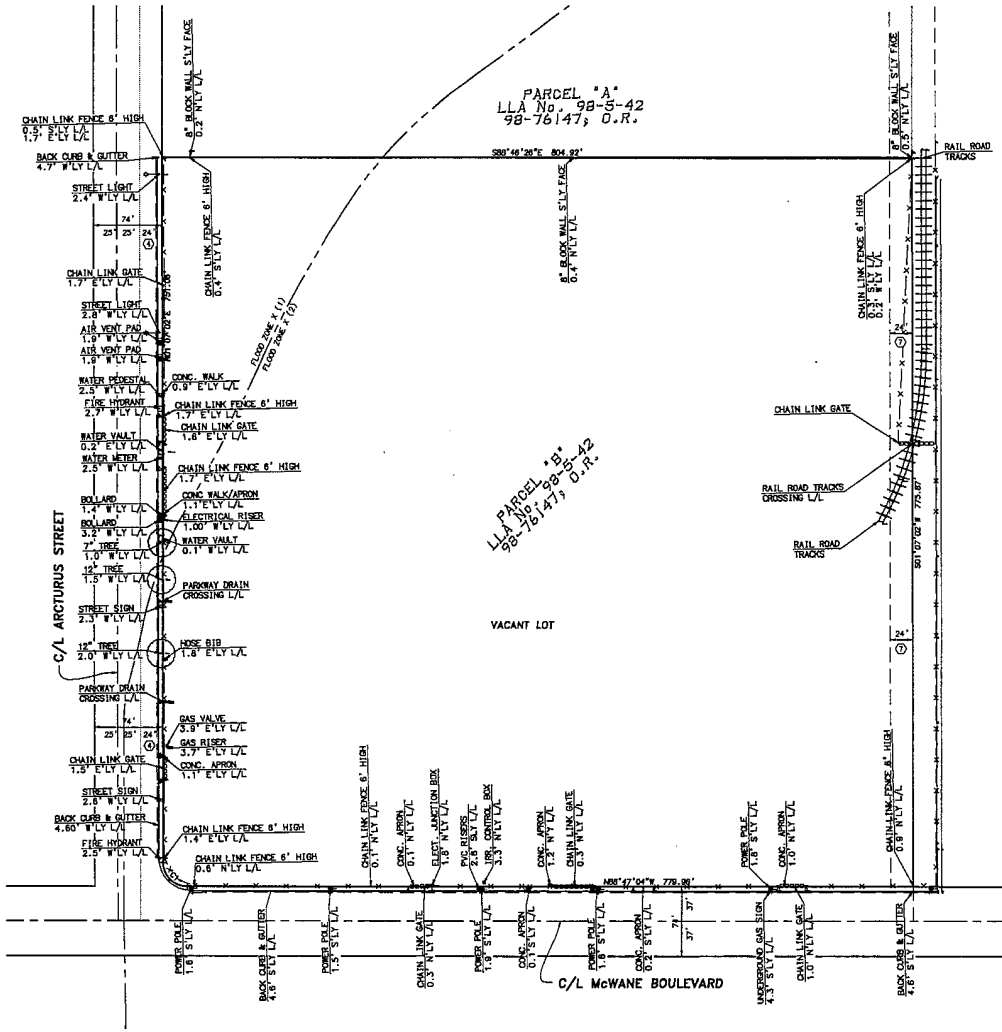
RBF CONSULTING
PLANNING ■ DESIGN ■ CONSTRUCTION
8051 VERDUGO WAY, SUITE 300
CAMARILLO, CALIFORNIA 93012-8883
805.383.3373 • FAX 805.383.3371 • www.RBF.com

RECORDING FEE $1.00 EXTRA THIS PAGE
LEGAL PENALTY FOR TOO SMALL PRINT

ALTA/ACSM LAND TITLE SURVEY

PARCEL "B" OF LLA No. 98-5-42, AS PER DOCUMENT RECORDED MAY 14, 1998 AS INSTRUMENT No. 98-76147 OF OFFICIAL RECORDS IN THE CITY OF OXNARD, COUNTY OF VENTURA STATE OF CALIFORNIA

OCTOBER 17, 2014
SHEET 2 OF 2 SHEETS



CURVE DATA TABLE			
NO.	DELTA	RADIUS	LENGTH
C1	89°54'08"	25.00'	39.23'

REFERENCE LEGEND

R1	80 MR 51
R2	46 PM 30
R3	39 RS 58
R4	47 RS 27
R5	112 MR 77
R6	143 MR 35
R7	52 RS 84
R8	LLA No. 98-5-42, 98-76147, O.R.

ABBREVIATION LEGEND

CA	CONVERGENCE ANGLE
C/L	CENTERLINE
CF	CALCULATED FROM
CO	COUNTY
CP	CONTROL POINT
CSF	COMBINED SCALE FACTOR
EH	ELLIPSOID HEIGHT
FD	FOUND
FTC	FROM TRUE CORNER
INT-X	INTERSECTION
IP	IRON PIPE
L/L	LOT LINE
L/T&T	LEAD, TACK & TAG
R	REFERENCE
R/R	RAILROAD
R/W	RIGHT-OF-WAY
SMF	SMF
STD	STANDARD
VEN	VENTURA
●	FOUND MONUMENT (TABLE "A" ITEM 1)
△	CONTINUOUS GPS STATION

EASEMENT LEGEND

(4) INDICATES AN EASEMENT FOR STREET AND MUNICIPAL UTILITY PURPOSES AND RIGHTS INCIDENTAL THERETO IN FAVOR OF CITY OF OXNARD AS SET FORTH IN A DOCUMENT RECORDED JULY 5, 1983 IN BOOK 2350, PAGE 428, OF OFFICIAL RECORDS, AFFECTS A PORTION OF SAID LAND.

(5) INDICATES AN EASEMENT FOR PUBLIC UTILITIES AND RIGHTS INCIDENTAL THERETO IN FAVOR OF SOUTHERN CALIFORNIA EDISON COMPANY, AS SET FORTH IN A DOCUMENT RECORDED MAY 7, 1998 IN BOOK 5301, PAGE 332, OF OFFICIAL RECORDS, AFFECTS PORTIONS OF THE HEREIN DESCRIBED LAND, THE EXACT LOCATION OF WHICH CAN BE DETERMINED BY EXAMINATION OF THE ABOVE-MENTIONED INSTRUMENT, WHICH CONTAINS A COMPLETE LEGAL DESCRIPTION OF THE AFFECTED PORTIONS OF SAID LAND.

(7) INDICATES THE MATTERS CONTAINED IN AN INSTRUMENT ENTITLED "EASEMENT AGREEMENT" DATED DECEMBER 28, 1998, BY AND BETWEEN COOK COMPOSITES AND POLYMERS CO., A DELAWARE GENERAL PARTNERSHIP AND BMI OF NORTH AMERICA, INC., A DELAWARE CORPORATION UPON THE TERMS THEREIN PROVIDED RECORDED JUNE 30, 2006 AS INSTR. # 20060630-0139327, OF OFFICIAL RECORDS.

NOTE: SEE SHEET 1 FOR BOUNDARY DETERMINATION DETAILS, BASIS OF BEARINGS AND SURVEY NOTES.

RBF CONSULTING
PLANNING ■ DESIGN ■ CONSTRUCTION
8051 VERDUGO WAY, SUITE 300
CAMARILLO, CALIFORNIA 93012-8669
805.383.3573 • FAX 805.383.3371 • www.RBF.com

MISCELLANEOUS EXHIBITS

Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maureen F. Gorsen, Director
1011 North Grandview Avenue
Glendale, California 91201

Arnold Schwarzenegger
Governor

CERTIFIED MAIL

January 15, 2008

Ms. Linda Miszkewycz
Assistant Project Manager
CH2MHILL
2485 Natomas Park Drive, Suite 600
Sacramento, California 95833-2937

PRELIMINARY ENDANGERMENT ASSESSMENT REPORT FOR THE SITE LOCATED AT 5980 ARCTURUS AVENUE, OXNARD, CALIFORNIA 93033

Dear Ms. Miszkewycz:

The Department of Toxic Substances Control (DTSC) has reviewed the Preliminary Endangerment Assessment Report Addendum dated March 2007, and the Updated Human Health Risk Assessment dated October 10, 2007 for the southern industrial portion (approximately 3.5 acres) of the former Reichhold property located at 5980 Arcturus Avenue, Oxnard, California (Site).

Based on information in the above documents, DTSC concludes that the soil at the Site poses an acceptable risk for industrial/commercial use and No Further Action is necessary for soil, if the use is limited to commercial or industrial land use. However, the risk is unacceptable for sensitive land use, such as single family homes, schools and day care facilities for children. Accordingly, the implementation of a Land Use Covenant for commercial and/or industrial land use will be necessary.

Should you have any questions or concerns, please call me at (818) 551-2822, or Mr. Alberto Valmidiano, Project Manger, at (818) 551-2870.

Sincerely,

Sayareh Amir, Chief
Southern California Cleanup Operations Branch – Glendale Office

cc: See next page

cc: Mr. Brian A Kanzler
Senior Project Manager
Reichhold, Inc.
P.O. Box 13582
Research Triangle Park, North Carolina 27709-3582

Mr. Rob Lowey
CH2MHILL
3 Hutton Centre Drive, Suite 200
Santa Ana, California 92707

Mr. Michael Gromacki
Cook Composites and Polymers
820 East 14th Avenue
North Kansas City, Missouri 64116

CERTIFIED MAIL
7006 0810 0003 4560 0158
Return Receipt Requested

APPENDIX B

THE EDR RADIUS MAP™ REPORT WITH GEOCHECK®

5980 and 6000 Arctutus Avenue
5980 and 6000 Arctutus Avenue
Oxnard, CA 93033

Inquiry Number: 4285348.2s
May 06, 2015

The EDR Radius Map™ Report with GeoCheck®

Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	213
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

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Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

5980 AND 6000 ARCTUTUS AVENUE
OXNARD, CA 93033

COORDINATES

Latitude (North):	34.1415000 - 34° 8' 29.40''
Longitude (West):	119.1713000 - 119° 10' 16.68''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	299795.8
UTM Y (Meters):	3779780.2
Elevation:	12 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	34119-B2 OXNARD, CA
Most Recent Revision:	1967

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120506
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
5980 AND 6000 ARCTUTUS AVENUE
OXNARD, CA 93033

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	COOK COMPOSITE AND P	5980 ARCTURUS AVE	NPDES		TP
A2	COOK COMPOSITES & PO	5980 ARCTURUS	NPDES		TP
A3		5980 ARCTURUS AVE	ERNS		TP
A4		5980 ARCTURUS AVE	ERNS		TP
A5		5980 ARCTURUS AVE	ERNS		TP
A6		5980 ARCTURUS AVE	ERNS		TP
A7		5980 ARCTURUS AVE	ERNS		TP
A8		5980 ARCTURUS AVE	ERNS		TP
A9	OCCIDENTAL CHEMICAL	6000 ARCTURUS AVE	NPDES, HAZNET		TP
A10	COOK COMPOSITES AND	5980 ARCTURUS AVE	HAZNET		TP
A11		5980 ARCTURUS DR	CHMIRS		TP
A12		5980 ARCTURAS AV.	CHMIRS		TP
A13		5980 ARCTURUS AVENUE	CHMIRS		TP
A14		5980 ARCTURUS ST. RE	CHMIRS		TP
A15		5980 ARCTURUS RD	CHMIRS		TP
A16	OCCIDENTAL ELECTROCH	6000 ARCTURUS AVENUE	VCP, EMI, ENVIROSTOR		TP
A17		5980 ARCTURUS AVE	ERNS		TP
A18		5980 ARCTURUS DR	ERNS		TP
A19		5980 ARCTURUS AVE	ERNS		TP
A20		5980 ARCTURAS AVE	ERNS		TP
A21		5980 ARCTURUS RD	ERNS		TP
A22		5980 ARCTURUS AVE	ERNS		TP
A23		5980 ARCTURUS AVE	ERNS		TP
A24		5980 ARCTURUS AVE	ERNS		TP
A25	COOK COMPOSITES AND	5980 ARCTURUS AVENUE	CERC-NFRAP, RCRA-LQG, RAATS, HIST CORTESE, HIST...		TP
A26	DIAMOND SHAMROCK COR	6000 ARCTURUS AVE	CERC-NFRAP, RCRA-SQG		TP
A27	REICHHOLD CHEMICAL I	5980 ARCTURUS AVENUE	FINDS		TP
A28		5980 ARCTURAS AVE	ERNS		TP
A29	COOK COMPOSITES & PO	5980 ARCTURUS AVE.	FINDS		TP
A30	OCCIDENTAL CHEMICAL	6000 ARCTURUS AVENUE	FINDS		TP
A31	REICHHOLD CHEMICALS	5980 ARCTURUS AVE	NPDES		TP
Reg	POINT MUGU PACIFIC M		DOD	Same	4732, 0.896, SE
Reg	HALACO ENGINEERING C	6200 PERKINS	NPL, CERCLIS, LUST, HIST UST, PRP, LEAD SMELTERS	Same	2152, 0.408, West
B32	ARCTURUS MANUFACTURI	6001 ARCTURUS ROAD	RCRA-SQG, ICIS, FINDS, NPDES, HIST CORTESE, LUST,...	Higher	28, 0.005, WNW
B33	ARCTURUS MANUFACTURI	6001 ARCTURUS ROAD	CA FID UST, SWEEPS UST, EMI	Higher	35, 0.007, West
B34	BMW	5056 ARCTURUS AVE S	LUST	Higher	56, 0.011, NW
C35		5900 ARCTURUS AVE	EDR US Hist Auto Stat	Higher	235, 0.045, NNW
C36	BMW OF NORTH AMERICA	5900 ARCTURUS AVENUE	RCRA-LQG, FINDS	Higher	235, 0.045, NNW
C37	ENGINEERING AND EMIS	5900 ARCTURUS AVE	FINDS, NPDES, SLIC	Higher	235, 0.045, NNW

MAPPED SITES SUMMARY

Target Property Address:
5980 AND 6000 ARCTUTUS AVENUE
OXNARD, CA 93033

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
C38	BMW ENGINEERING & EM	5900 ARCTURUS RD	AST	Higher	235, 0.045, NNW
C39		5901 ARCTURUS AVE	EDR US Hist Auto Stat	Higher	236, 0.045, NNW
C40	KIMTRUSS CORP	5851 ARCTURUS AVE	HIST UST	Higher	483, 0.091, NNW
C41	OXNARD HARBOR DISTRI	5851 ARCTURUS	HIST CORTESE, LUST	Higher	483, 0.091, NNW
C42	OXNARD HARBOR DISTRI	5851 ARCTURUS AVENUE	UST	Higher	483, 0.091, NNW
D43	ALUMINUM PRECISION P	1001 MCWANE BLVD.	AST	Higher	550, 0.104, ESE
D44	ALUMINUM PRECISION P	1001 MCWANE BLVD	NPDES, SLIC, CHMIRS, ENVIROSTOR, WDS	Higher	550, 0.104, ESE
D45	ALUMINUM PRECISION P	1001 MCWANE BOULEVAR	RCRA-LQG, ICIS, FINDS	Higher	550, 0.104, ESE
D46	KAISER ALUMINUM	1001 MCWANE BLVD	LUST	Higher	550, 0.104, ESE
E47	CARPINTERIA WELDING,	5901 EDISON DR	HIST UST	Higher	846, 0.160, East
E48	BORLA PERFORMANCE IN	5901 EDISON RD	RCRA-SQG	Higher	846, 0.160, East
E49	BORLA PERFORMANCE IN	5901 EDISON RD	RCRA-SQG, FINDS, LUST, UST	Higher	846, 0.160, East
E50	IRWIN INDUSTRIES INC	5901 EDISON DR	NPDES, HIST CORTESE, LUST	Higher	846, 0.160, East
F51	VEHICLE PREPARATION	5650 ARCTURUS ROAD	RCRA-SQG, FINDS	Higher	1066, 0.202, North
F52	BMW ENGINEERING WEST	5650 ARCTURUS	SLIC, ENF	Higher	1066, 0.202, North
F53	BMW OF NORTH AMERICA	5650 ARCTURUS AVENUE	UST	Higher	1066, 0.202, North
F54	BMW OF NORTH AMERICA	5650 ARCTURAS AVE	LUST, SLIC	Higher	1066, 0.202, North
G55	CALPINE CONTAINERS	5655 ARCTURUS	HIST CORTESE, LUST	Higher	1462, 0.277, North
G56	CALPINE CONTAINERS	5655 ARCTURUS AVE	LUST, WDS	Higher	1462, 0.277, North
57	SOUTHERN CALIFORNIA	6635 EDISON DR	NPDES, HIST CORTESE, LUST, ENF	Higher	1545, 0.293, SE
H58	HUENEME CITY YARD (B	700 HUENEME RD E	LUST	Higher	1804, 0.342, North
H59	HUENEME SCH DIST FDT	700 C HUENEME RD	NPDES, HIST CORTESE, HIST UST, WDS	Higher	1804, 0.342, North
I60	PACIFIC VEHICLE PROC	5601 EDISON DR	LUST, CA FID UST, AST, SWEEPS UST	Higher	1943, 0.368, NE
I61	VEHICLE PREPARATION	5601 EDISON DR	HIST Cal-Sites, Cortese, LUST, RESPONSE,...	Higher	1943, 0.368, NE
I62	PACIFIC VEHICLE PROC	5601 EDISON DR	LUST	Higher	1943, 0.368, NE
J63	MIGUEL RAMOS	5690 CYPRESS	HIST CORTESE, LUST	Higher	2542, 0.481, North
J64	RAMOS PROPERTY (MIGU	5690 CYPRESS	LUST	Higher	2542, 0.481, North
K65	EPTC-ORMOND BEACH	6640 S EDISON DR	HWP	Lower	3282, 0.622, SSE
K66	SCE - ORMOND BEACH F	6640 EDISON	SLIC, DEED, ENVIROSTOR	Lower	3287, 0.623, SSE
67	HALACO - METAL RECYC	6200 PERKINS ROAD	Cortese, HIST CORTESE, LUST, CHMIRS, ENF,...	Lower	3566, 0.675, WSW
68	PACIFIC RECYCLING EN	5925 PERKINS ROAD	ENVIROSTOR	Lower	3572, 0.677, West
69	CITY OF OXNARD	6001 S. PERKINS RD.	CHMIRS, Notify 65, EMI	Lower	3573, 0.677, West
70	HALLIBURTON ENERGY S	5800 PERKINS RD	NPDES, HIST CORTESE, LUST, SLIC, UST, ENVIROSTOR	Higher	3645, 0.690, WNW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
COOK COMPOSITE AND P 5980 ARCTURUS AVE OXNARD, CA 93033	NPDES	N/A
COOK COMPOSITES & PO 5980 ARCTURUS OXNARD, CA 93033	NPDES	N/A
5980 ARCTURUS AVE 5980 ARCTURUS AVE OXNARD, CA	ERNS EDR ID:: 00229799	N/A
5980 ARCTURUS AVE 5980 ARCTURUS AVE OXNARD, CA 93033	ERNS EDR ID:: 00256391	N/A
5980 ARCTURUS AVE 5980 ARCTURUS AVE OXNARD, CA 93033	ERNS EDR ID:: 00467039	N/A
5980 ARCTURUS AVE 5980 ARCTURUS AVE OXNARD, CA 93033	ERNS EDR ID:: 00230946	N/A
5980 ARCTURUS AVE 5980 ARCTURUS AVE OXNARD, CA 93033	ERNS EDR ID:: 00256819	N/A
5980 ARCTURUS AVE 5980 ARCTURUS AVE OXNARD, CA	ERNS EDR ID:: 00157834	N/A
OCCIDENTAL CHEMICAL 6000 ARCTURUS AVE OXNARD, CA 93033	NPDES HAZNET GEPAID: CAD044422327	N/A
COOK COMPOSITES AND 5980 ARCTURUS AVE OXNARD, CA 93033	HAZNET GEPAID: CAD087163267	N/A

5980 ARCTURUS DR 5980 ARCTURUS DR OXNARD, CA	CHMIRS OES Incident Number: 1676	N/A
5980 ARCTURAS AV. 5980 ARCTURAS AV. OXNARD, CA 93033	CHMIRS Date Completed: 08-MAR-88 OES Incident Number: 8800759	N/A
5980 ARCTURUS AVENUE 5980 ARCTURUS AVENUE OXNARD, CA 93033	CHMIRS Date Completed: 10-APR-90 OES Incident Number: 9010272	N/A
5980 ARCTURUS ST. RE 5980 ARCTURUS ST. RE OXNARD, CA 93033	CHMIRS OES Incident Number: 1958	N/A
5980 ARCTURUS RD 5980 ARCTURUS RD OXNARD, CA 93030	CHMIRS Date Completed: 02-SEP-89 OES Incident Number: 8910688	N/A
OCCIDENTAL ELECTROCH 6000 ARCTURUS AVENUE OXNARD, CA 93030	VCP Status: No Further Action Facility Id: 56280001 EMI Facility Id: 147 ENVIROSTOR Status: No Further Action Facility Id: 56280001	N/A
5980 ARCTURUS AVE 5980 ARCTURUS AVE OXNARD, CA 93033	ERNS EDR ID:: 00366768	N/A
5980 ARCTURUS DR 5980 ARCTURUS DR OXNARD, CA 93033	ERNS EDR ID:: 00369086	N/A
5980 ARCTURUS AVE 5980 ARCTURUS AVE OXNARD, CA 93033	ERNS EDR ID:: 00373941	N/A
5980 ARCTURAS AVE 5980 ARCTURAS AVE OXNARD, CA 93033	ERNS EDR ID:: 00304429	N/A

5980 ARCTURUS RD 5980 ARCTURUS RD OXNARD, CA 93033	ERNS EDR ID:: 00296295	N/A
5980 ARCTURUS AVE 5980 ARCTURUS AVE OXNARD, CA 93033	ERNS EDR ID:: 00373982	N/A
5980 ARCTURUS AVE 5980 ARCTURUS AVE OXNARD, CA 93033	ERNS EDR ID:: 00351909	N/A
5980 ARCTURUS AVE 5980 ARCTURUS AVE OXNARD, CA 93033	ERNS EDR ID:: 00294286	N/A
COOK COMPOSITES AND 5980 ARCTURUS AVENUE OXNARD, CA 93033	CERC-NFRAP Site ID: 0901641 EPA Id: CAD087163267 RCRA-LQG EPA ID:: CAD087163267 RAATS Status: 02 Facility ID: CAD087163267 HIST CORTESE Reg Id: 56280098 HIST UST Facility Id: 00000000646 CHMIRS OES Incident Number: 60965 Notify 65 VCP Status: No Further Action Facility Id: 56280098 EMI Facility Id: 146 ENVIROSTOR Status: No Further Action Facility Id: 56280098 WDS Facility Status: A Facility Id: 4 56I012454	CAD087163267
DIAMOND SHAMROCK COR 6000 ARCTURUS AVE OXNARD, CA 93030	CERC-NFRAP Site ID: 0901363 EPA Id: CAD044422327 RCRA-SQG EPA ID:: CAD044422327	CAD044422327

REICHHOLD CHEMICAL I 5980 ARCTURUS AVENUE OXNARD, CA 93033	FINDS Registry ID:: 110033606462	N/A
5980 ARCTURAS AVE 5980 ARCTURAS AVE OXNARD, CA	ERNS EDR ID:: 00020544	N/A
COOK COMPOSITES & PO 5980 ARCTURUS AVE. OXNARD, CA 93033	FINDS Registry ID:: 110000481309	N/A
OCCIDENTAL CHEMICAL 6000 ARCTURUS AVENUE OXNARD, CA 93033	FINDS Registry ID:: 110001155268	N/A
REICHHOLD CHEMICALS 5980 ARCTURUS AVE OXNARD, CA 93033	NPDES	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls
LUCIS ---------- Land Use Control Information System

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

INDIAN UST ---------- Underground Storage Tanks on Indian Land
FEMA UST ---------- Underground Storage Tank Listing

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI ---------- Open Dump Inventory
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
WMUDS/SWAT ---------- Waste Management Unit Database

Local Lists of Hazardous waste / Contaminated Sites

US CDL ---------- Clandestine Drug Labs
SCH ---------- School Property Evaluation Program
Toxic Pits ---------- Toxic Pits Cleanup Act Sites
CDL ---------- Clandestine Drug Labs
US HIST CDL ---------- National Clandestine Laboratory Register

EXECUTIVE SUMMARY

Local Land Records

LIENS 2	CERCLA Lien Information
LIENS	Environmental Liens Listing
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
DOT OPS	Incident and Accident Data
FUDS	Formerly Used Defense Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
US MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
RMP	Risk Management Plans
CA BOND EXP. PLAN	Bond Expenditure Plan
UIC	UIC Listing
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
VENTURA CO. BWT	Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
WIP	Well Investigation Program Case List
ENF	Enforcement Action Listing
INDIAN RESERV	Indian Reservations
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
HWT	Registered Hazardous Waste Transporter Database
PROC	Certified Processors Database
Financial Assurance	Financial Assurance Information Listing
MWMP	Medical Waste Management Program Listing
US AIRS	Aerometric Information Retrieval System Facility Subsystem
MED WASTE VENTURA	Medical Waste Program List
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
LEAD SMELTERS	Lead Smelter Sites
PCB TRANSFORMER	PCB Transformer Registration Database
COAL ASH DOE	Steam-Electric Plant Operation Data

2020 COR ACTION 2020 Corrective Action Program List
PRP Potentially Responsible Parties

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP EDR Proprietary Manufactured Gas Plants
EDR US Hist Cleaners EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LUST Recovered Government Archive Leaking Underground Storage Tank
RGA LF Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: Also known as Superfund, the National Priority List database is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.

A review of the NPL list, as provided by EDR, and dated 12/16/2014 has revealed that there is 1 NPL site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HALACO ENGINEERING C	***6200 PERKINS***	***W 1/4 - 1/2 (0.408 mi.)***	***0***	***50***

EXECUTIVE SUMMARY

Federal CERCLIS list

CERCLIS: The Comprehensive Environmental Response, Compensation and Liability Information System contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the CERCLIS list, as provided by EDR, and dated 10/25/2013 has revealed that there is 1 CERCLIS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HALACO ENGINEERING C	***6200 PERKINS***	***W 1/4 - 1/2 (0.408 mi.)***	***0***	***50***

Federal RCRA generators list

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 12/09/2014 has revealed that there are 2 RCRA-LQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BMW OF NORTH AMERICA	***5900 ARCTURUS AVENUE***	***NNW 0 - 1/8 (0.045 mi.)***	***C36***	***89***
ALUMINUM PRECISION P	***1001 MCWANE BOULEVAR***	***ESE 0 - 1/8 (0.104 mi.)***	***D45***	***100***

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 12/09/2014 has revealed that there are 4 RCRA-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARCTURUS MANUFACTURI	***6001 ARCTURUS ROAD***	***WNW 0 - 1/8 (0.005 mi.)***	***B32***	***61***
BORLA PERFORMANCE IN	5901 EDISON RD	E 1/8 - 1/4 (0.160 mi.)	E48	106
BORLA PERFORMANCE IN	***5901 EDISON RD***	***E 1/8 - 1/4 (0.160 mi.)***	***E49***	***107***
VEHICLE PREPARATION	***5650 ARCTURUS ROAD***	***N 1/8 - 1/4 (0.202 mi.)***	***F51***	***114***

State- and tribal - equivalent NPL

RESPONSE: Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

A review of the RESPONSE list, as provided by EDR, and dated 03/11/2015 has revealed that there is 1 RESPONSE site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
VEHICLE PREPARATION	***5601 EDISON DR***	***NE 1/4 - 1/2 (0.368 mi.)***	***I61***	***141***
Status: Backlog				
Facility Id: 56010004				

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 03/11/2015 has revealed that there are 6 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ALUMINUM PRECISION P	***1001 MCWANE BLVD***	***ESE 0 - 1/8 (0.104 mi.)***	***D44***	***97***
Status: Refer: 1248 Local Agency				
Facility Id: 56330012				
VEHICLE PREPARATION	***5601 EDISON DR***	***NE 1/4 - 1/2 (0.368 mi.)***	***I61***	***141***
Status: Backlog				
Facility Id: 56010004				
HALLIBURTON ENERGY S	***5800 PERKINS RD***	***WNW 1/2 - 1 (0.690 mi.)***	***70***	***207***
Status: No Further Action				
Facility Id: 56280099				

Lower Elevation	Address	Direction / Distance	Map ID	Page
SCE - ORMOND BEACH F	***6640 EDISON***	***SSE 1/2 - 1 (0.623 mi.)***	***K66***	***153***
Status: Active				
Facility Id: 60001190				
HALACO - METAL RECYC	***6200 PERKINS ROAD***	***WSW 1/2 - 1 (0.675 mi.)***	***67***	***156***
Status: Active				
Facility Id: 56330002				
PACIFIC RECYCLING EN	5925 PERKINS ROAD	W 1/2 - 1 (0.677 mi.)	68	194
Status: No Further Action				
Facility Id: 56330008				

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 03/13/2015 has revealed that there are 17 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
HALACO ENGINEERING C	***6200 PERKINS***	***W 1/4 - 1/2 (0.408 mi.)***	***0***	***50***
Facility Id: C-93001 Facility Id: C-95081 Status: Case Closed Facility Id: 95081 Facility Id: 93001 Status: Case Closed Global ID: T0611100834 Global ID: T0611100980				
ARCTURUS MANUFACTURI	***6001 ARCTURUS ROAD***	***WNW 0 - 1/8 (0.005 mi.)***	***B32***	***61***
Status: Completed - Case Closed Facility Id: C-89096 Facility Id: C-98029 Status: Case Closed Facility Id: 98029 Facility Id: 89096 Status: Case Closed Global Id: T0611101187 Global Id: T0611100505 Global ID: T0611100505				
BMW	5056 ARCTURUS AVE S	NW 0 - 1/8 (0.011 mi.)	B34	86
Status: Completed - Case Closed Facility Id: C-00009 Status: Case Closed Facility Id: 00009 Status: Case Closed Global Id: T0611193021 Global ID: T0611193021				
OXNARD HARBOR DISTRI	***5851 ARCTURUS***	***NNW 0 - 1/8 (0.091 mi.)***	***C41***	***94***
Status: Completed - Case Closed Facility Id: C-94015 Status: Case Closed Facility Id: 94015 Status: Case Closed Global Id: T0611100879 Global ID: T0611100879				
KAISER ALUMINUM	1001 MCWANE BLVD	ESE 0 - 1/8 (0.104 mi.)	D46	105
Facility Id: SR011 Status: Case Closed				
BORLA PERFORMANCE IN	***5901 EDISON RD***	***E 1/8 - 1/4 (0.160 mi.)***	***E49***	***107***
Facility Id: 930300070 Facility Id: C-88058 Status: Case Closed Facility Id: 88058 Status: Case Closed Global ID: T0611100056 Global ID: T0611100308				

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
IRWIN INDUSTRIES INC Status: Completed - Case Closed Global Id: T0611100308 Global Id: T0611100056	***5901 EDISON DR***	***E 1/8 - 1/4 (0.160 mi.)***	***E50***	***111***
BMW OF NORTH AMERICA Facility Id: SR035 Status: Case Closed	***5650 ARCTURAS AVE***	***N 1/8 - 1/4 (0.202 mi.)***	***F54***	***118***
CALPINE CONTAINERS Status: Completed - Case Closed Global Id: T0611100490	***5655 ARCTURUS***	***N 1/4 - 1/2 (0.277 mi.)***	***G55***	***119***
CALPINE CONTAINERS Facility Id: C-89081 Status: Case Closed Facility Id: 89081 Status: Case Closed Global ID: T0611100490	***5655 ARCTURUS AVE***	***N 1/4 - 1/2 (0.277 mi.)***	***G56***	***120***
SOUTHERN CALIFORNIA Status: Completed - Case Closed Facility Id: C-93021 Status: Case Closed Facility Id: 93021 Status: Case Closed Global Id: T0611100848 Global ID: T0611100848	***6635 EDISON DR***	***SE 1/4 - 1/2 (0.293 mi.)***	***57***	***123***
HUENEME CITY YARD (B Status: Completed - Case Closed Facility Id: 930410016 Status: Case Closed Global Id: T0611100078 Global ID: T0611100078	700 HUENEME RD E	N 1/4 - 1/2 (0.342 mi.)	H58	135
PACIFIC VEHICLE PROC Facility Id: C04015 Status: Leak being confirmed Global ID: T0611127035	***5601 EDISON DR***	***NE 1/4 - 1/2 (0.368 mi.)***	***I60***	***139***
VEHICLE PREPARATION Status: Completed - Case Closed Global Id: T0611127035	***5601 EDISON DR***	***NE 1/4 - 1/2 (0.368 mi.)***	***I61***	***141***
PACIFIC VEHICLE PROC Facility Id: 04015 Status: Case Closed	5601 EDISON DR	NE 1/4 - 1/2 (0.368 mi.)	I62	149
MIGUEL RAMOS Facility Id: C-89078 Status: Remediation Plan Global ID: T0611100487	***5690 CYPRESS***	***N 1/4 - 1/2 (0.481 mi.)***	***J63***	***149***
RAMOS PROPERTY (MIGU Status: Completed - Case Closed Facility Id: 89078 Status: Case Closed Global Id: T0611100487	5690 CYPRESS	N 1/4 - 1/2 (0.481 mi.)	J64	150

SLIC: SLIC Region comes from the California Regional Water Quality Control Board.

A review of the SLIC list, as provided by EDR, and dated 03/13/2015 has revealed that there are 4 SLIC sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ENGINEERING AND EMIS	***5900 ARCTURUS AVE***	***NNW 0 - 1/8 (0.045 mi.)***	***C37***	***91***
Global Id: SLT43696694				
Facility Status: Completed - Case Closed				
ALUMINUM PRECISION P	***1001 MCWANE BLVD***	***ESE 0 - 1/8 (0.104 mi.)***	***D44***	***97***
Global Id: T0611129375				
Facility Status: Completed - Case Closed				
BMW ENGINEERING WEST	***5650 ARCTURUS***	***N 1/8 - 1/4 (0.202 mi.)***	***F52***	***116***
Facility Status: Site Assessment				
BMW OF NORTH AMERICA	***5650 ARCTURAS AVE***	***N 1/8 - 1/4 (0.202 mi.)***	***F54***	***118***
Global Id: T0611192290				
Facility Status: Completed - Case Closed				

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 03/13/2015 has revealed that there are 3 UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
OXNARD HARBOR DISTRI	5851 ARCTURUS AVENUE	NNW 0 - 1/8 (0.091 mi.)	C42	96
Facility Id: D 1110				
Facility Status: inactive				
BORLA PERFORMANCE IN	***5901 EDISON RD***	***E 1/8 - 1/4 (0.160 mi.)***	***E49***	***107***
Facility Id: D 166				
Facility Status: inactive				
BMW OF NORTH AMERICA	5650 ARCTURUS AVENUE	N 1/8 - 1/4 (0.202 mi.)	F53	118
Facility Id: 056-013-070742				

AST: A listing of aboveground storage tank petroleum storage tank locations.

A review of the AST list, as provided by EDR, and dated 08/01/2009 has revealed that there are 2 AST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BMW ENGINEERING & EM	5900 ARCTURUS RD	NNW 0 - 1/8 (0.045 mi.)	C38	92
ALUMINUM PRECISION P	1001 MCWANE BLVD.	ESE 0 - 1/8 (0.104 mi.)	D43	96

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

HIST Cal-Sites: Formerly known as ASPIS, this database contains both known and potential hazardous substance sites. The source is the California Department of Toxic Substance Control. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

A review of the HIST Cal-Sites list, as provided by EDR, and dated 08/08/2005 has revealed that there is 1 HIST Cal-Sites site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
VEHICLE PREPARATION	***5601 EDISON DR***	***NE 1/4 - 1/2 (0.368 mi.)***	***I61***	***141***

Local Lists of Registered Storage Tanks

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there is 1 CA FID UST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARCTURUS MANUFACTURI Facility Id: 56000419 Status: A	***6001 ARCTURUS ROAD***	***W 0 - 1/8 (0.007 mi.)***	***B33***	***77***

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 3 HIST UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARCTURUS MANUFACTURI Facility Id: 00000064671	***6001 ARCTURUS ROAD***	***WNW 0 - 1/8 (0.005 mi.)***	***B32***	***61***
KIMTRUSS CORP Facility Id: 00000002081	5851 ARCTURUS AVE	NNW 0 - 1/8 (0.091 mi.)	C40	93
CARPINTERIA WELDING, Facility Id: 00000014337	5901 EDISON DR	E 1/8 - 1/4 (0.160 mi.)	E47	105

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there is

1 SWEEPS UST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARCTURUS MANUFACTURI	***6001 ARCTURUS ROAD***	***W 0 - 1/8 (0.007 mi.)***	***B33***	***77***
Status: A				
Tank Status: A				
Comp Number: 187				

Other Ascertainable Records

DOD: Consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

A review of the DOD list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 DOD site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
POINT MUGU PACIFIC M		SE 1/2 - 1 (0.896 mi.)	0	49

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

A review of the Cortese list, as provided by EDR, and dated 03/10/2015 has revealed that there is 1 Cortese site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
VEHICLE PREPARATION	***5601 EDISON DR***	***NE 1/4 - 1/2 (0.368 mi.)***	***I61***	***141***
Envirostor Id: 56010004				
Cleanup Status: BACKLOG				

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 7 HIST CORTESE sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ARCTURUS MANUFACTURI	***6001 ARCTURUS ROAD***	***WNW 0 - 1/8 (0.005 mi.)***	***B32***	***61***
Reg Id: C-89086				
Reg Id: C-89096				
Reg Id: C-98029				
OXNARD HARBOR DISTRI	***5851 ARCTURUS***	***NNW 0 - 1/8 (0.091 mi.)***	***C41***	***94***
Reg Id: C-94015				
IRWIN INDUSTRIES INC	***5901 EDISON DR***	***E 1/8 - 1/4 (0.160 mi.)***	***E50***	***111***
Reg Id: C-88058				
Reg Id: 930300070				
CALPINE CONTAINERS	***5655 ARCTURUS***	***N 1/4 - 1/2 (0.277 mi.)***	***G55***	***119***
Reg Id: C-89081				

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SOUTHERN CALIFORNIA	***6635 EDISON DR***	***SE 1/4 - 1/2 (0.293 mi.)***	***57***	***123***
Reg Id: 88				
Reg Id: C-93021				
HUENEME SCH DIST FDT	***700 C HUENEME RD***	***N 1/4 - 1/2 (0.342 mi.)***	***H59***	***137***
Reg Id: 930410025				
MIGUEL RAMOS	***5690 CYPRESS***	***N 1/4 - 1/2 (0.481 mi.)***	***J63***	***149***
Reg Id: C-89078				

Notify 65: Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

A review of the Notify 65 list, as provided by EDR, and dated 10/21/1993 has revealed that there is 1 Notify 65 site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CITY OF OXNARD	***6001 S. PERKINS RD.***	***W 1/2 - 1 (0.677 mi.)***	***69***	***195***

HWP: Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

A review of the HWP list, as provided by EDR, and dated 02/23/2015 has revealed that there is 1 HWP site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
EPTC-ORMOND BEACH	6640 S EDISON DR	SSE 1/2 - 1 (0.622 mi.)	K65	152
EPA Id: CAD000631036				
Cleanup Status: NON-OPERATING				

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR US Hist Auto Stat: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR US Hist Auto Stat list, as provided by EDR, has revealed that there are 2 EDR US

EXECUTIVE SUMMARY

Hist Auto Stat sites within approximately 0.25 miles of the target property.

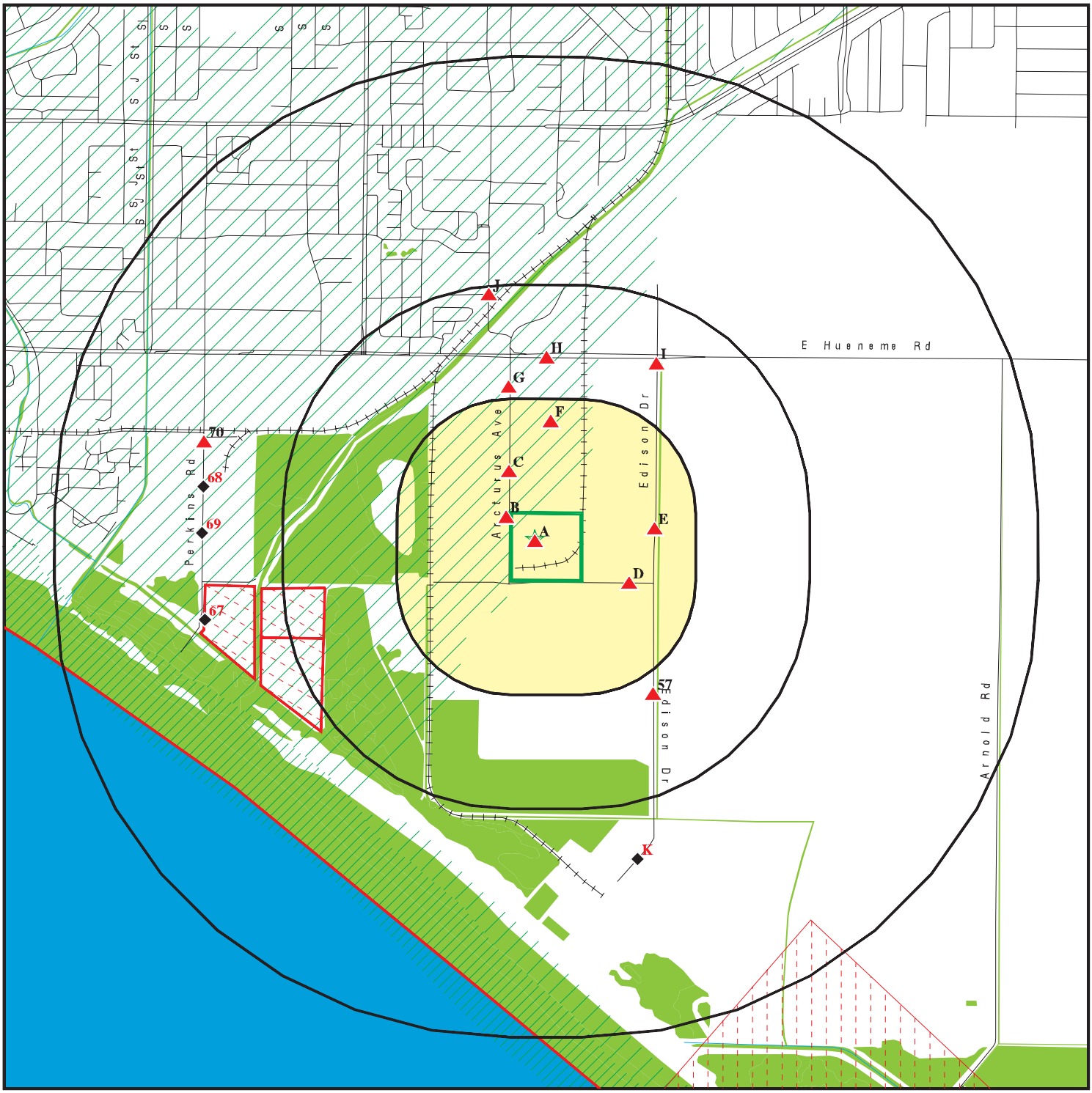
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	5900 ARCTURUS AVE	NNW 0 - 1/8 (0.045 mi.)	C35	89
Not reported	5901 ARCTURUS AVE	NNW 0 - 1/8 (0.045 mi.)	C39	93

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 6 records.

Site Name	Database(s)
REMIE CALLENS	HIST CORTESE, LUST
OXNARD 1962	SWF/LF
MOBIL OIL SS (STEVE'S)	LUST
NBVC PORT HUENEME BLDG 1296 AND 13	LUST
NBVC PORT HUENEME BLDG 541	LUST
TESORO PETROLEUM CORPORATION	ENVIROSTOR

OVERVIEW MAP - 4285348.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 5980 and 6000 Arctutus Avenue	CLIENT: Northgate Env. Management, Inc.
ADDRESS: 5980 and 6000 Arctutus Avenue Oxnard CA 93033	CONTACT: Nicky Galloway INQUIRY #: 4285348.2s
LAT/LONG: 34.1415 / 119.1713	DATE: May 06, 2015 7:52 am

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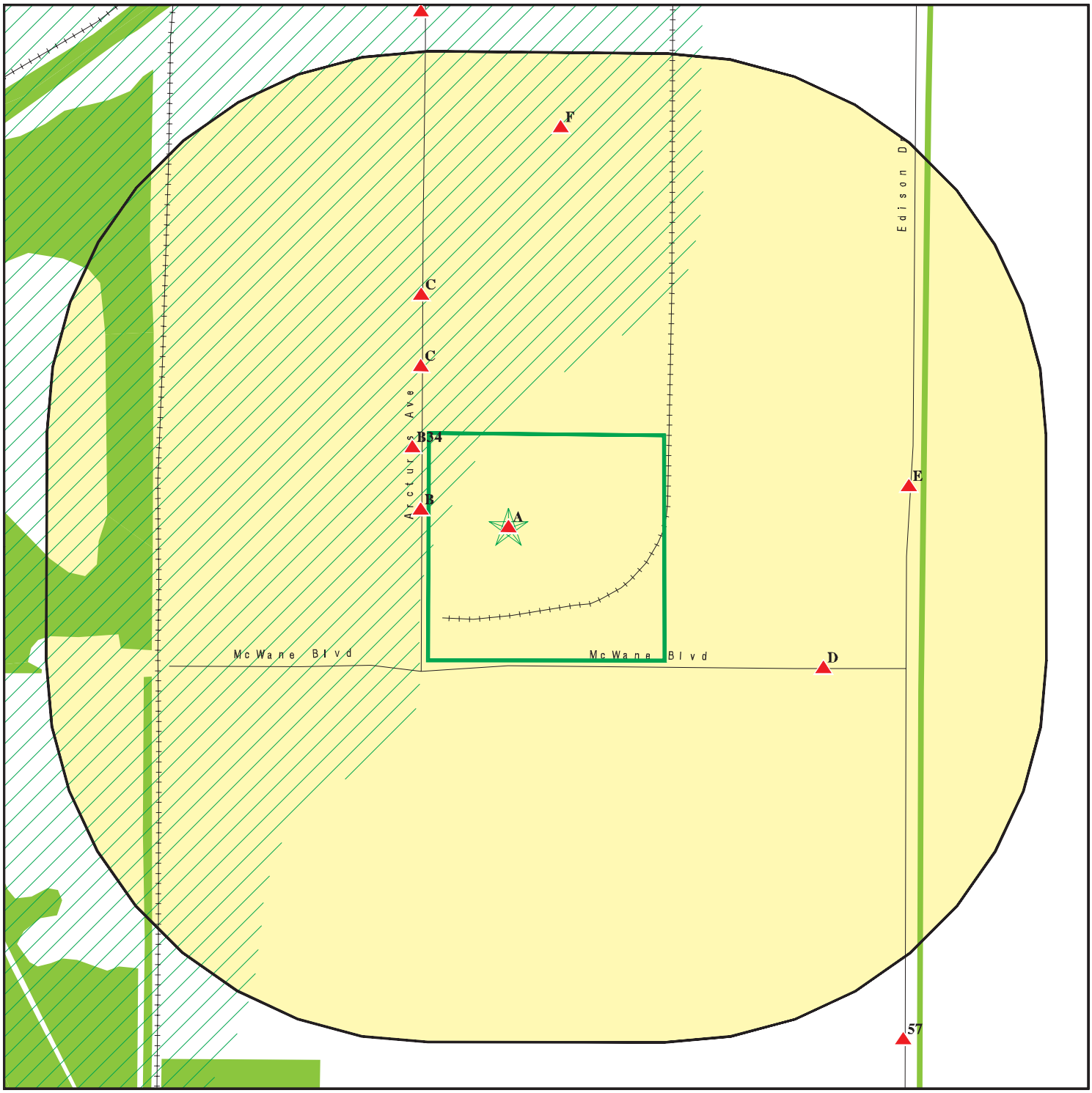
DETAIL MAP - 4285348.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	5980 and 6000 Arctutus Avenue	CLIENT:	Northgate Env. Management, Inc.
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		INQUIRY #:	4285348.2s
LAT/LONG:	34.1415 / 119.1713	DATE:	May 06, 2015 7:53 am

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	1	0	NR	1
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	1	NR	NR	1
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500	2	0	0	0	NR	NR	2
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250	1	2	0	NR	NR	NR	3
RCRA-SQG	0.250	1	1	3	NR	NR	NR	5
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP	15	NR	NR	NR	NR	NR	15
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	1	0	NR	1
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000	2	1	0	1	4	NR	8
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		4	3	10	NR	NR	17

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SLIC	0.500		2	2	0	NR	NR	4
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		1	2	NR	NR	NR	3
AST	0.250		2	0	NR	NR	NR	2
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500	2	0	0	0	NR	NR	2
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	1	0	NR	1
SCH	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA FID UST	0.250		1	0	NR	NR	NR	1
HIST UST	0.250	1	2	1	NR	NR	NR	4
SWEEPS UST	0.250		1	0	NR	NR	NR	1
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP	6	NR	NR	NR	NR	NR	6
LDS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	1	NR	1
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP	3	NR	NR	NR	NR	NR	3
RAATS	TP	1	NR	NR	NR	NR	NR	1
RMP	TP		NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
NPDES	TP	4	NR	NR	NR	NR	NR	4
UIC	TP		NR	NR	NR	NR	NR	0
Cortese	0.500		0	0	1	NR	NR	1
HIST CORTESE	0.500	1	2	1	4	NR	NR	8
CUPA Listings	0.250		0	0	NR	NR	NR	0
Notify 65	1.000	1	0	0	0	1	NR	2
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
VENTURA CO. BWT	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
HAZNET	TP	2	NR	NR	NR	NR	NR	2
EMI	TP	2	NR	NR	NR	NR	NR	2
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	1	NR	1
COAL ASH EPA	0.500		0	0	0	NR	NR	0
HWT	0.250		0	0	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
WDS	TP	1	NR	NR	NR	NR	NR	1
MWMP	0.250		0	0	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
MED WASTE VENTURA	TP		NR	NR	NR	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		2	0	NR	NR	NR	2
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LUST	TP		NR	NR	NR	NR	NR	0
RGA LF	TP		NR	NR	NR	NR	NR	0
- Totals --		45	21	12	23	7	0	105

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
A1	**COOK COMPOSITE AND POLYMERS DEMOLITION**	**NPDES**	**S117698042**
Target Property	**5980 ARCTURUS AVE** **OXNARD, CA 93033**		**N/A**
	Site 1 of 31 in cluster A		
Actual: 12 ft.			
A2	**COOK COMPOSITES & POLYMERS**	**NPDES**	**S117698044**
Target Property	**5980 ARCTURUS** **OXNARD, CA 93033**		**N/A**
	Site 2 of 31 in cluster A		
Actual: 12 ft.			
A3		**ERNS**	**91229799**
Target Property	**5980 ARCTURUS AVE** **OXNARD, CA**		**N/A**
	Site 3 of 31 in cluster A		
Actual: 12 ft.	Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.		
A4		**ERNS**	**92256391**
Target Property	**5980 ARCTURUS AVE** **OXNARD, CA 93033**		**N/A**
	Site 4 of 31 in cluster A		
Actual: 12 ft.	Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.		
A5		**ERNS**	**91467039**
Target Property	**5980 ARCTURUS AVE** **OXNARD, CA 93033**		**N/A**
	Site 5 of 31 in cluster A		
Actual: 12 ft.	Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.		
A6		**ERNS**	**91230946**
Target Property	**5980 ARCTURUS AVE** **OXNARD, CA 93033**		**N/A**
	Site 6 of 31 in cluster A		
Actual: 12 ft.	Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.		

A7
Target Property **5980 ARCTURUS AVE**
OXNARD, CA 93033

ERNS **92256819**
N/A

Site 7 of 31 in cluster A

Actual: 12 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A8
Target Property **5980 ARCTURUS AVE**
OXNARD, CA

ERNS **90157834**
N/A

Site 8 of 31 in cluster A

Actual: 12 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A9
Target Property **OCCIDENTAL CHEMICAL CORP**
6000 ARCTURUS AVE
OXNARD, CA 93033

NPDES **S113000627**
HAZNET **N/A**

Site 9 of 31 in cluster A

Actual: 12 ft.

HAZNET:

envid:	S113000627
Year:	1996
GEPAID:	CAD044422327
Contact:	OCCIDENTAL CHEMICAL CORP
Telephone:	9724042410
Mailing Name:	Not reported
Mailing Address:	PO BOX 809050
Mailing City,St,Zip:	DALLAS, TX 753800000
Gen County:	Not reported
TSD EPA ID:	CAT080022148
TSD County:	Not reported
Waste Category:	Laboratory waste chemicals
Disposal Method:	Transfer Station
Tons:	.0750
Facility County:	Ventura

envid:	S113000627
Year:	1996
GEPAID:	CAD044422327
Contact:	OCCIDENTAL CHEMICAL CORP
Telephone:	9724042410
Mailing Name:	Not reported
Mailing Address:	PO BOX 809050
Mailing City,St,Zip:	DALLAS, TX 753800000
Gen County:	Not reported
TSD EPA ID:	OHD083377010
TSD County:	Not reported
Waste Category:	Asbestos containing waste
Disposal Method:	Transfer Station
Tons:	.0025
Facility County:	Ventura

envid:	S113000627
Year:	1995

OCCIDENTAL CHEMICAL CORP (Continued) **S113000627**

GEPAID: CAD044422327
Contact: OCCIDENTAL CHEMICAL CORP
Telephone: 9724042410
Mailing Name: Not reported
Mailing Address: PO BOX 809050
Mailing City,St,Zip: DALLAS, TX 753800000
Gen County: Not reported
TSD EPA ID: CAT080022148
TSD County: Not reported
Waste Category: Waste oil and mixed oil
Disposal Method: Transfer Station
Tons: .1876
Facility County: Ventura

envid: S113000627
Year: 1995
GEPAID: CAD044422327
Contact: OCCIDENTAL CHEMICAL CORP
Telephone: 9724042410
Mailing Name: Not reported
Mailing Address: PO BOX 809050
Mailing City,St,Zip: DALLAS, TX 753800000
Gen County: Not reported
TSD EPA ID: CAT080022148
TSD County: Not reported
Waste Category: Laboratory waste chemicals
Disposal Method: Transfer Station
Tons: .1295
Facility County: Ventura

envid: S113000627
Year: 1995
GEPAID: CAD044422327
Contact: OCCIDENTAL CHEMICAL CORP
Telephone: 9724042410
Mailing Name: Not reported
Mailing Address: PO BOX 809050
Mailing City,St,Zip: DALLAS, TX 753800000
Gen County: Not reported
TSD EPA ID: CAT080022148
TSD County: Not reported
Waste Category: Paint sludge
Disposal Method: Transfer Station
Tons: .0700
Facility County: Ventura

Click this hyperlink while viewing on your computer to access
3 additional CA_HAZNET: record(s) in the EDR Site Report.

A10 **COOK COMPOSITES AND POLYMERS CO** **HAZNET** **S113002048**
Target **5980 ARCTURUS AVE** **N/A**
Property **OXNARD, CA 93033**

Site 10 of 31 in cluster A

Actual:
12 ft.

HAZNET:

envid:	S113002048
Year:	2011
GEPAID:	CAD087163267
Contact:	K ELLEFSON-HSE MGMT SYST. ENGG
Telephone:	8163916330
Mailing Name:	Not reported
Mailing Address:	PO BOX 419389
Mailing City,St,Zip:	KANSAS CITY, MO 641416389
Gen County:	Not reported
TSD EPA ID:	UTD981552177
TSD County:	Not reported
Waste Category:	Laboratory waste chemicals
Disposal Method:	Incineration--Thermal Destruction Other Than Use As A Fuel
Tons:	0.7225
Facility County:	Ventura

envid:	S113002048
Year:	2011
GEPAID:	CAD087163267
Contact:	K ELLEFSON-HSE MGMT SYST. ENGG
Telephone:	8163916330
Mailing Name:	Not reported
Mailing Address:	PO BOX 419389
Mailing City,St,Zip:	KANSAS CITY, MO 641416389
Gen County:	Not reported
TSD EPA ID:	CAD982444481
TSD County:	Not reported
Waste Category:	Aqueous solution with total organic residues less than 10 percent
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	13.566
Facility County:	Ventura

envid:	S113002048
Year:	2011
GEPAID:	CAD087163267
Contact:	K ELLEFSON-HSE MGMT SYST. ENGG
Telephone:	8163916330
Mailing Name:	Not reported
Mailing Address:	PO BOX 419389
Mailing City,St,Zip:	KANSAS CITY, MO 641416389
Gen County:	Not reported
TSD EPA ID:	CAD982444481
TSD County:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.76
Facility County:	Ventura

envid:	S113002048
Year:	2011

COOK COMPOSITES AND POLYMERS CO (Continued) **S113002048**

GEPAID:	CAD087163267
Contact:	K ELLEFSON-HSE MGMT SYST. ENGG
Telephone:	8163916330
Mailing Name:	Not reported
Mailing Address:	PO BOX 419389
Mailing City,St,Zip:	KANSAS CITY, MO 641416389
Gen County:	Not reported
TSD EPA ID:	CAD982444481
TSD County:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.76
Facility County:	Ventura

envid:	S113002048
Year:	2011
GEPAID:	CAD087163267
Contact:	K ELLEFSON-HSE MGMT SYST. ENGG
Telephone:	8163916330
Mailing Name:	Not reported
Mailing Address:	PO BOX 419389
Mailing City,St,Zip:	KANSAS CITY, MO 641416389
Gen County:	Not reported
TSD EPA ID:	UTD981552177
TSD County:	Not reported
Waste Category:	Laboratory waste chemicals
Disposal Method:	Incineration--Thermal Destruction Other Than Use As A Fuel
Tons:	0.7225
Facility County:	Ventura

Click this hyperlink while viewing on your computer to access
241 additional CA_HAZNET: record(s) in the EDR Site Report.

A11 **CHMIRS** **S105636272**
Target Property **5980 ARCTURUS DR** **N/A**
OXNARD, CA

Site 11 of 31 in cluster A

Actual: 12 ft.

CHMIRS:

OES Incident Number:	1676
OES notification:	Not reported
OES Date:	4/9/1994
OES Time:	08:30:24 PM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported

(Continued) **S105636272**

Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	discharger
Containment:	Not reported
What Happened:	Not reported
Type:	CHEMICAL
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1994
Agency:	reichhold chemicals
Incident Date:	040994 1530
Admin Agency:	Not reported
Amount:	5000# 1/3 of above
Contained:	NO
Site Type:	IND PLT
E Date:	Not reported
Substance:	polyester resin styrene
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	human error caused by equipment malfunction

A12 **CHMIRS** **S100278726**
Target **5980 ARCTURAS AV.** **N/A**
Property **OXNARD, CA 93033**

Site 12 of 31 in cluster A

Actual:
12 ft.

CHMIRS:

OES Incident Number:	8800759
OES notification:	Not reported
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	08-MAR-88
Date Completed:	**08-MAR-88**
Property Use:	600
Agency Id Number:	56010
Agency Incident Number:	1421-2
Time Notified:	830
Time Completed:	Not reported
Surrounding Area:	600
Estimated Temperature:	70
Property Management:	P
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	MUNCY GHILDEN
Report Date:	09-MAR-88
Facility Telephone:	805 984-4622
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	Not reported
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	Not reported
Substance:	Not reported
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported

(Continued) **S100278726**

Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Y
Description:	Not reported

A13 **CHMIRS** **S100279802**
Target Property **5980 ARCTURUS AVENUE** **N/A**
OXNARD, CA 93033

Site 13 of 31 in cluster A

Actual: 12 ft.

CHMIRS:

OES Incident Number:	9010272
OES notification:	Not reported
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	10-APR-90
Date Completed:	**10-APR-90**
Property Use:	762
Agency Id Number:	56010
Agency Incident Number:	2124
Time Notified:	1402
Time Completed:	1603
Surrounding Area:	800
Estimated Temperature:	70
Property Management:	C
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	0
Responding Agency Personel # Of Injuries:	0
Responding Agency Personel # Of Fatalities:	0
Others Number Of Decontaminated:	0
Others Number Of Injuries:	0
Others Number Of Fatalities:	0
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	CLARENCE C. SLAYTON #94140
Report Date:	10-APR-90
Facility Telephone:	805 984-4622
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported

(Continued) **S100279802**

Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	Not reported
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	09-MAY-91
Substance:	Not reported
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	N
Description:	Not reported

A14 **CHMIRS** **S105635999**
Target Property **5980 ARCTURUS ST. REICHHOLD CHEMICAL PLANT** **N/A**
OXNARD, CA 93033

Site 14 of 31 in cluster A

Actual: 12 ft.

CHMIRS:

OES Incident Number:	1958
OES notification:	Not reported
OES Date:	4/28/1994
OES Time:	11:26:25 AM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported

(Continued) **S105635999**

Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	reichhold chemicals
Containment:	Not reported
What Happened:	Not reported
Type:	CHEMICAL
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1994
Agency:	reichhold chemicals
Incident Date:	28/600 apr94
Admin Agency:	Not reported
Amount:	est. 1000-2000 lbs of styrene
Contained:	NO
Site Type:	OTHER
E Date:	Not reported
Substance:	polyester resins 1/3 is composed of styrene
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	over filled a storage tank holding polyester resins over filled into secondary containment within the plant

A15 **CHMIRS** **S100275421**
Target **5980 ARCTURUS RD** **N/A**
Property **OXNARD, CA 93030**

Site 15 of 31 in cluster A

Actual:
12 ft.

CHMIRS:

OES Incident Number:	8910688
OES notification:	Not reported
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	02-SEP-89
Date Completed:	**02-SEP-89**
Property Use:	700
Agency Id Number:	56712
Agency Incident Number:	89070
Time Notified:	1030
Time Completed:	130
Surrounding Area:	650
Estimated Temperature:	65
Property Management:	P
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	0
Responding Agency Personel # Of Injuries:	0
Responding Agency Personel # Of Fatalities:	0
Others Number Of Decontaminated:	0
Others Number Of Injuries:	0
Others Number Of Fatalities:	0
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	GREG SMITH
Report Date:	02-SEP-89
Facility Telephone:	805 654-2813
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	Not reported
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	18-MAY-90
Substance:	Not reported
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported

(Continued) **S100275421**

Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Not reported

A16 **OCCIDENTAL ELECTROCHEMICALS** **VCP** **1000725978**
Target **6000 ARCTURUS AVENUE** **EMI** **N/A**
Property **OXNARD, CA 93030** **ENVIROSTOR**

Site 16 of 31 in cluster A

Actual:
12 ft.

VCP:

Facility ID:	56280001
Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	6
National Priorities List:	NO
Cleanup Oversight Agencies:	DTSC
Lead Agency:	DTSC
Lead Agency Description:	* DTSC
Project Manager:	Not reported
Supervisor:	* Harlan Jeche
Division Branch:	Cleanup Chatsworth
Site Code:	300597
Assembly:	44
Senate:	19
Special Programs Code:	Voluntary Cleanup Program
Status:	No Further Action
Status Date:	02/27/1997
Restricted Use:	NO
Funding:	Responsible Party
Lat/Long:	34.14107 / -119.1703
APN:	231009315
Past Use:	MANUFACTURING - OTHER
Potential COC:	10060
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL, SV
Alias Name:	BARNARD, RAY & JANE
Alias Type:	Alternate Name
Alias Name:	DIAMOND SHAMROCK CHEMICAL COMPANY
Alias Type:	Alternate Name
Alias Name:	OXYCHEM
Alias Type:	Alternate Name
Alias Name:	231009315
Alias Type:	APN
Alias Name:	CAD044422327
Alias Type:	EPA Identification Number

OCCIDENTAL ELECTROCHEMICALS (Continued) **1000725978**

Alias Name: 110001155268
Alias Type: EPA (FRS #)
Alias Name: 300597
Alias Type: Project Code (Site Code)
Alias Name: 56280001
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/27/1997
Comments: The PEA was completed and a No Further Action letter for investigation and remediation of hazardous substances was sent to Occidental Chemical Company. However, potential upgradient offsite sources of acetone and benzene were identified.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 09/21/1995
Comments: The Department received a referral from the RWQCB. Also, DTSC received a Preliminary Site Investigation Report from RP. The report indicates that the site is contaminated. Staff's contact with Ventura County Environmental Health indicates that the site is an active Generator. Therefore, DTSC is referring the site to the County.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 11/15/1994
Comments: CALSITES VALIDATION PROGRAM CONFIRMS NFA FOR DTSC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 04/01/1985
Comments: 1984 ASP QUESTIONNAIRE: 1966-1978 DIAMOND RAN POLYESTER RESIN PT & SODIUM SILICATE PT. IN 1978 POLYESTER 1) SOURCE ACT: MFG SODIUM SILICATE WAS SOLD TO KOPPERS CO (#56-28-0098) 2)YR OF OPER: 1966 TO PRESENT 3)WASTE TYPE: SODIUM CARBONATE 4)FAC TYPE: 1500 TO 12000GAL TANKS INCIDENT: 1966-1969 10 TO 20T SOLID SODA ASH BURIED IN SHALLOW DITCH (ONLY ONCE) SUBMIT TO EPA PRELIM ASSESS DONE CERCLA 104

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 05/02/1996
Comments: DTSC and Occidental Chemical Corp. entered into a Volunta Cleanup Agreement for a Preliminary Endangerment Assessme for this site where sodium silicate glasses were produced until July 1995.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 04/01/1979
Comments: FACILITY IDENTIFIED ON ECKHARDT LIST

OCCIDENTAL ELECTROCHEMICALS (Continued) **1000725978**

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

EMI:

Year:	1987
County Code:	56
Air Basin:	SCC
Facility ID:	147
Air District Name:	VEN
SIC Code:	2819
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	1
NOX - Oxides of Nitrogen Tons/Yr:	17
SOX - Oxides of Sulphur Tons/Yr:	4
Particulate Matter Tons/Yr:	13
Part. Matter 10 Micrometers & Smllr Tons/Yr:	8

Year:	1990
County Code:	56
Air Basin:	SCC
Facility ID:	147
Air District Name:	VEN
SIC Code:	2819
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	2
NOX - Oxides of Nitrogen Tons/Yr:	7
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	13
Part. Matter 10 Micrometers & Smllr Tons/Yr:	8

ENVIROSTOR:

Facility ID:	56280001
Status:	No Further Action
Status Date:	02/27/1997
Site Code:	300597
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	6
NPL:	NO
Regulatory Agencies:	DTSC
Lead Agency:	DTSC

OCCIDENTAL ELECTROCHEMICALS (Continued) **1000725978**

Program Manager: Not reported
Supervisor: * Harlan Jeche
Division Branch: Cleanup Chatsworth
Assembly: 44
Senate: 19
Special Program: Voluntary Cleanup Program
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 34.14107
Longitude: -119.1703
APN: 231009315
Past Use: MANUFACTURING - OTHER
Potential COC: * OIL/WATER SEPARATION SLUDGE
Confirmed COC: NONE SPECIFIED
Potential Description: SOIL, SV
Alias Name: BARNARD, RAY & JANE
Alias Type: Alternate Name
Alias Name: DIAMOND SHAMROCK CHEMICAL COMPANY
Alias Type: Alternate Name
Alias Name: OXYCHEM
Alias Type: Alternate Name
Alias Name: 231009315
Alias Type: APN
Alias Name: CAD044422327
Alias Type: EPA Identification Number
Alias Name: 110001155268
Alias Type: EPA (FRS #)
Alias Name: 300597
Alias Type: Project Code (Site Code)
Alias Name: 56280001
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/27/1997
Comments: The PEA was completed and a No Further Action letter for investigation and remediation of hazardous substances was sent to Occidental Chemical Company. However, potential upgradient offsite sources of acetone and benzene were identified.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 09/21/1995
Comments: The Department received a referral from the RWQCB. Also, DTSC received a Preliminary Site Investigation Report from RP. The report indicates that the site is contaminated. Staff's contact with Ventura County Environmental Health indicates that the site is an active Generator. Therefore, DTSC is referring the site to the County.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 11/15/1994
Comments: CALSITES VALIDATION PROGRAM CONFIRMS NFA FOR DTSC.

OCCIDENTAL ELECTROCHEMICALS (Continued) **1000725978**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 04/01/1985
Comments: 1984 ASP QUESTIONNAIRE: 1966-1978 DIAMOND RAN POLYESTER RESIN PT & SODIUM SILICATE PT. IN 1978 POLYESTER 1) SOURCE ACT: MFG SODIUM SILICATE WAS SOLD TO KOPPERS CO (#56-28-0098) 2)YR OF OPER: 1966 TO PRESENT 3)WASTE TYPE: SODIUM CARBONATE 4)FAC TYPE: 1500 TO 12000GAL TANKS INCIDENT: 1966-1969 10 TO 20T SOLID SODA ASH BURIED IN SHALLOW DITCH (ONLY ONCE) SUBMIT TO EPA PRELIM ASSESS DONE CERCLA 104

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 05/02/1996
Comments: DTSC and Occidental Chemical Corp. entered into a Volunta Cleanup Agreement for a Preliminary Endangerment Assessme for this site where sodium silicate glasses were produced until July 1995.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 04/01/1979
Comments: FACILITY IDENTIFIED ON ECKHARDT LIST

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

A17 **ERNS** **94366768**
Target Property **5980 ARCTURUS AVE** **N/A**
OXNARD, CA 93033

Site 17 of 31 in cluster A

Actual: 12 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A18 **ERNS** **94369086**
Target Property **5980 ARCTURUS DR** **N/A**
OXNARD, CA 93033

Site 18 of 31 in cluster A

Actual: 12 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A19
Target Property **5980 ARCTURUS AVE**
OXNARD, CA 93033

Site 19 of 31 in cluster A

Actual:
12 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

ERNS **94373941**
N/A

A20
Target Property **5980 ARCTURAS AVE**
OXNARD, CA 93033

Site 20 of 31 in cluster A

Actual:
12 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

ERNS **93304429**
N/A

A21
Target Property **5980 ARCTURUS RD**
OXNARD, CA 93033

Site 21 of 31 in cluster A

Actual:
12 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

ERNS **92296295**
N/A

A22
Target Property **5980 ARCTURUS AVE**
OXNARD, CA 93033

Site 22 of 31 in cluster A

Actual:
12 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

ERNS **94373982**
N/A

A23
Target Property **5980 ARCTURUS AVE**
OXNARD, CA 93033

Site 23 of 31 in cluster A

Actual:
12 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

ERNS **93351909**
N/A

A24
Target Property **5980 ARCTURUS AVE**
OXNARD, CA 93033

Site 24 of 31 in cluster A

Actual:
12 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

ERNS **92294286**
N/A

A25
Target Property

COOK COMPOSITES AND POLYMERS CO.
5980 ARCTURUS AVENUE
OXNARD, CA 93033

Site 25 of 31 in cluster A

Actual:
12 ft.

CERC-NFRAP **1000346599**
RCRA-LQG **CAD087163267**
RAATS
HIST CORTESE
HIST UST
CHMIRS
Notify 65
VCP
EMI
ENVIROSTOR
WDS

CERC-NFRAP:
Site ID: 0901641
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 13287786.00000
Person ID: 13003854.00000

Contact Sequence ID: 13293381.00000
Person ID: 13003858.00000

Contact Sequence ID: 13299239.00000
Person ID: 13004003.00000

CERCLIS-NFRAP Assessment History:
Action: PRELIMINARY ASSESSMENT
Date Started: 07/01/85
Date Completed: 02/01/86
Priority Level: Higher priority for further assessment

Action: DISCOVERY
Date Started: / /
Date Completed: 09/01/85
Priority Level: Not reported

Action: SITE INSPECTION
Date Started: / /
Date Completed: 09/01/86
Priority Level: Higher priority for further assessment

Action: SITE INSPECTION
Date Started: / /
Date Completed: 07/12/90
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 07/12/90
Priority Level: Not reported

RCRA-LQG:
Date form received by agency: 03/02/2010
Facility name: COOK COMPOSITES AND POLYMERS CO.
Facility address: 5980 ARCTURUS AVENUE

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

OXNARD, CA 93033
EPA ID: CAD087163267
Mailing address: P.O. BOX 419389
KANSAS CITY, MO 641416389
Contact: JON SCHUCKMAN
Contact address: P.O. BOX 419389
KANSAS CITY, MO 641416389
Contact country: US
Contact telephone: (816) 391-6324
Contact email: SCHUCKMAN@CCPONLINE.COM
EPA Region: 09
Land type: Private
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:
Owner/operator name: COOK COMPOSITES AND POLYMERS
Owner/operator address: P.O. BOX 419389
KANSAS CITY, MO 64141
Owner/operator country: Not reported
Owner/operator telephone: (816) 391-6000
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 06/15/1995
Owner/Op end date: Not reported

Owner/operator name: PAULI MCCLANAHAN
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 07/01/2008
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: 122
. Waste name: 122

. Waste code: 181
. Waste name: 181

. Waste code: 214
. Waste name: 214

. Waste code: 223
. Waste name: 223

. Waste code: 271
. Waste name: 271

. Waste code: 331
. Waste name: 331

. Waste code: 343
. Waste name: 343

. Waste code: 352
. Waste name: 352

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

MIXTURES.

. Waste code: U147
. Waste name: 2,5-FURANDIONE (OR) MALEIC ANHYDRIDE

. Waste code: U160
. Waste name: 2-BUTANONE, PEROXIDE (R,T) (OR) METHYL ETHYL KETONE PEROXIDE (R,T)

. Waste code: U190
. Waste name: 1,3-ISOBENZOFURANDIONE (OR) PHTHALIC ANHYDRIDE

Historical Generators:
Date form received by agency: 02/29/2008
Site name: COOK COMPOSITES AND POLYMERS CO.
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D009
. Waste name: MERCURY

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: U147
. Waste name: 2,5-FURANDIONE (OR) MALEIC ANHYDRIDE

. Waste code: U160
. Waste name: 2-BUTANONE, PEROXIDE (R,T) (OR) METHYL ETHYL KETONE PEROXIDE (R,T)

. Waste code: U162
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER (I,T) (OR) METHYL METHACRYLATE (I,T)

. Waste code: U190
. Waste name: 1,3-ISOBENZOFURANDIONE (OR) PHTHALIC ANHYDRIDE

Date form received by agency: 02/27/2006
Site name: COOK COMPOSITES AND POLYMERS CO.
Classification: Large Quantity Generator

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: U147
. Waste name: 2,5-FURANDIONE (OR) MALEIC ANHYDRIDE

. Waste code: U190
. Waste name: 1,3-ISOBENZOFURANDIONE (OR) PHTHALIC ANHYDRIDE

Date form received by agency: 02/23/2004
Site name: COOK COMPOSITES AND POLYMERS CO.
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: U147
. Waste name: 2,5-FURANDIONE (OR) MALEIC ANHYDRIDE

. Waste code: U160
. Waste name: 2-BUTANONE, PEROXIDE (R,T) (OR) METHYL ETHYL KETONE PEROXIDE (R,T)

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

. Waste code: U190
. Waste name: 1,3-ISOBENZOFURANDIONE (OR) PHTHALIC ANHYDRIDE

Date form received by agency: 02/18/2002
Site name: COOK COMPOSITES AND POLYMERS
Classification: Large Quantity Generator

Date form received by agency: 10/12/2000
Site name: COOK COMPOSITES &
Classification: Large Quantity Generator

Date form received by agency: 03/04/1999
Site name: COOK COMPOSITES & POLYMERS CO.
Classification: Large Quantity Generator

Date form received by agency: 03/11/1996
Site name: COOK COMPOSITES AND POLYMERS CO
Classification: Not a generator, verified

Date form received by agency: 03/11/1996
Site name: COOK COMPOSITES AND POLYMERS CO
Classification: Large Quantity Generator

Date form received by agency: 03/07/1996
Site name: REICHHOLD CHEMICALS, INC.
Classification: Large Quantity Generator

Date form received by agency: 03/22/1994
Site name: REICHOLD CHEMICALS
Classification: Large Quantity Generator

Date form received by agency: 02/21/1992
Site name: REICHHOLD CHEMICALS
Classification: Large Quantity Generator

Date form received by agency: 04/05/1990
Site name: REICHOLD CHEMICALS/KOPPERS COMPANY INC
Classification: Large Quantity Generator

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 04/23/2008
Date achieved compliance: 02/24/2009
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/17/2008
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 10/26/2004

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

Date achieved compliance: 11/16/2004
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/26/2004
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 11/01/1983
Date achieved compliance: 01/01/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/01/1983
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 04/23/2008
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 02/24/2009
Evaluation lead agency: EPA

Evaluation date: 02/12/2007
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 10/26/2004
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 11/16/2004
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 03/06/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 02/24/1986
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/24/1986

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/01/1983
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 01/01/1984
Evaluation lead agency: State

Evaluation date: 06/21/1983
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

HIST CORTESE:
Region: CORTESE
Facility County Code: 56
Reg By: CALSI
Reg Id: 56280098

HIST UST:
Region: STATE
Facility ID: 00000000646
Facility Type: Other
Other Type: POLYESTER RESIN MFG.
Contact Name: NORMAN F FAHNOA
Telephone: 8054880831
Owner Name: KOPPERS CO., INC
Owner Address: KOPPERS BUILDING
Owner City,St,Zip: PITTSBURG, PA 15219
Total Tanks: 0001

Tank Num: 001
Container Num: 1
Year Installed: 1968
Tank Capacity: 00015000
Tank Used for: WASTE
Type of Fuel: Not reported
Container Construction Thickness: 10
Leak Detection: Visual

CHMIRS:
OES Incident Number: 60965
OES notification: Not reported
OES Date: 11/17/1993
OES Time: 09:35:00 PM
Incident Date: Not reported
Date Completed: Not reported
Property Use: Not reported
Agency Id Number: Not reported
Agency Incident Number: Not reported
Time Notified: Not reported
Time Completed: Not reported
Surrounding Area: Not reported

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

Estimated Temperature:	Not reported	
Property Management:	Not reported	
More Than Two Substances Involved?:		Not reported
Resp Agncy Personel # Of Decontaminated:		Not reported
Responding Agency Personel # Of Injuries:		Not reported
Responding Agency Personel # Of Fatalities:		Not reported
Others Number Of Decontaminated:		Not reported
Others Number Of Injuries:		Not reported
Others Number Of Fatalities:		Not reported
Vehicle Make/year:	Not reported	
Vehicle License Number:	Not reported	
Vehicle State:	Not reported	
Vehicle Id Number:	Not reported	
CA DOT PUC/ICC Number:	Not reported	
Company Name:	Not reported	
Reporting Officer Name/ID:	Not reported	
Report Date:	Not reported	
Facility Telephone:	Not reported	
Waterway Involved:	YES	
Waterway:	Not reported	
Spill Site:	Not reported	
Cleanup By:	rp	
Containment:	Not reported	
What Happened:	Not reported	
Type:	CHEMICAL	
Measure:	Not reported	
Other:	Not reported	
Date/Time:	Not reported	
Year:	1993	
Agency:	reicghold chemical	
Incident Date:	11/17/93 1558	
Admin Agency:	Not reported	
Amount:	500lbs	
Contained:	NO	
Site Type:	IND PLT	
E Date:	Not reported	
Substance:	phthalic anhydride	
Unknown:	Not reported	
Substance #2:	Not reported	
Substance #3:	Not reported	
Evacuations:	YES	
Number of Injuries:	YES	
Number of Fatalities:	NO	
#1 Pipeline:	Not reported	
#2 Pipeline:	Not reported	
#3 Pipeline:	Not reported	
#1 Vessel >= 300 Tons:	Not reported	
#2 Vessel >= 300 Tons:	Not reported	
#3 Vessel >= 300 Tons:	Not reported	
Evacs:	Not reported	
Injuries:	Not reported	
Fatals:	Not reported	
Comments:	Not reported	
Description:	rail car off loading line had a blockage, when it was removed the spill occured.	

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

NOTIFY 65:

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Incident Description:	90845

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Incident Description:	90845

VCP:

Facility ID:	56280098
Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	3.5
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Juli Propes
Division Branch:	Cleanup Chatsworth
Site Code:	301065
Assembly:	44
Senate:	19
Special Programs Code:	Voluntary Cleanup Program
Status:	No Further Action
Status Date:	01/15/2008
Restricted Use:	NO
Funding:	Responsible Party
Lat/Long:	34.14155 / -119.1713
APN:	231009313
Past Use:	MANUFACTURING - CHEMICALS
Potential COC:	30003, 30016, 30593
Confirmed COC:	30003,30016,30593
Potential Description:	OTH, SOIL
Alias Name:	DIAMOND ALKAL
Alias Type:	Alternate Name
Alias Name:	DIAMOND SHAMROCK (1966-1978)
Alias Type:	Alternate Name
Alias Name:	DIAMOND SHAMROCK CHEMICALS COMPANY
Alias Type:	Alternate Name
Alias Name:	KOPPER
Alias Type:	Alternate Name
Alias Name:	RAY AND JANE BARNARD (TO 1966)
Alias Type:	Alternate Name
Alias Name:	231009313
Alias Type:	APN
Alias Name:	CAD087163267
Alias Type:	EPA Identification Number

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

Alias Name: 110000481309
Alias Type: EPA (FRS #)
Alias Name: 110033606462
Alias Type: EPA (FRS #)
Alias Name: 301065
Alias Type: Project Code (Site Code)
Alias Name: 56280098
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 03/22/1996
Comments: On Permitting list, therefore not NFA, should be REFRC, per B. Coler.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 03/01/1995
Comments: DATABASE VALIDATION PROGRAM CONFIRMS NFA FOR DTSC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 06/30/1985
Comments: SOURCE ACT: (DIAMOND) A SILICA PT & POLY STER RESIN PT, 0N 1/78 SOLD RESIN PT TO KOPPER'S. (KOPPER)POLYESTER RESIN PORD. WASTE: HAULED TO CASMALIA & KETTLEMAN AFTER NEUTRALIZATION & INCINERATION. YR OF OPER: 10 TAX ASSESSOR-1978 TO PRESENT SUBMIT TO EPA PRELIM ASSESS DONE CERCLA 104

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 01/15/2008
Comments: Based on the Preliminary Endangerment Assessment Report Addendum dated March 2007, and the Updated Human Health Risk Assessment dated October 10, 2007, DTSC concludes that the soil at the Site poses an acceptable risk for industrial/commercial use and No Further Action is necessary for soil, if the use is limited to commercial or industrial land use. However, the risk is unacceptable for sensitive land use, such as single family homes, schools and day care facilities for children. Accordingly, the implementation of a Land Use Covenant for commercial and/or industrial land use will be necessary.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 01/15/2008
Comments: Based on information in the above document, DTSC concludes that the soil at the Site poses an acceptable risk for industrial/commercial use and NO Further Action is necessary for soil, if the use is limited to commercial or industrial land use. However, the risk is unacceptable for sensitive land use, such as single family homes, schools, and day care facilities for children. Accordingly, the implementation of a Land Use Covenant for commercial and/or

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

industrial land use will be necessary.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 01/02/2002
Comments: A Voluntary Cleanup Agreement was signed for PEA under Reichhold Chemical.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 03/25/1980
Comments: FACILITY IDENTIFIED ID OLD ASP Q 1980. WADE QUEST. OPER AT THE SITE FOR 12 YRS. UNK DISP ON/OFF PRE72 & AFTER 72. HAULER : ECOLOGY CONTROL INC(1968-79), REED LAND CLEARING IN VENTURA(1970-79). WASTE : BASE SOLUTION PH<12, SCRUBBER RESIDUAL HEAVY METALS & TRACE METALS(HEXAVALENT CHROMIUM). ORG(HALOGENATED ALIPHATICS, RESINS,POLAR SOLVENTS,HALOGENATED ALPI- PHATIC SOLVENTS,ALCOHOLS,KETONES & ALDE- HYDES. INORG(SALTS).

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

EMI:

Year:	1987
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	69
Reactive Organic Gases Tons/Yr:	52
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	3
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1990
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	84
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	1
NOX - Oxides of Nitrogen Tons/Yr:	3
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1995
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	37
Reactive Organic Gases Tons/Yr:	26
Carbon Monoxide Emissions Tons/Yr:	1
NOX - Oxides of Nitrogen Tons/Yr:	3
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1996
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	6
Reactive Organic Gases Tons/Yr:	4
Carbon Monoxide Emissions Tons/Yr:	1
NOX - Oxides of Nitrogen Tons/Yr:	3
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	1997
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	6
Reactive Organic Gases Tons/Yr:	4
Carbon Monoxide Emissions Tons/Yr:	1
NOX - Oxides of Nitrogen Tons/Yr:	3
SOX - Oxides of Sulphur Tons/Yr:	0

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	1998
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	13
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	2
NOX - Oxides of Nitrogen Tons/Yr:	2
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	1999
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	9
Reactive Organic Gases Tons/Yr:	4
Carbon Monoxide Emissions Tons/Yr:	1
NOX - Oxides of Nitrogen Tons/Yr:	2
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	2000
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	11
Reactive Organic Gases Tons/Yr:	8
Carbon Monoxide Emissions Tons/Yr:	2
NOX - Oxides of Nitrogen Tons/Yr:	2
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0
Year:	2001
County Code:	56
Air Basin:	SCC

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	2
NOX - Oxides of Nitrogen Tons/Yr:	2
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2002
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	6
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	3
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1

Year:	2003
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	7
Reactive Organic Gases Tons/Yr:	6
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	3
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2004
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

Total Organic Hydrocarbon Gases Tons/Yr:	15.918
Reactive Organic Gases Tons/Yr:	6.667
Carbon Monoxide Emissions Tons/Yr:	2.505
NOX - Oxides of Nitrogen Tons/Yr:	2.981
SOX - Oxides of Sulphur Tons/Yr:	0.014
Particulate Matter Tons/Yr:	0.622
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.42

Year:	2005
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	14.936
Reactive Organic Gases Tons/Yr:	5.837
Carbon Monoxide Emissions Tons/Yr:	2.048
NOX - Oxides of Nitrogen Tons/Yr:	2.438
SOX - Oxides of Sulphur Tons/Yr:	.018
Particulate Matter Tons/Yr:	.639
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.4125

Year:	2006
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	15.1504108
Reactive Organic Gases Tons/Yr:	6.02719985
Carbon Monoxide Emissions Tons/Yr:	2.46162
NOX - Oxides of Nitrogen Tons/Yr:	2.9305
SOX - Oxides of Sulphur Tons/Yr:	.017583
Particulate Matter Tons/Yr:	.617718
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.420218

Year:	2007
County Code:	56
Air Basin:	SCC
Facility ID:	146
Air District Name:	VEN
SIC Code:	2821
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	19.76658545
Reactive Organic Gases Tons/Yr:	10.66052925
Carbon Monoxide Emissions Tons/Yr:	2.55234
NOX - Oxides of Nitrogen Tons/Yr:	3.0385
SOX - Oxides of Sulphur Tons/Yr:	.018231
Particulate Matter Tons/Yr:	.624926

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

Part. Matter 10 Micrometers & Smllr Tons/Yr: .427926

Year: 2008
County Code: 56
Air Basin: SCC
Facility ID: 146
Air District Name: VEN
SIC Code: 2821
Air District Name: VENTURA COUNTY APCD
Community Health Air Pollution Info System: N
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 3.374
Reactive Organic Gases Tons/Yr: 1.19618
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: .255
Part. Matter 10 Micrometers & Smllr Tons/Yr: .1275

Year: 2009
County Code: 56
Air Basin: SCC
Facility ID: 146
Air District Name: VEN
SIC Code: 2821
Air District Name: VENTURA COUNTY APCD
Community Health Air Pollution Info System: N
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

Year: 2010
County Code: 56
Air Basin: SCC
Facility ID: 146
Air District Name: VEN
SIC Code: 2821
Air District Name: VENTURA COUNTY APCD
Community Health Air Pollution Info System: N
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

ENVIROSTOR:
Facility ID: 56280098
Status: No Further Action
Status Date: 01/15/2008

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

Site Code: 301065
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 3.5
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Juli Propes
Division Branch: Cleanup Chatsworth
Assembly: 44
Senate: 19
Special Program: Voluntary Cleanup Program
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 34.14155
Longitude: -119.1713
APN: 231009313
Past Use: MANUFACTURING - CHEMICALS
Potential COC: Benzene Methyl tertbutyl ether (MTBE Xylenes
Confirmed COC: Benzene Methyl tertbutyl ether (MTBE Xylenes
Potential Description: OTH, SOIL
Alias Name: DIAMOND ALKAL
Alias Type: Alternate Name
Alias Name: DIAMOND SHAMROCK (1966-1978)
Alias Type: Alternate Name
Alias Name: DIAMOND SHAMROCK CHEMICALS COMPANY
Alias Type: Alternate Name
Alias Name: KOPPER
Alias Type: Alternate Name
Alias Name: RAY AND JANE BARNARD (TO 1966)
Alias Type: Alternate Name
Alias Name: 231009313
Alias Type: APN
Alias Name: CAD087163267
Alias Type: EPA Identification Number
Alias Name: 110000481309
Alias Type: EPA (FRS #)
Alias Name: 110033606462
Alias Type: EPA (FRS #)
Alias Name: 301065
Alias Type: Project Code (Site Code)
Alias Name: 56280098
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 03/22/1996
Comments: On Permitting list, therefore not NFA, should be REFRC, per B. Coler.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 03/01/1995
Comments: DATABASE VALIDATION PROGRAM CONFIRMS NFA FOR DTSC.

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 06/30/1985
Comments: SOURCE ACT: (DIAMOND) A SILICA PT & POLY STER RESIN PT, 0N 1/78 SOLD RESIN PT TO KOPPER'S. (KOPPER)POLYESTER RESIN PORD. WASTE: HAULED TO CASMALIA & KETTLEMAN AFTER NEUTRALIZATION & INCINERATION. YR OF OPER: 10 TAX ASSESSOR-1978 TO PRESENT SUBMIT TO EPA PRELIM ASSESS DONE CERCLA 104

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 01/15/2008
Comments: Based on the Preliminary Endangerment Assessment Report Addendum dated March 2007, and the Updated Human Health Risk Assessment dated October 10, 2007, DTSC concludes that the soil at the Site poses an acceptable risk for industrial/commercial use and No Further Action is necessary for soil, if the use is limited to commercial or industrial land use. However, the risk is unacceptable for sensitive land use, such as single family homes, schools and day care facilities for children. Accordingly, the implementation of a Land Use Covenant for commercial and/or industrial land use will be necessary.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 01/15/2008
Comments: Based on information in the above document, DTSC concludes that the soil at the Site poses an acceptable risk for industrial/commercial use and NO Further Action is necessary for soil, if the use is limited to commercial or industrial land use. However, the risk is unacceptable for sensitive land use, such as single family homes, schools, and day care facilities for children. Accordingly, the implementation of a Land Use Covenant for commercial and/or industrial land use will be necessary.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 01/02/2002
Comments: A Voluntary Cleanup Agreement was signed for PEA under Reichhold Chemical.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 03/25/1980
Comments: FACILITY IDENTIFIED ID OLD ASP Q 1980. WADE QUEST. OPER AT THE SITE FOR 12 YRS. UNK DISP ON/OFF PRE72 & AFTER 72. HAULER : ECOLOGY CONTROL INC(1968-79), REED LAND CLEARING IN VENTURA(1970-79). WASTE : BASE SOLUTION PH<12, SCRUBBER RESIDUAL HEAVY METALS & TRACE METALS(HEXAVALENT CHROMIUM). ORG(HALOGENATED ALIPHATICS, RESINS,POLAR SOLVENTS,HALOGENATED ALPI- PHATIC SOLVENTS,ALCOHOLS,KETONES & ALDE-HYDES. INORG(SALTS).

COOK COMPOSITES AND POLYMERS CO. (Continued) **1000346599**

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

WDS:

Facility ID:	4 56I012454
Facility Type:	Not reported
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	4
Facility Telephone:	Not reported
Facility Contact:	Not reported
Agency Name:	COOK COMPOSITES & POLYMERS
Agency Address:	Not reported
Agency City,St,Zip:	0
Agency Contact:	Not reported
Agency Telephone:	Not reported
Agency Type:	Not reported
SIC Code:	0
SIC Code 2:	Not reported
Primary Waste Type:	Not reported
Primary Waste:	Not reported
Waste Type2:	Not reported
Waste2:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported
POTW:	Not reported
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

A26
Target
Property

DIAMOND SHAMROCK CORP
6000 ARCTURUS AVE
OXNARD, CA 93030

CERC-NFRAP **1000301504**
RCRA-SQG **CAD044422327**

Site 26 of 31 in cluster A

Actual:
12 ft.

CERC-NFRAP:
Site ID: 0901363
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 13286985.00000
Person ID: 13003854.00000

Contact Sequence ID: 13292580.00000
Person ID: 13003858.00000

Contact Sequence ID: 13298438.00000
Person ID: 13004003.00000

CERCLIS-NFRAP Site Alias Name(s):
Alias Name: DIAMOND SHAMROCK CORP OXNARD PLT
Alias Address: Not reported
CA

CERCLIS-NFRAP Assessment History:
Action: PRELIMINARY ASSESSMENT
Date Started: 01/01/85
Date Completed: 01/01/87
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 01/01/87
Priority Level: Not reported

Action: DISCOVERY
Date Started: / /
Date Completed: 11/01/79
Priority Level: Not reported

RCRA-SQG:
Date form received by agency: 09/01/1996
Facility name: OCCIDENTAL ELECTROCHEMICAL CORP
Facility address: 6000 ARCTURUS AVE
OXNARD, CA 93030
EPA ID: CAD044422327
Mailing address: 6000 ARCTURUS AVENUE
OXNARD, CA 93030
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: Not reported
Contact email: Not reported

DIAMOND SHAMROCK CORP (Continued) **1000301504**

EPA Region: 09
Land type: Facility is not located on Indian land. Additional information is not known.
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: OCCIDENTAL ELECTROCHEM CORP
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 08/13/1980
Site name: OCCIDENTAL ELECTROCHEMICAL CORP
Classification: Large Quantity Generator

Facility Has Received Notices of Violations:
Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General

DIAMOND SHAMROCK CORP (Continued) **1000301504**

Date violation determined: 01/27/1993
Date achieved compliance: 06/21/1994
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 06/21/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 01/27/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 06/21/1994
Evaluation lead agency: State Contractor/Grantee

A27 **REICHHOLD CHEMICAL INC.** **FINDS** **1010727178**
Target **5980 ARCTURUS AVENUE** **N/A**
Property **OXNARD, CA 93033**

Site 27 of 31 in cluster A

Actual:
12 ft.

FINDS:

Registry ID: 110033606462

Environmental Interest/Information System
California Department of Toxic Substances Control EnviroStor System (DTSC-EnviroStor) is an online search and Geographic Information System (GIS) tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. The EnviroStor database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites.

A28 **ERNS** **8720544**
Target **5980 ARCTURAS AVE** **N/A**
Property **OXNARD, CA**

Site 28 of 31 in cluster A

Actual:
12 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A29 COOK COMPOSITES & POLYMERS CO FINDS 1016112400
Target 5980 ARCTURUS AVE. N/A
Property OXNARD, CA 93033

Site 29 of 31 in cluster A

Actual: 12 ft.

FINDS:

Registry ID: 110000481309

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZARDOUS WASTE BIENNIAL REPORTER

CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY

A30 OCCIDENTAL CHEMICAL CORP. FINDS 1016058359
Target 6000 ARCTURUS AVENUE N/A
Property OXNARD, CA 93033

Site 30 of 31 in cluster A

Actual: 12 ft.

FINDS:

Registry ID: 110001155268

Environmental Interest/Information System

California Department of Toxic Substances Control EnviroStor System (DTSC-EnviroStor) is an online search and Geographic Information System (GIS) tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. The

OCCIDENTAL CHEMICAL CORP. (Continued) **1016058359**

EnviroStor database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites.

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY

A31
Target Property

REICHHOLD CHEMICALS
5980 ARCTURUS AVE
OXNARD, CA 93033

Site 31 of 31 in cluster A

Actual:
12 ft.

NPDES **S117708925**
N/A

DOD
Region SE
1/2-1
4732 ft.

POINT MUGU PACIFIC MISSILE TEST CENTER

POINT MUGU PACIFIC MISSIL (County), CA

DOD **CUSA143114**
N/A

DOD:

Feature 1:	Navy DOD
Feature 2:	Not reported
Feature 3:	Not reported
URL:	Not reported
Name 1:	Point Mugu Pacific Missile Test Center
Name 2:	Not reported
Name 3:	Not reported
State:	CA
DOD Site:	Yes
Tile name:	CAVENTURA

NPL **HALACO ENGINEERING COMPANY** **NPL** **1000144948**
Region **6200 PERKINS** **CERCLIS** **CAD009688052**
West **OXNARD, CA 93033** **LUST**
1/4-1/2 **HIST UST**
2152 ft. **PRP**
LEAD SMELTERS

NPL:

EPA ID:	CAD009688052
EPA Region:	09
Federal:	N
Final Date:	2007-09-19 00:00:00

Site Details:

Site Name:	HALACO ENGINEERING COMPANY
Site Status:	Final
Site Zip:	93033
Site City:	OXNARD
Site State:	CA
Federal Site:	No
Site County:	VENTURA
EPA Region:	09
Date Proposed:	03/07/07
Date Deleted:	Not reported
Date Finalized:	09/19/07

CERCLIS:

Site ID:	0901242
EPA ID:	CAD009688052
Facility County:	VENTURA
Short Name:	HALACO ENGINEERING CO
Congressional District:	26
IFMS ID:	09X6
SMSA Number:	6000
USGC Hydro Unit:	18070103
Federal Facility:	Not a Federal Facility
DMNSN Number:	0.00000
Site Orphan Flag:	N
RCRA ID:	Not reported
USGS Quadrangle:	Not reported
Site Init By Prog:	Not reported
NFRAP Flag:	Not reported
Parent ID:	Not reported
RST Code:	Not reported
EPA Region:	09
Classification:	Not reported
Site Settings Code:	Not reported
NPL Status:	Currently on the Final NPL
DMNSN Unit Code:	Not reported
RBRAC Code:	Not reported
RResp Fed Agency Code:	Not reported
Non NPL Status:	Not reported
Non NPL Status Date:	/ /
Site Fips Code:	06111
CC Concurrence Date:	/ /
CC Concurrence FY:	Not reported
Alias EPA ID:	Not reported

HALACO ENGINEERING COMPANY (Continued) **1000144948**

Site FUDS Flag: Not reported

CERCLIS Site Contact Name(s):

Contact ID: 9270721.00000
Contact Name: Robert Wise
Contact Tel: (562) 499-6312
Contact Title: On-Scene Coordinator (OSC)
Contact Email: Not reported

Contact ID: 9000127.00000
Contact Name: Wayne Praskins
Contact Tel: (415) 972-3181
Contact Title: Remedial Project Manager (RPM)
Contact Email: Not reported

Contact ID: 13003854.00000
Contact Name: Leslie Ramirez
Contact Tel: (415) 972-3978
Contact Title: Site Assessment Manager (SAM)
Contact Email: Not reported

Contact ID: 13003858.00000
Contact Name: Sharon Murray
Contact Tel: (415) 972-4250
Contact Title: Site Assessment Manager (SAM)
Contact Email: Not reported

Contact ID: 13004003.00000
Contact Name: Carl Brickner
Contact Tel: Not reported
Contact Title: Site Assessment Manager (SAM)
Contact Email: Not reported

CERCLIS Site Alias Name(s):

Alias ID: 101
Alias Name: HALACO ENGINEERING CO
Alias Address: Not reported
OXNARD, CA
Alias ID: 102
Alias Name: HALACO ENGINEERING CO
Alias Address: 6200 PERKINS ROAD
OXNARD, CA 93033
Alias ID: 13000044
Alias Name: HALACO ENGINEERING COMPANY
Alias Address: 6200 PERKINS
OXNARD, CA 93033
Alias Comments: Not reported

Site Description: Not reported

CERCLIS Assessment History:

Action Code: 001
Action: DISCOVERY
Date Started: / /
Date Completed: 11/01/79
Priority Level: Not reported
Operable Unit: SITEWIDE

HALACO ENGINEERING COMPANY (Continued) **1000144948**

Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: SITE INSPECTION
Date Started: 11/01/79
Date Completed: 04/01/83
Priority Level: Higher priority for further assessment
Operable Unit: SITEWIDE
Primary Responsibility: State, Fund Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 04/01/83
Priority Level: Low priority for further assessment
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: EXPANDED SITE INSPECTION
Date Started: 09/18/90
Date Completed: 08/07/92
Priority Level: Recommended for HRS Scoring
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: CLAIM IN BANKRUPTCY PROCEEDING
Date Started: 03/29/06
Date Completed: 03/29/06
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported

HALACO ENGINEERING COMPANY (Continued) **1000144948**

Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: REMOVAL ASSESSMENT
Date Started: 04/20/06
Date Completed: 04/21/06
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: NON-NATIONAL PRIORITIES LIST POTENTIALLY RESPONSIBLE PARTY SEARCH
Date Started: 02/10/06
Date Completed: 06/19/06
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA In-House
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: REMOVAL ASSESSMENT
Date Started: 06/19/06
Date Completed: 07/05/06
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: ADMINISTRATIVE ORDER ON CONSENT
Date Started: / /
Date Completed: 07/19/06
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: Federal Enforcement
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: REMOVAL

HALACO ENGINEERING COMPANY (Continued) **1000144948**

Date Started: 06/19/06
Date Completed: 08/31/06
Priority Level: Stabilized
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Time Critical
Action Anomaly: Original Action Take Over

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: POTENTIALLY RESPONSIBLE PARTY REMOVAL
Date Started: 08/21/06
Date Completed: 09/12/06
Priority Level: Cleaned up
Operable Unit: SITEWIDE
Primary Responsibility: Responsible Party
Planning Status: Primary
Urgency Indicator: Time Critical
Action Anomaly: New Action Resulting from Take Over

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: OTHER CLEANUP ACTIVITY
Date Started: 10/10/00
Date Completed: 01/10/07
Priority Level: Higher priority for further assessment
Operable Unit: SITEWIDE
Primary Responsibility: State, Fund Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: INTEGRATED REMOVAL ASSESSMENT AND EXPANDED SITE INSPECTION
Date Started: 02/01/06
Date Completed: 01/10/07
Priority Level: Recommended for HRS Scoring
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: HAZARD RANKING SYSTEM PACKAGE
Date Started: 04/06/06
Date Completed: 03/07/07
Priority Level: Being considered for proposal to the NPL
Operable Unit: SITEWIDE

HALACO ENGINEERING COMPANY (Continued) **1000144948**

Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: PROPOSAL TO NATIONAL PRIORITIES LIST
Date Started: / /
Date Completed: 03/07/07
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: FINAL LISTING ON NATIONAL PRIORITIES LIST
Date Started: / /
Date Completed: 09/19/07
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 002
Action: REMOVAL
Date Started: 06/19/06
Date Completed: 03/22/08
Priority Level: Stabilized
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Time Critical
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003
Action: REMOVAL ASSESSMENT
Date Started: 09/21/09
Date Completed: 12/11/09
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported

HALACO ENGINEERING COMPANY (Continued) **1000144948**

Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: ENGINEERING EVALUATION/COST ANALYSIS
Date Started: 09/02/09
Date Completed: 02/04/10
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 003
Action: REMOVAL
Date Started: 02/08/10
Date Completed: 09/16/10
Priority Level: Stabilized
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Non-Time Critical
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: REMEDIAL INVESTIGATION
Date Started: 03/21/07
Date Completed: / /
Priority Level: Not reported
Operable Unit: OU01
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: TECHNICAL ASSISTANCE GRANT
Date Started: 10/01/09
Date Completed: / /
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Action Code: 001
Action: FEASIBILITY STUDY
Date Started: 09/17/10

HALACO ENGINEERING COMPANY (Continued) **1000144948**

Date Completed: / /
Priority Level: Not reported
Operable Unit: OU01
Primary Responsibility: EPA Fund-Financed
Planning Status: Primary
Urgency Indicator: Not reported
Action Anomaly: Not reported

For detailed financial records, contact EDR for a Site Report.:

Federal Register Details:
Fed Register Date: 09/19/07
Fed Register Volume: 72
Page Number: 53463

Fed Register Date: 03/07/07
Fed Register Volume: 72
Page Number: 10105

Click this hyperlink while viewing on your computer to access
1049 additional US CERCLIS Financial: record(s) in the EDR Site Report.

LUST REG 4:
Region: 4
Regional Board: 04
County: Ventura
Facility Id: C-93001
Status: Case Closed
Substance: Gasoline
Substance Quantity: Not reported
Local Case No: 93001
Case Type: Soil
Abatement Method Used at the Site: Excavate and Dispose
Global ID: T0611100834
W Global ID: Not reported
Staff: UNK
Local Agency: 56000L
Cross Street: Not reported
Enforcement Type: EF
Date Leak Discovered: 12/15/1993
Date Leak First Reported: 12/15/1993
Date Leak Record Entered: Not reported
Date Confirmation Began: 1/8/1993
Date Leak Stopped: Not reported
Date Case Last Changed on Database: Not reported
Date the Case was Closed: 3/21/1994
How Leak Discovered: Not reported
How Leak Stopped: Not reported
Cause of Leak: Not reported
Leak Source: Not reported
Operator: Not reported
Water System: Not reported
Well Name: Not reported
Approx. Dist To Production Well (ft): 3631.029178871171606173445722 5
Source of Cleanup Funding: F
Preliminary Site Assessment Workplan Submitted: 3/1/1993
Preliminary Site Assessment Began: 3/1/1993

HALACO ENGINEERING COMPANY (Continued) **1000144948**

Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		6/7/1993
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		1/12/1993
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	HALACO ENGINEERING INC	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.1400473 / -1	
Local Agency Staff:	EHD	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	
Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-95081	
Status:	Case Closed	
Substance:	Diesel	
Substance Quantity:	Not reported	
Local Case No:	95081	
Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0611100980	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	EF	
Date Leak Discovered:	3/8/1995	
Date Leak First Reported:		3/8/1995
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	3/8/1995	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		5/16/1995
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		3624.824947136331308882285478 4
Source of Cleanup Funding:		F

HALACO ENGINEERING COMPANY (Continued) **1000144948**

Preliminary Site Assessment Workplan Submitted: 3/8/1995
Preliminary Site Assessment Began: 5/1/1995
Pollution Characterization Began: 5/1/1995
Remediation Plan Submitted: 5/1/1995
Remedial Action Underway: Not reported
Post Remedial Action Monitoring Began: Not reported
Enforcement Action Date: 3/28/1995
Historical Max MTBE Date: Not reported
Hist Max MTBE Conc in Groundwater: Not reported
Hist Max MTBE Conc in Soil: Not reported
Significant Interim Remedial Action Taken: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Organization: Not reported
Owner Contact: Not reported
Responsible Party: HALACO ENGINEERING INC
RP Address: Not reported
Program: LUST
Lat/Long: 34.1400623 / -1
Local Agency Staff: EHD
Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 95081
Status: Case Closed

Region: VENTURA
Facility ID: 93001
Status: Case Closed

HIST UST:
Region: STATE
Facility ID: 00000064760
Facility Type: Other
Other Type: FOUNDRY
Contact Name: J.D. GABLE - PLANT MANAGER
Telephone: 9054883684
Owner Name: HALACO ENGINEERING CO.
Owner Address: 6200 PERKINS ROAD
Owner City,St,Zip: OXNARD, CA 93033
Total Tanks: 0008

Tank Num: 001
Container Num: 1
Year Installed: 1979
Tank Capacity: 00011780
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: .26
Leak Detection: Visual, None

HALACO ENGINEERING COMPANY (Continued) **1000144948**

Tank Num:	002
Container Num:	2
Year Installed:	1979
Tank Capacity:	00011780
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	.26
Leak Detection:	Visual, None

Tank Num:	003
Container Num:	3
Year Installed:	1979
Tank Capacity:	00011780
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	.26
Leak Detection:	Visual, None

Tank Num:	004
Container Num:	4
Year Installed:	1979
Tank Capacity:	00011780
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	.26
Leak Detection:	Visual, None

Tank Num:	005
Container Num:	5
Year Installed:	1979
Tank Capacity:	00011780
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	.26
Leak Detection:	Visual, None

Tank Num:	006
Container Num:	6
Year Installed:	1979
Tank Capacity:	00011780
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	.26
Leak Detection:	Visual, None

Tank Num:	007
Container Num:	G
Year Installed:	1970
Tank Capacity:	00001970
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	ULUG8
Leak Detection:	Visual

Tank Num:	008
Container Num:	G331784
Year Installed:	1972

HALACO ENGINEERING COMPANY (Continued) **1000144948**

Tank Capacity: 00020000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: 6
Leak Detection: Visual, None

PRP:
PRP name: CLARENCE W. HAACK
HALACO ENGINEERING COMPANY
JOHN M. HAACK
ROBERT D. HAACK
THE CLARENCE W. HAACK LIVING TRUST

Lead Smelter Sites:
Site ID: 0901242
Facility Region Id: 09
NPL Status: Currently on the Final NPL
Federal Facility: No
Primary Site Type Category Description: Recycling
Site Type Category Description 1: Not reported
Site Type Category Description 2: Not reported
Site Type Category Description 3: Not reported
Latitude: 34.140721999999997
Longitude: -119.177778

B32 **ARCTURUS MANUFACTURING CORP** **RCRA-SQG** **1000422509**
WNW **6001 ARCTURUS ROAD** **ICIS** **CAD982030660**
< 1/8 **OXNARD, CA 93033** **FINDS**
0.005 mi. **NPDES**
28 ft. **Site 1 of 3 in cluster B** **HIST CORTESE**
LUST
Relative: **HIST UST**
Higher **HAZNET**
WDS
Actual:
12 ft.

RCRA-SQG:
Date form received by agency: 09/01/1996
Facility name: ARCTURUS MANUFACTURING CORP
Facility address: 6001 ARCTURUS AVE
OXNARD, CA 93033
EPA ID: CAD982030660
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 09
Land type: Facility is not located on Indian land. Additional information is not known.
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

Owner/Operator Summary:
Owner/operator name: W HENRY L HINES L HUCKABA
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 09/01/1996
Site name: ARCTURUS MANUFACTURING CORP
Classification: Small Quantity Generator

Date form received by agency: 02/22/1996
Site name: ARCTURUS MANUFACTURING
Classification: Large Quantity Generator

Date form received by agency: 03/11/1994
Site name: ARCTURUS MANUFACTURING CORP.
Classification: Large Quantity Generator

Date form received by agency: 02/13/1992
Site name: ARCTURUS MANUFACTURING CORP
Classification: Large Quantity Generator

Date form received by agency: 04/03/1990

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

Site name: ARCTURUS MANUFACTURING CORP
Classification: Large Quantity Generator

Facility Has Received Notices of Violations:
Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 05/10/1994
Date achieved compliance: 05/10/1999
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 05/10/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 05/10/1999
Evaluation lead agency: State Contractor/Grantee

ICIS:
Enforcement Action ID: 09-2012-3517
FRS ID: 110001165783
Program ID: RCRAINFO CAD982030660
Action Name: PRECISION CASTPARTS CORP. EPCRA 312 AUDIT DISCLOSURE
Full Address: 6001 ARCTURUS ROAD OXNARD CA 93033-9001
State: California
Facility Name: ARCTURUS MANUFACTURING CORP
Facility Address: 6001 ARCTURUS ROAD
OXNARD, CA 93033-9001
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2012-3517
FRS ID: 110001165783
Program ID: NEI NEI25976
Action Name: PRECISION CASTPARTS CORP. EPCRA 312 AUDIT DISCLOSURE
Full Address: 6001 ARCTURUS ROAD OXNARD CA 93033-9001
State: California
Facility Name: ARCTURUS MANUFACTURING CORP
Facility Address: 6001 ARCTURUS ROAD
OXNARD, CA 93033-9001
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2012-3517
FRS ID: 110001165783
Program ID: FRS 110001165783
Action Name: PRECISION CASTPARTS CORP. EPCRA 312 AUDIT DISCLOSURE
Full Address: 6001 ARCTURUS ROAD OXNARD CA 93033-9001

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

State: California
Facility Name: ARCTURUS MANUFACTURING CORP
Facility Address: 6001 ARCTURUS ROAD
OXNARD, CA 93033-9001
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2012-3517
FRS ID: 110001165783
Program ID: EIS 1205611
Action Name: PRECISION CASTPARTS CORP. EPCRA 312 AUDIT DISCLOSURE
Full Address: 6001 ARCTURUS ROAD OXNARD CA 93033-9001
State: California
Facility Name: ARCTURUS MANUFACTURING CORP
Facility Address: 6001 ARCTURUS ROAD
OXNARD, CA 93033-9001
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2012-3517
FRS ID: 110001165783
Program ID: CA-CERS 10201954
Action Name: PRECISION CASTPARTS CORP. EPCRA 312 AUDIT DISCLOSURE
Full Address: 6001 ARCTURUS ROAD OXNARD CA 93033-9001
State: California
Facility Name: ARCTURUS MANUFACTURING CORP
Facility Address: 6001 ARCTURUS ROAD
OXNARD, CA 93033-9001
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2012-3517
FRS ID: 110001165783
Program ID: TRIS 93033RCTRS61ARC
Action Name: PRECISION CASTPARTS CORP. EPCRA 312 AUDIT DISCLOSURE
Full Address: 6001 ARCTURUS ROAD OXNARD CA 93033-9001
State: California
Facility Name: ARCTURUS MANUFACTURING CORP
Facility Address: 6001 ARCTURUS ROAD
OXNARD, CA 93033-9001
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2012-3000
FRS ID: 110001165783
Program ID: RCRAINFO CAD982030660
Action Name: EPCRA-FY12-313- PRECISION CASTPARTS CORP 01/22/2010
Full Address: 6001 ARCTURUS ROAD OXNARD CA 93033-9001
State: California
Facility Name: ARCTURUS MANUFACTURING CORP
Facility Address: 6001 ARCTURUS ROAD
OXNARD, CA 93033-9001
Enforcement Action Type: EPCRA 325 Action For Penalty

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2012-3000
FRS ID: 110001165783
Program ID: NEI NEI25976
Action Name: EPCRA-FY12-313- PRECISION CASTPARTS CORP 01/22/2010
Full Address: 6001 ARCTURUS ROAD OXNARD CA 93033-9001
State: California
Facility Name: ARCTURUS MANUFACTURING CORP
Facility Address: 6001 ARCTURUS ROAD
OXNARD, CA 93033-9001
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2012-3000
FRS ID: 110001165783
Program ID: FRS 110001165783
Action Name: EPCRA-FY12-313- PRECISION CASTPARTS CORP 01/22/2010
Full Address: 6001 ARCTURUS ROAD OXNARD CA 93033-9001
State: California
Facility Name: ARCTURUS MANUFACTURING CORP
Facility Address: 6001 ARCTURUS ROAD
OXNARD, CA 93033-9001
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2012-3000
FRS ID: 110001165783
Program ID: EIS 1205611
Action Name: EPCRA-FY12-313- PRECISION CASTPARTS CORP 01/22/2010
Full Address: 6001 ARCTURUS ROAD OXNARD CA 93033-9001
State: California
Facility Name: ARCTURUS MANUFACTURING CORP
Facility Address: 6001 ARCTURUS ROAD
OXNARD, CA 93033-9001
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2012-3000
FRS ID: 110001165783
Program ID: CA-CERS 10201954
Action Name: EPCRA-FY12-313- PRECISION CASTPARTS CORP 01/22/2010
Full Address: 6001 ARCTURUS ROAD OXNARD CA 93033-9001
State: California
Facility Name: ARCTURUS MANUFACTURING CORP
Facility Address: 6001 ARCTURUS ROAD
OXNARD, CA 93033-9001
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2012-3000
FRS ID: 110001165783

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

Program ID:	TRIS 93033RCTRS61ARC
Action Name:	EPCRA-FY12-313- PRECISION CASTPARTS CORP 01/22/2010
Full Address:	6001 ARCTURUS ROAD OXNARD CA 93033-9001
State:	California
Facility Name:	ARCTURUS MANUFACTURING CORP
Facility Address:	6001 ARCTURUS ROAD OXNARD, CA 93033-9001
Enforcement Action Type:	EPCRA 325 Action For Penalty
Facility County:	VENTURA
EPA Region #:	9

Program ID:	CA-CERS 10201954
Facility Name:	ARCTURUS MANUFACTURING CORP
Address:	6001 ARCTURUS ROAD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	Not reported

Program ID:	EIS 1205611
Facility Name:	ARCTURUS MANUFACTURING CORP
Address:	6001 ARCTURUS ROAD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	Not reported

Program ID:	FRS 110001165783
Facility Name:	ARCTURUS MANUFACTURING CORP
Address:	6001 ARCTURUS ROAD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	Not reported

Program ID:	NEI NEI25976
Facility Name:	ARCTURUS MANUFACTURING CORP
Address:	6001 ARCTURUS ROAD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	Not reported

Program ID:	RCRAINFO CAD982030660
Facility Name:	ARCTURUS MANUFACTURING CORP
Address:	6001 ARCTURUS ROAD
Tribal Indicator:	N
Fed Facility:	No
NAIC Code:	Not reported
SIC Code:	Not reported

Program ID:	TRIS 93033RCTRS61ARC
Facility Name:	ARCTURUS MANUFACTURING CORP
Address:	6001 ARCTURUS ROAD
Tribal Indicator:	N
Fed Facility:	No

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

NAIC Code: Not reported
SIC Code: Not reported

Program ID: CA-CERS 10201954
Facility Name: ARCTURUS MANUFACTURING CORP
Address: 6001 ARCTURUS ROAD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: Not reported

Program ID: EIS 1205611
Facility Name: ARCTURUS MANUFACTURING CORP
Address: 6001 ARCTURUS ROAD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: Not reported

Program ID: FRS 110001165783
Facility Name: ARCTURUS MANUFACTURING CORP
Address: 6001 ARCTURUS ROAD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: Not reported

Program ID: NEI NEI25976
Facility Name: ARCTURUS MANUFACTURING CORP
Address: 6001 ARCTURUS ROAD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: Not reported

Program ID: RCRAINFO CAD982030660
Facility Name: ARCTURUS MANUFACTURING CORP
Address: 6001 ARCTURUS ROAD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: Not reported

Program ID: TRIS 93033RCTRS61ARC
Facility Name: ARCTURUS MANUFACTURING CORP
Address: 6001 ARCTURUS ROAD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: Not reported

FINDS:

Registry ID: 110001165783

Environmental Interest/Information System
US EPA TRIS (Toxics Release Inventory System) contains information

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

STATE MASTER

CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

NPDES:

Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	4
Regulatory Measure Id:	192548
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	4 56I000020
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	01/31/1992
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Arcturus Manufacturing Corp
Discharge Address:	6001 Arcturus Ave
Discharge City:	Oxnard
Discharge State:	California
Discharge Zip:	93033

HIST CORTESE:

Region:	CORTESE
Facility County Code:	56
Reg By:	LTNKA

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

Reg Id: C-89086

Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-89096

Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-98029

LUST:
Region: STATE
Global Id: T0611101187
Latitude: 34.140856
Longitude: -119.173855
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 08/23/2000
Lead Agency: VENTURA COUNTY LOP
Case Worker: Not reported
Local Agency: Not reported
RB Case Number: C98029
LOC Case Number: 98029
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Diesel
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0611101187
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

Status History:
Global Id: T0611101187
Status: Completed - Case Closed
Status Date: 08/23/2000

Global Id: T0611101187
Status: Open - Case Begin Date
Status Date: 07/20/1998

Global Id: T0611101187
Status: Open - Site Assessment
Status Date: 07/20/1998

Global Id: T0611101187
Status: Open - Site Assessment

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

Status Date: 07/27/1998

Regulatory Activities:
Global Id: T0611101187
Action Type: ENFORCEMENT
Date: 08/23/2000
Action: Closure/No Further Action Letter

Global Id: T0611101187
Action Type: Other
Date: 07/20/1998
Action: Leak Discovery

Global Id: T0611101187
Action Type: Other
Date: 07/20/1998
Action: Leak Reported

Region: STATE
Global Id: T0611100505
Latitude: 34.1418643
Longitude: -119.1723898
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 03/15/1994
Lead Agency: VENTURA COUNTY LOP
Case Worker: Not reported
Local Agency: Not reported
RB Case Number: C-89096
LOC Case Number: 89096
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Diesel
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0611100505
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

Status History:
Global Id: T0611100505
Status: Completed - Case Closed
Status Date: 03/15/1994

Global Id: T0611100505
Status: Open - Case Begin Date
Status Date: 06/29/1989

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

Global Id: T0611100505
Status: Open - Remediation
Status Date: 03/15/1991

Global Id: T0611100505
Status: Open - Site Assessment
Status Date: 06/29/1989

Global Id: T0611100505
Status: Open - Site Assessment
Status Date: 11/15/1989

Global Id: T0611100505
Status: Open - Site Assessment
Status Date: 01/15/1990

Regulatory Activities:
Global Id: T0611100505
Action Type: Other
Date: 06/29/1989
Action: Leak Discovery

Global Id: T0611100505
Action Type: Other
Date: 06/29/1989
Action: Leak Reported

Global Id: T0611100505
Action Type: ENFORCEMENT
Date: 08/03/1989
Action: * Historical Enforcement

LUST REG 4:
Region: 4
Regional Board: 04
County: Ventura
Facility Id: C-89096
Status: Case Closed
Substance: Diesel
Substance Quantity: Not reported
Local Case No: 89096
Case Type: Groundwater
Abatement Method Used at the Site: Not reported
Global ID: T0611100505
W Global ID: Not reported
Staff: UNK
Local Agency: 56000L
Cross Street: Not reported
Enforcement Type: EF
Date Leak Discovered: 6/29/1989
Date Leak First Reported: 6/29/1989
Date Leak Record Entered: Not reported
Date Confirmation Began: 6/29/1989
Date Leak Stopped: Not reported
Date Case Last Changed on Database: Not reported

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

Date the Case was Closed:		3/15/1994
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		3556.4947867006996982175379775
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		11/15/1989
Preliminary Site Assessment Began:		1/15/1990
Pollution Characterization Began:		1/15/1990
Remediation Plan Submitted:		3/15/1991
Remedial Action Underway:		3/15/1991
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		8/3/1989
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	ARCTURUS FORGE	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.1418643 / -1	
Local Agency Staff:	EHD	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	
Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-98029	
Status:	Case Closed	
Substance:	Diesel	
Substance Quantity:	Not reported	
Local Case No:	98029	
Case Type:	Groundwater	
Abatement Method Used at the Site:		Not reported
Global ID:	T0611101187	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	CLOS	
Date Leak Discovered:	7/20/1998	
Date Leak First Reported:		7/20/1998
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	7/27/1998	

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

Date Leak Stopped: Not reported
Date Case Last Changed on Database: Not reported
Date the Case was Closed: 8/23/2000
How Leak Discovered: Not reported
How Leak Stopped: Not reported
Cause of Leak: Not reported
Leak Source: Tank
Operator: Not reported
Water System: Not reported
Well Name: Not reported
Approx. Dist To Production Well (ft): 3558.846367489241419033445583
Source of Cleanup Funding: Tank
Preliminary Site Assessment Workplan Submitted: 7/20/1998
Preliminary Site Assessment Began: 7/27/1998
Pollution Characterization Began: 7/27/1998
Remediation Plan Submitted: Not reported
Remedial Action Underway: Not reported
Post Remedial Action Monitoring Began: Not reported
Enforcement Action Date: Not reported
Historical Max MTBE Date: 10/12/1999
Hist Max MTBE Conc in Groundwater: 6
Hist Max MTBE Conc in Soil: Not reported
Significant Interim Remedial Action Taken: Not reported
GW Qualifier: Not reported
Soil Qualifier: Not reported
Organization: Not reported
Owner Contact: Not reported
Responsible Party: ARCTURUS MANUFACTURING CORP.
RP Address: 6001 ARCTURUS AVE., OXNARD, CA 93003
Program: LUST
Lat/Long: 34.1418523 / -1
Local Agency Staff: EHD
Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 98029
Status: Case Closed

Region: VENTURA
Facility ID: 89096
Status: Case Closed

HIST UST:
Region: STATE
Facility ID: 00000064671
Facility Type: Other
Other Type: FORGING
Contact Name: Not reported
Telephone: 8054884481
Owner Name: ARCTURUS MFG CORP.

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

Owner Address:	6001 ARCTURUS BLVD.
Owner City,St,Zip:	OXNARD, CA 93033
Total Tanks:	0008
Tank Num:	001
Container Num:	1
Year Installed:	1964
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor
Tank Num:	002
Container Num:	2
Year Installed:	1973
Tank Capacity:	00012000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor
Tank Num:	003
Container Num:	3
Year Installed:	1973
Tank Capacity:	00012000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor
Tank Num:	004
Container Num:	4
Year Installed:	1973
Tank Capacity:	00012000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor
Tank Num:	005
Container Num:	5
Year Installed:	1973
Tank Capacity:	00012000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor
Tank Num:	006
Container Num:	6
Year Installed:	1973
Tank Capacity:	00012000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

Tank Num: 007
Container Num: 7
Year Installed: 1973
Tank Capacity: 00012000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 008
Container Num: 8
Year Installed: 1973
Tank Capacity: 00012000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

HAZNET:
envid: 1000422509
Year: 2013
GEPAID: CAD982030660
Contact: JOHN LOILER-ENVIRONMENTAL MGR.
Telephone: 8054884481
Mailing Name: Not reported
Mailing Address: 6001 ARCTURUS AVE
Mailing City,St,Zip: OXNARD, CA 930339001
Gen County: Ventura
TSD EPA ID: CAD982444481
TSD County: San Bernardino
Waste Category: Not reported
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 183.12
Facility County: Not reported

envid: 1000422509
Year: 2013
GEPAID: CAD982030660
Contact: JOHN LOILER-ENVIRONMENTAL MGR.
Telephone: 8054884481
Mailing Name: Not reported
Mailing Address: 6001 ARCTURUS AVE
Mailing City,St,Zip: OXNARD, CA 930339001
Gen County: Ventura
TSD EPA ID: NVT330010000
TSD County: 99
Waste Category: Not reported
Disposal Method: Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons: 0.1251
Facility County: Not reported

envid: 1000422509
Year: 2013
GEPAID: CAD982030660
Contact: JOHN LOILER-ENVIRONMENTAL MGR.

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

Telephone:	8054884481
Mailing Name:	Not reported
Mailing Address:	6001 ARCTURUS AVE
Mailing City,St,Zip:	OXNARD, CA 930339001
Gen County:	Ventura
TSD EPA ID:	CAD982444481
TSD County:	San Bernardino
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	84.28
Facility County:	Not reported

envid:	1000422509
Year:	2012
GEPAID:	CAD982030660
Contact:	JOHN LOILER-ENVIRONMENTAL MGR.
Telephone:	8054884481
Mailing Name:	Not reported
Mailing Address:	6001 ARCTURUS AVE
Mailing City,St,Zip:	OXNARD, CA 930339001
Gen County:	Ventura
TSD EPA ID:	CAD982444481
TSD County:	San Bernardino
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	33.712
Facility County:	Ventura

envid:	1000422509
Year:	2012
GEPAID:	CAD982030660
Contact:	JOHN LOILER-ENVIRONMENTAL MGR.
Telephone:	8054884481
Mailing Name:	Not reported
Mailing Address:	6001 ARCTURUS AVE
Mailing City,St,Zip:	OXNARD, CA 930339001
Gen County:	Ventura
TSD EPA ID:	CAD982444481
TSD County:	San Bernardino
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	33.712
Facility County:	Ventura

Click this hyperlink while viewing on your computer to access
60 additional CA_HAZNET: record(s) in the EDR Site Report.

WDS:

Facility ID:	4 56I000020
Facility Type:	Not reported
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board

ARCTURUS MANUFACTURING CORP (Continued) **1000422509**

Subregion:	4
Facility Telephone:	Not reported
Facility Contact:	Not reported
Agency Name:	ARCTURUS MANUFACTURING CORP
Agency Address:	Not reported
Agency City,St,Zip:	0
Agency Contact:	Not reported
Agency Telephone:	Not reported
Agency Type:	Not reported
SIC Code:	0
SIC Code 2:	Not reported
Primary Waste Type:	Not reported
Primary Waste:	Not reported
Waste Type2:	Not reported
Waste2:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported
POTW:	Not reported
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

B33 **ARCTURUS MANUFACTURING CO** **CA FID UST** **S101596325**
West **6001 ARCTURUS ROAD** **SWEEPS UST** **N/A**
< 1/8 **OXNARD, CA 93030** **EMI**
0.007 mi.
35 ft. **Site 2 of 3 in cluster B**

Relative:
Higher

Actual:
12 ft.

CA FID UST:

Facility ID:	56000419
Regulated By:	UTNKA
Regulated ID:	CAD982306
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	Not reported
Mail To:	Not reported
Mailing Address:	6001 ARCTURUS RD
Mailing Address 2:	Not reported
Mailing City,St,Zip:	OXNARD 93030
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported

ARCTURUS MANUFACTURING CO (Continued) **S101596325**

Status: Active

SWEEPS UST:
Status: Active
Comp Number: 187
Number: 9
Board Of Equalization: 44-030573
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 56-000-000187-000001
Tank Status: A
Capacity: 10000
Active Date: Not reported
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: 8

Status: Active
Comp Number: 187
Number: 9
Board Of Equalization: 44-030573
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 56-000-000187-000002
Tank Status: A
Capacity: 12000
Active Date: Not reported
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 187
Number: 9
Board Of Equalization: 44-030573
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 56-000-000187-000003
Tank Status: A
Capacity: 12000
Active Date: Not reported
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 187
Number: 9

ARCTURUS MANUFACTURING CO (Continued) **S101596325**

Board Of Equalization: 44-030573
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 56-000-000187-000004
Tank Status: A
Capacity: 12000
Active Date: Not reported
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 187
Number: 9
Board Of Equalization: 44-030573
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 56-000-000187-000005
Tank Status: A
Capacity: 12000
Active Date: Not reported
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 187
Number: 9
Board Of Equalization: 44-030573
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 56-000-000187-000006
Tank Status: A
Capacity: 12000
Active Date: Not reported
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 187
Number: 9
Board Of Equalization: 44-030573
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 56-000-000187-000007

ARCTURUS MANUFACTURING CO (Continued) **S101596325**

Tank Status: A
Capacity: 12000
Active Date: Not reported
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 187
Number: 9
Board Of Equalization: 44-030573
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 56-000-000187-000008
Tank Status: A
Capacity: 12000
Active Date: Not reported
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: Not reported

EMI:
Year: 1987
County Code: 56
Air Basin: SCC
Facility ID: 244
Air District Name: VEN
SIC Code: 3463
Air District Name: VENTURA COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 4
NOX - Oxides of Nitrogen Tons/Yr: 41
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

Year: 1990
County Code: 56
Air Basin: SCC
Facility ID: 244
Air District Name: VEN
SIC Code: 3463
Air District Name: VENTURA COUNTY APCD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 3
NOX - Oxides of Nitrogen Tons/Yr: 9
SOX - Oxides of Sulphur Tons/Yr: 1

ARCTURUS MANUFACTURING CO (Continued) **S101596325**

Particulate Matter Tons/Yr:	3
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3
Year:	1993
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	9
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	3
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3
Year:	1995
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	9
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	3
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3
Year:	1996
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	9
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	3
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3
Year:	1997
County Code:	56
Air Basin:	SCC

ARCTURUS MANUFACTURING CO (Continued) **S101596325**

Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	9
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	3
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3

Year:	1998
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	9
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	3
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3

Year:	1999
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	5
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	3
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3

Year:	2000
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported

ARCTURUS MANUFACTURING CO (Continued) **S101596325**

Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	5
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	3
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3

Year:	2001
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	4
NOX - Oxides of Nitrogen Tons/Yr:	5
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	4
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3

Year:	2002
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	4
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	4
Part. Matter 10 Micrometers & Smllr Tons/Yr:	4

Year:	2003
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	3
NOX - Oxides of Nitrogen Tons/Yr:	4
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	4

ARCTURUS MANUFACTURING CO (Continued) **S101596325**

Part. Matter 10 Micrometers & Smllr Tons/Yr:	4
Year:	2004
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.34
Reactive Organic Gases Tons/Yr:	0.14
Carbon Monoxide Emissions Tons/Yr:	3.23
NOX - Oxides of Nitrogen Tons/Yr:	3.96
SOX - Oxides of Sulphur Tons/Yr:	0.03
Particulate Matter Tons/Yr:	4.06
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3.91
Year:	2005
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	N
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.34
Reactive Organic Gases Tons/Yr:	.143548
Carbon Monoxide Emissions Tons/Yr:	3.23
NOX - Oxides of Nitrogen Tons/Yr:	3.96
SOX - Oxides of Sulphur Tons/Yr:	.03
Particulate Matter Tons/Yr:	4.06
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3.908
Year:	2006
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	N
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.34
Reactive Organic Gases Tons/Yr:	.143548
Carbon Monoxide Emissions Tons/Yr:	3.23
NOX - Oxides of Nitrogen Tons/Yr:	3.96
SOX - Oxides of Sulphur Tons/Yr:	.03
Particulate Matter Tons/Yr:	4.06
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3.908
Year:	2007
County Code:	56
Air Basin:	SCC
Facility ID:	244

ARCTURUS MANUFACTURING CO (Continued) **S101596325**

Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	N
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.34
Reactive Organic Gases Tons/Yr:	.143548
Carbon Monoxide Emissions Tons/Yr:	3.23
NOX - Oxides of Nitrogen Tons/Yr:	3.96
SOX - Oxides of Sulphur Tons/Yr:	.03
Particulate Matter Tons/Yr:	4.06
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3.908

Year:	2008
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	N
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.34
Reactive Organic Gases Tons/Yr:	.143548
Carbon Monoxide Emissions Tons/Yr:	3.23
NOX - Oxides of Nitrogen Tons/Yr:	3.96
SOX - Oxides of Sulphur Tons/Yr:	.03
Particulate Matter Tons/Yr:	4.06
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3.908

Year:	2009
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	N
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.34000000000000002
Reactive Organic Gases Tons/Yr:	0.14354800000000001
Carbon Monoxide Emissions Tons/Yr:	3.23
NOX - Oxides of Nitrogen Tons/Yr:	3.96
SOX - Oxides of Sulphur Tons/Yr:	2.9999999999999999E-2
Particulate Matter Tons/Yr:	4.0599999999999996
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3.9079999999999999

Year:	2010
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	N
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.34000000000000002

ARCTURUS MANUFACTURING CO (Continued) **S101596325**

Reactive Organic Gases Tons/Yr:	0.14354800000000001
Carbon Monoxide Emissions Tons/Yr:	3.23
NOX - Oxides of Nitrogen Tons/Yr:	3.96
SOX - Oxides of Sulphur Tons/Yr:	2.9999999999999999E-2
Particulate Matter Tons/Yr:	4.0599999999999996
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3.9079999999999999

Year:	2011
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.34
Reactive Organic Gases Tons/Yr:	0.143548
Carbon Monoxide Emissions Tons/Yr:	3.23
NOX - Oxides of Nitrogen Tons/Yr:	3.96
SOX - Oxides of Sulphur Tons/Yr:	0.03
Particulate Matter Tons/Yr:	4.06
Part. Matter 10 Micrometers & Smllr Tons/Yr:	3.908

Year:	2012
County Code:	56
Air Basin:	SCC
Facility ID:	244
Air District Name:	VEN
SIC Code:	3463
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	N
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.4946105037
Reactive Organic Gases Tons/Yr:	0.902643
Carbon Monoxide Emissions Tons/Yr:	2.01605
NOX - Oxides of Nitrogen Tons/Yr:	5.1161
SOX - Oxides of Sulphur Tons/Yr:	0.04719
Particulate Matter Tons/Yr:	0.6085137
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.608082752

B34 **BMW** **LUST** **S104773331**
NW **5056 ARCTURUS AVE S** **N/A**
< 1/8 **OXNARD, CA 93033**
0.011 mi.
56 ft. **Site 3 of 3 in cluster B**

Relative:
Higher

Actual:
13 ft.

LUST:

Region:	STATE
Global Id:	T0611193021
Latitude:	34.1473175
Longitude:	-119.1722151
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	07/13/2000
Lead Agency:	VENTURA COUNTY LOP
Case Worker:	Not reported
Local Agency:	Not reported

BMW (Continued) **S104773331**

RB Case Number: C00009
LOC Case Number: 00009
File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0611193021
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

Status History:
Global Id: T0611193021
Status: Completed - Case Closed
Status Date: 07/13/2000

Global Id: T0611193021
Status: Open - Case Begin Date
Status Date: 04/13/2000

Global Id: T0611193021
Status: Open - Site Assessment
Status Date: 04/18/2000

Regulatory Activities:
Global Id: T0611193021
Action Type: ENFORCEMENT
Date: 06/27/2000
Action: Closure/No Further Action Letter

Global Id: T0611193021
Action Type: Other
Date: 04/13/2000
Action: Leak Discovery

Global Id: T0611193021
Action Type: ENFORCEMENT
Date: 01/01/2011
Action: File Review - Closure

Global Id: T0611193021
Action Type: Other
Date: 04/18/2000
Action: Leak Reported

LUST REG 4:
Region: 4

BMW (Continued) **S104773331**

Regional Board:	04	
County:	Ventura	
Facility Id:	C-00009	
Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	00009	
Case Type:	Soil	
Abatement Method Used at the Site:		Excavate and Treat
Global ID:	T0611193021	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	HUENEME RD	
Enforcement Type:	CLOS	
Date Leak Discovered:	4/13/2000	
Date Leak First Reported:		4/18/2000
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		7/13/2000
How Leak Discovered:	Repair Tank	
How Leak Stopped:	Not reported	
Cause of Leak:	Overfill	
Leak Source:	Tank	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		3680.773321160224998061767321 8
Source of Cleanup Funding:		Tank
Preliminary Site Assessment Workplan Submitted:		4/18/2000
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	BMW	
RP Address:	5650 S. ARCTUTUS AVE., OXNARD, CA 93030	
Program:	LUST	
Lat/Long:	34.142362 / -1	
Local Agency Staff:	DCS	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

BMW (Continued) **S104773331**

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 00009
Status: Case Closed

C35 **EDR US Hist Auto Stat** **1015563278**
NNW **5900 ARCTURUS AVE** **N/A**
< 1/8 **OXNARD, CA 93033**
0.045 mi.
235 ft. **Site 1 of 8 in cluster C**

Relative:
Higher

Actual:
13 ft.

EDR Historical Auto Stations:
Name: ZF TRANSMISSIONS
Year: 2005
Address: 5900 ARCTURUS AVE

Name: ZF TRANSMISSIONS
Year: 2006
Address: 5900 ARCTURUS AVE

C36 **BMW OF NORTH AMERICA, LLC (OXNARD EETC)** **RCRA-LQG** **1004675669**
NNW **5900 ARCTURUS AVENUE** **FINDS** **CAR000075788**
< 1/8 **OXNARD, CA 93033**
0.045 mi.
235 ft. **Site 2 of 8 in cluster C**

Relative:
Higher

Actual:
13 ft.

RCRA-LQG:
Date form received by agency: 02/29/2008
Facility name: BMW OF NORTH AMERICA, LLC (OXNARD EETC)
Facility address: 5900 ARCTURUS AVENUE
OXNARD, CA 93033
EPA ID: CAR000075788
Mailing address: SAME AS ITEM 4
OXNARD, CA 93033
Contact: JOANNE UNDERWOOD
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: (805) 271-7318
Contact email: JOANNE.UNDERWOOD@BMWNAEXT.COM
EPA Region: 09
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

BMW OF NORTH AMERICA, LLC (OXNARD EETC) (Continued) **1004675669**

Owner/Operator Summary:
Owner/operator name: B M W OF N AMERICA INC
Owner/operator address: 300 CHESNUT RIDGE RD
WOODCLIFF LAKE, NJ 07675
Owner/operator country: Not reported
Owner/operator telephone: (201) 307-4000
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: BMW OF NORTH AMERICA, LLC
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 08/01/2000
Owner/Op end date: Not reported

Owner/operator name: BMW OF NORTH AMERICA, LLC
Owner/operator address: SAME AS ITEM 4
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 08/01/2000
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D008
. Waste name: LEAD

. Waste code: D018
. Waste name: BENZENE

BMW OF NORTH AMERICA, LLC (OXNARD EETC) (Continued) **1004675669**

Historical Generators:
Date form received by agency: 06/19/2000
Site name: B M W OF N AMERICA INC OXNARD ENGINEERIN
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D008
. Waste name: LEAD

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

FINDS:

Registry ID: 110002938705

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZARDOUS WASTE BIENNIAL REPORTER

C37 **ENGINEERING AND EMISSION TEST CENTER** **FINDS** **1008152527**
NNW **5900 ARCTURUS AVE** **NPDES** **N/A**
< 1/8 **OXNARD, CA 93033** **SLIC**
0.045 mi.
235 ft. **Site 3 of 8 in cluster C**

Relative: Higher

Actual: 13 ft.

FINDS:

Registry ID: 110018956174

Environmental Interest/Information System
California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

STATE MASTER

ENGINEERING AND EMISSION TEST CENTER (Continued) **1008152527**

NPDES:

Npdes Number:	CAG994004
Facility Status:	Historical
Agency Id:	4812
Region:	4
Regulatory Measure Id:	384712
Order No:	R4-2008-0032
Regulatory Measure Type:	Enrollee
Place Id:	780619
WDID:	4A568900120
Program Type:	NPDNONMUNIPRCS
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	05/15/2012
Expiration Date Of Regulatory Measure:	06/05/2013
Termination Date Of Regulatory Measure:	11/13/2013
Discharge Name:	BMW of North America, LLC
Discharge Address:	5650 Arcturus Avenue
Discharge City:	Oxnard
Discharge State:	CA
Discharge Zip:	93033

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	07/16/2010
Global Id:	SLT43696694
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Lead Agency Case Number:	Not reported
Latitude:	34.1433329154082
Longitude:	-119.171168804169
Case Type:	Cleanup Program Site
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	1063
File Location:	Not reported
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

C38 **BMW ENGINEERING & EMISSION TEST CENTER** **AST** **A100210877**
NNW **5900 ARCTURUS RD** **N/A**
< 1/8 **OXNARD, CA 93033**
0.045 mi.
235 ft. **Site 4 of 8 in cluster C**

Relative:
Higher

Actual:
13 ft.

AST:

Certified Unified Program Agencies:	Oxnard
Owner:	BMW ENGINEERING & EMISSION
Total Gallons:	9,000

C39
NNW
< 1/8
0.045 mi.
236 ft.

5901 ARCTURUS AVE
OXNARD, CA 93033

Site 5 of 8 in cluster C

Relative: Higher

Actual: 13 ft.

EDR US Hist Auto Stat **1015563393**
N/A

EDR Historical Auto Stations:

Name:	EXXON CO
Year:	2004
Address:	5901 ARCTURUS AVE

C40
NNW
< 1/8
0.091 mi.
483 ft.

KIMTRUSS CORP
5851 ARCTURUS AVE
OXNARD, CA 93033

Site 6 of 8 in cluster C

Relative: Higher

Actual: 13 ft.

HIST UST **U001579973**
N/A

HIST UST:

Region:	STATE
Facility ID:	00000002081
Facility Type:	Other
Other Type:	PRE-FAB CONSTRUCTION
Contact Name:	DONALD L MILLER
Telephone:	8054880873
Owner Name:	KIMTRUSS CORPORATION
Owner Address:	5851 S ARCTURUS
Owner City,St,Zip:	OXNARD, CA 93033
Total Tanks:	0003
Tank Num:	001
Container Num:	1
Year Installed:	Not reported
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor
Tank Num:	002
Container Num:	2
Year Installed:	Not reported
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor
Tank Num:	003
Container Num:	3
Year Installed:	Not reported
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor

C41 **OXNARD HARBOR DISTRICT** **HIST CORTESE** **S104164685**
NNW **5851 ARCTURUS** **LUST** **N/A**
< 1/8 **OXNARD, CA 93033**
0.091 mi.
483 ft. **Site 7 of 8 in cluster C**

Relative:
Higher

Actual:
13 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	56
Reg By:	LTNKA
Reg Id:	C-94015

LUST:

Region:	STATE
Global Id:	T0611100879
Latitude:	34.143476
Longitude:	-119.173832
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	01/06/1998
Lead Agency:	VENTURA COUNTY LOP
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	C-94015
LOC Case Number:	94015
File Location:	Not reported
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0611100879
Contact Type:	Regional Board Caseworker
Contact Name:	DANIEL PIROTTON
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN
Email:	dpirotton@waterboards.ca.gov
Phone Number:	2135766714

Status History:

Global Id:	T0611100879
Status:	Completed - Case Closed
Status Date:	01/06/1998
Global Id:	T0611100879
Status:	Open - Verification Monitoring
Status Date:	07/10/1997
Global Id:	T0611100879
Status:	Open - Case Begin Date
Status Date:	02/24/1994
Global Id:	T0611100879
Status:	Open - Remediation
Status Date:	03/07/1996

OXNARD HARBOR DISTRICT (Continued) **S104164685**

Global Id: T0611100879
Status: Open - Remediation
Status Date: 08/14/1996

Global Id: T0611100879
Status: Open - Site Assessment
Status Date: 02/24/1994

Global Id: T0611100879
Status: Open - Site Assessment
Status Date: 08/16/1995

Regulatory Activities:
Global Id: T0611100879
Action Type: Other
Date: 02/24/1994
Action: Leak Discovery

Global Id: T0611100879
Action Type: Other
Date: 02/24/1994
Action: Leak Reported

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-94015	
Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	94015	
Case Type:	Groundwater	
Abatement Method Used at the Site:		EDET
Global ID:	T0611100879	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	222	
Date Leak Discovered:	2/24/1994	
Date Leak First Reported:		2/24/1994
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	2/24/1994	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		1/6/1998
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		3858.1176487207653169715903613

OXNARD HARBOR DISTRICT (Continued) **S104164685**

Source of Cleanup Funding:	F
Preliminary Site Assessment Workplan Submitted:	2/24/1994
Preliminary Site Assessment Began:	8/16/1995
Pollution Characterization Began:	8/16/1995
Remediation Plan Submitted:	3/7/1996
Remedial Action Underway:	8/14/1996
Post Remedial Action Monitoring Began:	7/10/1997
Enforcement Action Date:	1/1/1965
Historical Max MTBE Date:	Not reported
Hist Max MTBE Conc in Groundwater:	Not reported
Hist Max MTBE Conc in Soil:	Not reported
Significant Interim Remedial Action Taken:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Organization:	Not reported
Owner Contact:	Not reported
Responsible Party:	OXNARD HARBOR DISTRICT
RP Address:	Not reported
Program:	LUST
Lat/Long:	34.1445273 / -1
Local Agency Staff:	PMB
Beneficial Use:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Suspended:	Not reported
Assigned Name:	Not reported
Summary:	Not reported

VENTURA CO. LUST:

Region:	VENTURA
Facility ID:	94015
Status:	Case Closed

C42 **OXNARD HARBOR DISTRICT** **UST** **U001965662**
NNW **5851 ARCTURUS AVENUE** **N/A**
< 1/8 **OXNARD, CA**
0.091 mi.
483 ft. **Site 8 of 8 in cluster C**

Relative:
Higher

Actual:
13 ft.

VENTURA CO. UST:

Facility ID:	D 1110
Facility Status:	inactive

D43 **ALUMINUM PRECISION PRODUCTS** **AST** **A100340074**
ESE **1001 MCWANE BLVD.** **N/A**
< 1/8 **OXNARD, CA 93033**
0.104 mi.
550 ft. **Site 1 of 4 in cluster D**

Relative:
Higher

Actual:
13 ft.

AST:

Certified Unified Program Agencies:	Oxnard
Owner:	ALUMINUM PRECISION PRODUCTS
Total Gallons:	9,295

D44 **ALUMINUM PRECISION PROD** **NPDES** **S105645591**
ESE **1001 MCWANE BLVD** **SLIC** **N/A**
< 1/8 **OXNARD, CA 93033** **CHMIRS**
0.104 mi. **ENVIROSTOR**
550 ft. **Site 2 of 4 in cluster D** **WDS**

Relative:
Higher

Actual:
13 ft.

NPDES:

Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	4
Regulatory Measure Id:	192810
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	4 56I017709
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	12/26/2002
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Aluminum Precision Products
Discharge Address:	3333 W Warner Ave
Discharge City:	Santa Ana
Discharge State:	California
Discharge Zip:	92704

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	07/10/2006
Global Id:	T0611129375
Lead Agency:	VENTURA COUNTY LOP
Lead Agency Case Number:	SR0001117
Latitude:	34.141702
Longitude:	-119.168428
Case Type:	Cleanup Program Site
Case Worker:	EKO
Local Agency:	VENTURA COUNTY LOP
RB Case Number:	Not reported
File Location:	Local Agency Warehouse
Potential Media Affected:	Under Investigation
Potential Contaminants of Concern:	Tetrachloroethylene (PCE)
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

CHMIRS:

OES Incident Number:	014068
OES notification:	Not reported
OES Date:	6/5/1996
OES Time:	04:17:21 PM
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported

ALUMINUM PRECISION PROD (Continued) **S105645591**

Time Completed:	Not reported	
Surrounding Area:	Not reported	
Estimated Temperature:	Not reported	
Property Management:	Not reported	
More Than Two Substances Involved?:		Not reported
Resp Agncy Personel # Of Decontaminated:		Not reported
Responding Agency Personel # Of Injuries:		Not reported
Responding Agency Personel # Of Fatalities:		Not reported
Others Number Of Decontaminated:		Not reported
Others Number Of Injuries:		Not reported
Others Number Of Fatalities:		Not reported
Vehicle Make/year:	Not reported	
Vehicle License Number:	Not reported	
Vehicle State:	Not reported	
Vehicle Id Number:	Not reported	
CA DOT PUC/ICC Number:	Not reported	
Company Name:	Not reported	
Reporting Officer Name/ID:	Not reported	
Report Date:	Not reported	
Facility Telephone:	Not reported	
Waterway Involved:	YES	
Waterway:	Not reported	
Spill Site:	Not reported	
Cleanup By:	not feasible	
Containment:	Not reported	
What Happened:	Not reported	
Type:	VAPOR	
Measure:	Not reported	
Other:	Not reported	
Date/Time:	Not reported	
Year:	1996	
Agency:	kaiser aluminum	
Incident Date:	0730 05Jun96	
Admin Agency:	Not reported	
Amount:	5 gals	
Contained:	NO	
Site Type:	Not reported	
E Date:	Not reported	
Substance:	nitric acid vapor	
Unknown:	Not reported	
Substance #2:	Not reported	
Substance #3:	Not reported	
Evacuations:	YES	
Number of Injuries:	NO	
Number of Fatalities:	NO	
#1 Pipeline:	Not reported	
#2 Pipeline:	Not reported	
#3 Pipeline:	Not reported	
#1 Vessel >= 300 Tons:	Not reported	
#2 Vessel >= 300 Tons:	Not reported	
#3 Vessel >= 300 Tons:	Not reported	
Evacs:	Not reported	
Injuries:	Not reported	
Fatals:	Not reported	
Comments:	Not reported	
Description:	the mixer was not turned on when the chemical additions were made resulting in a grn cloud release. 35 employees evacuated, all	

ALUMINUM PRECISION PROD (Continued) **S105645591**

employees were allowed to returned at 1000 hrs

ENVIROSTOR:

Facility ID:	56330012
Status:	Refer: 1248 Local Agency
Status Date:	04/27/2004
Site Code:	Not reported
Site Type:	Evaluation
Site Type Detailed:	Evaluation
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Cypress
Assembly:	44
Senate:	19
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not Applicable
Latitude:	34.14170
Longitude:	-119.1684
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	110000481318
Alias Type:	EPA (FRS #)
Alias Name:	56330012
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

WDS:

Facility ID:	4 56I017709
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and

ALUMINUM PRECISION PROD (Continued) **S105645591**

	repairing, oil production, storage and disposal operations, water pumping.
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	4
Facility Telephone:	8054884401
Facility Contact:	KIEFFER WALLACE
Agency Name:	ALUMINUM PRECISION PROD
Agency Address:	3333 W Warner Ave
Agency City,St,Zip:	Santa Ana 927045316
Agency Contact:	KEELER P S
Agency Telephone:	7145468125
Agency Type:	Private
SIC Code:	0
SIC Code 2:	Not reported
Primary Waste Type:	Not reported
Primary Waste:	Not reported
Waste Type2:	Not reported
Waste2:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported
POTW:	Not reported
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

D45 **ALUMINUM PRECISION PRODUCTS INC** **RCRA-LQG** **1007198855**
ESE **1001 MCWANE BOULEVARD** **ICIS** **CAD052266822**
< 1/8 **OXNARD, CA 93033** **FINDS**
0.104 mi.
550 ft. **Site 3 of 4 in cluster D**

Relative:
Higher

Actual:
13 ft.

RCRA-LQG:

Date form received by agency:	02/06/1992
Facility name:	ALUMINUM PRECISION PRODUCTS INC
Site name:	KAISER ALUMINUM & CHEMICAL CORP.
Facility address:	1001 MCWANE BLVD. OXNARD, CA 930339016
EPA ID:	CAD052266822
Contact:	DUANE F LUDLOW
Contact address:	Not reported Not reported
Contact country:	US

ALUMINUM PRECISION PRODUCTS INC (Continued) **1007198855**

Contact telephone: (805) 488-4401
Telephone ext.: 224
Contact email: Not reported
EPA Region: 09
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: Yes
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 04/14/1990
Site name: KAISER ALUMINUM & CHEM CORP
Classification: Large Quantity Generator

Violation Status: No violations found

ICIS:
Enforcement Action ID: 09-2001-0038
FRS ID: 110000481318
Program ID: EIS 1206311
Action Name: KAISER ALUMINUM AND CHEMICAL
Full Address: 1001 MCWANE BOULEVARD OXNARD CA 93033-9016
State: California
Facility Name: ALUMINUM PRECISION PRODUCTS INC
Facility Address: 1001 MCWANE BOULEVARD
OXNARD, CA 93033-9016
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2001-0038

ALUMINUM PRECISION PRODUCTS INC (Continued) **1007198855**

FRS ID: 110000481318
Program ID: FRS 110000481318
Action Name: KAISER ALUMINUM AND CHEMICAL
Full Address: 1001 MCWANE BOULEVARD OXNARD CA 93033-9016
State: California
Facility Name: ALUMINUM PRECISION PRODUCTS INC
Facility Address: 1001 MCWANE BOULEVARD
OXNARD, CA 93033-9016
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2001-0038
FRS ID: 110000481318
Program ID: HWTS-DATAMART CAD052266822
Action Name: KAISER ALUMINUM AND CHEMICAL
Full Address: 1001 MCWANE BOULEVARD OXNARD CA 93033-9016
State: California
Facility Name: ALUMINUM PRECISION PRODUCTS INC
Facility Address: 1001 MCWANE BOULEVARD
OXNARD, CA 93033-9016
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2001-0038
FRS ID: 110000481318
Program ID: TRIS 93033KSRLM1001M
Action Name: KAISER ALUMINUM AND CHEMICAL
Full Address: 1001 MCWANE BOULEVARD OXNARD CA 93033-9016
State: California
Facility Name: ALUMINUM PRECISION PRODUCTS INC
Facility Address: 1001 MCWANE BOULEVARD
OXNARD, CA 93033-9016
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2001-0038
FRS ID: 110000481318
Program ID: NCDB I09#2000091519399 1
Action Name: KAISER ALUMINUM AND CHEMICAL
Full Address: 1001 MCWANE BOULEVARD OXNARD CA 93033-9016
State: California
Facility Name: ALUMINUM PRECISION PRODUCTS INC
Facility Address: 1001 MCWANE BOULEVARD
OXNARD, CA 93033-9016
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2001-0038
FRS ID: 110000481318
Program ID: NEI NEICA1113426
Action Name: KAISER ALUMINUM AND CHEMICAL
Full Address: 1001 MCWANE BOULEVARD OXNARD CA 93033-9016
State: California

ALUMINUM PRECISION PRODUCTS INC (Continued) **1007198855**

Facility Name: ALUMINUM PRECISION PRODUCTS INC
Facility Address: 1001 MCWANE BOULEVARD
OXNARD, CA 93033-9016
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Enforcement Action ID: 09-2001-0038
FRS ID: 110000481318
Program ID: NCDB D09#EPCRA-9-2001-02
Action Name: KAISER ALUMINUM AND CHEMICAL
Full Address: 1001 MCWANE BOULEVARD OXNARD CA 93033-9016
State: California
Facility Name: ALUMINUM PRECISION PRODUCTS INC
Facility Address: 1001 MCWANE BOULEVARD
OXNARD, CA 93033-9016
Enforcement Action Type: EPCRA 325 Action For Penalty
Facility County: VENTURA
EPA Region #: 9

Program ID: EIS 1206311
Facility Name: ALUMINUM PRECISION PRODUCTS INC
Address: 1001 MCWANE BOULEVARD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 3463

Program ID: FRS 110000481318
Facility Name: ALUMINUM PRECISION PRODUCTS INC
Address: 1001 MCWANE BOULEVARD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 3463

Program ID: HWTS-DATAMART CAD052266822
Facility Name: ALUMINUM PRECISION PRODUCTS INC
Address: 1001 MCWANE BOULEVARD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 3463

Program ID: NCDB D09#EPCRA-9-2001-02
Facility Name: ALUMINUM PRECISION PRODUCTS INC
Address: 1001 MCWANE BOULEVARD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 3463

Program ID: NCDB I09#2000091519399 1
Facility Name: ALUMINUM PRECISION PRODUCTS INC
Address: 1001 MCWANE BOULEVARD
Tribal Indicator: N

ALUMINUM PRECISION PRODUCTS INC (Continued) **1007198855**

Fed Facility: No
NAIC Code: Not reported
SIC Code: 3463

Program ID: NEI NEICA1113426
Facility Name: ALUMINUM PRECISION PRODUCTS INC
Address: 1001 MCWANE BOULEVARD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 3463

Program ID: TRIS 93033KSRLM1001M
Facility Name: ALUMINUM PRECISION PRODUCTS INC
Address: 1001 MCWANE BOULEVARD
Tribal Indicator: N
Fed Facility: No
NAIC Code: Not reported
SIC Code: 3463

FINDS:

Registry ID: 110000481318

Environmental Interest/Information System

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

D46
ESE
< 1/8
0.104 mi.
550 ft.

KAISER ALUMINUM — **LUST** — **S107619823**
1001 MCWANE BLVD — **N/A**
OXNARD, CA

Site 4 of 4 in cluster D

Relative:
Higher

Actual:
13 ft.

VENTURA CO. LUST:
Region: VENTURA
Facility ID: SR011
Status: Case Closed

E47
East
1/8-1/4
0.160 mi.
846 ft.

CARPINTERIA WELDING, INC. DBA: — **HIST UST** — **U001579945**
5901 EDISON DR — **N/A**
OXNARD, CA 93033

Site 1 of 4 in cluster E

Relative:
Higher

Actual:
14 ft.

HIST UST:

Region:	STATE
Facility ID:	00000014337
Facility Type:	Other
Other Type:	Not reported
Contact Name:	MIKE GOSSARD
Telephone:	8054884421
Owner Name:	CARPINTERIA WELDING, INC. DBA:
Owner Address:	5901 EDISON DRIVE
Owner City,St,Zip:	OXNARD, CA 93033
Total Tanks:	0003
Tank Num:	001
Container Num:	1
Year Installed:	1981
Tank Capacity:	00000550
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Container Construction Thickness:	10
Leak Detection:	None
Tank Num:	002
Container Num:	2
Year Installed:	1981
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	1/4
Leak Detection:	Stock Inventor
Tank Num:	003
Container Num:	3
Year Installed:	1981
Tank Capacity:	00012000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	1/4
Leak Detection:	Stock Inventor

E48
East
1/8-1/4
0.160 mi.
846 ft.

BORLA PERFORMANCE IND
5901 EDISON RD
OXNARD, CA 93033

Site 2 of 4 in cluster E

RCRA-SQG | **1000316151** / **CAD981979339**

Relative:
Higher

Actual:
14 ft.

RCRA-SQG:

Date form received by agency:	10/26/1993
Facility name:	BORLA PERFORMANCE IND
Facility address:	5901 EDISON RD OXNARD, CA 93033
EPA ID:	CAD981979339
Contact:	MARIAN JUSZAK
Contact address:	5901 EDISON RD OXNARD, CA 93033
Contact country:	US
Contact telephone:	(805) 986-8600
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	ALEXANDER BORLA
Owner/operator address:	5901 EDISON DR OXNARD, CA 93033
Owner/operator country:	Not reported
Owner/operator telephone:	(805) 986-8600
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No

BORLA PERFORMANCE IND (Continued) **1000316151**

User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

E49 **BORLA PERFORMANCE INDUSTRIES** **RCRA-SQG** **1000316148**
East **5901 EDISON RD** **FINDS** **CAD981383185**
1/8-1/4 **OXNARD, CA 93033** **LUST**
0.160 mi. **UST**
846 ft. **Site 3 of 4 in cluster E**

Relative:
Higher

Actual:
14 ft.

RCRA-SQG:
Date form received by agency: 06/25/1998
Facility name: PENNINGTON MFG
Facility address: 5901 EDISON DR
OXNARD, CA 93033
EPA ID: CAD981383185
Contact: JAMES DIEMER
Contact address: 5901 EDISON DR
OXNARD, CA 93033
Contact country: US
Contact telephone: (805) 659-0421
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: CARPINTERIA WELDING
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No

BORLA PERFORMANCE INDUSTRIES (Continued) **1000316148**

Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Historical Generators:

Date form received by agency:	06/25/1998
Site name:	PENNINGTON MFG
Classification:	Small Quantity Generator

Violation Status: No violations found

FINDS:

Registry ID: 110009534931

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Registry ID: 110009540862

Environmental Interest/Information System

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

LUST REG 4:

Region:	4
Regional Board:	04
County:	Ventura
Facility Id:	930300070
Status:	Case Closed
Substance:	Gasoline
Substance Quantity:	Not reported

BORLA PERFORMANCE INDUSTRIES (Continued) **1000316148**

Local Case No:	Not reported	
Case Type:	Groundwater	
Abatement Method Used at the Site:		Excavate and Treat
Global ID:	T0611100056	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	MCWAYNE BLVD	
Enforcement Type:	Not reported	
Date Leak Discovered:	5/10/1988	
Date Leak First Reported:		5/23/1988
Date Leak Record Entered:	5/31/1988	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		2/24/1995
Date the Case was Closed:		2/24/1995
How Leak Discovered:	Tank Test	
How Leak Stopped:	Not reported	
Cause of Leak:	UNK	
Leak Source:	UNK	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		1395.834092158185968966125 4725
Source of Cleanup Funding:		UNK
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		10/20/1989
Pollution Characterization Began:		6/1/1988
Remediation Plan Submitted:		3/19/1990
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		10/28/1991
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Yes
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	CARPINTERIA WELDING, INC.	
RP Address:	5901 EDISON DR, OXNARD, CA 93030	
Program:	LUST	
Lat/Long:	34.1370114 / -1	
Local Agency Staff:	EHD	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	VCEH CASE #C88058	
Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-88058	
Status:	Case Closed	

BORLA PERFORMANCE INDUSTRIES (Continued) **1000316148**

Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	88058	
Case Type:	Groundwater	
Abatement Method Used at the Site:		Excavate and Treat
Global ID:	T0611100308	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	EF	
Date Leak Discovered:	5/10/1988	
Date Leak First Reported:		5/10/1988
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	7/1/1988	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		2/24/1995
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		2779.5169275227629534877096187
Source of Cleanup Funding:		S
Preliminary Site Assessment Workplan Submitted:		5/10/1988
Preliminary Site Assessment Began:		8/14/1989
Pollution Characterization Began:		8/14/1989
Remediation Plan Submitted:		12/1/1989
Remedial Action Underway:		1/22/1990
Post Remedial Action Monitoring Began:		2/24/1995
Enforcement Action Date:		5/10/1988
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	B A PROPERTIES	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.1409594 / -1	
Local Agency Staff:	EHD	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

VENTURA CO. LUST:

Region:	VENTURA
Facility ID:	88058

BORLA PERFORMANCE INDUSTRIES (Continued) **1000316148**

Status: Case Closed

VENTURA CO. UST:
Facility ID: D 166
Facility Status: inactive

E50 **IRWIN INDUSTRIES INC** **NPDES** **U002243965**
East **5901 EDISON DR** **HIST CORTESE** **N/A**
1/8-1/4 **OXNARD, CA 93033** **LUST**
0.160 mi.
846 ft. **Site 4 of 4 in cluster E**

Relative:
Higher

Actual:
14 ft.

NPDES:

Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	4
Regulatory Measure Id:	401160
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	4 56I022445
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	12/10/2009
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Irwin Industries Inc
Discharge Address:	1580 W Carson St
Discharge City:	Long Beach
Discharge State:	California
Discharge Zip:	90810

HIST CORTESE:

Region:	CORTESE
Facility County Code:	56
Reg By:	LTNKA
Reg Id:	C-88058

Region:	CORTESE
Facility County Code:	56
Reg By:	LTNKA
Reg Id:	930300070

LUST:

Region:	STATE
Global Id:	T0611100308
Latitude:	34.141698
Longitude:	-119.167114
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	02/24/1995
Lead Agency:	VENTURA COUNTY LOP
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	C-88058

IRWIN INDUSTRIES INC (Continued) **U002243965**

LOC Case Number: 88058
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0611100308
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

Status History:
Global Id: T0611100308
Status: Open - Case Begin Date
Status Date: 05/10/1988

Global Id: T0611100308
Status: Completed - Case Closed
Status Date: 02/24/1995

Global Id: T0611100308
Status: Open - Remediation
Status Date: 12/01/1989

Global Id: T0611100308
Status: Open - Remediation
Status Date: 01/22/1990

Global Id: T0611100308
Status: Open - Site Assessment
Status Date: 05/10/1988

Global Id: T0611100308
Status: Open - Site Assessment
Status Date: 07/01/1988

Global Id: T0611100308
Status: Open - Site Assessment
Status Date: 08/14/1989

Regulatory Activities:
Global Id: T0611100308
Action Type: Other
Date: 05/10/1988
Action: Leak Discovery

Global Id: T0611100308
Action Type: ENFORCEMENT
Date: 05/10/1988
Action: * Historical Enforcement

IRWIN INDUSTRIES INC (Continued) **U002243965**

Global Id: T0611100308
Action Type: Other
Date: 05/10/1988
Action: Leak Reported

Region: STATE
Global Id: T0611100056
Latitude: 34.141698
Longitude: -119.167114
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 02/24/1995
Lead Agency: LOS ANGELES RWQCB (REGION 4)
Case Worker: YR
Local Agency: Not reported
RB Case Number: 930300070
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0611100056
Contact Type: Regional Board Caseworker
Contact Name: YUE RONG
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: 320 W. 4TH ST., SUITE 200
City: Los Angeles
Email: yrong@waterboards.ca.gov
Phone Number: Not reported

Status History:
Global Id: T0611100056
Status: Open - Verification Monitoring
Status Date: 10/28/1991

Global Id: T0611100056
Status: Open - Case Begin Date
Status Date: 05/10/1988

Global Id: T0611100056
Status: Completed - Case Closed
Status Date: 02/24/1995

Global Id: T0611100056
Status: Open - Remediation
Status Date: 03/19/1990

Global Id: T0611100056
Status: Open - Site Assessment
Status Date: 06/01/1988

Global Id: T0611100056

IRWIN INDUSTRIES INC (Continued) **U002243965**

Status: Open - Site Assessment
Status Date: 10/20/1989

Regulatory Activities:
Global Id: T0611100056
Action Type: Other
Date: 05/10/1988
Action: Leak Discovery

Global Id: T0611100056
Action Type: Other
Date: 05/23/1988
Action: Leak Reported

F51 **VEHICLE PREPARATION CENTER** **RCRA-SQG** **1000247155**
North **5650 ARCTURUS ROAD** **FINDS** **CAD982477176**
1/8-1/4 **OXNARD, CA 93033**
0.202 mi.
1066 ft. **Site 1 of 4 in cluster F**

Relative:
Higher

Actual:
14 ft.

RCRA-SQG:
Date form received by agency: 09/01/1996
Facility name: VEHICLE PREPARATION CENTER
Facility address: 5650 ARCTURUS ROAD
OXNARD, CA 93033
EPA ID: CAD982477176
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 09
Land type: Facility is not located on Indian land. Additional information is not known.
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: BMW OF NORTH AMERICA
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported

VEHICLE PREPARATION CENTER (Continued) **1000247155**

Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 08/31/1988
Site name: VEHICLE PREPARATION CENTER
Classification: Large Quantity Generator

Facility Has Received Notices of Violations:
Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 01/11/1994
Date achieved compliance: 01/11/1999
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 08/28/1992
Date achieved compliance: 01/11/1994
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

VEHICLE PREPARATION CENTER (Continued) **1000247155**

Evaluation Action Summary:
Evaluation date: 01/11/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 01/11/1999
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 08/28/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 01/11/1994
Evaluation lead agency: State Contractor/Grantee

FINDS:

Registry ID: 110002823473

Environmental Interest/Information System
California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

CRITERIA AND HAZARDOUS AIR POLLUTANT INVENTORY

Registry ID: 110055680703

Environmental Interest/Information System
STATE MASTER

F52 **BMW ENGINEERING WEST FACILITY** **SLIC 1006101356**
North **5650 ARCTURUS** **ENF N/A**
1/8-1/4 **OXNARD, CA 93033**
0.202 mi.
1066 ft. **Site 2 of 4 in cluster F**

Relative:
Higher

Actual:
14 ft.

SLIC REG 4:
Region: 4
Facility Status: Site Assessment
SLIC: 1063
Substance: Not reported
Staff: PR

ENF:
Region: 4
Facility Id: 209860
Agency Name: BMW of North America, LLC
Place Type: Service/Commercial
Place Subtype: Service/Commercial Site, NEC

BMW ENGINEERING WEST FACILITY (Continued) **1006101356**

Facility Type:	All other facilities
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.146451
Place Longitude:	-119.172274
SIC Code 1:	5599
SIC Desc 1:	Automotive Dealers, NEC
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	AGT
Program Category1:	TANKS
Program Category2:	TANKS
# Of Programs:	1
WDID:	4CUPA000144
Reg Measure Id:	166991
Reg Measure Type:	Unregulated
Region:	4
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Never Active
Status Date:	02/20/2013
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported

BMW ENGINEERING WEST FACILITY (Continued) **1006101356**

Direction/Voice:	Passive
Enforcement Id(EID):	238004
Region:	4
Order / Resolution Number:	SEL
Enforcement Action Type:	Staff Enforcement Letter
Effective Date:	08/08/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	08/08/2000
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 4CUPA000144
Description:	Notice of Noncompliance sent 8/8/00 for failure to pay AGT fee.
Program:	AGT
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

F53 **BMW OF NORTH AMERICA** **UST** **U004066747**
North **5650 ARCTURUS AVENUE** **N/A**
1/8-1/4 **OXNARD, CA 93030**
0.202 mi.
1066 ft. **Site 3 of 4 in cluster F**

Relative:
Higher

Actual:
14 ft.

UST:

Facility ID:	056-013-070742
Permitting Agency:	OXNARD, CITY OF
Latitude:	34.146991
Longitude:	-119.16945

F54 **BMW OF NORTH AMERICA VPC** **LUST** **S108935272**
North **5650 ARCTURAS AVE** **SLIC** **N/A**
1/8-1/4 **OXNARD, CA 93033**
0.202 mi.
1066 ft. **Site 4 of 4 in cluster F**

Relative:
Higher

Actual:
14 ft.

VENTURA CO. LUST:

Region:	VENTURA
Facility ID:	SR035
Status:	Case Closed

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	03/03/2008
Global Id:	T0611192290
Lead Agency:	VENTURA COUNTY LOP
Lead Agency Case Number:	SR0003519

BMW OF NORTH AMERICA VPC (Continued) **S108935272**

Latitude:	34.145642
Longitude:	-119.1708
Case Type:	Cleanup Program Site
Case Worker:	EKO
Local Agency:	VENTURA COUNTY LOP
RB Case Number:	Not reported
File Location:	Local Agency Warehouse
Potential Media Affected:	Under Investigation
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

G55 **CALPINE CONTAINERS** **HIST CORTESE** **S103952828**
North **5655 ARCTURUS** **LUST** **N/A**
1/4-1/2 **OXNARD, CA 93033**
0.277 mi.
1462 ft. **Site 1 of 2 in cluster G**

Relative:
Higher

Actual:
13 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	56
Reg By:	LTNKA
Reg Id:	C-89081

LUST:

Region:	STATE
Global Id:	T0611100490
Latitude:	34.145893
Longitude:	-119.173811
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	06/15/1992
Lead Agency:	VENTURA COUNTY LOP
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	C-89081
LOC Case Number:	89081
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0611100490
Contact Type:	Regional Board Caseworker
Contact Name:	DANIEL PIROTTON
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN
Email:	dpirotton@waterboards.ca.gov
Phone Number:	2135766714

Status History:

Global Id:	T0611100490

CALPINE CONTAINERS (Continued) **S103952828**

Status: Open - Case Begin Date
Status Date: 06/16/1989

Global Id: T0611100490
Status: Open - Remediation
Status Date: 08/21/1989

Global Id: T0611100490
Status: Open - Remediation
Status Date: 07/15/1991

Global Id: T0611100490
Status: Open - Site Assessment
Status Date: 06/16/1989

Global Id: T0611100490
Status: Open - Site Assessment
Status Date: 07/24/1989

Global Id: T0611100490
Status: Open - Site Assessment
Status Date: 08/10/1989

Global Id: T0611100490
Status: Completed - Case Closed
Status Date: 06/15/1992

Regulatory Activities:
Global Id: T0611100490
Action Type: Other
Date: 06/16/1989
Action: Leak Discovery

Global Id: T0611100490
Action Type: Other
Date: 06/16/1989
Action: Leak Reported

Global Id: T0611100490
Action Type: ENFORCEMENT
Date: 07/03/1989
Action: * Historical Enforcement

G56 **CALPINE CONTAINERS** **LUST S102426155**
North **5655 ARCTURUS AVE** **WDS N/A**
1/4-1/2 **OXNARD, CA 93030**
0.277 mi.
1462 ft. **Site 2 of 2 in cluster G**

Relative:
Higher

Actual:
13 ft.

LUST REG 4:
Region: 4
Regional Board: 04
County: Ventura
Facility Id: C-89081
Status: Case Closed
Substance: Gasoline

CALPINE CONTAINERS (Continued) **S102426155**

Substance Quantity:	Not reported	
Local Case No:	89081	
Case Type:	Soil	
Abatement Method Used at the Site:		Excavate and Treat
Global ID:	T0611100490	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	EF	
Date Leak Discovered:	6/16/1989	
Date Leak First Reported:		6/16/1989
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	6/16/1989	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		6/15/1992
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		3493.64609676227193510472424 33
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		7/24/1989
Preliminary Site Assessment Began:		8/10/1989
Pollution Characterization Began:		8/10/1989
Remediation Plan Submitted:		8/21/1989
Remedial Action Underway:		7/15/1991
Post Remedial Action Monitoring Began:		6/15/1992
Enforcement Action Date:		7/3/1989
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	CALPINE CONTAINERS	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.1472833 / -1	
Local Agency Staff:	EHD	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

VENTURA CO. LUST:

Region:	VENTURA
Facility ID:	89081
Status:	Case Closed

CALPINE CONTAINERS (Continued) **S102426155**

WDS:

Facility ID:	4 56I016435
Facility Type:	Other - Does not fall into the category of Municipal/Domestic, Industrial, Agricultural or Solid Waste (Class I, II or III)
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	4
Facility Telephone:	8054881068
Facility Contact:	Gordon Wells
Agency Name:	OXNARD VEGETABLE EXCHANGE
Agency Address:	Not reported
Agency City,St,Zip:	0
Agency Contact:	Not reported
Agency Telephone:	Not reported
Agency Type:	Private
SIC Code:	4225
SIC Code 2:	Not reported
Primary Waste Type:	Inert/Influent or Solid Wastes that do not contain soluble pollutants or organic wastes and have little adverse impact on water quality. Such wastes could cause turbidity and siltation. Uncontaminated soils, rubble and concrete are examples of this category.
Primary Waste:	STORMS
Waste Type2:	Not reported
Waste2:	Stormwater Runoff
Primary Waste Type:	Inert/Influent or Solid Wastes that do not contain soluble pollutants or organic wastes and have little adverse impact on water quality. Such wastes could cause turbidity and siltation. Uncontaminated soils, rubble and concrete are examples of this category.
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	No reclamation requirements associated with this facility.
POTW:	The facility is not a POTW.
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

57
SE
1/4-1/2
0.293 mi.
1545 ft.

SOUTHERN CALIFORNIA EDISON
6635 EDISON DR
OXNARD, CA 93033

NPDES **S100945263**
HIST CORTESE **N/A**
LUST
ENF

Relative:
Higher

Actual:
12 ft.

NPDES:

Npdes Number:	CA0001198
Facility Status:	Active
Agency Id:	38487
Region:	4
Regulatory Measure Id:	148288
Order No:	R4-2001-0092
Regulatory Measure Type:	NPDES Permits
Place Id:	246823
WDID:	4A562019002
Program Type:	NPDINDLRG
Adoption Date Of Regulatory Measure:	06/28/2001
Effective Date Of Regulatory Measure:	02/28/1977
Expiration Date Of Regulatory Measure:	05/10/2010
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	NRG California South LP
Discharge Address:	6635 South Edison Drive
Discharge City:	Oxnard
Discharge State:	CA
Discharge Zip:	93003

HIST CORTESE:

Region:	CORTESE
Facility County Code:	56
Reg By:	LTNKA
Reg Id:	88

Region:	CORTESE
Facility County Code:	56
Reg By:	LTNKA
Reg Id:	C-93021

LUST:

Region:	STATE
Global Id:	T0611100848
Latitude:	34.1297179
Longitude:	-119.16894
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	07/31/1996
Lead Agency:	VENTURA COUNTY LOP
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	C-93021
LOC Case Number:	93021
File Location:	Not reported
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

SOUTHERN CALIFORNIA EDISON (Continued) **S100945263**

Contact:
Global Id: T0611100848
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

Status History:
Global Id: T0611100848
Status: Open - Verification Monitoring
Status Date: 07/30/1994

Global Id: T0611100848
Status: Open - Case Begin Date
Status Date: 05/11/1993

Global Id: T0611100848
Status: Open - Site Assessment
Status Date: 05/11/1993

Global Id: T0611100848
Status: Completed - Case Closed
Status Date: 07/31/1996

Regulatory Activities:
Global Id: T0611100848
Action Type: Other
Date: 05/11/1993
Action: Leak Discovery

Global Id: T0611100848
Action Type: Other
Date: 05/11/1993
Action: Leak Reported

Global Id: T0611100848
Action Type: ENFORCEMENT
Date: 05/17/1993
Action: * Historical Enforcement

LUST REG 4:
Region: 4
Regional Board: 04
County: Ventura
Facility Id: C-93021
Status: Case Closed
Substance: Unleaded Gasoline
Substance Quantity: Not reported
Local Case No: 93021
Case Type: Groundwater
Abatement Method Used at the Site: Not reported

SOUTHERN CALIFORNIA EDISON (Continued) **S100945263**

Global ID:	T0611100848	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	EF	
Date Leak Discovered:	5/11/1993	
Date Leak First Reported:		5/11/1993
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	5/11/1993	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		7/31/1996
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		4780.93232653115207028221292 04
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		5/11/1993
Preliminary Site Assessment Began:		5/11/1993
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		7/30/1994
Enforcement Action Date:		5/17/1993
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	SOUTHERN CALIFORNIA EDISON	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.1464503 / -1	
Local Agency Staff:	EHD	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

VENTURA CO. LUST:

Region:	VENTURA
Facility ID:	93021
Status:	Case Closed

ENF:

Region:	4

SOUTHERN CALIFORNIA EDISON (Continued) **S100945263**

Facility Id:	246823
Agency Name:	NRG California South LP
Place Type:	Utility
Place Subtype:	Power Plant
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.13663
Place Longitude:	-119.166772
SIC Code 1:	4911
SIC Desc 1:	Electric Services
SIC Code 2:	4952
SIC Desc 2:	Sewerage Systems
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	688.2
Threat To Water Quality:	1
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Cooling water: Noncontact
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDESWW
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	4A562019002
Reg Measure Id:	135512
Reg Measure Type:	NPDES Permits
Region:	4
Order #:	94-132
Npdes# CA#:	CA0001198
Major-Minor:	Major
Npdes Type:	OTH
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	12/05/1994
Effective Date:	12/05/1994
Expiration/Review Date:	11/10/1999
Termination Date:	06/28/2001
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported

SOUTHERN CALIFORNIA EDISON (Continued) **S100945263**

WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	237039
Region:	4
Order / Resolution Number:	NOV
Enforcement Action Type:	Notice of Violation
Effective Date:	06/29/2001
Adoption/Issuance Date:	06/29/2001
Achieve Date:	Not reported
Termination Date:	07/29/2001
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV - Reliant Energy Mandalay, LLC, Ormond Beach Generating Station (06/29/01)
Description:	Notice of Violation sent 6/29/01 for November 2000 chronic toxicity violation.
Program:	NPDESWW
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	4
Facility Id:	246823
Agency Name:	NRG California South LP
Place Type:	Utility
Place Subtype:	Power Plant
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.13663
Place Longitude:	-119.166772
SIC Code 1:	4911
SIC Desc 1:	Electric Services
SIC Code 2:	4952
SIC Desc 2:	Sewerage Systems
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	688.2
Threat To Water Quality:	1

SOUTHERN CALIFORNIA EDISON (Continued) **S100945263**

Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Cooling water: Noncontact
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDESWW
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	4A562019002
Reg Measure Id:	135512
Reg Measure Type:	NPDES Permits
Region:	4
Order #:	94-132
Npdes# CA#:	CA0001198
Major-Minor:	Major
Npdes Type:	OTH
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	12/05/1994
Effective Date:	12/05/1994
Expiration/Review Date:	11/10/1999
Termination Date:	06/28/2001
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	236989
Region:	4
Order / Resolution Number:	NOV
Enforcement Action Type:	Notice of Violation
Effective Date:	06/26/2001
Adoption/Issuance Date:	06/26/2001
Achieve Date:	Not reported
Termination Date:	07/26/2001
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV - Reliant Energy Mandalay, LLC, Ormond Beach Generating Station (06/26/01)
Description:	Notice of Violation sent 6/26/01 for December 2000 DMR reporting deficiencies.
Program:	NPDESWW
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00

SOUTHERN CALIFORNIA EDISON (Continued) **S100945263**

Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00
Region:	4
Facility Id:	246823
Agency Name:	NRG California South LP
Place Type:	Utility
Place Subtype:	Power Plant
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.13663
Place Longitude:	-119.166772
SIC Code 1:	4911
SIC Desc 1:	Electric Services
SIC Code 2:	4952
SIC Desc 2:	Sewerage Systems
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	688.2
Threat To Water Quality:	1
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Cooling water: Noncontact
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDINDLRG
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	4A562019002
Reg Measure Id:	148288
Reg Measure Type:	NPDES Permits
Region:	4
Order #:	R4-2001-0092
Npdes# CA#:	CA0001198
Major-Minor:	Major
Npdes Type:	OTH
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	20000
Status:	Active
Status Date:	03/26/2014
Effective Date:	02/28/1977

SOUTHERN CALIFORNIA EDISON (Continued) **S100945263**

Expiration/Review Date:	05/10/2010
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	392000
Region:	4
Order / Resolution Number:	Not reported
Enforcement Action Type:	Oral Communication
Effective Date:	07/10/2013
Adoption/Issuance Date:	07/10/2013
Achieve Date:	Not reported
Termination Date:	07/10/2013
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Oral Com 07/10/2013 for GenOn West, LP
Description:	Sent discharger email letting them know that Capco didn?t report the date the method blank was run in the March lab report. I flipped through some of the old reports and saw that sometimes they do and sometimes they don?t. QA needs to be performed on the same day as analysis.
Program:	NPDINDLRG
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	4
Facility Id:	246823
Agency Name:	NRG California South LP
Place Type:	Utility
Place Subtype:	Power Plant
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.13663
Place Longitude:	-119.166772
SIC Code 1:	4911
SIC Desc 1:	Electric Services
SIC Code 2:	4952
SIC Desc 2:	Sewerage Systems
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported

SOUTHERN CALIFORNIA EDISON (Continued) **S100945263**

NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	688.2
Threat To Water Quality:	1
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Cooling water: Noncontact
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDINDLRG
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	4A562019002
Reg Measure Id:	148288
Reg Measure Type:	NPDES Permits
Region:	4
Order #:	R4-2001-0092
Npdes# CA#:	CA0001198
Major-Minor:	Major
Npdes Type:	OTH
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	20000
Status:	Active
Status Date:	03/26/2014
Effective Date:	02/28/1977
Expiration/Review Date:	05/10/2010
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	384991
Region:	4
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	05/07/2012
Adoption/Issuance Date:	05/07/2012
Achieve Date:	Not reported
Termination Date:	05/07/2012
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical

SOUTHERN CALIFORNIA EDISON (Continued) **S100945263**

Title:	NOV 05/07/2012 for GenOn West, LP
Description:	Not reported
Program:	NPDINDLRG
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00
Region:	4
Facility Id:	246823
Agency Name:	NRG California South LP
Place Type:	Utility
Place Subtype:	Power Plant
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.13663
Place Longitude:	-119.166772
SIC Code 1:	4911
SIC Desc 1:	Electric Services
SIC Code 2:	4952
SIC Desc 2:	Sewerage Systems
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	688.2
Threat To Water Quality:	1
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Cooling water: Noncontact
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDINDLRG
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	4A562019002
Reg Measure Id:	148288
Reg Measure Type:	NPDES Permits
Region:	4
Order #:	R4-2001-0092
Npdes# CA#:	CA0001198
Major-Minor:	Major
Npdes Type:	OTH

SOUTHERN CALIFORNIA EDISON (Continued) **S100945263**

Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	20000
Status:	Active
Status Date:	03/26/2014
Effective Date:	02/28/1977
Expiration/Review Date:	05/10/2010
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	358105
Region:	4
Order / Resolution Number:	SWB-2008-4-0071
Enforcement Action Type:	Admin Civil Liability
Effective Date:	07/15/2009
Adoption/Issuance Date:	07/15/2009
Achieve Date:	Not reported
Termination Date:	03/14/2009
ACL Issuance Date:	12/09/2008
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Expedited Payment Letter for Reliant Energy Mandalay, LLC
Description:	MMP Amount for Effluent Violations (1 Serious Violation) $3,000 = $3,000 to the Cleanup & Abatement Account
Program:	NPDINDLRG
Latest Milestone Completion Date:	3/4/2009
# Of Programs1:	1
Total Assessment Amount:	$3,000.00
Initial Assessed Amount:	$3,000.00
Liability $ Amount:	$3,000.00
Project $ Amount:	$0.00
Liability $ Paid:	$3,000.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$3,000.00

Region:	4
Facility Id:	246823
Agency Name:	NRG California South LP
Place Type:	Utility
Place Subtype:	Power Plant
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.13663
Place Longitude:	-119.166772
SIC Code 1:	4911
SIC Desc 1:	Electric Services
SIC Code 2:	4952

SOUTHERN CALIFORNIA EDISON (Continued) **S100945263**

SIC Desc 2:	Sewerage Systems
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	688.2
Threat To Water Quality:	1
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Cooling water: Noncontact
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	NPDINDLRG
Program Category1:	NPDESWW
Program Category2:	NPDESWW
# Of Programs:	1
WDID:	4A562019002
Reg Measure Id:	148288
Reg Measure Type:	NPDES Permits
Region:	4
Order #:	R4-2001-0092
Npdes# CA#:	CA0001198
Major-Minor:	Major
Npdes Type:	OTH
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	N
Application Fee Amt Received:	20000
Status:	Active
Status Date:	03/26/2014
Effective Date:	02/28/1977
Expiration/Review Date:	05/10/2010
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	66 - NPDES Based on Flow
Direction/Voice:	Passive
Enforcement Id(EID):	228254
Region:	4
Order / Resolution Number:	R4-2000-0193
Enforcement Action Type:	Admin Civil Liability
Effective Date:	12/27/2000
Adoption/Issuance Date:	12/27/2000
Achieve Date:	Not reported

SOUTHERN CALIFORNIA EDISON (Continued) **S100945263**

Termination Date:	01/23/2001
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	MMPC R4-2000-0193 Reliant Energy Mandalay, LLC, Ormond Beach Generating Station
Description:	Complaint No. 00-193 for $3,000 issued 12/27/00 for effluent violation.
Program:	NPDINDLRG
Latest Milestone Completion Date:	12/12/2002
# Of Programs1:	1
Total Assessment Amount:	$3,000.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$3,000.00
Project $ Amount:	$0.00
Liability $ Paid:	$3,000.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$3,000.00

H58 **HUENEME CITY YARD (B)** **LUST** **S103891114**
North **700 HUENEME RD E** **N/A**
1/4-1/2 **PORT HUENEME, CA 93041**
0.342 mi.
1804 ft. **Site 1 of 2 in cluster H**

Relative:
Higher

Actual:
14 ft.

LUST:

Region:	STATE
Global Id:	T0611100078
Latitude:	34.1474718
Longitude:	-119.1904171
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	07/18/1996
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	YR
Local Agency:	Not reported
RB Case Number:	930410016
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0611100078
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Status History:

Global Id:	T0611100078
Status:	Open - Verification Monitoring

HUENEME CITY YARD (B) (Continued) **S103891114**

Status Date: 08/25/1992

Global Id: T0611100078
Status: Open - Case Begin Date
Status Date: 05/08/1987

Global Id: T0611100078
Status: Open - Remediation
Status Date: 02/18/1991

Global Id: T0611100078
Status: Open - Remediation
Status Date: 12/31/1991

Global Id: T0611100078
Status: Completed - Case Closed
Status Date: 07/18/1996

Global Id: T0611100078
Status: Open - Site Assessment
Status Date: 08/28/1987

Regulatory Activities:
Global Id: T0611100078
Action Type: Other
Date: 05/08/1987
Action: Leak Discovery

Global Id: T0611100078
Action Type: Other
Date: 05/19/1987
Action: Leak Reported

LUST REG 4:
Region: 4
Regional Board: 04
County: Ventura
Facility Id: 930410016
Status: Case Closed
Substance: Gasoline
Substance Quantity: Not reported
Local Case No: Not reported
Case Type: Groundwater
Abatement Method Used at the Site: Pump and Treat Groundwater
Global ID: T0611100078
W Global ID: Not reported
Staff: UNK
Local Agency: 56000L
Cross Street: SURFSIDE DR
Enforcement Type: Not reported
Date Leak Discovered: 5/8/1987
Date Leak First Reported: 5/19/1987
Date Leak Record Entered: 5/27/1987
Date Confirmation Began: Not reported
Date Leak Stopped: Not reported

HUENEME CITY YARD (B) (Continued) **S103891114**

Date Case Last Changed on Database:		2/28/1997
Date the Case was Closed:		7/18/1996
How Leak Discovered:	Subsurface Monitoring	
How Leak Stopped:	Not reported	
Cause of Leak:	Structure Failure	
Leak Source:	Piping	
Operator:	LEACH, LES	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		1288.790229253024860443337835 8
Source of Cleanup Funding:		Piping
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		8/28/1987
Remediation Plan Submitted:		2/18/1991
Remedial Action Underway:		12/31/1991
Post Remedial Action Monitoring Began:		8/25/1992
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		1/1/1965
Hist Max MTBE Conc in Groundwater:		0
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Yes
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	CITY OF PORT HUENEME	
RP Address:	250 N VENTURA RD, PORT HUENEME, CA 93041	
Program:	LUST	
Lat/Long:	34.1465041 / -1	
Local Agency Staff:	EHD	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	JEFF HEATH PROP 65 THIS VCEH CASE #87055	

H59 **HUENEME SCH DIST FDT** **NPDES** **1000312791**
North **700 C HUENEME RD** **HIST CORTESE** **N/A**
1/4-1/2 **PORT HUENEME, CA 93041** **HIST UST**
0.342 mi. **WDS**
1804 ft. **Site 2 of 2 in cluster H**

Relative:
Higher

Actual:
14 ft.

NPDES:

Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	4
Regulatory Measure Id:	192828
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	4 56I017875
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	03/11/2003
Expiration Date Of Regulatory Measure:	Not reported

HUENEME SCH DIST FDT (Continued) **1000312791**

Termination Date Of Regulatory Measure: Not reported
Discharge Name: Hueneme School District
Discharge Address: 205 N Ventura Rd
Discharge City: Port Hueneme
Discharge State: California
Discharge Zip: 93041

HIST CORTESE:
Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: 930410025

HIST UST:
Region: STATE
Facility ID: 00000038301
Facility Type: Other
Other Type: PUBLIC SCHOOL DISTRI
Contact Name: NEAL OWEN
Telephone: 8054883588
Owner Name: HUENEME SCHOOL DISTRICT
Owner Address: 354 NORTH THIRD STREET
Owner City,St,Zip: PORT HUENEME, CA 93041
Total Tanks: 0002

Tank Num: 001
Container Num: 1
Year Installed: 1983
Tank Capacity: 00002000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: 3/16
Leak Detection: Sensor Instrument

Tank Num: 002
Container Num: 2
Year Installed: 1983
Tank Capacity: 00004000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: 3/16
Leak Detection: Sensor Instrument

WDS:
Facility ID: 4 56I017875
Facility Type: Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion: 4

HUENEME SCH DIST FDT (Continued) **1000312791**

Facility Telephone:	8054883119
Facility Contact:	KLOPFSTEIN JOHN
Agency Name:	HUENEME SCH DIST
Agency Address:	205 N Ventura Rd
Agency City,St,Zip:	Port Hueneme 930413084
Agency Contact:	REEVES DEBRA BERRY
Agency Telephone:	8054883588
Agency Type:	State
SIC Code:	0
SIC Code 2:	Not reported
Primary Waste Type:	Not reported
Primary Waste:	Not reported
Waste Type2:	Not reported
Waste2:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported
POTW:	Not reported
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

I60 **PACIFIC VEHICLE PROCESSORS** **LUST** **S101596380**
NE **5601 EDISON DR** **CA FID UST** **N/A**
1/4-1/2 **OXNARD, CA 93030** **AST**
0.368 mi. **SWEEPS UST**
1943 ft. **Site 1 of 3 in cluster I**

Relative:
Higher

Actual:
17 ft.

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C04015	
Status:	Leak being confirmed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	04015	
Case Type:	Undefined	
Abatement Method Used at the Site:		Not reported
Global ID:	T0611127035	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	HUENEME RD	
Enforcement Type:	LFOR	
Date Leak Discovered:	12/30/2003	

PACIFIC VEHICLE PROCESSORS (Continued) **S101596380**

Date Leak First Reported:		1/22/2004
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	1/23/2004	
Date Leak Stopped:	12/30/2003	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		Not reported
How Leak Discovered:	Tank Closure	
How Leak Stopped:	Close Tank	
Cause of Leak:	UNK	
Leak Source:	UNK	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		Not reported
Source of Cleanup Funding:		UNK
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	DOUG MINNIS	
RP Address:	5601 EDISON DR	
Program:	Not reported	
Lat/Long:	0 / 0	
Local Agency Staff:	DBW	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

CA FID UST:

Facility ID:	56004024
Regulated By:	UTNKA
Regulated ID:	Not reported
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	Not reported
Mail To:	Not reported
Mailing Address:	5601 EDISON DR
Mailing Address 2:	Not reported
Mailing City,St,Zip:	OXNARD 93033
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported

PACIFIC VEHICLE PROCESSORS (Continued) **S101596380**

EPA ID: Not reported
Comments: Not reported
Status: Active

AST:
Certified Unified Program Agencies: Oxnard
Owner: PACIFIC VEHICLE PROCESSORS INC
Total Gallons: 5,000

SWEEPS UST:
Status: Active
Comp Number: 4970
Number: 9
Board Of Equalization: Not reported
Referral Date: 09-30-92
Action Date: 09-30-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 56-000-004970-000001
Tank Status: A
Capacity: 5000
Active Date: Not reported
Tank Use: UNKNOWN
STG: P
Content: Not reported
Number Of Tanks: 1

I61 **VEHICLE PREPARATION CENTER** **HIST Cal-Sites** **S100270130**
NE **5601 EDISON DR** **Cortese** **N/A**
1/4-1/2 **OXNARD, CA 93033** **LUST**
0.368 mi. **RESPONSE**
1943 ft. **Site 2 of 3 in cluster I** **ENVIROSTOR**

Relative: Higher

Actual: 17 ft.

Calsite:
Region: GLENDALE
Facility ID: 56010004
Facility Type: RP
Type: RESPONSIBLE PARTY
Branch: SB
Branch Name: SO CAL - CYPRESS
File Name: VEHICLE PREPARATION CENTER
State Senate District: 06081995
Status: BACKLOG, POTENTIAL ANNUAL WORKPLAN (AWP) SITE
Status Name: BACKLOG - POTENTIAL AWP SITE
Lead Agency: N/A
NPL: Not reported
SIC Code: 01
SIC Name: AGRICULTURAL PRODUCTION - CROPS
Access: Uncontrolled
Cortese: Not reported
Hazardous Ranking Score: Not reported
Date Site Hazard Ranked: Not reported
Groundwater Contamination: Unknown
Staff Member Responsible for Site: JABRAHAM
Supervisor Responsible for Site: Not reported
Region Water Control Board: Not reported
Region Water Control Board Name: Not reported

VEHICLE PREPARATION CENTER (Continued) **S100270130**

Lat/Long Direction:	Not reported
Lat/Long (dms):	0 0 0 / 0 0 0
Lat/long Method:	Not reported
Lat/Long Description:	BASE & MERID
State Assembly District Code:	41
State Senate District Code:	23
Facility ID:	56010004
Activity:	SS
Activity Name:	SITE SCREENING
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	06081992
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	BKLG
Definition of Status:	BACKLOG - POTENTIAL AWP SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	56010004
Activity:	PEA
Activity Name:	PRELIMINARY ENDANGERMENT ASSESSMENT
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	05171993
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	BKLG
Definition of Status:	BACKLOG - POTENTIAL AWP SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Alternate Address:	5601 EDISON DRIVE
Alternate City,St,Zip:	OXNARD, CA 93030
Alternate Address:	5601 EDISON DR

VEHICLE PREPARATION CENTER (Continued) **S100270130**

Alternate City,St,Zip:	OXNARD, CA 93033
Background Info:	Not reported
Comments Date:	05171993
Comments:	The Department completed review of the PEA. During the PEA
Comments Date:	05171993
Comments:	process, the RP excavated the contaminated soil and disposed
Comments Date:	05171993
Comments:	of at another area of the site and encapsulated and
Comments Date:	05171993
Comments:	recommended "No Further Action". The Department does not
Comments Date:	05171993
Comments:	concur with the above recommendation. The Department
Comments Date:	05171993
Comments:	recommends "Further Action" because the remedial action
Comments Date:	05171993
Comments:	conducted at the site did not follow the Department guide-
Comments Date:	05171993
Comments:	lines. the remedial method utilized at the site to transfer
Comments Date:	05171993
Comments:	hazardous substance from one place to another is subject to
Comments Date:	05171993
Comments:	Land Disposal Restrictions (LDRs). In addition, the NCP
Comments Date:	05171993
Comments:	requires that on-site removal action attain ARARs to the
Comments Date:	05171993
Comments:	extent practicable. Therefore, the remedial option selected
Comments Date:	05171993
Comments:	at the site must be reevaluated.
Comments Date:	05301995
Comments:	Further action is required at the site.
Comments Date:	06081992
Comments:	THE SITE IS IDENTIFIED FROM RP. THE SITE HAS BEEN USED FOR
Comments Date:	06081992
Comments:	AGRICULTURAL FROM 1929 TO PRESENT. AN ABANDONED STORAGE
Comments Date:	06081992
Comments:	YARD ON THE PROPERTY, WHICH USED FOR STORAGE OF PESTICIDES
Comments Date:	06081992
Comments:	IS CONTAMINATED WITH PESTICIDES. SOIL SAMPLING INDICATED
Comments Date:	06081992
Comments:	THE PRESENCE OF DDT, DDD, AND DDE. ALSO, WASTE OIL CONTAMI-
Comments Date:	06081992
Comments:	NATION ENCOUNTERED INSIDE THE SOUTHERN BUILDING. RP
Comments Date:	06081992
Comments:	SUBMITTED A PEA REPORT TO THE DEPT FOR REVIEW.
ID Name:	CALSTARS CODE
ID Value:	300321
Alternate Name:	VEHICLE PREPARATION CENTERTRANSDEVELOPMENT CORPORATIONMILLIGAN SITEBEASLEY RANCHPACIFIC VEHICLE PROCESSORS, INC.
Special Programs Code:	Not reported
Special Programs Name:	Not reported

CORTESE:

Region:	CORTESE
Envirostor Id:	56010004
Site/Facility Type:	STATE RESPONSE
Cleanup Status:	BACKLOG
Status Date:	06/08/1995

VEHICLE PREPARATION CENTER (Continued) **S100270130**

Site Code:	300321
Latitude:	34.145916
Longitude:	-119.16813
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	envirostor
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported

LUST:

Region:	STATE
Global Id:	T0611127035
Latitude:	34.146117
Longitude:	-119.168431
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	12/17/2004
Lead Agency:	VENTURA COUNTY LOP
Case Worker:	DBW
Local Agency:	VENTURA COUNTY LOP
RB Case Number:	C04015
LOC Case Number:	04015
File Location:	Local Agency
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0611127035
Contact Type:	Local Agency Caseworker
Contact Name:	DIANE B. WAHL
Organization Name:	VENTURA COUNTY LOP
Address:	800 S. VICTORIA AVE.
City:	VENTURA
Email:	diane.wahl@ventura.org
Phone Number:	8056545040

Global Id:	T0611127035
Contact Type:	Regional Board Caseworker
Contact Name:	DANIEL PIROTTON
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN
Email:	dpirotton@waterboards.ca.gov
Phone Number:	2135766714

Status History:

Global Id:	T0611127035
Status:	Completed - Case Closed

VEHICLE PREPARATION CENTER (Continued) **S100270130**

Status Date: 12/17/2004

Global Id: T0611127035
Status: Open - Case Begin Date
Status Date: 12/30/2003

Global Id: T0611127035
Status: Open - Site Assessment
Status Date: 01/23/2004

Global Id: T0611127035
Status: Open - Site Assessment
Status Date: 05/18/2004

Global Id: T0611127035
Status: Open - Site Assessment
Status Date: 06/23/2004

Regulatory Activities:

Global Id: T0611127035
Action Type: ENFORCEMENT
Date: 06/02/2004
Action: * Historical Enforcement - #1

Global Id: T0611127035
Action Type: ENFORCEMENT
Date: 08/26/2004
Action: * Historical Enforcement - #2

Global Id: T0611127035
Action Type: ENFORCEMENT
Date: 10/28/2004
Action: * Historical Enforcement - #3

Global Id: T0611127035
Action Type: ENFORCEMENT
Date: 12/17/2004
Action: Closure/No Further Action Letter - #4

Global Id: T0611127035
Action Type: ENFORCEMENT
Date: 01/01/2016
Action: File review

Global Id: T0611127035
Action Type: Other
Date: 12/30/2003
Action: Leak Discovery

Global Id: T0611127035
Action Type: RESPONSE
Date: 08/01/2004
Action: Soil and Water Investigation Report

Global Id: T0611127035
Action Type: Other
Date: 12/30/2003

VEHICLE PREPARATION CENTER (Continued) **S100270130**

Action: Leak Stopped

Global Id: T0611127035
Action Type: Other
Date: 01/22/2004
Action: Leak Reported

Global Id: T0611127035
Action Type: RESPONSE
Date: 09/17/2004
Action: Other Report / Document

RESPONSE:
Facility ID: 56010004
Site Type: State Response
Site Type Detail: State Response or NPL
Acres: Not reported
National Priorities List: NO
Cleanup Oversight Agencies: NONE SPECIFIED
Lead Agency Description: Not reported
Project Manager: Not reported
Supervisor: * Mmonroy
Division Branch: Cleanup Chatsworth
Site Code: 300321
Site Mgmt. Req.: NONE SPECIFIED
Assembly: 44
Senate: 19
Special Program Status: Not reported
Status: Backlog
Status Date: 06/08/1995
Restricted Use: NO
Funding: Responsible Party
Latitude: 34.14591
Longitude: -119.1681
APN: 231002020
Past Use: NONE SPECIFIED
Potential COC : * HALOGENATED ORGANIC COMPOUNDS * Pesticides - Rinse Waters * CONTAMINATED SOIL * Sludge - Halogenated Compounds * UNSPECIFIED OIL CONTAINING WASTE * WASTE OIL & MIXED OIL Lead
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: BEASLEY RANCH
Alias Type: Alternate Name
Alias Name: MILLIGAN SITE
Alias Type: Alternate Name
Alias Name: PACIFIC VEHICLE PROCESSORS, INC.
Alias Type: Alternate Name
Alias Name: TRANSDEVELOPMENT CORPORATION
Alias Type: Alternate Name
Alias Name: VEHICLE PREPARATION CENTER
Alias Type: Alternate Name
Alias Name: 231002020
Alias Type: APN
Alias Name: 110033613178
Alias Type: EPA (FRS #)
Alias Name: 300321

VEHICLE PREPARATION CENTER (Continued) **S100270130**

Alias Type: Project Code (Site Code)
Alias Name: 56010004
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 05/17/1993
Comments: The Department completed review of the PEA. During the PEA process, the RP excavated the contaminated soil and disposed of at another area of the site and encapsulated and recommended "No Further Action". The Department does not concur with the above recommendation. The Department recommends "Further Action" because the remedial action conducted at the site did not follow the Department guide- lines. the remedial method utilized at the site to transfer hazardous substance from one place to another is subject to Land Disposal Restrictions (LDRs). In addition, the NCP requires that on-site removal action attain ARARs to the extent practicable. Therefore, the remedial option selected at the site must be reevaluated.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 06/08/1992
Comments: THE SITE IS IDENTIFIED FROM RP. THE SITE HAS BEEN USED FOR AGRICULTURAL FROM 1929 TO PRESENT. AN ABANDONED STORAGE YARD ON THE PROPERTY, WHICH USED FOR STORAGE OF PESTICIDES IS CONTAMINATED WITH PESTICIDES. SOIL SAMPLING INDICATED THE PRESENCE OF DDT, DDD, AND DDE. ALSO, WASTE OIL CONTAMI- NATION ENCOUNTERED INSIDE THE SOUTHERN BUILDING. RP SUBMITTED A PEA REPORT TO THE DEPT FOR REVIEW.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:
Facility ID: 56010004
Status: Backlog
Status Date: 06/08/1995
Site Code: 300321
Site Type: State Response
Site Type Detailed: State Response or NPL
Acres: Not reported
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: * Mmonroy
Division Branch: Cleanup Chatsworth

VEHICLE PREPARATION CENTER (Continued) **S100270130**

Assembly: 44
Senate: 19
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 34.14591
Longitude: -119.1681
APN: 231002020
Past Use: NONE SPECIFIED
Potential COC: * HALOGENATED ORGANIC COMPOUNDS * Pesticides - Rinse Waters * CONTAMINATED SOIL * Sludge - Halogenated Compounds * UNSPECIFIED OIL CONTAINING WASTE * WASTE OIL & MIXED OIL Lead
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: BEASLEY RANCH
Alias Type: Alternate Name
Alias Name: MILLIGAN SITE
Alias Type: Alternate Name
Alias Name: PACIFIC VEHICLE PROCESSORS, INC.
Alias Type: Alternate Name
Alias Name: TRANSDEVELOPMENT CORPORATION
Alias Type: Alternate Name
Alias Name: VEHICLE PREPARATION CENTER
Alias Type: Alternate Name
Alias Name: 231002020
Alias Type: APN
Alias Name: 110033613178
Alias Type: EPA (FRS #)
Alias Name: 300321
Alias Type: Project Code (Site Code)
Alias Name: 56010004
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 05/17/1993
Comments: The Department completed review of the PEA. During the PEA process, the RP excavated the contaminated soil and disposed of at another area of the site and encapsulated and recommended "No Further Action". The Department does not concur with the above recommendation. The Department recommends "Further Action" because the remedial action conducted at the site did not follow the Department guide- lines. the remedial method utilized at the site to transfer hazardous substance from one place to another is subject to Land Disposal Restrictions (LDRs). In addition, the NCP requires that on-site removal action attain ARARs to the extent practicable. Therefore, the remedial option selected at the site must be reevaluated.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 06/08/1992
Comments: THE SITE IS IDENTIFIED FROM RP. THE SITE HAS BEEN USED FOR AGRICULTURAL FROM 1929 TO PRESENT. AN ABANDONED STORAGE YARD ON THE

VEHICLE PREPARATION CENTER (Continued) **S100270130**

PROPERTY, WHICH USED FOR STORAGE OF PESTICIDES IS CONTAMINATED WITH PESTICIDES. SOIL SAMPLING INDICATED THE PRESENCE OF DDT, DDD, AND DDE. ALSO, WASTE OIL CONTAMI- NATION ENCOUNTERED INSIDE THE SOUTHERN BUILDING. RP SUBMITTED A PEA REPORT TO THE DEPT FOR REVIEW.

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

I62 **PACIFIC VEHICLE PROCESSORS** **LUST** **S106446529**
NE **5601 EDISON DR** **N/A**
1/4-1/2 **OXNARD, CA**
0.368 mi.
1943 ft. **Site 3 of 3 in cluster I**

Relative:
Higher

Actual:
17 ft.

VENTURA CO. LUST:

Region:	VENTURA
Facility ID:	04015
Status:	Case Closed

J63 **MIGUEL RAMOS** **HIST CORTESE** **S102433366**
North **5690 CYPRESS** **LUST** **N/A**
1/4-1/2 **OXNARD, CA 93030**
0.481 mi.
2542 ft. **Site 1 of 2 in cluster J**

Relative:
Higher

Actual:
18 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	56
Reg By:	LTNKA
Reg Id:	C-89078

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Ventura	
Facility Id:	C-89078	
Status:	Remediation Plan	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	89078	
Case Type:	Soil	
Abatement Method Used at the Site:		Excavate and Dispose
Global ID:	T0611100487	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	56000L	
Cross Street:	Not reported	
Enforcement Type:	LFOR	
Date Leak Discovered:	6/27/1989	

MIGUEL RAMOS (Continued) **S102433366**

Date Leak First Reported:		6/27/1989
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	6/27/1989	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		Not reported
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		3297.557931774468545813060 1255
Source of Cleanup Funding:		F
Preliminary Site Assessment Workplan Submitted:		6/27/1989
Preliminary Site Assessment Began:		3/18/1990
Pollution Characterization Began:		3/18/1990
Remediation Plan Submitted:		7/15/1993
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		7/3/1989
Historical Max MTBE Date:		11/11/2002
Hist Max MTBE Conc in Groundwater:		0
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	ND	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	MIGUEL RAMOS	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.1474283 / -1	
Local Agency Staff:	DBW	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

J64 **RAMOS PROPERTY (MIGUEL)** **LUST** **S105974818**
North **5690 CYPRESS** **N/A**
1/4-1/2 **OXNARD, CA 93030**
0.481 mi.
2542 ft. **Site 2 of 2 in cluster J**

Relative:
Higher

Actual:
18 ft.

LUST:

Region:	STATE
Global Id:	T0611100487
Latitude:	34.1474283
Longitude:	-119.1728519
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	01/06/2005
Lead Agency:	VENTURA COUNTY LOP
Case Worker:	DBW

RAMOS PROPERTY (MIGUEL) (Continued) **S105974818**

Local Agency: VENTURA COUNTY LOP
RB Case Number: C89078
LOC Case Number: 89078
File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0611100487
Contact Type: Local Agency Caseworker
Contact Name: DIANE B. WAHL
Organization Name: VENTURA COUNTY LOP
Address: 800 S. VICTORIA AVE.
City: VENTURA
Email: diane.wahl@ventura.org
Phone Number: 8056545040

Global Id: T0611100487
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

Status History:
Global Id: T0611100487
Status: Completed - Case Closed
Status Date: 01/06/2005

Global Id: T0611100487
Status: Open - Case Begin Date
Status Date: 06/27/1989

Global Id: T0611100487
Status: Open - Remediation
Status Date: 07/15/1993

Global Id: T0611100487
Status: Open - Site Assessment
Status Date: 06/27/1989

Global Id: T0611100487
Status: Open - Site Assessment
Status Date: 03/18/1990

Regulatory Activities:
Global Id: T0611100487
Action Type: ENFORCEMENT
Date: 08/26/2003
Action: File review - #2

Global Id: T0611100487

RAMOS PROPERTY (MIGUEL) (Continued) **S105974818**

Action Type: ENFORCEMENT
Date: 12/08/2003
Action: * Historical Enforcement - #3

Global Id: T0611100487
Action Type: RESPONSE
Date: 12/03/2004
Action: Unknown

Global Id: T0611100487
Action Type: ENFORCEMENT
Date: 09/15/2004
Action: * Historical Enforcement - #4

Global Id: T0611100487
Action Type: ENFORCEMENT
Date: 01/04/2005
Action: * Historical Enforcement - #5

Global Id: T0611100487
Action Type: ENFORCEMENT
Date: 01/06/2005
Action: Closure/No Further Action Letter - #6

Global Id: T0611100487
Action Type: Other
Date: 06/27/1989
Action: Leak Discovery

Global Id: T0611100487
Action Type: ENFORCEMENT
Date: 07/03/1989
Action: * Historical Enforcement - #1

Global Id: T0611100487
Action Type: Other
Date: 06/27/1989
Action: Leak Reported

VENTURA CO. LUST:
Region: VENTURA
Facility ID: 89078
Status: Case Closed

K65 **EPTC-ORMOND BEACH** **HWP** **S103668556**
SSE **6640 S EDISON DR** **N/A**
1/2-1 **OXNARD, CA 93030**
0.622 mi.
3282 ft. **Site 1 of 2 in cluster K**

Relative:
Lower

Actual:
7 ft.

HWP:
EPA Id: CAD000631036
Cleanup Status: NON-OPERATING
Latitude: 34.13323
Longitude: -119.1693
Facility Type: Historical - Non-Operating

EPTC-ORMOND BEACH (Continued) **S103668556**

Facility Size: Not reported
Team: Not reported
Supervisor: Not reported
Site Code: 400438
Assembly District: 44
Senate District: 19
Public Information Officer: Not reported

Closure:
EPA Id: CAD000631036
Facility Type: Historical - Non-Operating
Unit Names: Not reported
Event Description: Closure Final - PUBLIC COMMENT (BEGIN)
Actual Date: 02/27/2009

EPA Id: CAD000631036
Facility Type: Historical - Non-Operating
Unit Names: Not reported
Event Description: Closure Final - PUBLIC COMMENT (END)
Actual Date: 02/27/2009

Alias:
EPA Id: CAD000631036
Facility Type: Historical - Non-Operating
Alias Type: Alternate Name
Alias: SCE Ormond Beach

EPA Id: CAD000631036
Facility Type: Historical - Non-Operating
Alias Type: Project Code (Site Code)
Alias: 400438

EPA Id: CAD000631036
Facility Type: Historical - Non-Operating
Alias Type: FRS
Alias: 110018959377

EPA Id: CAD000631036
Facility Type: Historical - Non-Operating
Alias Type: Alternate Name
Alias: Reliant Energy - Ormond Beach

K66 **SCE - ORMOND BEACH FUEL OIL FACILITY AST FARM AREA** **SLIC** **S106387078**
SSE **6640 EDISON** **DEED** **N/A**
1/2-1 **OXNARD, CA 93033** **ENVIROSTOR**
0.623 mi.
3287 ft. **Site 2 of 2 in cluster K**

Relative:
Lower

Actual:
7 ft.

SLIC:
Region: STATE
Facility Status: **Completed - Case Closed**
Status Date: 05/15/2003
Global Id: SL0611101630
Lead Agency: LOS ANGELES RWQCB (REGION 4)
Lead Agency Case Number: Not reported
Latitude: 34.192243163434
Longitude: -119.182942300954

SCE - ORMOND BEACH FUEL OIL FACILITY AST FARM AREA (Continued) **S106387078**

Case Type:	Cleanup Program Site
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	2040081
File Location:	Not reported
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 4:

Region:	4
Facility Status:	No further action required
SLIC:	0710E
Substance:	TPH, metals
Staff:	Manjulika Chakarbarti

DEED:

Envirostor ID:	SL0611101630
Area:	Not reported
Sub Area:	Not reported
Site Type:	SLIC
Status:	COMPLETED - CASE CLOSED
Agency:	SWRCB
Covenant Uploaded:	Y
Deed Date(s):	07/26/2005

Envirostor ID:	SL0611101630
Area:	Not reported
Sub Area:	Not reported
Site Type:	SLIC
Status:	COMPLETED - CASE CLOSED
Agency:	SWRCB
Covenant Uploaded:	Y
Deed Date(s):	07/20/2005

ENVIROSTOR:

Facility ID:	60001190
Status:	Active
Status Date:	02/01/1995
Site Code:	400438
Site Type:	Corrective Action
Site Type Detailed:	Corrective Action
Acres:	55
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Steven Rounds
Supervisor:	Allan Plaza
Division Branch:	Cleanup Chatsworth
Assembly:	41
Senate:	19
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED

SCE - ORMOND BEACH FUEL OIL FACILITY AST FARM AREA (Continued) **S106387078**

Funding: Responsible Party
Latitude: 34.13044
Longitude: -119.1680
APN: NONE SPECIFIED
Past Use: ABOVE GROUND STORAGE TANKS
Potential COC: Polychlorinated biphenyls (PCBs Vanadium and compounds
Confirmed COC: 30587-NO 30018-NO
Potential Description: OTH, SOIL
Alias Name: CAD000631036
Alias Type: EPA Identification Number
Alias Name: 110018959377
Alias Type: EPA (FRS #)
Alias Name: 400438
Alias Type: Project Code (Site Code)
Alias Name: 60001190
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 03/29/2010
Comments: documents received, no comment

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Judicial Order
Completed Date: 02/06/1995
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Workplan
Completed Date: 06/30/2009
Comments: Closure Plan was approved and went through public comment period; implementation has begun 04-13-2010

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 06/14/2011
Comments: Reviewed by DTSC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 10/10/2012
Comments: DTSC e-mail to facility

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 06/30/2013
Comments: completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Plan

SCE - ORMOND BEACH FUEL OIL FACILITY AST FARM AREA (Continued) **S106387078**

Completed Date:	05/07/2013
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	06/14/2014
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	RFI Report
Completed Date:	06/25/2013
Comments:	This report added to overall investigation of site.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Interim Measures Workplan
Completed Date:	07/11/2014
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Interim Measures Workplan
Completed Date:	08/03/2014
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	RCRA Surface Impoundments
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Remedial Action Completion Report
Schedule Due Date:	04/15/2015
Schedule Revised Date:	08/16/2015

67
WSW
1/2-1
0.675 mi.
3566 ft.

Relative:
Lower

Actual:
8 ft.

HALACO - METAL RECYCLING PLANT, OXNARD **Cortese** **S103618129**
6200 PERKINS ROAD **HIST CORTESE** **N/A**
OXNARD, CA 93030 **LUST**
CHMIRS
ENF
ENVIROSTOR
WDS

CORTESE:

Region:	CORTESE
Envirostor Id:	56330002
Site/Facility Type:	FEDERAL SUPERFUND - PROPOSED
Cleanup Status:	ACTIVE
Status Date:	03/28/2007
Site Code:	300075, 301331
Latitude:	34.139194
Longitude:	-119.18301
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	envirostor

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Order No: Not reported
Waste Discharge System No: Not reported
Effective Date: Not reported
Region 2: Not reported
WID Id: Not reported
Solid Waste Id No: Not reported
Waste Management Uit Name: Not reported

HIST CORTESE:
Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-95081

Region: CORTESE
Facility County Code: 56
Reg By: LTNKA
Reg Id: C-93001

LUST:
Region: STATE
Global Id: T0611100980
Latitude: 34.140154
Longitude: -119.1839603
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 05/16/1995
Lead Agency: VENTURA COUNTY LOP
Case Worker: Not reported
Local Agency: Not reported
RB Case Number: C-95081
LOC Case Number: 95081
File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Diesel
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0611100980
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

Status History:
Global Id: T0611100980
Status: Open - Case Begin Date
Status Date: 03/08/1995

Global Id: T0611100980
Status: Completed - Case Closed

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Status Date: 05/16/1995

Global Id: T0611100980
Status: Open - Remediation
Status Date: 05/01/1995

Global Id: T0611100980
Status: Open - Site Assessment
Status Date: 03/08/1995

Global Id: T0611100980
Status: Open - Site Assessment
Status Date: 05/01/1995

Regulatory Activities:
Global Id: T0611100980
Action Type: Other
Date: 03/08/1995
Action: Leak Discovery

Global Id: T0611100980
Action Type: ENFORCEMENT
Date: 03/28/1995
Action: * Historical Enforcement

Global Id: T0611100980
Action Type: Other
Date: 03/08/1995
Action: Leak Reported

Region: STATE
Global Id: T0611100834
Latitude: 34.1400473
Longitude: -119.1838642
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 03/21/1994
Lead Agency: VENTURA COUNTY LOP
Case Worker: Not reported
Local Agency: Not reported
RB Case Number: C-93001
LOC Case Number: 93001
File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0611100834
Contact Type: Regional Board Caseworker
Contact Name: DANIEL PIROTTON
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Email: dpirotton@waterboards.ca.gov
Phone Number: 2135766714

Status History:
Global Id: T0611100834
Status: Completed - Case Closed
Status Date: 03/21/1994

Global Id: T0611100834
Status: Open - Case Begin Date
Status Date: 01/08/1993

Global Id: T0611100834
Status: Open - Remediation
Status Date: 06/07/1993

Global Id: T0611100834
Status: Open - Site Assessment
Status Date: 01/08/1993

Global Id: T0611100834
Status: Open - Site Assessment
Status Date: 03/01/1993

Regulatory Activities:
Global Id: T0611100834
Action Type: Other
Date: 12/15/1993
Action: Leak Discovery

Global Id: T0611100834
Action Type: Other
Date: 12/15/1993
Action: Leak Reported

Global Id: T0611100834
Action Type: ENFORCEMENT
Date: 01/12/1993
Action: * Historical Enforcement

CHMIRS:
OES Incident Number: 14-3950
OES notification: 07/13/2014
OES Date: Not reported
OES Time: Not reported
Incident Date: Not reported
Date Completed: Not reported
Property Use: Not reported
Agency Id Number: Not reported
Agency Incident Number: Not reported
Time Notified: Not reported
Time Completed: Not reported
Surrounding Area: Not reported
Estimated Temperature: Not reported
Property Management: Not reported

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Yes
Waterway:	Orman Beach
Spill Site:	Waterways
Cleanup By:	No
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	PETROLEUM
Measure:	Gal(s)
Other:	Not reported
Date/Time:	900
Year:	2014
Agency:	City of Oxnard FD
Incident Date:	7/13/2014
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Yes
Site Type:	Orman Beach
E Date:	Not reported
Substance:	Transmission Fluid
Quantity Released:	1
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Car in water
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	Other
Fatals:	No
Comments:	Not reported
Description:	RP states that a vehicle went into a tidal canal resulting in the release of less than 1 gallon of automatic transmission fluid into

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

the water. Caller states that as the tide pulled out, the release turned into a sheen on the surface of the water. Containment is being performed and cleanup is en route. Orman Beach, Pacific Beach as been impacted.

ENF:

Region:	4
Facility Id:	242783
Agency Name:	Not reported
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	WDR
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	245934
Region:	4
Order / Resolution Number:	NOV
Enforcement Action Type:	Notice of Violation
Effective Date:	10/15/2002
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	10/15/2002
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV sent 10/15/02 for violations of Order 80-58.
Description:	NOV sent 10/15/02 directing discharger to bring facility into compliance with Order No. 80-58.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	4
Facility Id:	242783
Agency Name:	Not reported
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported

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NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	WDR
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	235402
Region:	4
Order / Resolution Number:	NOV
Enforcement Action Type:	Notice of Violation
Effective Date:	04/12/2001
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	04/12/2001
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV sent 4/12/01 for DMR deficiencies.
Description:	Notice of Violation sent 4/12/01 for DMR deficiencies.
Program:	WDR

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00
Region:	4
Facility Id:	242783
Agency Name:	Not reported
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	WDR
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported

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Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	241993
Region:	4
Order / Resolution Number:	Staff enforcement letter
Enforcement Action Type:	Staff Enforcement Letter
Effective Date:	04/10/2002
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	04/10/2002
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Staff enforcement letter sent 4/10/02 for DMR reporting deficiencies.
Description:	Staff enforcement letter sent 4/10/02 for DMR reporting deficiencies.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported

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NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	256167
Region:	4
Order / Resolution Number:	NOV
Enforcement Action Type:	Notice of Violation
Effective Date:	06/06/2005
Adoption/Issuance Date:	06/06/2005
Achieve Date:	Not reported
Termination Date:	06/06/2005
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Status:	Historical
Title:	NOV sent 6/6/05 for violations of Order 80-58, CDO R4-2002-0064, Title 27 CCR.
Description:	NOV sent 6/6/05 notifying discharger that they are in violation of Order 80-58, CDO R4-2002-0064, Title 27 CCR, and subject to criminal (misdemeanor) charges and civil liability monetary penalties including sections 13268 and 13350 of the CWC.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	251634
Region:	4
Order / Resolution Number:	13267 Letter
Enforcement Action Type:	13267 Letter
Effective Date:	04/26/2004
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	04/26/2004
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	13267 Letter sent 4/26/04 for failure to submit workplans required by CAO.
Description:	13267 Letter sent 4/26/04 for failure to submit acceptable workplans as required by CAO R4-2003-0135 Provisions A (iii), (iv) & (v).
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00
Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Direction/Voice:	Passive
Enforcement Id(EID):	250475
Region:	4
Order / Resolution Number:	R4-2003-0135
Enforcement Action Type:	Clean-up and Abatement Order
Effective Date:	10/30/2003
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	10/30/2003
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	CAO R4-2003-0135 issued 10/30/03.
Description:	CAO R4-2003-0135 issued 10/30/03 contains a schedule to assess, clean up & abate existing & threatened conditions of pollution in the groundwater, surface water, soil & storm water.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste

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Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	249013
Region:	4
Order / Resolution Number:	NOV
Enforcement Action Type:	Notice of Violation
Effective Date:	08/06/2003
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	08/06/2003
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV sent 8/6/03 for violations of Order 80-58:
Description:	NOV sent 8/6/03 for violation of Order 80-58: Waste from WMU has migrated & has entered surface waters; waste from WMU has migrated to groundwater; waste has not been prevented from flowing to areas outside the site through stormwater runoff.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00
Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	247247
Region:	4
Order / Resolution Number:	R4-2002-0064
Enforcement Action Type:	Cease and Desist Order
Effective Date:	03/08/2002
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	03/08/2002
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	CDO R4-2002-0064 adopted & effective 3/7/02
Description:	CDO R4-2002-0064 adopted & effective 3/7/02 contains a schedule to cease disposal operations at the facility & post-closure management requirements.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	245916
Region:	4
Order / Resolution Number:	13267 Letter
Enforcement Action Type:	13267 Letter
Effective Date:	07/05/2002
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Withdrawn
Title:	13267 Letter sent 7/5/02 directing discharger to investigate WMU.
Description:	13267 Letter sent 7/5/02 directing discharger to investigate & report on composition of materials from WMU,

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

	nature of moisture at the toe of the waste pile & analysis of the waters in contact with these materials.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00
Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	242216
Region:	4
Order / Resolution Number:	NOV
Enforcement Action Type:	Notice of Violation
Effective Date:	07/17/2003
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	07/17/2003
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV sent 7/17/03 for violations of Order 80-58.
Description:	NOV sent 7/17/03 directing discharger to correct violations & bring facility into compliance with Order No. 80-58.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported

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SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	241992
Region:	4
Order / Resolution Number:	Staff contacted discharger
Enforcement Action Type:	Oral Communication
Effective Date:	03/11/2002
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported

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Termination Date:	03/11/2002
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Board staff discussed DMR deficiencies with discharger 3/11/02.
Description:	Staff discussed DMR deficiencies with discharger 3/11/02.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4

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Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	228443
Region:	4
Order / Resolution Number:	13267 Letter
Enforcement Action Type:	13267 Letter
Effective Date:	03/21/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	03/21/2000
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	13267 Letter sent 3/21/00 for adequate workplan.
Description:	13267 letter was sent 3/21/00 directing the discharger to submit an adequate workplan by 4/20/00.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00
Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	228442
Region:	4
Order / Resolution Number:	13267 Letter

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Enforcement Action Type:	13267 Letter
Effective Date:	03/21/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	03/21/2000
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	13267 Letter requiring discharger to submit a new ROWD
Description:	13267 Letter requiring discharger to submit a new Report of Waste Discharge (ROWD) within 30 days of receipt of the 3/21/00 letter. The ROWD must reflect current site conditions and operations.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML

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Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	228164
Region:	4
Order / Resolution Number:	NOV
Enforcement Action Type:	Notice of Violation
Effective Date:	03/27/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	03/27/2000
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV sent 3/27/00 for violations of WDRs.
Description:	NOV sent 3/27/00 for violations of WDRs.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00
Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	228163
Region:	4
Order / Resolution Number:	Staff contacted discharger
Enforcement Action Type:	Oral Communication
Effective Date:	03/13/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	03/13/2000
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Board staff discussed violations w/discharger 3/9/00 & 3/13/00.
Description:	Board staff again discussed violations noted during 3/9/00 inspection with discharger during a telecon on 3/13/00.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	228162
Region:	4
Order / Resolution Number:	Staff contacted discharger
Enforcement Action Type:	Oral Communication
Effective Date:	03/09/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	03/09/2000
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Board staff advised discharger of violations noted during 3/9/00 inspection.
Description:	Board staff advised discharger of violations noted during 3/9/00 inspection.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00
Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	228160
Region:	4
Order / Resolution Number:	NOV
Enforcement Action Type:	Notice of Violation
Effective Date:	02/14/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	02/14/2000
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV sent 2/14/00 for violation of WDRs.
Description:	NOV sent 2/14/00 for violation of WDRs.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active
Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	228159
Region:	4
Order / Resolution Number:	Staff contacted discharger
Enforcement Action Type:	Oral Communication
Effective Date:	08/19/1999
Adoption/Issuance Date:	Not reported
Achieve Date:	8/25/1999
Termination Date:	08/19/1999
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Board staff advised discharger 8/19/99 of breach in SW corner of wastepile.
Description:	Board staff advised 8/19/99 discharger of breach in SW corner of wastepile.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00
Region:	4
Facility Id:	242783
Agency Name:	Halaco Engineering Company Inc
Place Type:	Service/Commercial
Place Subtype:	Service/Commercial Site, NEC
Facility Type:	Industrial
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.14015
Place Longitude:	-119.18396
SIC Code 1:	3341
SIC Desc 1:	Secondary Smelting and Refining of Nonferrous Metals
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.0252
Threat To Water Quality:	2
Complexity:	A
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Washwater waste
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRINDIVSML
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	4A562027001
Reg Measure Id:	134196
Reg Measure Type:	WDR
Region:	4
Order #:	80-058
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Active

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Status Date:	03/21/2014
Effective Date:	10/27/1980
Expiration/Review Date:	10/25/1990
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	19 - Non Billable by Administrative Determination
Direction/Voice:	Passive
Enforcement Id(EID):	228021
Region:	4
Order / Resolution Number:	13267 Letter
Enforcement Action Type:	13267 Letter
Effective Date:	10/11/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	10/11/2000
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	13267 letter sent 10/11/00 requesting adequate revised workplan.
Description:	A 13267 letter was sent 10/11/00 directing the discharger to submit an adequate revised workplan by 11/13/00.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	$0.00
Initial Assessed Amount:	$0.00
Liability $ Amount:	$0.00
Project $ Amount:	$0.00
Liability $ Paid:	$0.00
Project $ Completed:	$0.00
Total $ Paid/Completed Amount:	$0.00

ENVIROSTOR:

Facility ID:	56330002
Status:	Active
Status Date:	03/28/2007
Site Code:	301331
Site Type:	Federal Superfund
Site Type Detailed:	State Response or NPL
Acres:	38
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Stephanie Lewis
Supervisor:	Juli Propes
Division Branch:	Cleanup Chatsworth
Assembly:	44
Senate:	19
Special Program:	Not reported
Restricted Use:	NO

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Site Mgmt Req: NONE SPECIFIED
Funding: Not Applicable
Latitude: 34.13919
Longitude: -119.1830
APN: 231003212
Past Use: METAL RECLAMATION, RECYCLING - SCRAP METAL, WASTE WATER PONDS
Potential COC: * HALOGENATED ORGANIC COMPOUNDS * Metals - Sludge * ORGANIC LIQUIDS WITH METALS * AQUEOUS SOLUTION WITH METALS * UNSPECIFIED AQUEOUS SOLUTION * UNSPECIFIED SLUDGE WASTE * WASTE OIL & MIXED OIL Arsenic Radioactive Isotopes Chromium VI Nickel
Confirmed COC: * UNSPECIFIED AQUEOUS SOLUTION * UNSPECIFIED SLUDGE WASTE * WASTE OIL & MIXED OIL Arsenic * HALOGENATED ORGANIC COMPOUNDS * Metals - Sludge * ORGANIC LIQUIDS WITH METALS * AQUEOUS SOLUTION WITH METALS Radioactive Isotopes Chromium VI Nickel
Potential Description: CSS, OTH, SED, SOIL, SURFW
Alias Name: OPEN BURNING DUMP
Alias Type: Alternate Name
Alias Name: 231003212
Alias Type: APN
Alias Name: CAD009688052
Alias Type: EPA Identification Number
Alias Name: 110000481283
Alias Type: EPA (FRS #)
Alias Name: SL0611114905
Alias Type: GeoTracker Global ID
Alias Name: 300075
Alias Type: Site Code - Historical
Alias Name: 300075
Alias Type: Project Code (Site Code)
Alias Name: 301331
Alias Type: Project Code (Site Code)
Alias Name: 56330002
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 04/06/1994
Comments: THE SITE WAS REFERRED TO ENFORCEMENT ON 08/14/1992. THE SITE WAS AN ACTIVE FACILITY AND STORING WASTE PILES WITHOUT A PERMIT. THE MARCH 21, 1994 CORRESPONDENCE FROM VENTURA COUNTY FORWARDED TO ENFORCEMENT.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 03/30/1987
Comments: SITE SCREENING DONE

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Risk Assessment Report
Completed Date: 03/02/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Workplan

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Completed Date:	07/02/2009
Comments:	Geologist from the Geologic Service Unit reviewed document and found it thoroughly addressed site sampling requirements. No comments were issued.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	10/12/1983
Comments:	FACILITY IDENTIFIED ID FROM ERRIS
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Feasibility Study Report
Future Due Date:	2016
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Remedial Investigation Report
Future Due Date:	2016
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

WDS:

Facility ID:	Santa Clara River 562027001
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	Not reported
Subregion:	4
Facility Telephone:	8054883684
Facility Contact:	Dave Gable
Agency Name:	HALACO ENGINEERING CO. INC.
Agency Address:	6200 Perkins Road
Agency City,St,Zip:	Oxnard 93030
Agency Contact:	Dave Gable
Agency Telephone:	Not reported
Agency Type:	Private
SIC Code:	3341
SIC Code 2:	Not reported
Primary Waste Type:	Hazardous/Influent or Solid Wastes that contain toxic, corrosive, ignitable or reactive substances and must be managed according to applicable DOHS standards.
Primary Waste:	WSHWTR
Waste Type2:	Not reported
Waste2:	Washwater Waste (Product washwater wastes: E.G., photo reuse wastewater, vegetable washwater)
Primary Waste Type:	Hazardous/Influent or Solid Wastes that contain toxic, corrosive, ignitable or reactive substances and must be managed according to applicable DOHS standards.

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	No reclamation requirements associated with this facility.
POTW:	The facility is not a POTW.
Treat To Water:	Moderate Threat to Water Quality. A violation could have a major adverse impact on receiving biota, can cause aesthetic impairment to a significant human population, or render unusable a potential domestic or municipal water supply. Awsthetic impairment would include nuisance from a waste treatment facility.
Complexity:	Category A - Any major NPDES facility, any non-NPDES facility (particularly those with toxic wastes) that would be a major if discharge was made to surface or ground waters, or any Class I disposal site. Includes any small-volume complex facility (particularly those with toxicwastes) with numerous discharge points, leak detection systems or ground water monitoring wells.
Facility ID:	4 56I002656
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	4
Facility Telephone:	8054883684
Facility Contact:	Dave Gable
Agency Name:	HALACO ENGINEERING CO. INC.
Agency Address:	6200 Perkins Road
Agency City,St,Zip:	Oxnard 93030
Agency Contact:	Dave Gable
Agency Telephone:	Not reported
Agency Type:	Private
SIC Code:	0
SIC Code 2:	Not reported
Primary Waste Type:	Not reported
Primary Waste:	Not reported
Waste Type2:	Not reported
Waste2:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported
POTW:	The facility is not a POTW.
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.

HALACO - METAL RECYCLING PLANT, OXNARD (Continued) **S103618129**

Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

68
West
1/2-1
0.677 mi.
3572 ft.

PACIFIC RECYCLING ENTERPRISES, INC **ENVIROSTOR** **1000251909**
5925 PERKINS ROAD **N/A**
PORT HUENEME, CA 93041

Relative:
Lower

Actual:
11 ft.

ENVIROSTOR:

Facility ID:	56330008
Status:	No Further Action
Status Date:	03/31/1989
Site Code:	Not reported
Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	0
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	* Mmonroy
Division Branch:	Cleanup Chatsworth
Assembly:	44
Senate:	19
Special Program:	* CERC2
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	34.14335
Longitude:	-119.1850
APN:	231009109
Past Use:	NONE
Potential COC:	* UNSPECIFIED ACID SOLUTION * UNSPECIFIED AQUEOUS SOLUTION * UNSPECIFIED OIL CONTAINING WASTE
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA
Alias Name:	BAY CITY PIPE & STEEL
Alias Type:	Alternate Name
Alias Name:	PACIFIC RECYCLING ENTERPRISES INC.
Alias Type:	Alternate Name
Alias Name:	231009109
Alias Type:	APN
Alias Name:	56330008
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	10/25/1994
Comments:	CALSITES VALIDATION PROGRAM CONFIRMS NFA FOR DTSC.
Completed Area Name:	PROJECT WIDE

PACIFIC RECYCLING ENTERPRISES, INC (Continued) **1000251909**

Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 03/31/1989
Comments: PRELIM ASSESS DONE NO FURTHER ACTION BASED ON THE THE LOW QUANTITIES OF WASTE AND THE FACT THAT THE SITE IS BEING USED AS A WASTEWATER TREATMENT PLANT.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 04/08/1987
Comments: SITE SCREENING DONE

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 01/03/1984
Comments: FACILITY IDENTIFIED ID FROM INDUSTRY DIR-VENTURA CO 1974. RECYCLE ALL METALS.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

69
West
1/2-1
0.677 mi.
3573 ft.

CITY OF OXNARD
6001 S. PERKINS RD.
OXNARD, CA 90845

CHMIRS **S100177945**
Notify 65 **N/A**
EMI

Relative:
Lower

Actual:
9 ft.

CHMIRS:
OES Incident Number: 06-3705
OES notification: 06/22/2006
OES Date: Not reported
OES Time: Not reported
Incident Date: Not reported
Date Completed: **Not reported**
Property Use: Not reported
Agency Id Number: Not reported
Agency Incident Number: Not reported
Time Notified: Not reported
Time Completed: Not reported
Surrounding Area: Not reported
Estimated Temperature: Not reported
Property Management: Not reported
More Than Two Substances Involved?: Not reported
Resp Agncy Personel # Of Decontaminated: Not reported
Responding Agency Personel # Of Injuries: Not reported
Responding Agency Personel # Of Fatalities: Not reported
Others Number Of Decontaminated: Not reported
Others Number Of Injuries: Not reported
Others Number Of Fatalities: Not reported

CITY OF OXNARD (Continued) **S100177945**

Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2006
Agency:	City of Oxnard
Incident Date:	6/22/2006 12:00:00 AM
Admin Agency:	Oxnard Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Treatment/Sewage Facility
E Date:	Not reported
Substance:	Treated final affluent
Gallons:	300
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Check valve malfunction caused this release.
OES Incident Number:	03-5204
OES notification:	10/07/2003
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported

CITY OF OXNARD (Continued) **S100177945**

Time Completed:	Not reported	
Surrounding Area:	Not reported	
Estimated Temperature:	Not reported	
Property Management:	Not reported	
More Than Two Substances Involved?:		Not reported
Resp Agncy Personel # Of Decontaminated:		Not reported
Responding Agency Personel # Of Injuries:		Not reported
Responding Agency Personel # Of Fatalities:		Not reported
Others Number Of Decontaminated:		Not reported
Others Number Of Injuries:		Not reported
Others Number Of Fatalities:		Not reported
Vehicle Make/year:	Not reported	
Vehicle License Number:	Not reported	
Vehicle State:	Not reported	
Vehicle Id Number:	Not reported	
CA DOT PUC/ICC Number:	Not reported	
Company Name:	Not reported	
Reporting Officer Name/ID:	Not reported	
Report Date:	Not reported	
Facility Telephone:	Not reported	
Waterway Involved:	No	
Waterway:	Not reported	
Spill Site:	Not reported	
Cleanup By:	Reporting Party	
Containment:	Not reported	
What Happened:	Not reported	
Type:	Not reported	
Measure:	Not reported	
Other:	Not reported	
Date/Time:	Not reported	
Year:	2003	
Agency:	City of Oxnard	
Incident Date:	10/7/200312:00:00 AM	
Admin Agency:	Oxnard Fire Department	
Amount:	Not reported	
Contained:	Yes	
Site Type:	Treatment/Sewage Facility	
E Date:	Not reported	
Substance:	Final Effluent	
Gallons:	4	
Unknown:	0	
Substance #2:	Not reported	
Substance #3:	Not reported	
Evacuations:	0	
Number of Injuries:	0	
Number of Fatalities:	0	
#1 Pipeline:	Not reported	
#2 Pipeline:	Not reported	
#3 Pipeline:	Not reported	
#1 Vessel >= 300 Tons:	Not reported	
#2 Vessel >= 300 Tons:	Not reported	
#3 Vessel >= 300 Tons:	Not reported	
Evacs:	Not reported	
Injuries:	Not reported	
Fatals:	Not reported	
Comments:	Not reported	
Description:	The spill was due to an overflow from serge tank.	

CITY OF OXNARD (Continued) **S100177945**

OES Incident Number:	03-5229	
OES notification:	10/08/2003	
OES Date:	Not reported	
OES Time:	Not reported	
Incident Date:	Not reported	
Date Completed:	**Not reported**	
Property Use:	Not reported	
Agency Id Number:	Not reported	
Agency Incident Number:	Not reported	
Time Notified:	Not reported	
Time Completed:	Not reported	
Surrounding Area:	Not reported	
Estimated Temperature:	Not reported	
Property Management:	Not reported	
More Than Two Substances Involved?:		Not reported
Resp Agncy Personel # Of Decontaminated:		Not reported
Responding Agency Personel # Of Injuries:		Not reported
Responding Agency Personel # Of Fatalities:		Not reported
Others Number Of Decontaminated:		Not reported
Others Number Of Injuries:		Not reported
Others Number Of Fatalities:		Not reported
Vehicle Make/year:	Not reported	
Vehicle License Number:	Not reported	
Vehicle State:	Not reported	
Vehicle Id Number:	Not reported	
CA DOT PUC/ICC Number:	Not reported	
Company Name:	Not reported	
Reporting Officer Name/ID:	Not reported	
Report Date:	Not reported	
Facility Telephone:	Not reported	
Waterway Involved:	No	
Waterway:	Not reported	
Spill Site:	Not reported	
Cleanup By:	Reporting Party	
Containment:	Not reported	
What Happened:	Not reported	
Type:	Not reported	
Measure:	Not reported	
Other:	Not reported	
Date/Time:	Not reported	
Year:	2003	
Agency:	City of Oxnard	
Incident Date:	10/8/200312:00:00 AM	
Admin Agency:	Oxnard Fire Department	
Amount:	Not reported	
Contained:	Yes	
Site Type:	Treatment/Sewage Facility	
E Date:	Not reported	
Substance:	Final effluent, chlorine free	
Gallons:	1000	
Unknown:	0	
Substance #2:	Not reported	
Substance #3:	Not reported	
Evacuations:	0	
Number of Injuries:	0	
Number of Fatalities:	0	
#1 Pipeline:	Not reported	

CITY OF OXNARD (Continued) **S100177945**

#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Mechanical failure caused this release.

OES Incident Number:	01-5839
OES notification:	10/15/2001
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Yes
Waterway:	Storm drain catch basin
Spill Site:	Not reported
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2001
Agency:	City of Oxnard Waste Water Division
Incident Date:	10/14/200112:00:00 AM
Admin Agency:	Oxnard Fire Department
Amount:	Not reported
Contained:	Yes

CITY OF OXNARD (Continued) **S100177945**

Site Type:	Road
E Date:	Not reported
Substance:	Treated sewage
Gallons:	200
Unknown:	0.000000
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	A stuck air release valve on a serge tank caused this release. Unknown amount entered into and was contained in the storm drain catch basin, no waterway involvement.
OES Incident Number:	01-5682
OES notification:	10/08/2001
OES Date:	Not reported
OES Time:	Not reported
Incident Date:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported

CITY OF OXNARD (Continued) **S100177945**

Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2001
Agency:	City of Oxnard
Incident Date:	10/8/200112:00:00 AM
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Yes
Site Type:	Treatment/Sewage Facility
E Date:	Not reported
Substance:	Plant effluent
Gallons:	200
Unknown:	0.000000
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Air relief valve on a serge tank stuck open causing this release.

NOTIFY 65:

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Incident Description:	90845

EMI:

Year:	1987
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	7

CITY OF OXNARD (Continued) **S100177945**

NOX - Oxides of Nitrogen Tons/Yr:	24
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1
Year:	1990
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	8
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	14
NOX - Oxides of Nitrogen Tons/Yr:	8
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1
Year:	1995
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	11
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	16
NOX - Oxides of Nitrogen Tons/Yr:	9
SOX - Oxides of Sulphur Tons/Yr:	2
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1
Year:	1996
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	17
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	39
NOX - Oxides of Nitrogen Tons/Yr:	8
SOX - Oxides of Sulphur Tons/Yr:	2
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1
Year:	1997

CITY OF OXNARD (Continued) **S100177945**

County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	17
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	39
NOX - Oxides of Nitrogen Tons/Yr:	8
SOX - Oxides of Sulphur Tons/Yr:	2
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1

Year:	1998
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	125
Reactive Organic Gases Tons/Yr:	12
Carbon Monoxide Emissions Tons/Yr:	139
NOX - Oxides of Nitrogen Tons/Yr:	10
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1

Year:	1999
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	111
Reactive Organic Gases Tons/Yr:	10
Carbon Monoxide Emissions Tons/Yr:	129
NOX - Oxides of Nitrogen Tons/Yr:	9
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1

Year:	2000
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD

CITY OF OXNARD (Continued) **S100177945**

Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	82
Reactive Organic Gases Tons/Yr:	8
Carbon Monoxide Emissions Tons/Yr:	124
NOX - Oxides of Nitrogen Tons/Yr:	10
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1

Year:	2001
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	91
Reactive Organic Gases Tons/Yr:	9
Carbon Monoxide Emissions Tons/Yr:	129
NOX - Oxides of Nitrogen Tons/Yr:	9
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1

Year:	2002
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	85
Reactive Organic Gases Tons/Yr:	8
Carbon Monoxide Emissions Tons/Yr:	123
NOX - Oxides of Nitrogen Tons/Yr:	9
SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1

Year:	2003
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	91
Reactive Organic Gases Tons/Yr:	9
Carbon Monoxide Emissions Tons/Yr:	135
NOX - Oxides of Nitrogen Tons/Yr:	10

CITY OF OXNARD (Continued) **S100177945**

SOX - Oxides of Sulphur Tons/Yr:	1
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers & Smllr Tons/Yr:	1
Year:	2004
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	9.67
Reactive Organic Gases Tons/Yr:	1.04
Carbon Monoxide Emissions Tons/Yr:	10.609
NOX - Oxides of Nitrogen Tons/Yr:	2.174
SOX - Oxides of Sulphur Tons/Yr:	1.259
Particulate Matter Tons/Yr:	0.809
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.813
Year:	2005
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	22.752
Reactive Organic Gases Tons/Yr:	2.2080931
Carbon Monoxide Emissions Tons/Yr:	14.495
NOX - Oxides of Nitrogen Tons/Yr:	2.734
SOX - Oxides of Sulphur Tons/Yr:	1.284
Particulate Matter Tons/Yr:	.804
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.798122
Year:	2006
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	34.4895941
Reactive Organic Gases Tons/Yr:	3.31734471925
Carbon Monoxide Emissions Tons/Yr:	46.3188915
NOX - Oxides of Nitrogen Tons/Yr:	4.17884645
SOX - Oxides of Sulphur Tons/Yr:	5.124355
Particulate Matter Tons/Yr:	.858681
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.8541651
Year:	2007
County Code:	56

CITY OF OXNARD (Continued) **S100177945**

Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Y
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	32.856926
Reactive Organic Gases Tons/Yr:	3.14515488322
Carbon Monoxide Emissions Tons/Yr:	53.595036
NOX - Oxides of Nitrogen Tons/Yr:	4.62998
SOX - Oxides of Sulphur Tons/Yr:	1.220879
Particulate Matter Tons/Yr:	.860604
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.85376948

Year:	2008
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	N
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	44.815285
Reactive Organic Gases Tons/Yr:	4.3523002
Carbon Monoxide Emissions Tons/Yr:	33.799562
NOX - Oxides of Nitrogen Tons/Yr:	7.9174071
SOX - Oxides of Sulphur Tons/Yr:	1.5076658
Particulate Matter Tons/Yr:	.9666848
Part. Matter 10 Micrometers & Smllr Tons/Yr:	.9548278

Year:	2009
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	N
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	43.600166999999999
Reactive Organic Gases Tons/Yr:	4.0963180000000001
Carbon Monoxide Emissions Tons/Yr:	32.925840000000001
NOX - Oxides of Nitrogen Tons/Yr:	8.4274699999999996
SOX - Oxides of Sulphur Tons/Yr:	1.4852997999999999
Particulate Matter Tons/Yr:	0.94312439999999997
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.93095340000000004

Year:	2010
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	N

CITY OF OXNARD (Continued) **S100177945**

Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	14.782902999999999
Reactive Organic Gases Tons/Yr:	1.5038009999999999
Carbon Monoxide Emissions Tons/Yr:	28.853960000000001
NOX - Oxides of Nitrogen Tons/Yr:	8.8523589999999999
SOX - Oxides of Sulphur Tons/Yr:	1.494818
Particulate Matter Tons/Yr:	0.975966
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.96351799999999999
Year:	2011
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	11.819502
Reactive Organic Gases Tons/Yr:	1.175154
Carbon Monoxide Emissions Tons/Yr:	23.855395
NOX - Oxides of Nitrogen Tons/Yr:	6.997538
SOX - Oxides of Sulphur Tons/Yr:	1.188784
Particulate Matter Tons/Yr:	0.7742176
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.7628596
Year:	2012
County Code:	56
Air Basin:	SCC
Facility ID:	1137
Air District Name:	VEN
SIC Code:	4952
Air District Name:	VENTURA COUNTY APCD
Community Health Air Pollution Info System:	N
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	11.6694497
Reactive Organic Gases Tons/Yr:	1.0818678
Carbon Monoxide Emissions Tons/Yr:	23.395586
NOX - Oxides of Nitrogen Tons/Yr:	6.71309
SOX - Oxides of Sulphur Tons/Yr:	1.1696737
Particulate Matter Tons/Yr:	0.7446006
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0.739280152

70
WNW
1/2-1
0.690 mi.
3645 ft.

Relative:
Higher

Actual:
12 ft.

HALLIBURTON ENERGY SERVICES **NPDES** **U002244171**
5800 PERKINS RD **HIST CORTESE** **N/A**
OXNARD, CA **LUST**
SLIC
UST
ENVIROSTOR

HIST CORTESE:

Region:	CORTESE
Facility County Code:	56
Reg By:	LTNKA
Reg Id:	C-94019

LUST:

HALLIBURTON ENERGY SERVICES (Continued) **U002244171**

Region:	STATE
Global Id:	T0611100881
Latitude:	34.1431603
Longitude:	-119.1838102
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	10/16/1996
Lead Agency:	VENTURA COUNTY LOP
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	C-94019
LOC Case Number:	94019
File Location:	Not reported
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0611100881
Contact Type:	Regional Board Caseworker
Contact Name:	DANIEL PIROTTON
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN
Email:	dpirotton@waterboards.ca.gov
Phone Number:	2135766714

Status History:

Global Id:	T0611100881
Status:	Open - Verification Monitoring
Status Date:	10/15/1996
Global Id:	T0611100881
Status:	Open - Case Begin Date
Status Date:	03/14/1994
Global Id:	T0611100881
Status:	Open - Remediation
Status Date:	10/23/1995
Global Id:	T0611100881
Status:	Open - Remediation
Status Date:	01/10/1996
Global Id:	T0611100881
Status:	Open - Site Assessment
Status Date:	03/14/1994
Global Id:	T0611100881
Status:	Open - Site Assessment
Status Date:	04/28/1994
Global Id:	T0611100881
Status:	Open - Site Assessment
Status Date:	01/18/1995

HALLIBURTON ENERGY SERVICES (Continued) **U002244171**

Global Id: T0611100881
Status: Completed - Case Closed
Status Date: 10/16/1996

Regulatory Activities:
Global Id: T0611100881
Action Type: Other
Date: 03/14/1994
Action: Leak Discovery

Global Id: T0611100881
Action Type: ENFORCEMENT
Date: 04/28/1994
Action: * Historical Enforcement

Global Id: T0611100881
Action Type: Other
Date: 03/14/1994
Action: Leak Reported

LUST REG 4:
Region: 4
Regional Board: 04
County: Ventura
Facility Id: C-94019
Status: Case Closed
Substance: Gasoline
Substance Quantity: Not reported
Local Case No: 94019
Case Type: Groundwater
Abatement Method Used at the Site: Excavate and Dispose
Global ID: T0611100881
W Global ID: Not reported
Staff: UNK
Local Agency: 56000L
Cross Street: Not reported
Enforcement Type: EF
Date Leak Discovered: 3/14/1994
Date Leak First Reported: 3/14/1994
Date Leak Record Entered: Not reported
Date Confirmation Began: 3/14/1994
Date Leak Stopped: Not reported
Date Case Last Changed on Database: Not reported
Date the Case was Closed: 10/16/1996
How Leak Discovered: Not reported
How Leak Stopped: Not reported
Cause of Leak: Not reported
Leak Source: Not reported
Operator: Not reported
Water System: Not reported
Well Name: Not reported
Approx. Dist To Production Well (ft): 2497.036546393882774110538179 1
Source of Cleanup Funding: F
Preliminary Site Assessment Workplan Submitted: 4/28/1994
Preliminary Site Assessment Began: 1/18/1995

HALLIBURTON ENERGY SERVICES (Continued) **U002244171**

Pollution Characterization Began:	1/18/1995
Remediation Plan Submitted:	1/10/1996
Remedial Action Underway:	10/23/1995
Post Remedial Action Monitoring Began:	10/15/1996
Enforcement Action Date:	4/28/1994
Historical Max MTBE Date:	Not reported
Hist Max MTBE Conc in Groundwater:	Not reported
Hist Max MTBE Conc in Soil:	Not reported
Significant Interim Remedial Action Taken:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Organization:	Not reported
Owner Contact:	Not reported
Responsible Party:	HALLIBURTON ENERGY SERVICES
RP Address:	Not reported
Program:	LUST
Lat/Long:	34.1431603 / -1
Local Agency Staff:	EHD
Beneficial Use:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Suspended:	Not reported
Assigned Name:	Not reported
Summary:	Not reported

VENTURA CO. LUST:

Region:	VENTURA
Facility ID:	94019
Status:	Case Closed

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	12/01/1998
Global Id:	SL184411424
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Lead Agency Case Number:	Not reported
Latitude:	34.15453
Longitude:	-119.18287
Case Type:	Cleanup Program Site
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	0567
File Location:	Not reported
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 4:

Region:	4
Facility Status:	No further action required
SLIC:	0567
Substance:	VOCs
Staff:	Not reported

HALLIBURTON ENERGY SERVICES (Continued) **U002244171**

VENTURA CO. UST:
Facility ID: D 1111
Facility Status: inactive

ENVIROSTOR:
Facility ID: 56280099
Status: No Further Action
Status Date: 06/30/1985
Site Code: 400264
Site Type: Historical
Site Type Detailed: * Historical
Acres: 0
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: * Mmonroy
Division Branch: Cleanup Chatsworth
Assembly: 44
Senate: 19
Special Program: * Site Char & Assess Grant (CERCLA 104)
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 34.14387
Longitude: -119.1829
APN: 231009203
Past Use: MANUFACTURING - CHEMICALS
Potential COC: * OTHER ORGANIC SOLIDS * AQUEOUS SOLUTION WITH METALS * OTHER INORGANIC SOLID WASTE * UNSPECIFIED ORGANIC LIQUID MIXTURE
Confirmed COC: NONE SPECIFIED
Potential Description: SOIL
Alias Name: HALLIBURTON SERVICES(1982-PRESENT)
Alias Type: Alternate Name
Alias Name: OCEAN LABS (PRE 1973)
Alias Type: Alternate Name
Alias Name: 231009203
Alias Type: APN
Alias Name: CAD076207935
Alias Type: EPA Identification Number
Alias Name: 400264
Alias Type: Project Code (Site Code)
Alias Name: 56280099
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 11/07/1994
Comments: CALSITES VALIDATION PROGRAM CONFIRMS NFA FOR DTSC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 06/30/1985
Comments: SOURCE ACT: T/C STAUFFER, 3/1/85-HARVST & PROCESS SEA KELP. FINAL

HALLIBURTON ENERGY SERVICES (Continued) **U002244171**

STRATEGY TO CO ENVR HLTH SUBMIT TO EPA PRELIM ASSESS DONE CERCLA 104

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	08/18/1980
Comments:	FACILITY IDENTIFIED ID FROM Q & 1979 ECKHART SURVEY WASTES TAKEN TO SIMI SANITARY LANDFILL & CARNEY & SON LDFL INC BY CROSBY & OVERTN (1975-79), & E.J. HARRISON & SONS INC. WASTE: HEAVY METALS,TRACE METALS,INDUST ORG CHEM, & INORG. PRE LOC OF HALLIBURTN SEE FILE #56-36-0006. (OCEAN)PROD & HARVEST SEA KELPS. (STAUFFER)FOOD INGREDIENTS DIVISION.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

Count: 6 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
OXNARD	S105974834	MOBIL OIL SS (STEVE'S)	801 HUENEME RD		LUST
OXNARD	S104164782	REMIE CALLENS	1552 HUENEME RD	93033	HIST CORTESE, LUST
OXNARD	S100779164	OXNARD 1962	PERKINS RD. AND ORMOND BEACH W		SWF/LF
PORT HUENEME	S106164642	NBVC PORT HUENEME BLDG 1296 AND 13	BLDG 1296 TANKS 1 AND 2 BLDG 1		LUST
PORT HUENEME	S105692683	NBVC PORT HUENEME BLDG 541	BLDG 541 TANKS 1 AND 2		LUST
PORT HUENEME	S101482877	TESORO PETROLEUM CORPORATION	150 HUENEME ROAD	93041	ENVIROSTOR

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 07/21/2014
Date Data Arrived at EDR: 10/07/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 09/18/2014
Date Data Arrived at EDR: 09/19/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 09/18/2014
Date Data Arrived at EDR: 09/19/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/03/2014
Date Data Arrived at EDR: 12/12/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 48

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/29/2014
Date Data Arrived at EDR: 09/30/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 37

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 03/11/2015
Date Data Arrived at EDR: 03/12/2015
Date Made Active in Reports: 03/18/2015
Number of Days to Update: 6

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 03/12/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 03/11/2015
Date Data Arrived at EDR: 03/12/2015
Date Made Active in Reports: 03/18/2015
Number of Days to Update: 6

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 03/12/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/16/2015
Date Data Arrived at EDR: 02/17/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 14

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/17/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 03/13/2015
Date Data Arrived at EDR: 03/18/2015
Date Made Active in Reports: 03/24/2015
Number of Days to Update: 6

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 03/18/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Quarterly

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 03/13/2015
Date Data Arrived at EDR: 03/18/2015
Date Made Active in Reports: 03/24/2015
Number of Days to Update: 6

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/18/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/10/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 31

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/03/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/08/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 01/30/2015
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 32

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 01/28/2015
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 42

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/13/2015
Date Data Arrived at EDR: 03/18/2015
Date Made Active in Reports: 03/26/2015
Number of Days to Update: 8

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/18/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 07/13/2015
Next Scheduled EDR Contact: 04/13/2015
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 01/27/2014
Number of Days to Update: 271

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/28/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/29/2015
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 42

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Semi-Annually

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 01/30/2015
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 36

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 03/11/2015
Date Data Arrived at EDR: 03/12/2015
Date Made Active in Reports: 03/18/2015
Number of Days to Update: 6
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 03/12/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/29/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 36
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 04/02/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/22/2014
Date Data Arrived at EDR: 12/22/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 38
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/24/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/23/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/18/2015
Date Made Active in Reports: 03/26/2015
Number of Days to Update: 8
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/18/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 04/04/2015
Date Data Arrived at EDR: 04/07/2015
Date Made Active in Reports: 04/13/2015
Number of Days to Update: 6
Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30
Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/03/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 03/11/2015
Date Data Arrived at EDR: 03/12/2015
Date Made Active in Reports: 03/18/2015
Number of Days to Update: 6

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 03/12/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/18/2015
Number of Days to Update: 8

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/03/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 03/11/2015
Date Data Arrived at EDR: 03/13/2015
Date Made Active in Reports: 03/24/2015
Number of Days to Update: 11

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/18/2015
Number of Days to Update: 8

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 03/10/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/29/2014
Date Data Arrived at EDR: 12/30/2014
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 69

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 01/21/2015
Date Data Arrived at EDR: 01/28/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 29

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 03/13/2015
Date Data Arrived at EDR: 03/18/2015
Date Made Active in Reports: 03/24/2015
Number of Days to Update: 6

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/18/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 03/13/2015
Date Data Arrived at EDR: 03/18/2015
Date Made Active in Reports: 03/24/2015
Number of Days to Update: 6

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/18/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 02/03/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 06/06/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 8

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 24

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/10/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/27/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 12/30/2014
Date Data Arrived at EDR: 12/31/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/06/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/31/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 01/29/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/27/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/10/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 04/09/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/17/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 12/29/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 21

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 02/27/2015
Date Data Arrived at EDR: 02/27/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/09/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/18/2015
Date Data Arrived at EDR: 02/27/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 26

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/24/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 03/12/2015
Date Data Arrived at EDR: 03/13/2015
Date Made Active in Reports: 03/24/2015
Number of Days to Update: 11

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Quarterly

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 11/19/2014
Date Data Arrived at EDR: 12/15/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 45
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/20/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Varies

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/31/2015
Date Made Active in Reports: 04/10/2015
Number of Days to Update: 10
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/23/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 02/18/2015
Date Data Arrived at EDR: 02/20/2015
Date Made Active in Reports: 03/12/2015
Number of Days to Update: 20
Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Annually

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/26/2015
Date Data Arrived at EDR: 01/28/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 29

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/19/2014
Number of Days to Update: 35

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/17/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 03/25/2014
Date Made Active in Reports: 04/28/2014
Number of Days to Update: 34

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/27/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/18/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 01/16/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/18/2015
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 03/10/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/13/2015
Date Data Arrived at EDR: 04/15/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 8

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/15/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/24/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/17/2015
Date Data Arrived at EDR: 02/20/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 11

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 02/02/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 25

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/13/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Varies

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/18/2015
Date Made Active in Reports: 03/24/2015
Number of Days to Update: 6

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/18/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/10/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites
A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 02/13/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

FEDLAND: Federal and Indian Lands
Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: N/A

US FIN ASSUR: Financial Assurance Information
All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 04/15/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners
EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/21/2015
Date Data Arrived at EDR: 01/28/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 29

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/21/2015
Date Data Arrived at EDR: 01/28/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 29

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/24/2015
Date Made Active in Reports: 03/31/2015
Number of Days to Update: 7

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 03/23/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 11/20/2014
Date Data Arrived at EDR: 11/24/2014
Date Made Active in Reports: 01/07/2015
Number of Days to Update: 44

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 04/27/2015
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 03/03/2015
Date Data Arrived at EDR: 03/05/2015
Date Made Active in Reports: 03/10/2015
Number of Days to Update: 5

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/11/2014
Date Data Arrived at EDR: 06/13/2014
Date Made Active in Reports: 07/07/2014
Number of Days to Update: 24

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/25/2015
Date Made Active in Reports: 03/04/2015
Number of Days to Update: 7

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 02/02/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/25/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 6

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/24/2015
Date Data Arrived at EDR: 02/25/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 6

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 02/02/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 03/31/2015
Date Data Arrived at EDR: 04/15/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 8

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 04/06/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/11/2015
Date Data Arrived at EDR: 03/13/2015
Date Made Active in Reports: 03/24/2015
Number of Days to Update: 11

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 02/10/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 19

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 07/22/2014
Date Data Arrived at EDR: 11/12/2014
Date Made Active in Reports: 12/19/2014
Number of Days to Update: 37

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/16/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 7

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 04/10/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/20/2015
Date Data Arrived at EDR: 01/21/2015
Date Made Active in Reports: 02/05/2015
Number of Days to Update: 15

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/16/2015
Next Scheduled EDR Contact: 08/03/2015
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 03/23/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/24/2014
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/04/2015
Number of Days to Update: 33

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/19/2015
Date Data Arrived at EDR: 01/20/2015
Date Made Active in Reports: 02/05/2015
Number of Days to Update: 16

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/20/2015
Next Scheduled EDR Contact: 08/03/2015
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/15/2015
Next Scheduled EDR Contact: 08/03/2015
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/15/2015
Date Data Arrived at EDR: 01/29/2015
Date Made Active in Reports: 03/10/2015
Number of Days to Update: 40

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 04/16/2015
Next Scheduled EDR Contact: 08/03/2015
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/02/2015
Date Made Active in Reports: 04/13/2015
Number of Days to Update: 11

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 03/06/2015
Next Scheduled EDR Contact: 08/03/2015
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 01/29/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 13

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/27/2015
Number of Days to Update: 12

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 03/20/2015
Date Data Arrived at EDR: 03/24/2015
Date Made Active in Reports: 03/31/2015
Number of Days to Update: 7

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 03/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 10/08/2014
Date Data Arrived at EDR: 10/22/2014
Date Made Active in Reports: 12/15/2014
Number of Days to Update: 54

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 04/15/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 7

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 02/27/2015
Date Data Arrived at EDR: 03/06/2015
Date Made Active in Reports: 03/10/2015
Number of Days to Update: 4

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 03/19/2015
Date Data Arrived at EDR: 03/20/2015
Date Made Active in Reports: 03/31/2015
Number of Days to Update: 11

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/12/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 18

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 02/06/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 02/01/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 18

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 18

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/01/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 13

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

PLACER COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 03/10/2015
Date Data Arrived at EDR: 03/12/2015
Date Made Active in Reports: 03/18/2015
Number of Days to Update: 6
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/28/2015
Date Data Arrived at EDR: 01/29/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 33
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/23/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/28/2015
Date Data Arrived at EDR: 01/29/2015
Date Made Active in Reports: 02/26/2015
Number of Days to Update: 28
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/23/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/02/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 04/16/2015
Number of Days to Update: 8
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/02/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 04/16/2015
Number of Days to Update: 8
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 03/02/2015
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/10/2015
Number of Days to Update: 7

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 03/10/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2014
Date Data Arrived at EDR: 11/21/2014
Date Made Active in Reports: 12/29/2014
Number of Days to Update: 38

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 02/09/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 03/24/2015
Date Data Arrived at EDR: 03/25/2015
Date Made Active in Reports: 03/31/2015
Number of Days to Update: 6
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/23/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 7
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 04/13/2015
Date Data Arrived at EDR: 04/15/2015
Date Made Active in Reports: 04/23/2015
Number of Days to Update: 8
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/16/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/16/2015
Date Data Arrived at EDR: 03/17/2015
Date Made Active in Reports: 03/24/2015
Number of Days to Update: 7
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28
Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/25/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 6

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 02/23/2015
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 03/04/2015
Number of Days to Update: 8

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 05/25/2015
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 11/24/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 12/31/2014
Number of Days to Update: 36

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 03/11/2015
Date Data Arrived at EDR: 03/13/2015
Date Made Active in Reports: 03/24/2015
Number of Days to Update: 11

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 03/13/2015
Date Data Arrived at EDR: 03/19/2015
Date Made Active in Reports: 03/24/2015
Number of Days to Update: 5
Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/13/2015
Date Data Arrived at EDR: 03/20/2015
Date Made Active in Reports: 03/31/2015
Number of Days to Update: 11
Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 03/31/2015
Date Data Arrived at EDR: 04/02/2015
Date Made Active in Reports: 04/10/2015
Number of Days to Update: 8
Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/01/2015
Date Data Arrived at EDR: 04/02/2015
Date Made Active in Reports: 04/13/2015
Number of Days to Update: 11
Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/18/2015
Number of Days to Update: 8
Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/30/2015
Date Data Arrived at EDR: 02/03/2015
Date Made Active in Reports: 02/27/2015
Number of Days to Update: 24
Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 01/27/2015
Date Data Arrived at EDR: 02/19/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 12

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/02/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/29/2014
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 32

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/27/2015
Date Data Arrived at EDR: 03/18/2015
Date Made Active in Reports: 03/26/2015
Number of Days to Update: 8

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/18/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/01/2015
Date Made Active in Reports: 04/13/2015
Number of Days to Update: 12

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/23/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 02/17/2015
Date Data Arrived at EDR: 02/19/2015
Date Made Active in Reports: 03/03/2015
Number of Days to Update: 12

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/17/2014
Next Scheduled EDR Contact: 03/02/2015
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2015
Date Data Arrived at EDR: 02/04/2015
Date Made Active in Reports: 02/27/2015
Number of Days to Update: 23

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 02/04/2015
Next Scheduled EDR Contact: 05/18/2015
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/21/2014
Date Made Active in Reports: 08/25/2014
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/16/2015
Next Scheduled EDR Contact: 08/03/2015
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/15/2014
Date Made Active in Reports: 08/13/2014
Number of Days to Update: 29

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/19/2015
Date Made Active in Reports: 04/07/2015
Number of Days to Update: 19

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

5980 AND 6000 ARCTUTUS AVENUE
5980 AND 6000 ARCTUTUS AVENUE
OXNARD, CA 93033

TARGET PROPERTY COORDINATES

Latitude (North):	34.1415 - 34° 8' 29.40''
Longitude (West):	119.1713 - 119° 10' 16.68''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	299795.8
UTM Y (Meters):	3779780.2
Elevation:	12 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	34119-B2 OXNARD, CA
Most Recent Revision:	1967

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

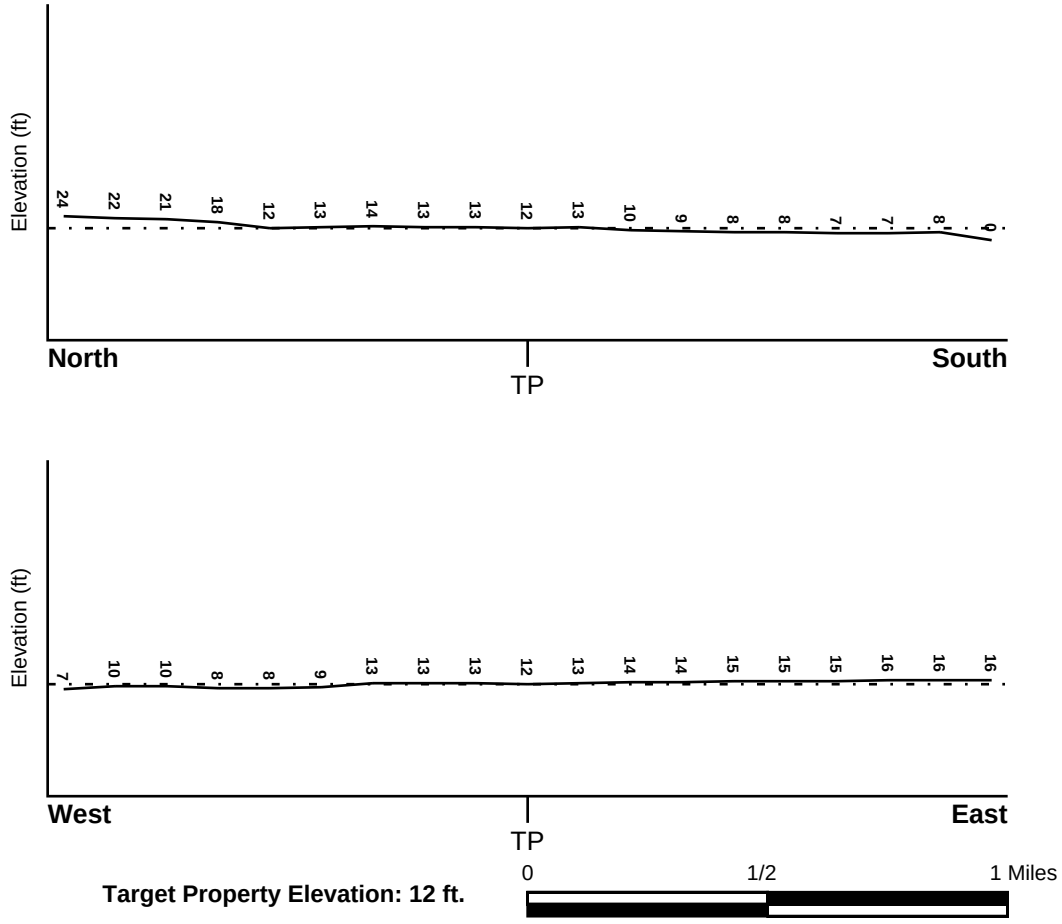
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 12 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
VENTURA, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06111C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
OXNARD	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

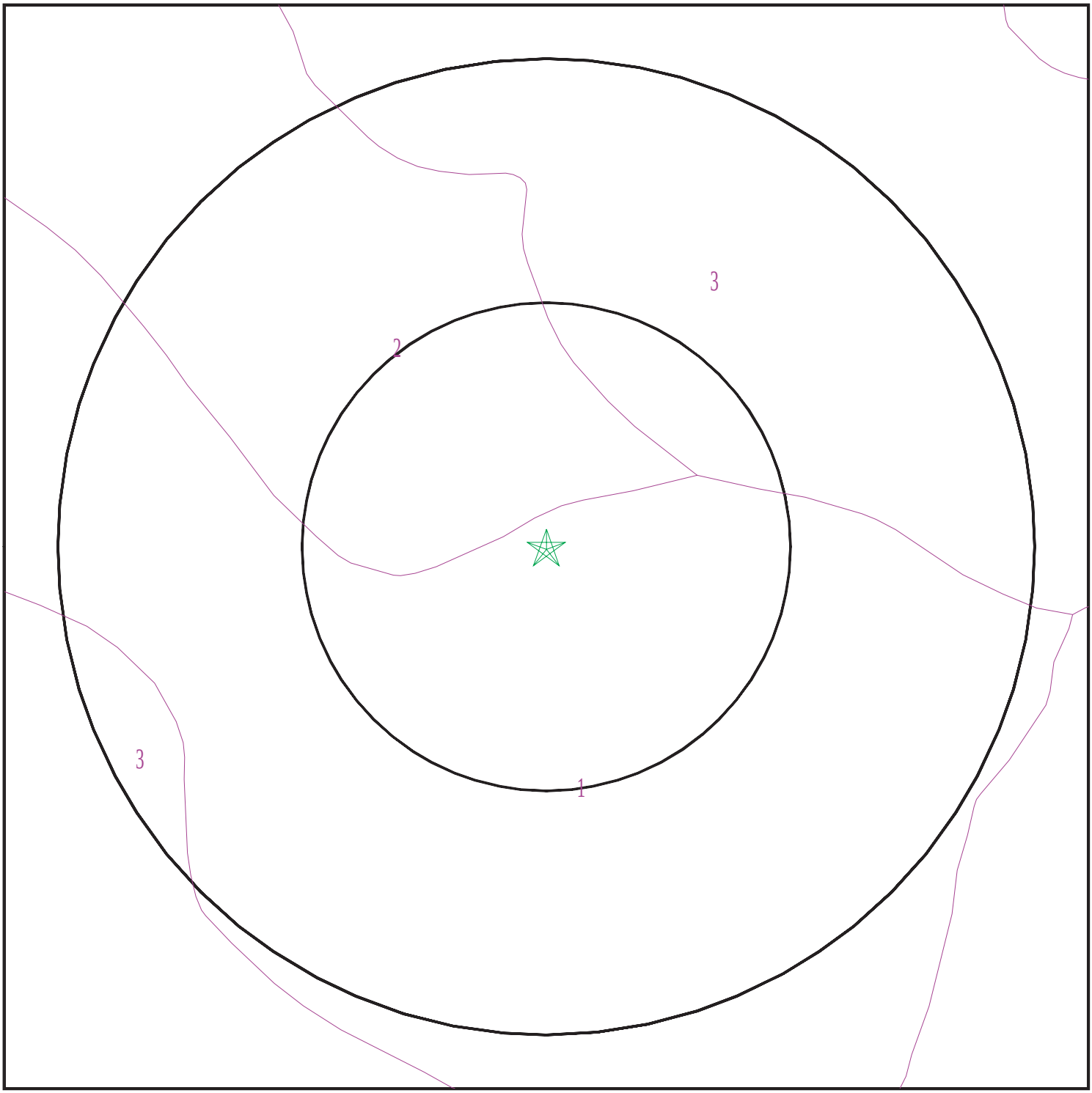
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4285348.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	5980 and 6000 Arctutus Avenue	CLIENT:	Northgate Env. Management, Inc.
ADDRESS:	5980 and 6000 Arctutus Avenue Oxnard CA 93033	CONTACT:	Nicky Galloway
LAT/LONG:	34.1415 / 119.1713	INQUIRY #:	4285348.2s
		DATE:	May 06, 2015 7:53 am

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: HUENEME

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 107 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 7.4
2	16 inches	64 inches	stratified sand to silt loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 7.4

Soil Map ID: 2

Soil Component Name: CAMARILLO

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 107 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	24 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 7.9
2	24 inches	50 inches	stratified sandy loam to sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 8.4 Min: 7.9
3	50 inches	79 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 7.9

Soil Map ID: 3

Soil Component Name: CAMARILLO

Soil Surface Texture: loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 107 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	24 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 8.4 Min: 7.9
2	24 inches	50 inches	stratified sandy loam to sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14 Min: 4	Max: 8.4 Min: 7.9
3	50 inches	79 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	USGS40000141929	1/4 - 1/2 Mile ESE
3	USGS40000141902	1/4 - 1/2 Mile WSW
B7	USGS40000142042	1/4 - 1/2 Mile NNW
B8	USGS40000142041	1/4 - 1/2 Mile NNW
B9	USGS40000142040	1/4 - 1/2 Mile NNW
C11	USGS40000141923	1/2 - 1 Mile ESE
C12	USGS40000141924	1/2 - 1 Mile ESE
D18	USGS40000141782	1/2 - 1 Mile SSE
D19	USGS40000141783	1/2 - 1 Mile SSE
D20	USGS40000141784	1/2 - 1 Mile SSE
21	USGS40000142104	1/2 - 1 Mile North
24	USGS40000142057	1/2 - 1 Mile NE
E26	USGS40000141934	1/2 - 1 Mile West
F28	USGS40000142143	1/2 - 1 Mile NNE
F29	USGS40000142144	1/2 - 1 Mile NNE
G30	USGS40000141953	1/2 - 1 Mile West
G31	USGS40000141954	1/2 - 1 Mile West
G32	USGS40000141952	1/2 - 1 Mile West
G33	USGS40000141950	1/2 - 1 Mile West
G34	USGS40000141951	1/2 - 1 Mile West
I46	USGS40000142051	1/2 - 1 Mile WNW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CADW50000004708	1/8 - 1/4 Mile NE
A4	CADW50000004725	1/4 - 1/2 Mile NNW
A5	CADW50000004726	1/4 - 1/2 Mile NNW
A6	CADW50000004727	1/4 - 1/2 Mile NNW
C10	CADW50000004668	1/2 - 1 Mile ESE
C13	CADW50000004657	1/2 - 1 Mile ESE
D14	CADW50000004590	1/2 - 1 Mile SSE
D15	CADW50000004591	1/2 - 1 Mile SSE
D16	CADW50000004592	1/2 - 1 Mile SSE
D17	719	1/2 - 1 Mile SSE
22	CADW50000004582	1/2 - 1 Mile SSE
E23	CADW50000004669	1/2 - 1 Mile West
25	CADW50000004758	1/2 - 1 Mile NNW
F27	CADW50000004783	1/2 - 1 Mile NNE
35	CADW50000004798	1/2 - 1 Mile North
G36	CADW50000004681	1/2 - 1 Mile West

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
G37	CADW50000004680	1/2 - 1 Mile West
G38	CADW50000004677	1/2 - 1 Mile West
G39	CADW50000004678	1/2 - 1 Mile West
G40	CADW50000004679	1/2 - 1 Mile West
41	CADW50000004787	1/2 - 1 Mile NNE
H42	715	1/2 - 1 Mile NW
H43	716	1/2 - 1 Mile NW
H44	717	1/2 - 1 Mile NW
I45	CADW50000004732	1/2 - 1 Mile WNW

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CAOG9A000033832	1/2 - 1 Mile NNW

PHYSICAL SETTING SOURCE MAP - 4285348.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	5980 and 6000 Arctutus Avenue	CLIENT:	Northgate Env. Management, Inc.
ADDRESS:	5980 and 6000 Arctutus Avenue Oxnard CA 93033	CONTACT:	Nicky Galloway
		INQUIRY #:	4285348.2s
LAT/LONG:	34.1415 / 119.1713	DATE:	May 06, 2015 7:53 am

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
NE
1/8 - 1/4 Mile
Higher

CA WELLS **CADW50000004708**

Latitude :	34.1436		
Longitude :	119.1692		
Site code:	341436N1191692W001	Casgem sta:	01N22W27B004S
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004708

2
ESE
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000141929**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340823119095801		
Monloc name:	001N022W27H001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1397276
Longitude:	-119.1670507	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

3
WSW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000141902**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340820119103401		
Monloc name:	001N022W23Q002S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1388942
Longitude:	-119.177051	Sourcemap scale:	24000

Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	10
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19880729	Welldepth:	20
Welldepth units:	ft	Wellholedepth:	20
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

A4
NNW
1/4 - 1/2 Mile
Higher

CA WELLS **CADW50000004725**

Latitude :	34.146359		
Longitude :	119.174992		
Site code:	341467N1191767W002	Casgem sta:	01N22W27C003S
Local well:	01N22W27C03S	Casgem s 1:	Observation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004725

A5
NNW
1/4 - 1/2 Mile
Higher

CA WELLS **CADW50000004726**

Latitude :	34.146359		
Longitude :	119.174992		
Site code:	341467N1191767W001	Casgem sta:	01N22W27C002S
Local well:	01N22W27C02S	Casgem s 1:	Observation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004726

A6
NNW
1/4 - 1/2 Mile
Higher

CA WELLS **CADW50000004727**

Latitude :	34.146359		
Longitude :	119.174992		
Site code:	341467N1191767W003	Casgem sta:	01N22W27C004S
Local well:	01N22W27C04S	Casgem s 1:	Observation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004727

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B7
NNW
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000142042**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340848119102603		
Monloc name:	001N022W27C004S		
Monloc type:	Well		
Monloc desc:	SW-1 AT 55-65’		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1475053
Longitude:	-119.1734399	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	11.0
Vert measure units:	feet	Vertacc measure val:	2.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19900922	Welldepth:	65
Welldepth units:	ft	Wellholedepth:	385
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 29

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-04-18	4.13		1994-03-30	3.95	
1994-02-09	5.1		1994-01-31	4.93	
1993-12-23	2.60		1993-11-08	5.28	
1993-09-22	5.21		1993-07-16	4.84	
1993-04-06	2.86		1993-02-05	3.62	
1992-12-15	5.30		1992-11-09	6.14	
1992-09-29	7.07		1992-09-24	6.34	
1992-08-18	6.34		1992-08-07	6.52	
1992-07-01	5.72		1992-05-18	5.01	
1992-04-08	4.34		1992-02-26	4.20	
1992-01-21	5.58		1991-12-17	6.42	
1991-11-18	6.60		1991-11-12	7.15	
1991-09-13	6.54		1991-08-26	6.90	
1991-03-24	5.96		1991-01-09	7.87	
1990-12-13	7.91				

B8
NNW
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000142041**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340848119102602		
Monloc name:	001N022W27C003S		
Monloc type:	Well		
Monloc desc:	SW-1 AT 175-195'		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1475053
Longitude:	-119.1734399	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	11.0
Vert measure units:	feet	Vertacc measure val:	2.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19900922	Welldepth:	195
Welldepth units:	ft	Wellholedepth:	385
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 29

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-04-18	-3.47				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1994-03-30	-3.89				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1994-02-09					
Note: The site was flowing, but the head could not be measured without additional equipment.					
1994-01-31	-3.11				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1993-12-23	-4.00				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1993-11-08	3.08		1993-09-22	3.97	
1993-07-16	-0.04				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1993-04-06	0.31		1993-02-05	3.48	
1992-12-15	10.24		1992-11-09	15.02	
1992-09-29	16.46		1992-09-24	16.22	
1992-08-18	17.58		1992-08-07	16.92	
1992-07-01	15.86		1992-05-18	16.44	
1992-04-08	16.68		1992-02-26	20.14	
1992-01-21	21.26		1991-12-17	25.48	
1991-11-18	27.10		1991-11-12	27.70	
1991-09-13	27.00		1991-08-26	27.08	
1991-03-24	25.28		1991-01-10	27.12	
1990-12-13	28.63				

B9
NNW
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000142040**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340848119102601		
Monloc name:	001N022W27C002S		
Monloc type:	Well		
Monloc desc:	SW-1 AT 275-295'		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1475053
Longitude:	-119.1734399	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	11.0
Vert measure units:	feet	Vertacc measure val:	2.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19900922	Welldepth:	295
Welldepth units:	ft	Wellholedepth:	385
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 29

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-04-18	-6.11				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1994-03-30	-6.47				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1994-02-09	1.0				
1994-01-31	-3.47				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1993-12-23	2.80		1993-11-08	8.60	
1993-09-22	10.05		1993-07-16	4.92	
1993-04-06	3.11		1993-02-05	7.60	
1992-12-15	16.30		1992-11-09	20.64	
1992-09-29	23.88		1992-09-24	23.40	
1992-08-18	23.40		1992-08-07	21.74	
1992-07-01	22.60		1992-05-18	21.30	
1992-04-08	19.10		1992-02-26	25.20	
1992-01-21	27.96		1991-12-17	33.31	
1991-11-18	35.20		1991-11-12	35.91	
1991-09-13	34.14		1991-08-26	32.62	
1991-03-24	31.00		1991-01-09	35.67	
1990-12-13	37.24				

C10
ESE
1/2 - 1 Mile
Higher

CA WELLS **CADW50000004668**

Latitude :	34.139882		
Longitude :	119.162283		
Site code:	341397N1191626W001	Casgem sta:	01N22W26M003S
Local well:	01N22W26M03S	Casgem s 1:	Irrigation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004668

C11
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS40000141923**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340822119094101		
Monloc name:	001N022W26M001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1394499
Longitude:	-119.1623283	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	230
Welldepth units:	ft	Wellholedepth:	230
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

C12
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS40000141924**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340822119094102		
Monloc name:	001N022W26M003S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1394499
Longitude:	-119.1623283	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	490
Welldepth units:	ft	Wellholedepth:	490
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

C13
ESE
1/2 - 1 Mile
Higher

CA WELLS **CADW50000004657**

Latitude :	34.1394		
Longitude :	119.1623		
Site code:	341394N1191623W001	Casgem sta:	01N22W26M001S
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004657

D14
SSE
1/2 - 1 Mile
Lower

CA WELLS **CADW50000004590**

Latitude :	34.13378		
Longitude :	119.167268		
Site code:	341333N1191673W001	Casgem sta:	01N22W27R003S
Local well:	01N22W27R03S	Casgem s 1:	Observation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004590

D15
SSE
1/2 - 1 Mile
Lower

CA WELLS **CADW50000004591**

Latitude :	34.13378		
Longitude :	119.167268		
Site code:	341333N1191673W003	Casgem sta:	01N22W27R005S
Local well:	01N22W27R05S	Casgem s 1:	Observation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004591

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

D16
SSE **CA WELLS** **CADW50000004592**
1/2 - 1 Mile
Lower

Latitude :	34.13378		
Longitude :	119.167268		
Site code:	341333N1191673W002	Casgem sta:	01N22W27R004S
Local well:	01N22W27R04S	Casgem s 1:	Observation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004592

D17
SSE **CA WELLS** **719**
1/2 - 1 Mile
Lower

Water System Information:

Prime Station Code:	01N/22W-34M01 S	User ID:	TAP
FRDS Number:	5610007005	County:	Ventura
District Number:	06	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	340800.0 1191000.0	Precision:	Undefined
Source Name:	WELL 05		
System Number:	5610007		
System Name:	OXNARD WATER DEPT		
Organization That Operates System:			
	251 SOUTH HAYES AVE. OXNARD, CA 93030		
Pop Served:	151500	Connections:	30588
Area Served:	OXNARD CITY		

D18
SSE **FED USGS** **USGS40000141782**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340800119095901		
Monloc name:	001N022W27R003S		
Monloc type:	Well		
Monloc desc:	CM-7 DEEP WELL 12.5 SURFACE CASING TO 87 FT		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1333388
Longitude:	-119.1673284	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	10.0
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19901014	Welldepth:	350
Welldepth units:	ft	Wellholedepth:	365
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 34

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-04-18	7.06		1994-03-30	4.41	
1994-02-09	11.03		1994-01-31	11.97	
1994-01-27	14.20		1993-12-23	17.73	
1993-11-08	26.86		1993-09-22	29.30	
1993-08-17	24.77		1993-07-16	14.68	
1993-04-06	10.03		1993-02-05	17.38	
1992-12-15	30.70		1992-11-09	36.24	
1992-09-24	39.88		1992-08-18	37.40	
1992-07-01	29.62		1992-05-18	30.28	
1992-04-08	27.80		1992-02-26	35.64	
1992-01-21	40.48		1992-01-10	44.61	
1991-12-17	51.12		1991-12-05	54.21	
1991-11-21	54.11		1991-11-18	54.00	
1991-11-15	54.10		1991-11-12	54.41	
1991-09-10	50.00		1991-07-19	42.57	
1991-03-24	43.57		1991-01-09	54.70	
1990-12-13	59.01		1990-10-24	62.2	

D19
SSE **FED USGS** **USGS40000141783**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340800119095902		
Monloc name:	001N022W27R004S		
Monloc type:	Well		
Monloc desc:	CM-7 INT		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1333388
Longitude:	-119.1673284	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	10.0
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19901014	Welldepth:	190
Welldepth units:	ft	Wellholedepth:	365
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 33

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-03-30	-7.06				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1994-01-31	-7.32				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1994-01-27					
Note: The site was flowing, but the head could not be measured without additional equipment.					
1993-12-23	-4.68				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1993-11-08	-5.10				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1993-09-22	-0.39				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1993-08-17	-2.35				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1993-07-16	-4.51				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1993-04-18	-6.77				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1993-04-06	-3.87		1993-02-05	-1.54	
1992-12-15	5.08		1992-11-09	9.52	
1992-09-24	11.34		1992-08-18	11.40	
1992-07-01	9.84		1992-05-18	10.44	
1992-04-08	9.82		1992-02-26	13.74	
1992-01-21	14.90		1992-01-10	16.78	
1991-12-17	19.07		1991-12-05	20.69	
1991-11-21	20.27		1991-11-18	20.60	
1991-11-15	20.80		1991-11-12	20.48	
1991-09-10	20.00		1991-07-19	18.63	
1991-03-24	20.80		1991-01-09	22.66	
1990-12-12	24.31		1990-10-24	24.12	

D20
SSE **FED USGS** **USGS40000141784**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340800119095903		
Monloc name:	001N022W27R005S		
Monloc type:	Well		
Monloc desc:	CM-7 SHALLOW WELL		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1333388
Longitude:	-119.1673284	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	10.0
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19901014	Welldepth:	110
Welldepth units:	ft	Wellholedepth:	365
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 30

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-04-18	-2.53				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1994-03-30	-3.09				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1994-02-09	0.30				
1994-01-31	-1.73				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1994-01-27	0.60		1993-12-23	0.40	
1993-11-08	1.52		1993-09-22	1.57	
1993-08-17	0.80		1993-07-16	0.20	
1992-09-24	7.76		1992-08-18	7.32	
1992-07-01	6.74		1992-05-18	6.84	
1992-04-08	6.30		1992-02-26	7.24	
1992-01-21	7.52		1992-01-10	8.09	
1991-12-17	8.73		1991-12-05	10.07	
1991-11-21	10.05		1991-11-18	8.95	
1991-11-15	10.13		1991-11-12	10.16	
1991-09-10	8.90		1991-07-19	10.00	
1991-03-24	14.52		1991-01-09	16.38	
1990-12-13	17.10		1990-10-24	15.89	

21
North
1/2 - 1 Mile
Higher

FED USGS **USGS40000142104**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340903119101601		
Monloc name:	001N022W22K001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1508386
Longitude:	-119.172051	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	16
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	19530601	Welldepth:	206
Welldepth units:	ft	Wellholedepth:	206
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

22
SSE
1/2 - 1 Mile
Lower

CA WELLS **CADW50000004582**

Latitude :	34.1331		
Longitude :	119.1659		
Site code:	341331N1191659W001	Casgem sta:	01N22W27R001S
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004582

E23
West
1/2 - 1 Mile
Lower

CA WELLS **CADW50000004669**

Latitude :	34.14		
Longitude :	119.1828		
Site code:	341400N1191828W001	Casgem sta:	01N22W28H003S
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004669

24
NE
1/2 - 1 Mile
Higher

FED USGS **USGS40000142057**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340851119094001		
Monloc name:	001N022W23N002S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1475053
Longitude:	-119.1620506	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	16
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	240
Welldepth units:	ft	Wellholedepth:	240
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

25
NNW **CA WELLS** **CADW50000004758**
1/2 - 1 Mile
Higher

Latitude :	34.1506		
Longitude :	119.1767		
Site code:	341506N1191767W001	Casgem sta:	01N22W22M005S
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004758

E26
West **FED USGS** **USGS40000141934**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340824119105701		
Monloc name:	001N022W28H003S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1400053
Longitude:	-119.1834402	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	205
Welldepth units:	ft	Wellholedepth:	205
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

F27
NNE **CA WELLS** **CADW50000004783**
1/2 - 1 Mile
Higher

Latitude :	34.1525		
Longitude :	119.1667		
Site code:	341525N1191667W001	Casgem sta:	01N22W22J008S
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004783

F28
NNE **FED USGS** **USGS40000142143**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340911119095601		
Monloc name:	001N022W22J007S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1530608
Longitude:	-119.1664952	Sourcemap scale:	24000
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	20
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19680601	Welldepth:	120
Welldepth units:	ft	Wellholedepth:	370
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1990-07-25	39.16		1990-02-25	39.16	

F29
NNE **FED USGS** **USGS40000142144**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340911119095602		
Monloc name:	001N022W22J008S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1530608
Longitude:	-119.1664952	Sourcemap scale:	24000

Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	80
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19680601	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	370
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1990-07-25	39.86	

G30
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000141953**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340827119110904		
Monloc name:	001N022W28G004S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1408386
Longitude:	-119.1867736	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	2.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Confined single aquifer		
Construction date:	19891128	Welldepth:	275
Welldepth units:	ft	Wellholedepth:	1415
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 37

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-04-18	-7.47		1994-03-30	-7.86	
1994-02-09	-2.31				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1994-01-31	-5.56		1993-12-23	-3.08	
1993-11-08	-0.46		1993-09-22	0.36	
1993-08-17	-1				
1993-07-26					
Note: The site was flowing, but the head could not be measured without additional equipment.					

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1993-07-16	2.69				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1993-04-06	-2.20		1993-02-05	0.10	
1992-12-15	5.96		1992-11-09	11.56	
1992-09-24	13.48		1992-08-18	12.01	
1992-07-01	11.72		1992-05-18	13.87	
1992-04-08	12.06		1992-02-26	16.72	
1992-01-21	16.62		1991-12-17	20.19	
1991-11-18	21.50		1991-09-10	21.80	
1991-05-14	20.48		1991-03-24	20.39	
1991-03-06	22.14		1991-01-10	21.69	
1990-12-13	23.72		1990-10-18	23.57	
1990-10-05	22.22		1990-08-01	21.20	
1990-06-06	19.74		1990-05-05	19.47	
1990-03-22	15.97		1990-01-24	17.23	
1989-12-15	17.20				

G31
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000141954**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340827119110905		
Monloc name:	001N022W28G005S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1408386
Longitude:	-119.1867736	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	2.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Unconfined single aquifer		
Construction date:	19891128	Welldepth:	200
Welldepth units:	ft	Wellholedepth:	1415
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 38

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-04-18	-7.56		1994-03-30	-7.89	
1994-02-09	-2.31				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1994-01-31	-5.80		1993-12-23	-3.00	
1993-11-08	-0.70		1993-09-22	0.19	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1993-08-17	-0.98				
1993-07-26					
Note: The site was flowing, but the head could not be measured without additional equipment.					
1993-07-16	-3.10		1993-04-06	-2.51	
1993-02-05	0.30		1992-12-15	5.84	
1992-11-09	11.34		1992-09-24	13.12	
1992-08-18	12.30		1992-07-01	11.95	
1992-05-18	13.89		1992-04-08	11.90	
1992-02-26	16.40		1992-01-21	17.32	
1991-12-17	20.70		1991-11-18	22.00	
1991-09-10	21.90		1991-05-14	20.47	
1991-03-24	20.72		1991-03-06	22.46	
1991-01-10	21.91		1990-12-13	23.78	
1990-10-18	24.25		1990-10-05	23.07	
1990-08-01	21.60		1990-06-06	19.86	
1990-05-05	19.47		1990-03-22	16.48	
1990-02-01	16.93		1990-01-24	17.28	
1989-12-15	16.70				

G32
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000141952**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340827119110903		
Monloc name:	001N022W28G003S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1408386
Longitude:	-119.1867736	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	2.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Confined single aquifer		
Construction date:	19891128	Welldepth:	760
Welldepth units:	ft	Wellholedepth:	1415
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 40

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-04-18	-2.87				
Note: The site was flowing, but the head could not be measured without additional equipment.					
1994-03-30	-2.31		1994-02-09	4.40	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-01-31	2.01		1993-12-23	3.53	
1993-11-08	8.08		1993-09-22	8.25	
1993-08-17	6.39		1993-07-26	6.27	
1993-07-16	4.94		1993-04-06	5.67	
1993-02-05	11.98		1993-01-26	4.37	
1992-12-15	20.90		1992-11-09	24.90	
1992-09-24	26.44		1992-08-18	24.84	
1992-07-01	24.37		1992-05-18	25.39	
1992-04-08	27.08		1992-02-26	33.08	
1992-01-21	36.12		1991-12-17	40.00	
1991-11-18	40.40		1991-09-10	38.60	
1991-05-14	37.25		1991-03-24	39.59	
1991-03-06	42.13		1991-01-10	43.63	
1990-12-13	44.25		1990-10-18	43.72	
1990-10-05	42.61		1990-08-01	39.14	
1990-06-06	37.02		1990-05-05	34.68	
1990-03-22	31.22		1990-02-06	31.55	
1990-02-01	31.51		1990-01-24	32.03	
1989-12-15	36.10				

G33
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000141950**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340827119110901		
Monloc name:	001N022W28G001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1408386
Longitude:	-119.1867736	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	2.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Unconfined single aquifer		
Construction date:	19891128	Welldepth:	1395
Welldepth units:	ft	Wellholedepth:	1415
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 39

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-04-18	15.91		1994-03-30	16.53	
1994-02-09	21.89		1994-01-31	21.26	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-01-26	25.22		1993-12-23	26.42	
1993-11-08	25.82		1993-09-22	26.15	
1993-08-17	25.62		1993-07-16	23.68	
1993-04-06	24.54		1993-02-05	31.38	
1992-12-15	39.04		1992-11-09	41.72	
1992-09-24	40.82		1992-08-18	37.40	
1992-07-01	38.30		1992-05-18	42.27	
1992-04-08	43.70		1992-02-26	49.76	
1992-01-21	53.08		1991-12-17	56.24	
1991-11-18	55.50		1991-09-10	51.00	
1991-05-15	51.04		1991-03-24	54.86	
1991-03-05	57.00		1991-01-10	58.85	
1990-12-13	59.55		1990-10-18	57.03	
1990-10-04	55.49		1990-08-01	51.27	
1990-06-06	49.12		1990-05-05	46.73	
1990-03-22	43.27		1990-02-06	44.60	
1990-02-01	44.82		1990-01-24	45.99	
1989-12-15	44.51				

G34
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000141951**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340827119110902		
Monloc name:	001N022W28G002S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1408386
Longitude:	-119.1867736	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5.00
Vert measure units:	feet	Vertacc measure val:	2.5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Confined single aquifer		
Construction date:	19891128	Welldepth:	1095
Welldepth units:	ft	Wellholedepth:	1415
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 40

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-04-18	15.73				
Note: The site had been pumped recently.					
1994-03-30	16.65		1994-02-09	20.29	

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel
1994-01-31	19.21	
1993-11-08	28.42	
1993-08-17	28	
1993-07-16	24.54	
1993-02-05	29.58	
1992-12-15	38.92	
1992-09-24	43.84	
1992-07-01	39.12	
1992-04-08	42.76	
1992-01-21	53.76	
1991-11-18	60.20	
1991-05-15	52.98	
1991-03-09	58.74	
1990-12-13	64.57	
1990-10-18	62.79	
1990-08-01	55.40	
1990-05-05	51.23	
1990-02-01	46.72	
1989-12-15	49.15	
1993-12-23	24.26	
1993-09-22	28.65	
1993-07-26	26.48	
1993-04-06	22.28	
1993-01-26	25.18	
1992-11-09	43.82	
1992-08-18	40.32	
1992-05-18	43.22	
1992-02-26	49.66	
1991-12-17	59.84	
1991-09-10	53.70	
1991-03-24	55.26	
1991-01-10	61.76	
1990-10-28	62.87	
1990-10-05	60.78	
1990-06-06	52.91	
1990-03-22	45.56	
1990-01-24	47.57	

35
North
1/2 - 1 Mile
Higher

CA WELLS **CADW50000004798**

Latitude :	34.1542		
Longitude :	119.1684		
Site code:	341542N1191684W001	Casgem sta:	01N22W22K002S
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004798

G36
West
1/2 - 1 Mile
Lower

CA WELLS **CADW50000004681**

Latitude :	34.140718		
Longitude :	119.186834		
Site code:	341408N1191870W003	Casgem sta:	01N22W28G005S
Local well:	01N22W28G05S	Casgem s 1:	Observation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004681

G37
West
1/2 - 1 Mile
Lower

CA WELLS **CADW50000004680**

Latitude :	34.140718		
Longitude :	119.186834		
Site code:	341419N1191890W002	Casgem sta:	01N22W28G002S
Local well:	01N22W28G02S	Casgem s 1:	Observation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004680

G38
West
1/2 - 1 Mile
Lower

CA WELLS **CADW50000004677**

Latitude :	34.140718		
Longitude :	119.186834		
Site code:	341419N1191890W001	Casgem sta:	01N22W28G001S
Local well:	01N22W28G01S	Casgem s 1:	Observation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004677

G39
West
1/2 - 1 Mile
Lower

CA WELLS **CADW50000004678**

Latitude :	34.140718		
Longitude :	119.186834		
Site code:	341408N1191870W001	Casgem sta:	01N22W28G003S
Local well:	01N22W28G03S	Casgem s 1:	Observation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004678

G40
West
1/2 - 1 Mile
Lower

CA WELLS **CADW50000004679**

Latitude :	34.140718		
Longitude :	119.186834		
Site code:	341408N1191870W002	Casgem sta:	01N22W28G004S
Local well:	01N22W28G04S	Casgem s 1:	Observation
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004679

41
NNE
1/2 - 1 Mile
Higher

CA WELLS **CADW50000004787**

Latitude :	34.1536		
Longitude :	119.1656		
Site code:	341536N1191656W001	Casgem sta:	01N22W22J007S
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004787

H42
NW
1/2 - 1 Mile
Higher

CA WELLS **715**

Water System Information:

Prime Station Code:	01N/22W-21J03 S	User ID:	TAP
FRDS Number:	5610007008	County:	Ventura
District Number:	06	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Destroyed
Source Lat/Long:	340900.0 1191100.0	Precision:	Undefined
Source Name:	WELL 08 - DESTROYED		
System Number:	5610007		
System Name:	OXNARD WATER DEPT		
Organization That Operates System:			
	251 SOUTH HAYES AVE. OXNARD, CA 93030		
Pop Served:	151500	Connections:	30588
Area Served:	OXNARD CITY		

H43
NW
1/2 - 1 Mile
Higher

CA WELLS **716**

Water System Information:

Prime Station Code:	01N/22W-21L01 S	User ID:	TAP
FRDS Number:	5610009002	County:	Ventura
District Number:	06	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Abandoned
Source Lat/Long:	340900.0 1191100.0	Precision:	Undefined
Source Name:	WELL 02 - ABANDONED		
System Number:	5610009		
System Name:	PORT HUENEME WATER DEPT		
Organization That Operates System:			
	250 N VENTURA ROAD PORT HUENEME, CA 93041		
Pop Served:	19000	Connections:	6402
Area Served:	PORT HUENEME		

H44
NW
1/2 - 1 Mile
Higher

CA WELLS **717**

Water System Information:

Prime Station Code:	01N/22W-21L02 S	User ID:	TAP
FRDS Number:	5610009003	County:	Ventura
District Number:	06	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Abandoned
Source Lat/Long:	340900.0 1191100.0	Precision:	Undefined
Source Name:	WELL 03 - ABANDONED		
System Number:	5610009		
System Name:	PORT HUENEME WATER DEPT		
Organization That Operates System:			
	250 N VENTURA ROAD		
	PORT HUENEME, CA 93041		
Pop Served:	19000	Connections:	6402
Area Served:	PORT HUENEME		

I45
WNW
1/2 - 1 Mile
Higher

CA WELLS **CADW50000004732**

Latitude :	34.1469		
Longitude :	119.187		
Site code:	341469N1191870W001	Casgem sta:	01N22W28B001S
Local well:	Not Reported	Casgem s 1:	Unknown
County id:	56		
Basin cd:	4-4.02	Basin desc:	Oxnard
Org unit n:	Southern Region Office	Site id:	CADW50000004732

I46
WNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000142051**

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340850119111001		
Monloc name:	001N022W28B001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070103	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1472274
Longitude:	-119.1870515	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	10
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	230
Welldepth units:	ft	Wellholedepth:	230
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
NNW **OIL_GAS** **CAOG9A000033832**
1/2 - 1 Mile

Districtnu:	2	Apinumber:	11105612
Blmwell:	N	Redrillcan:	No
Dryhole:	Y	Wellstatus:	P
Operatorna:	Southern California Petroleum Corp.		
Countyname:	Ventura	Fieldname:	Any Field
Areaname:	Any Area		
Section:	22		
Township:	01N	Range:	22W
Basemeridi:	SB	Elevation:	Not Reported
Locationde:	Not Reported		
Glat:	34.150756		
Glong:	-119.174403		
Gissourcec:	hud		
Comments:	Not Reported		
Leasename:	Merchants-Hartman	Wellnumber:	1
Epawell:	N	Hydraulica:	N
Confidenti:	N	Spuddate:	30-DEC-99
Welldeptha:	Not Reported	Redrillfoo:	Not Reported
Abandonedd:	/ /	Completion:	/ /
Gissymbol:	Not Reported	Site id:	CAOG9A000033832

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
93033	14	0

Federal EPA Radon Zone for VENTURA County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 93033

Number of sites tested: 5

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.780 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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APPENDIX C

AGENCY RECORDS FOR OFF-SITE SOURCES

California Regional Water Quality Control Board

Los Angeles Region

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.waterboards.ca.gov/losangeles

Linda S. Adams
Cal/EPA Secretary

Arnold Schwarzenegger
Governor

July 16, 2010

Ms. Joanne Underwood
BMW of North America, LLC
5900 Arcturus Avenue
Oxnard, CA 93033

NO FURTHER ACTION – VEHICLE FUELING AREA OF BMW ENGINEERING AND EMISSIONS TEST CENTER AT 5900 ARCTURUS AVENUE, OXNARD, CALIFORNIA 93033 (SCP NO. 1063, SITE ID NO. 2040082)

Dear Ms. Underwood:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the State regulatory agency responsible for protecting water quality in Los Angeles and Ventura Counties. To accomplish this, the Regional Board oversees the investigation and cleanup of unregulated discharges adversely or potentially affecting the State's water, as authorized by the Porter-Cologne Water Quality Control Act (California Water Code [CWC], Division 7).

Regional Board staff have reviewed the *Results of Underground Piping Evaluation, Repair, and Remediation Activities Plus Limited Subsurface Soil and Groundwater Confirmatory Sampling at the BMW Engineering West Facility Oxnard, California* (Report), dated March 2001, prepared by ENSR for the referenced site. The Report documents the activities conducted to identify the fuel release location, repair the underground piping, and collect confirmatory soil and groundwater samples from the soil excavation to evaluate the residual contamination at the leak area within the vehicle fueling facility located at the site. The following information is presented in the submitted report:

1. The BMW Engineering and Emissions Test Center (EETC, site) is located at 5900 Arcturus Avenue, Oxnard, California. During late 2000 through January 2001, a vehicle fueling facility, including two 4,000-gallon aboveground storage tanks (ASTs) and seven fuel dispensers with associated piping system, was built in the northeastern portion of the EETC to store 89 octane and 92 octane unleaded gasoline for use in vehicle testing. The vehicle fueling facility was equipped with a leak detection system.

   On January 28, 2001, the leak detection monitor in the 92 octane product-piping sump alarmed and automatically shut off the entire fueling system. The monitoring alarm mode indicated that a likely fuel release in the piping system. Subsequently, the fuel release point was searched and located at the south side of the 92 octane island, where a small fracture on the 92 octane secondary pipeline was noted.

2. In February 2001, soil excavation and confirmatory sampling were conducted at the suspected and identified fuel release areas. Approximately 0.33 cubic yard of gasoline contaminated soil was removed from beneath the damaged piping section (Excavation Area 2). One confirmatory soil sample (S-01) was collected from the bottom of Excavation Area 2, at 5 feet (ft) below

ground surface (bgs) and approximately 1.5 ft below the damaged pipe. Two groundwater grab samples (W-01 and W-02) were also collected from one boring near soil sample S-01 location. Depth to groundwater ranged between 5.5 to 6.5 ft bgs. Both the soil and groundwater samples were tested for volatile organic compounds (VOCs) by USEPA Method 8260B, including analysis of gasoline oxygenates.

3. Methyl tertiary butyl ether (MTBE) and total xylenes were detected in confirmatory soil sample S-01 at concentrations of 0.011 milligrams per kilogram (mg/kg) and 0.0032 mg/kg, respectively, which were below their respective soil screening levels of 0.013 mg/kg and 1.75 mg/kg developed for the site. All of the other VOCs were not detected above their respective laboratory reporting limits.

4. N-Butylbenzene, naphthalene, and n-Propylbenzene were detected in groundwater samples W-01 and W-02 at concentrations up to 1.4 micrograms per liter (µg/L), 2.6 µg/L, and 2.2 µg/L, respectively, which were well below their respective California Drinking Water Notification Levels of 260 µg/L, 17 µg/L, and 260 µg/L. All of the other VOCs were not detected above their respective laboratory reporting limits.

Based on the information provided to the Regional Board, and with the provision that the information was accurate and representative of site conditions, we require no further action (NFA) for the subsurface investigation and remediation at this time at the site investigated area – the vehicle fueling facility, which is located at the northeastern portion of the EETC (enclosed Site Plan). However, the site owner/operator must notify the Regional Board immediately if additional soil and/or groundwater contamination is encountered during any future activities at the site.

Please note that Regional Board staff oversight charges for work associated with this NFA letter and case review and evaluation package will be billed on the invoices for second and third quarters 2010, in the same manner as previously billed.

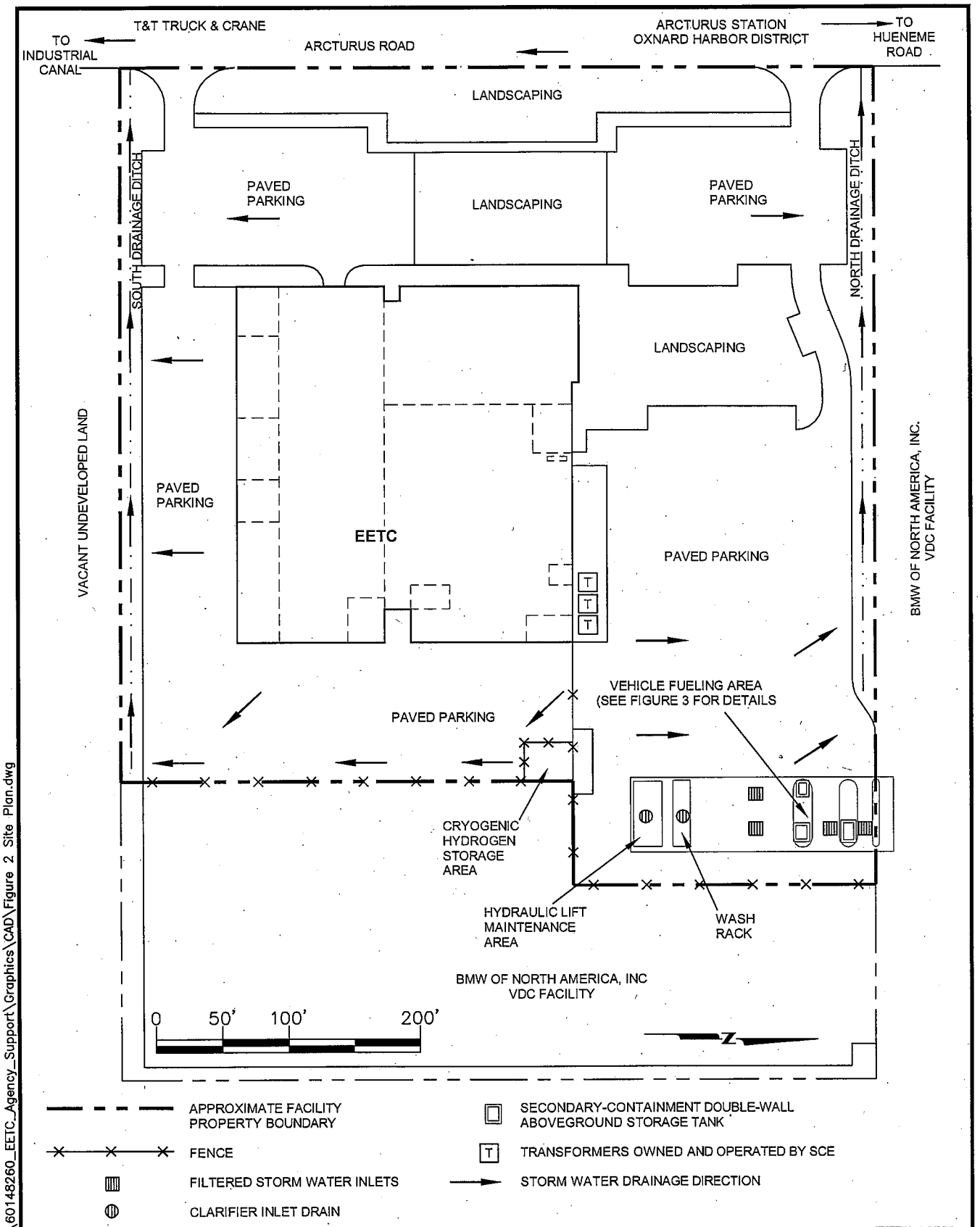
We would like to take this opportunity to thank you for your full cooperation with the Regional Board during the course of the site assessment and remediation. Should you have any questions regarding this matter, please contact Dr. Ann Chang, Project Manager, at (213) 620-6070, Ms. Su Han, Unit Chief, at (213) 576-6735, or Dr. Arthur Heath, Remediation Section Chief, at (213) 576-6725.

Sincerely,

Samuel Unger, P.E.
Interim Executive Officer

Enclosure: Site Plan

cc: Tiina Couture, AECOM



J:\Client--Projects\BMW\60148260_EETC_Agency_Support\Graphics\CAD\Figure 2 Site Plan.dwg

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SITE PLAN

BMW of North America, Inc.
Engineering and Emissions Test Center (EETC)
Oxnard, CA

FIGURE NUMBER: 2

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M. Scop	7/7/2010	60148260-999	

APPENDIX D

AGENCY RECORDS FOR SITE

ENVIRONMENTAL BASELINE INVESTIGATION REPORT

Prepared for:

Reichhold Chemicals, Inc.
5980 Arcturus Avenue
Oxnard, California

Prepared by:

Woodward-Clyde Consultants

January, 1996

ENVIRONMENTAL BASELINE INVESTIGATION REPORT

Prepared for:

Reichhold Chemicals, Inc.
5980 Arcturus Avenue
Oxnard, California

Prepared by:

Woodward-Clyde Consultants
130 Robin Hill Road, Suite 100
Santa Barbara, California

January, 1996

Woodward-Clyde Consultants

LETTER OF TRANSMITTAL

TO: REICHHOLD CHEMICALS
3320 LINDOW AVE E.
TACOMA, WA 98421-4001
ATTN: AL JEROME

DATE: 2/6/96
PROJECT NO: —
PROJECT NAME: OXNARD, CA Plant

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Sincerely,

WOODWARD-CLYDE CONSULTANTS

Henry A. Dihm, P.E. (HAC)
Senior Engineer

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1.0

INTRODUCTION

Woodward-Clyde Consultants (WCC) was authorized by Blackwell, Sanders, Matheny, Weary, and Lombardi, L.C., on behalf of their client, Cook Composites and Polymers, to conduct an environmental baseline investigation at the Reichhold Chemicals facility located at 5980 Arcturus Avenue, Oxnard, California. The location of the site is shown in Figure 1.

The purpose of the investigation was to assess whether previous site activities have impacted soil and groundwater, and if so, to obtain preliminary baseline information on the nature, extent, and concentration of hazardous substances in soil and groundwater. The scope of work included conducting a limited Phase I environmental site assessment (ESA) and a Phase II ESA, as described in WCC's proposal dated November 27, 1995. The limited Phase I ESA consisted of a review of available site background information in order to plan an appropriate field investigation, and the Phase II ESA consisted of collecting soil and groundwater samples for laboratory analysis. This report describes the work performed and presents our findings.

2.1 PURPOSE AND SCOPE

WCC conducted a limited Phase I ESA in order to obtain information regarding past and present use of the subject site. This information was used solely to develop the proposed scope of work for the Phase II ESA investigation; therefore, the limited Phase I ESA did not include some tasks normally conducted during a property transfer environmental assessment. The work performed for the limited Phase I ESA included an interview with Ricky Chua (Plant Engineer for the Reichhold facility), a site reconnaissance conducted by WCC representatives on November 14, 1995, review of a database site assessment report provided by Vista Information Solutions, Inc., phone conversations with regulatory personnel familiar with the subject site, and a review of site vicinity aerial photographs taken in 1963, 1970, 1978, 1984, and 1994. In addition, WCC reviewed a Preliminary Site Investigation Report, prepared by TreaTek-CRA Company and dated March 1995, for the Occidental Chemical Corporation facility (OxyChem) which borders the site to the south.

2.2 SUMMARY OF FINDINGS

Information obtained from the limited Phase I ESA is summarized as follows:

- The subject site encompasses approximately 10.5 acres at 5980 Arcturus Avenue in Oxnard, California.
- The entire site was previously used for agriculture, and the northern portion of the property, which is currently vacant, continued to be farmed until approximately 2 years ago.
- A polyester resin manufacturing facility was constructed on the southern 3.5 acres of the site in 1968.
- The site was initially owned and operated by Diamond Alkali, the subsequently owned and operated by Koppers, Inc. It is currently owned and operated by Reichhold Chemicals, Inc. (Reichhold).

- The facility has always been used for the production of unsaturated polyester resin.
- Information provided by Reichhold indicates that there have been several bromine releases and one spill of phthalic anhydride at the site.
- Information provided by Reichhold indicates that detectable concentrations of styrene, ethylbenzene, and glycol compounds were present in soil samples collected near the rail car unloading area in 1987, when discolored and odorous soil was discovered during the construction of a concrete wastewater collection sump.
- There reportedly have never been any underground storage tanks at the site.
- Wastewater is discharged to the sanitary sewer as permitted by the City of Oxnard.
- Chemicals stored at the site include phthalic and maleic anhydride, various glycol compounds, styrene, methylene chloride, bromine, caustic soda, and relatively small amounts of various solvents and hydrocarbons for cleaning.
- All asbestos was reportedly removed from the site several years ago.
- Transformers at the site are owned by Southern California Edison Co. They reportedly do not contain PCBs.
- No obvious evidence of spills or releases was observed during the site reconnaissance other than minor staining of some concrete slabs adjacent to sumps, however, various sumps and pits contained water or other fluids preventing observations for possible cracks in the linings.
- The Preliminary Site Investigation Report for the OxyChem facility indicated that relatively high concentrations of volatile organic compounds (VOC's), including acctone and ethylbenzene, were present in groundwater samples collected from a monitoring well located near the OxyChem/Reichhold property line. The report also indicated that shallow groundwater in the local area flows toward the southwest or southeast, and that OxyChem is located hydraulically downgradient from the Reichhold facility.

3.1 SCOPE OF WORK AND RATIONALE FOR BORING LOCATIONS

The Phase II ESA field investigation was conducted on November 28 through December 2, 1995. Based on the findings of the limited Phase I ESA, and on information obtained during the Phase II field investigation, WCC advanced three hand auger borings and observed Transglobal Environmental Geochemistry (TEG) advance 26 Strataprobe® borings at selected on-site locations. All of the boring locations are shown in Figure 2, and boring locations on the southern portion of the property are shown in greater detail in Figure 3. Soil samples were collected from each boring and groundwater samples were collected from 14 selected borings. The methods used to drill, sample, and backfill the borings are described in Appendix A.

The borings were generally located in areas where spills are known to have occurred, in areas where chemicals or used drums are stored, and in other areas where drains, pits, or sumps are located. The rationale and/or location for each of the borings is as follows:

SB-1 and SB-2) Undeveloped northern portion of the property formerly used for agriculture.

SB-3) Area north of phthalic anhydride tank and adjacent to maintenance shop.

SB-4 and SB-5) Areas where chemicals are not used or stored. Samples to be collected to evaluate background concentrations.

SB-6) Area where used 55-gallon drums are stored up-side down over concrete adjacent to bare ground.

SB-7) Distillate holding tank area.

SB-8) Process area where methylene chloride, styrene, and other materials are mixed and stored.

SB-9) Hazardous waste storage area.

SB-10) Hazardous waste storage area and assumed up-gradient groundwater flow direction.

SB-11) Storage shed where hazardous materials are stored in drums and small containers.

SB-12) Former drum loading area where manual loading of polyester resins in 55-gallon drums occurred.

SB-13) Neutralization pit area.

SB-14) Bromine pit area.

SB-15) Acetone bath area.

SB-16) Area in the vicinity of methylene chloride recovery and storage units.

SB-17) A storage area for drums on pallets over bare ground.

SB-18) An area where hazardous materials within 55-gallon drums are stored in the warehouse.

SB-19) Area adjacent to cooling tower where previous soil samples were collected during construction of concrete containment structure in 1987.

SB-20) Finished goods storage area where blended polyester resins are stored and loaded into tank trucks.

SB-21) Area where drums are filled with polyester resin.

SB-22) Tank truck unloading area and sump location.

SB-23) Sump adjacent to tank car unloading platform.

SB-24) Area where chemicals are not used or stored. Sample to be collected to evaluate background concentrations.

SB-25) Assumed down-gradient groundwater flow direction at southeast corner of the site.

SB-26) Tank car unloading area where phthalic anhydride spill is known to have occurred.

SB-27 and SB-28) Tank car unloading area.

SB-29) Assumed down-gradient groundwater flow direction on the east boundary of the site.

3.1.1 Temporary Monitoring Wells

Five of the borings (SB-1, SB-3, SB-10, SB-25, and SB-26) were completed as temporary groundwater monitoring wells in order to assess the possible presence of light non-aqueous phase liquids (LNAPLs), and were surveyed to a benchmark of known elevation in order to assess the direction of groundwater flow. Well construction methods are described in Appendix A. The temporary monitoring wells were completed to a depth of 10 feet below ground surface (bgs), and other borings were advanced to depths of 5 to 14 feet bgs.

3.1.2 Sample Analyses

Soil samples were analyzed in the field with an organic vapor meter (OVM). All soil and groundwater samples were either analyzed by TEG's on-site mobile laboratory or were retained for analysis by Zymax Envirotechnology (Zymax) analytical laboratory. The mobile laboratory was used to obtain real-time data in order to assess the need for additional sampling locations without remobilization. At the discretion of the WCC representative, soil and groundwater samples were either analyzed for VOCs by the TEG

mobile laboratory, or were submitted to Zymax for analysis of VOCs, semi-volatile organic compounds (SVOCs), chlorinated pesticides, and/or metals, depending on the boring location. Quality assurance/quality control (QA\QC) procedures followed by TEG and Zymax are discussed in Appendix A, and laboratory QA\QC reports are presented in Appendices C and D, respectively.

3.2 SITE GEOLOGY AND HYDROGEOLOGY

Soil samples collected from each boring were examined by a WCC representative. Soil boring logs which describe the soils encountered and the drilling methodologies are presented in Appendix B. The soils encountered were generally mixtures of fine grained sand and silt from the surface to depths of approximately 9 to 10 feet bgs. Silty clay or clayey silt was typically present below 9 or 10 feet bgs. Fill material was present at the surface in some locations to depths of approximately 2 to 7 feet bgs.

Groundwater was encountered in the borings at depths ranging from approximately six to nine feet bgs. Groundwater elevations in the temporary wells are presented in Table 1. The groundwater elevations recorded on November 30, 1995 were used to prepare the water table contour map presented in Figure 4. As illustrated in Figure 4, the inferred groundwater flow direction was generally toward the northwest and west. It is anticipated that water table elevations in this vicinity are probably affected by seasonal fluctuations and tidal effects and may be highly variable.

3.3 SOIL SAMPLE ANALYSES

Soil samples were collected from each boring at depths of 4 to 5 feet bgs and were analyzed for VOCs by either TEG's mobile laboratory using EPA Methods 8010 and 8020, or by Zymax using EPA Method 8260. Duplicate soil samples collected from borings SB-26 and SB-27 were analyzed for VOCs by both TEG and Zymax as a quality control check. Soil samples from each boring except SB-2 were analyzed by Zymax for SVOCs using EPA Method 8270, and soil samples from borings SB-3, SB-9, SB-14, SB-17, and SB-26 were analyzed by Zymax for California Assessment Manual (CAM) 17 metals. In

addition, soil samples from boring SB-1 and SB-2 were analyzed by Zymax for chlorinated pesticides using EPA Method 8080.

The results for VOC, SVOC, and metals analyses are summarized in Tables 2, 3, and 4, respectively. These tables present results only for organic compounds and metals which were detected in at least one sample; analytes which are not listed in the tables were not present in any sample in detectable concentrations. The TEG analytical reports are presented in Appendix C and the Zymax analytical reports are presented in Appendix D.

3.4 GROUNDWATER SAMPLE ANALYSES

Groundwater samples were collected from borings SB-1, SB-3, SB-9, SB-10, SB-11, SB-14, SB-18, SB-21, SB-22, SB-25, SB-26, SB-27, SB-28, and SB-29. The groundwater samples were analyzed for VOCs by either TEG's mobile laboratory using EPA Methods 8010 and 8020, or by Zymax using EPA Method 8260. Duplicate groundwater samples collected from borings SB-26 and SB-27 were analyzed for VOCs by both TEG and Zymax as a quality control check. Each groundwater sample, except the samples from SB-1, SB-9, SB-22, and SB-28, were analyzed by Zymax for SVOCs using EPA Method 8270. Borings SB-1, SB-9, SB-22, and SB-28 did not yield sufficient water for SVOC analysis. The groundwater sample collected from boring SB-26 was analyzed by Zymax for CAM 17 metals. It was intended that the groundwater sample from boring SB-1 would be analyzed for chlorinated pesticides using EPA Method 8080; however, the boring did not yield sufficient water.

The results for VOC, SVOC, and metals analyses are summarized in Tables 5, 6, and 7, respectively. These tables present results only for organic compounds and metals which were detected in at least one sample; analytes which are not listed in the tables were not present in any sample in detectable concentrations. The TEG analytical reports are presented in Appendix C and the Zymax analytical reports are presented in Appendix D.

3.5 SUMMARY OF PHASE II FINDINGS

Analytical results for soil samples indicate that detectable concentrations of ethylbenzene, methylene chloride, toluene, o-xylene, and bis (2-ethylhexyl) phthalate are present in soils at the site. Ethylbenzene and methylene chloride generally were detected in more samples and at higher concentrations than the other organic compounds. Maps indicating the concentration and approximate extent of ethylbenzene and methylene chloride in soil are presented in Figures 5 and 6, respectively. Each of the soil samples analyzed for CAM 17 metals contained detectable concentrations of barium, chromium, cobalt, copper, nickel, vanadium, and zinc.

Analytical results for groundwater samples indicate that detectable concentrations of benzene, chloroform, cis-1,2-dichloroethane, ethylbenzene, methylene chloride, toluene, 1,1,1-trichloroethane, m&p-xylenes, o-xylene, benzoic acid, and 4-methylphenol are present in groundwater at the site. Ethylbenzene and methylene chloride generally were detected in more samples and at higher concentrations than the other organic compounds. Maps indicating the concentration and approximate extent of ethylbenzene and methylene chloride in groundwater are presented in Figures 7 and 8, respectively. The groundwater sample collected from boring SB-26 contained detectable concentrations of barium, vanadium, and zinc.

LIMITATIONS

Geology and geochemistry generally are inexact sciences, and investigative data commonly contain uncertainties. The behavior of organic compounds and metals in the subsurface is complex. Our judgments and conclusions are based solely upon our field observations, the analytical data, and our experience with similar projects. WCC assumes no responsibility for conditions which do not come to its actual knowledge or for conditions not recognized as environmentally unacceptable at the time of our work. No guarantees are either expressed or implied.

Please do not hesitate to call our office if you have any questions or comments.

Sincerely,

Richard E. Chandler, R.G.
California Registered Geologist No. 6074

Henry A. Dihm, P.E.
Senior Project Engineer



TABLE 1

GROUNDWATER ELEVATIONS IN TEMPORARY MONITORING WELLS

Reichhold Chemicals
5980 Arcturus Avenue
Oxnard, California

Temporary Well No.	Date	Reference Elevation (ft.)[a]	Depth to Water (ft.)	Groundwater Elevation (ft.)	LNAPL[b] Thickness
SB-1	11/29/95	10.60	9.16	1.44	None
	11/30/95		9.14	1.46	None
SB-3	11/29/95	11.51	8.04	3.47	None
	11/30/95		7.86	3.65	None
SB-10	11/29/95	11.54	7.00	4.54	None
	11/30/95		7.00	4.54	None
-25	11/29/95	10.55	8.32	2.23	None
	11/30/95		8.16	2.39	None
SB-26	11/29/95	10.98	6.66	4.32	Sheen
	11/30/95		6.63	4.35	Sheen

[a] A reference mark at the top of each well casing was surveyed to a benchmark of known elevation above mean sea level.

[b] Light non-aqueous phase liquid.

TABLE 2

SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS
Concentrations in Milligrams per Kilogram

Reichhold Chemicals
5980 Arcturus Avenue
Oxnard, California

Sample I.D.	Date	Ethyl-benzene	Methylene Chloride[a]	Toluene	o-Xylene
SB-1-5'	11/28/95	ND[b]	ND	ND	ND
SB-2-5'	11/28/95	ND	ND	ND	ND
SB-3-5'	11/28/95	ND	ND	ND	ND
SB-4-5'	11/30/95	ND	ND	ND	ND
SB-5-5'	11/30/95	ND	ND	ND	ND
SB-6-5'	11/28/95	ND	0.018[c]	ND	0.02[c]
SB-7-5'	11/30/95	ND	ND	ND	ND
SB-8-5'	11/29/95	ND	ND	ND	ND
SB-9-5'	11/29/95	ND	ND	ND	ND
SB-10-5'	11/28/95	ND	ND	ND	ND
SB-11-4'	11/29/95	ND	ND	ND	ND
SB-12-5'	11/29/95	ND	ND	ND	ND
SB-13-5'	11/30/95	ND	ND	ND	ND
SB-14-5'	11/30/95	ND	ND	ND	ND
SB-15-5'	11/29/95	ND	ND	ND	ND
SB-16-5'	11/29/95	ND	ND	ND	ND
SB-17-5'	11/30/95	12[d]	34[d]	ND	ND
SB-18-4'	11/29/95	ND	ND	ND	ND
SB-19-5'	11/28/95	28.39[c]	93.6[c]	ND	7.011[c]
SB-20-5'	11/29/95	ND	ND	ND	ND
SB-21-5'	11/30/95	0.035[c]	ND	ND	ND
SB-22-5'	11/30/95	ND	ND	ND	ND
SB-23-5'	11/28/95	0.19[c]	ND	ND	ND
SB-24-5'	11/30/95	ND	ND	ND	ND
SB-25-5'	11/28/95	ND	ND	ND	ND
SB-26-5'	11/28/95	13.569[c]	ND	ND	ND
SB-27-5'	11/30/95	3.3[d] 25.2[c] 7.9[d]	ND	ND	3.038[c] ND[d]
SB-28-5'	11/30/95	22.934[c]	ND	ND	2.039[c]
SB-29-5'	11/30/95	ND	ND	0.005[c]	0.0127[c]

[a] Also referred to as dichloromethane.
[b] Not detected.
[c] Analysis on-site by TEG mobile laboratory using EPA Methods 8010/8020.
[d] Analysis by Zymax analytical laboratory using EPA Method 8260.

TABLE 3

SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
FOR DETECTABLE SEMI-VOLATILE ORGANIC COMPOUNDS
Concentrations in Milligrams per Kilogram

Reichhold Chemicals
5980 Arcturus Avenue
Oxnard, California

Sample I.D.	Date	bis (2-ethylhexyl) Phthalate
SB-1-5'	11/28/95	ND[a]
SB-3-5'	11/28/95	0.1
SB-4-5'	11/30/95	ND
SB-5-5'	11/30/95	ND
SB-6-5'	11/28/95	ND
SB-7-5'	11/30/95	ND
SB-8-5'	11/29/95	ND
SB-9-5'	11/29/95	ND
SB-10-5'	11/28/95	ND
SB-11-4'	11/29/95	ND
SB-12-5'	11/29/95	ND
SB-13-5'	11/30/95	ND
SB-14-5'	11/30/95	ND
SB-15-5'	11/29/95	0.5
SB-17-5'	11/30/95	ND
SB-18-4'	11/29/95	ND
SB-19-5	11/28/95	ND
SB-20-5'	11/29/95	ND
SB-21-5'	11/30/95	ND
SB-22-5'	11/30/95	ND
SB-23-5'	11/28/95	0.3
SB-24-5'	11/30/95	ND
SB-25-5'	11/28/95	ND
SB-26-5'	11/28/95	ND
SB-27-5'	11/30/95	ND
SB-28-5'	11/30/95	ND
SB-29-5'	11/30/95	ND

[a] Not detected.

TABLE 4

SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
FOR DETECTABLE CAM[a] 17 METALS
Concentrations in Milligrams per Kilogram

Reichhold Chemicals
5980 Arcturus Avenue
Oxnard, California

Sample I.D.	Date	Barium	Chromium	Cobalt	Copper	Nickel	Vanadium	Zinc
SB-3-5'	11/28/95	85	11	5.1	9.3	12	28	36
SB-9-5'	11/29/95	61	13	4.7	8.6	11	25	38
SB-14-5'	11/30/95	66	11	4.1	8.0	13	20	61
SB-17-5'	11/30/95	96	17	6.8	9.7	14	31	40
SB-26-5'	11/28/95	81	12	5.8	12	13	27	48

[a] California Assessment Manual.

TABLE 5

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS
Concentrations in Micrograms per Liter

Reichhold Chemicals
5980 Arcturus Avenue
Oxnard, California

Sample I.D.	Date	Benzene	Chloroform	cis-1,2-DCE[a]	Ethyl-benzene	Methylene Chloride[b]	Toluene	1,1,1-TCA[c]	m&p-Xylenes	o-Xylene
SB-1W	11/29/95	ND[d]	ND	ND	ND	ND	ND	ND	ND	ND
SB-3W	11/28/95	ND	ND	ND	1.3[e]	2.0[e]	1.0[e]	4.6[e]	ND	ND
SB-9W	11/29/95	ND	ND	ND	ND	1.0[e]	2.0[e]	ND	ND	5.6[e]
SB-10W	11/28/95	ND	ND	ND	ND	10.0[e]	ND	ND	ND	4.3[e]
SB-11W	11/29/95	ND	ND	6.0[e]	ND	ND	2.2[e]	ND	ND	ND
SB-14W	11/30/95	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-18W	11/29/95	ND	ND	ND	ND	ND	1.3[e]	ND	ND	1.6[e]
SB-21W	11/30/95	ND	ND	ND	22,448[e]	ND	ND	ND	ND	ND
SB-22W	11/30/95	1.2[e]	ND	ND	100[e]	ND	3.0[e]	ND	ND	2[e]
SB-25W	11/28/95	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-26W	11/28/95	ND	ND[e] 510[f]	ND	7,997[e] 5,500[f]	13,410[e] 16,000[f]	ND[e] 49[f]	ND	ND	ND
SB-27W	11/30/95	ND	ND	ND	29,888[e] 11,000[f]	ND	ND	ND	ND	3,976[e] ND[f]
SB-28W	12/1/95	ND	46[f]	ND	8,000[f]	ND	ND	ND	ND	ND
SB-29W	12/1/95	ND	ND	ND	ND	ND	1.9[f]	ND	1.2[f,g]	

[a] Dichloroethene.
[b] Also referred to as dichloromethane.
[c] Trichloroethane.
[d] Not detected.
[e] Analysis on-site by TEG mobile laboratory using EPA Methods 8010/8020.
[f] Analysis by Zymax analytical laboratory using EPA Method 8260.
[g] Total xylenes.

TABLE 6

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
FOR DETECTABLE SEMI-VOLATILE ORGANIC COMPOUNDS
Concentrations in Micrograms per Liter

Reichhold Chemicals
5980 Arcturus Avenue
Oxnard, California

Sample I.D.	Date	Benzoic Acid	4-Methylphenol
SB-3W	11/29/95	ND[a]	ND
SB-10W	11/28/95	ND	ND
SB-11W	11/29/95	ND	ND
SB-14W	11/30/95	ND	ND
SB-18W	11/29/95	ND	ND
SB-21W	11/30/95	ND	ND
SB-25W	11/28/95	ND	ND
SB-26W	11/28/95	ND	ND
SB-27W	11/30/95	260	200
SB-29W	12/1/95	ND	ND

[a] Not detected.

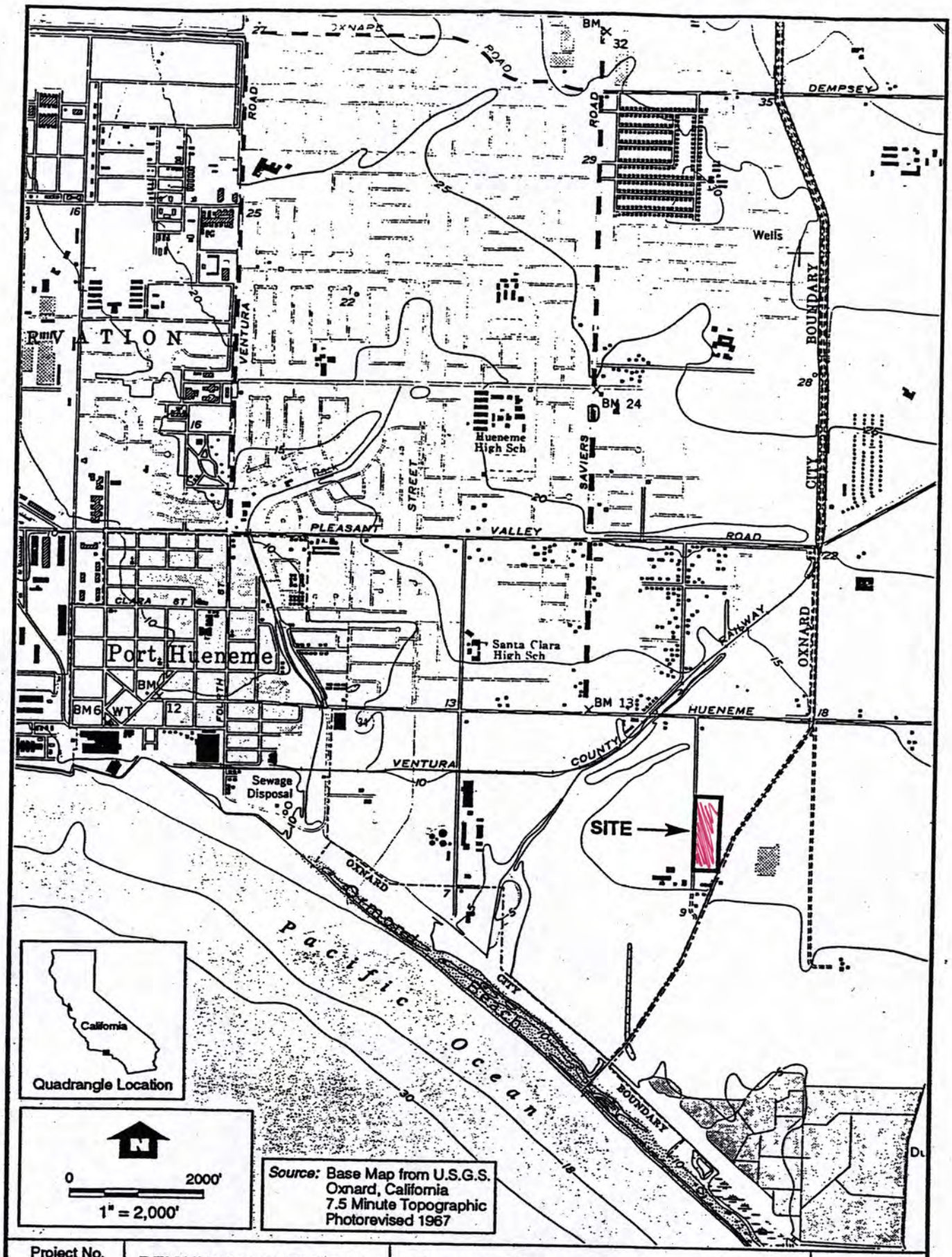
TABLE 7

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
FOR DETECTABLE CAM[a] 17 METALS
Concentrations in Micrograms per Liter

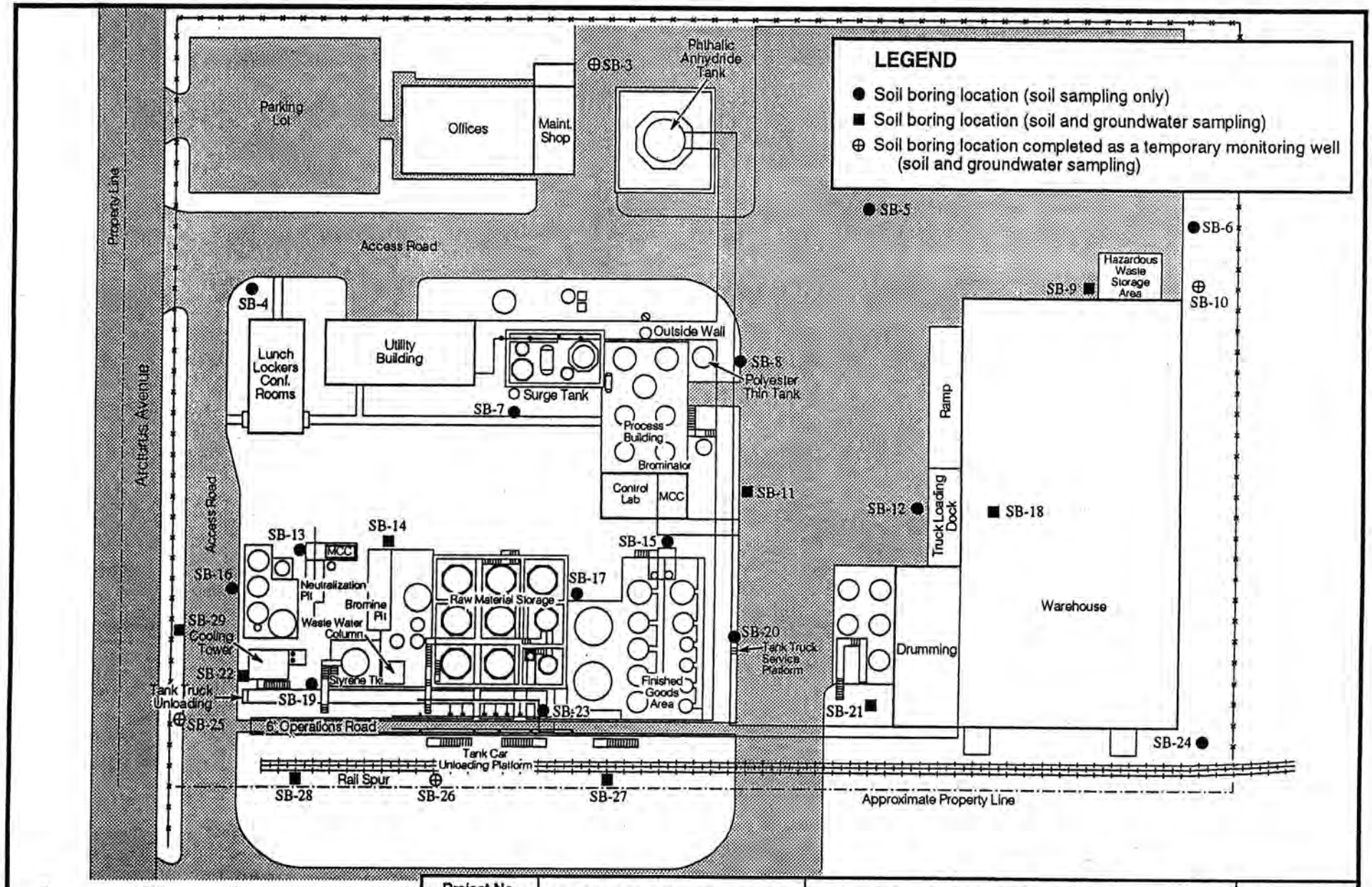
Reichhold Chemicals
5980 Arcturus Avenue
Oxnard, California

Sample I.D.	Date	Barium	Vanadium	Zinc
SB-26W	12/3/95	2,000	20	30

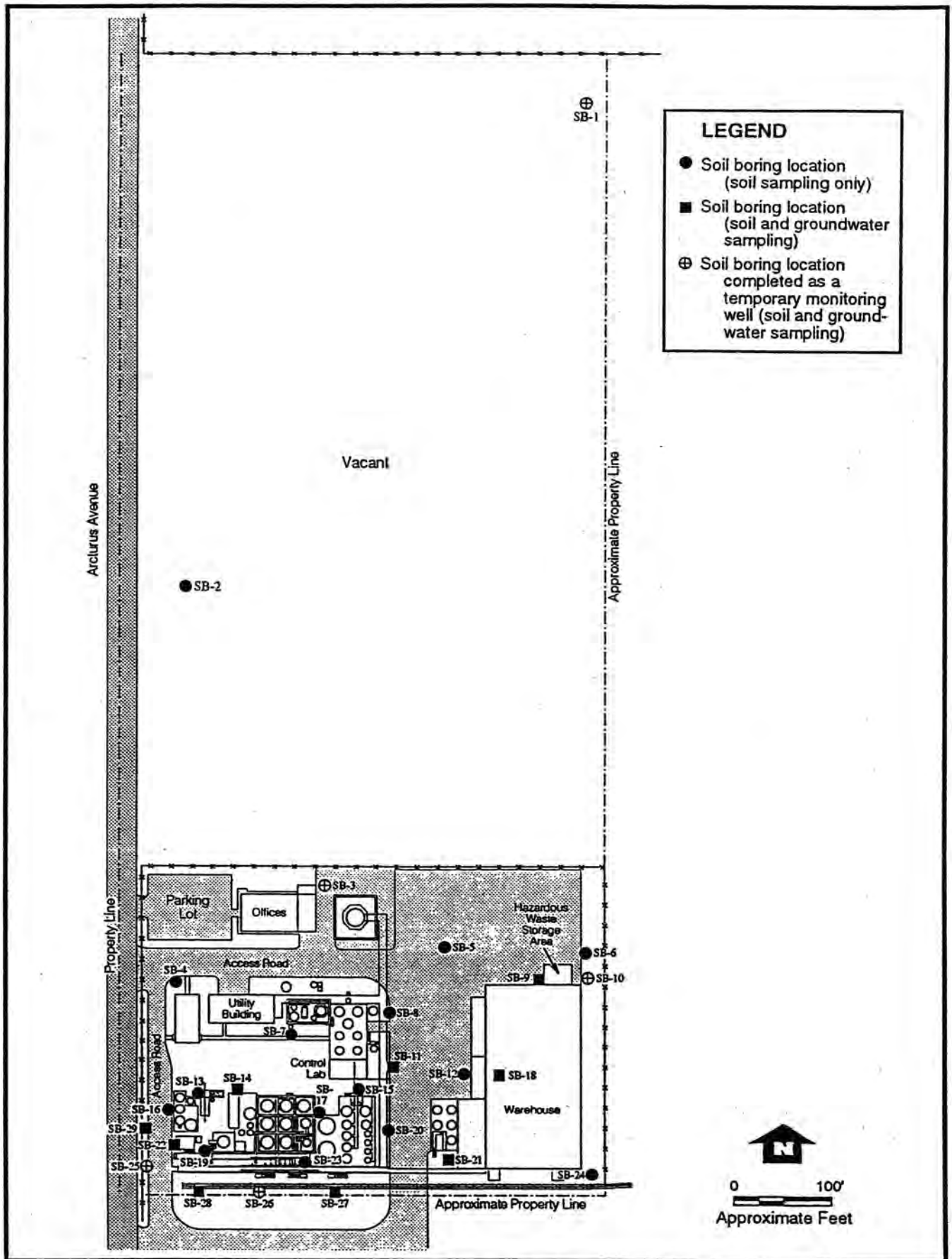
[a] California Assessment Manual.



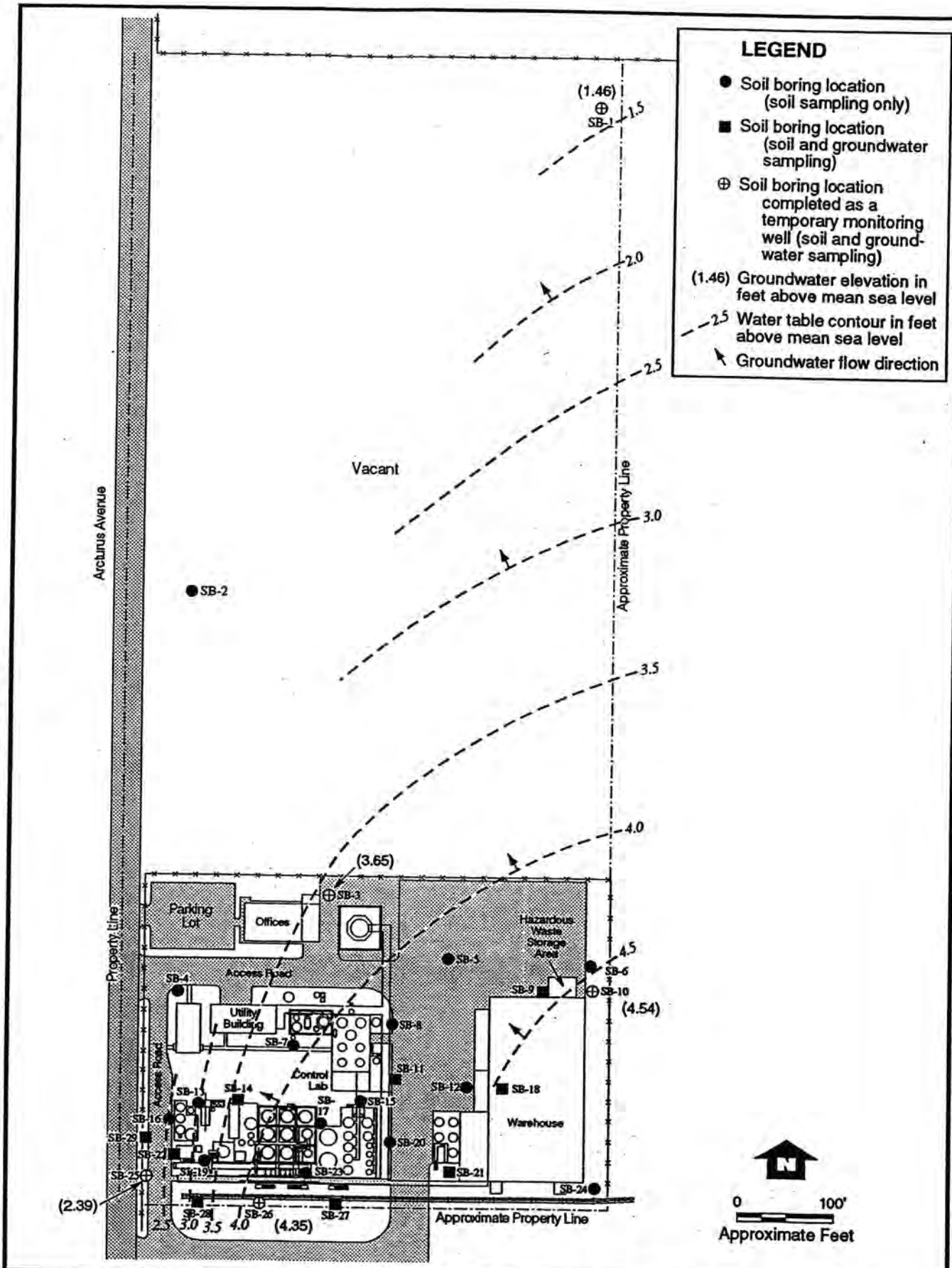
Project No. 5E09593	REICHHOLD CHEMICALS	Figure 1. Site Location Map	December 1995
Woodward-Clyde Consultants			



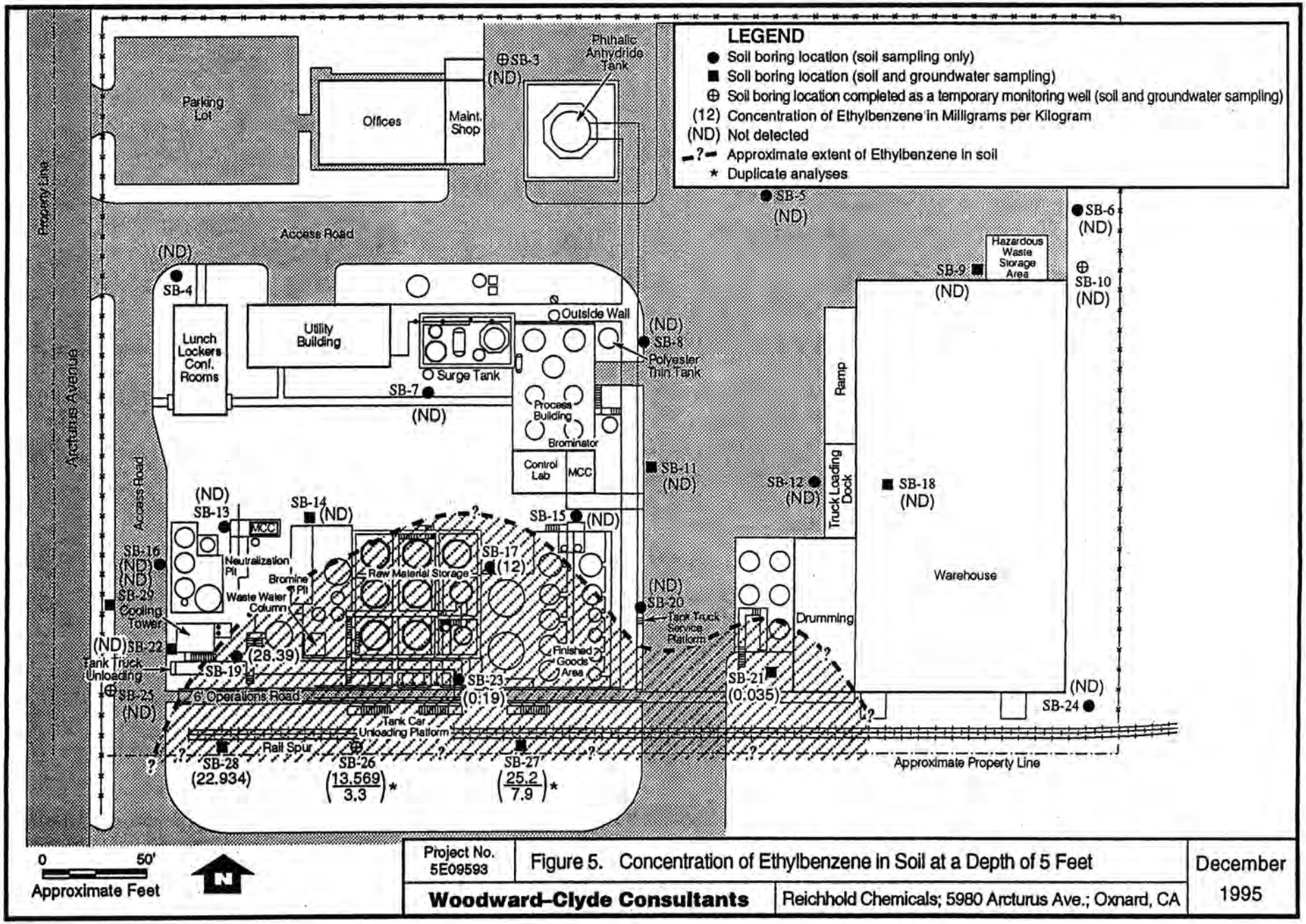
Project No. 5E09593	REICHHOLD CHEMICALS	Figure 3. Reichhold Chemicals Facility Map 5980 Arcturus Avenue Oxnard, California	December 1995
Woodward-Clyde Consultants			



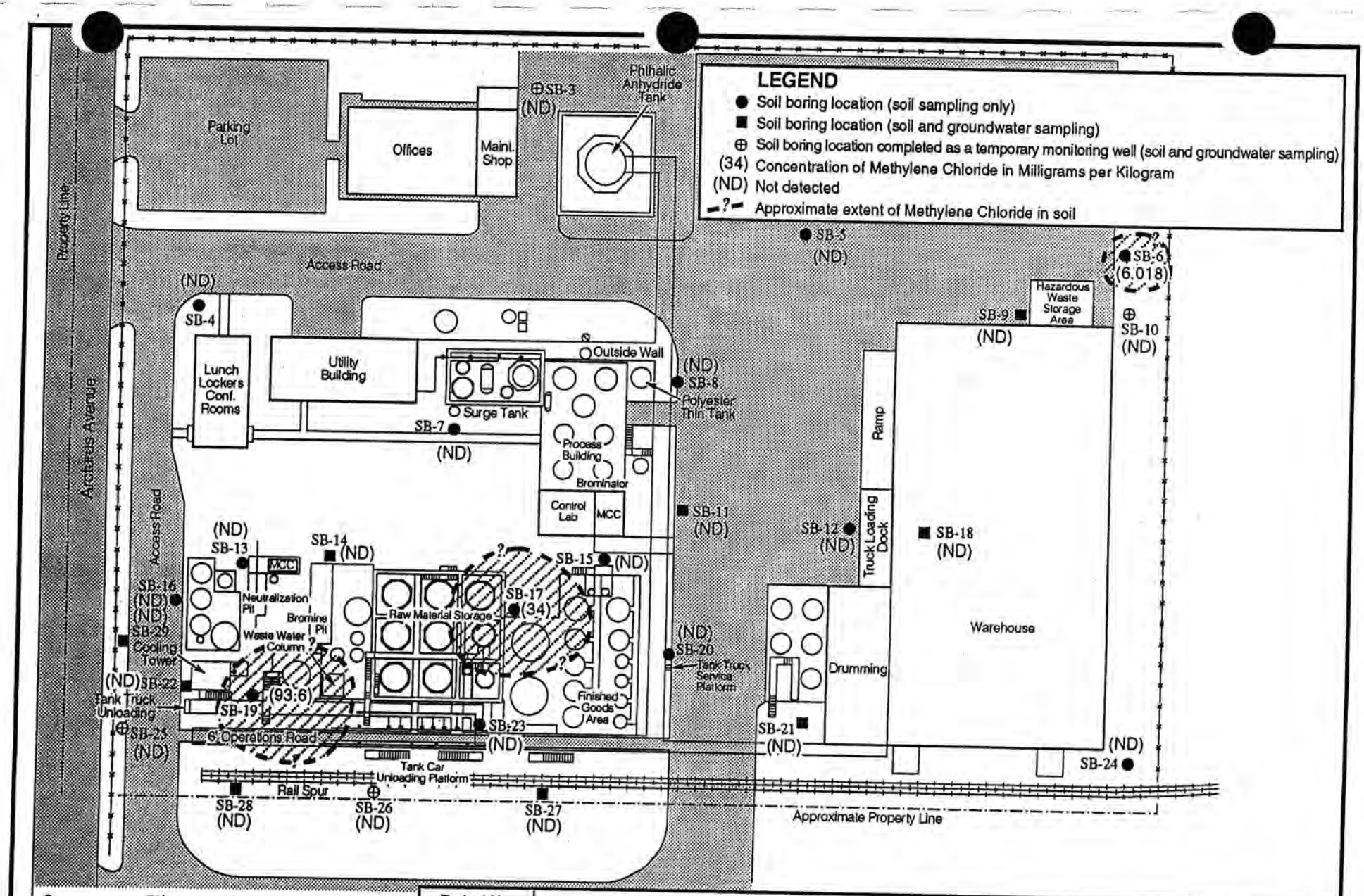
Project No. 5E09593	REICHHOLD CHEMICALS	Figure 2. Site Map Reichhold Chemicals 5980 Arcturus Avenue Oxnard, California	December 1995
Woodward-Clyde Consultants			



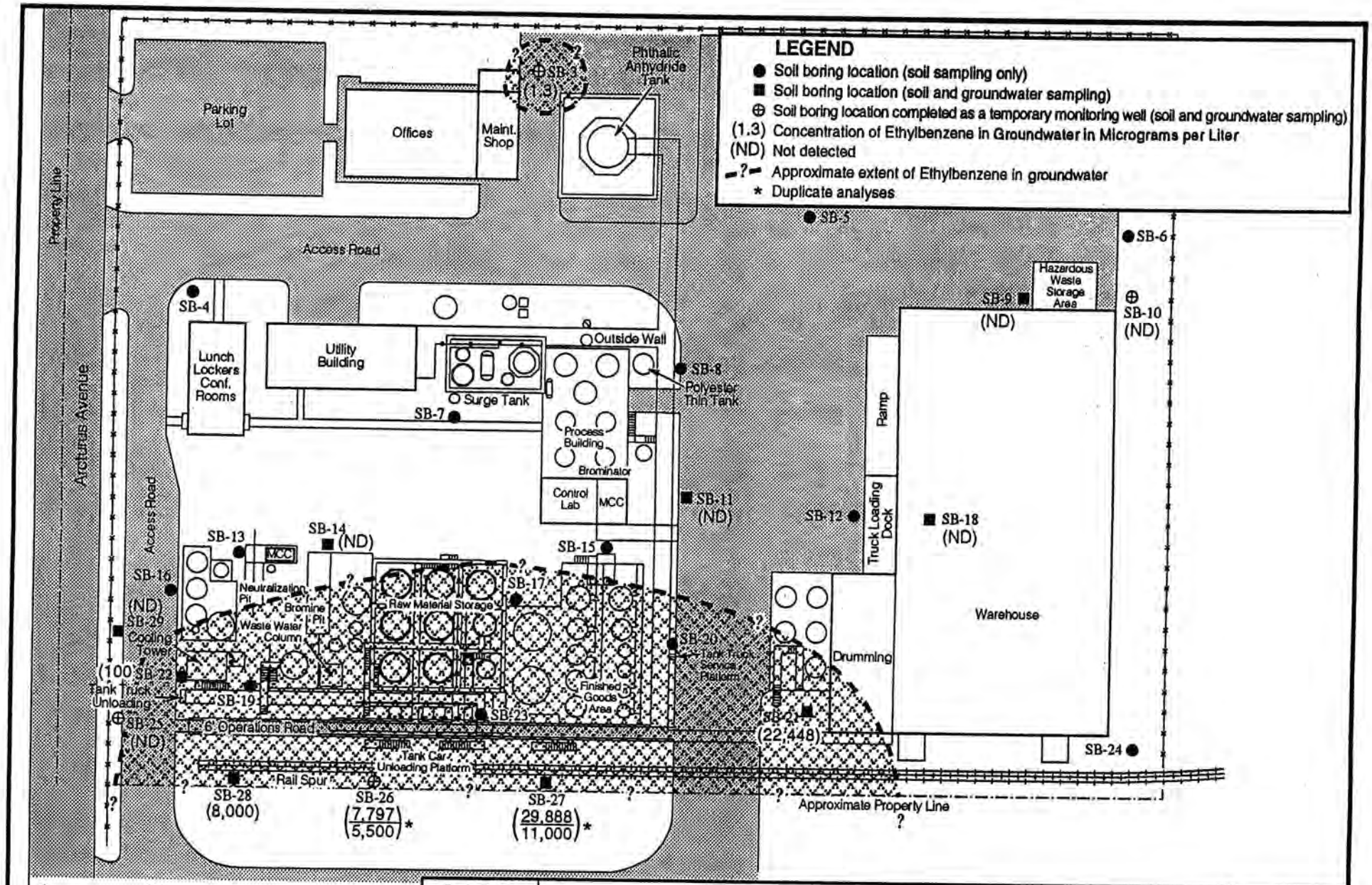
Project No. 5E09593	REICHHOLD CHEMICALS	Figure 4. Water Table Contour Map - 11/30/95 5980 Arcturus Avenue Oxnard, California	December 1995
Woodward-Clyde Consultants			



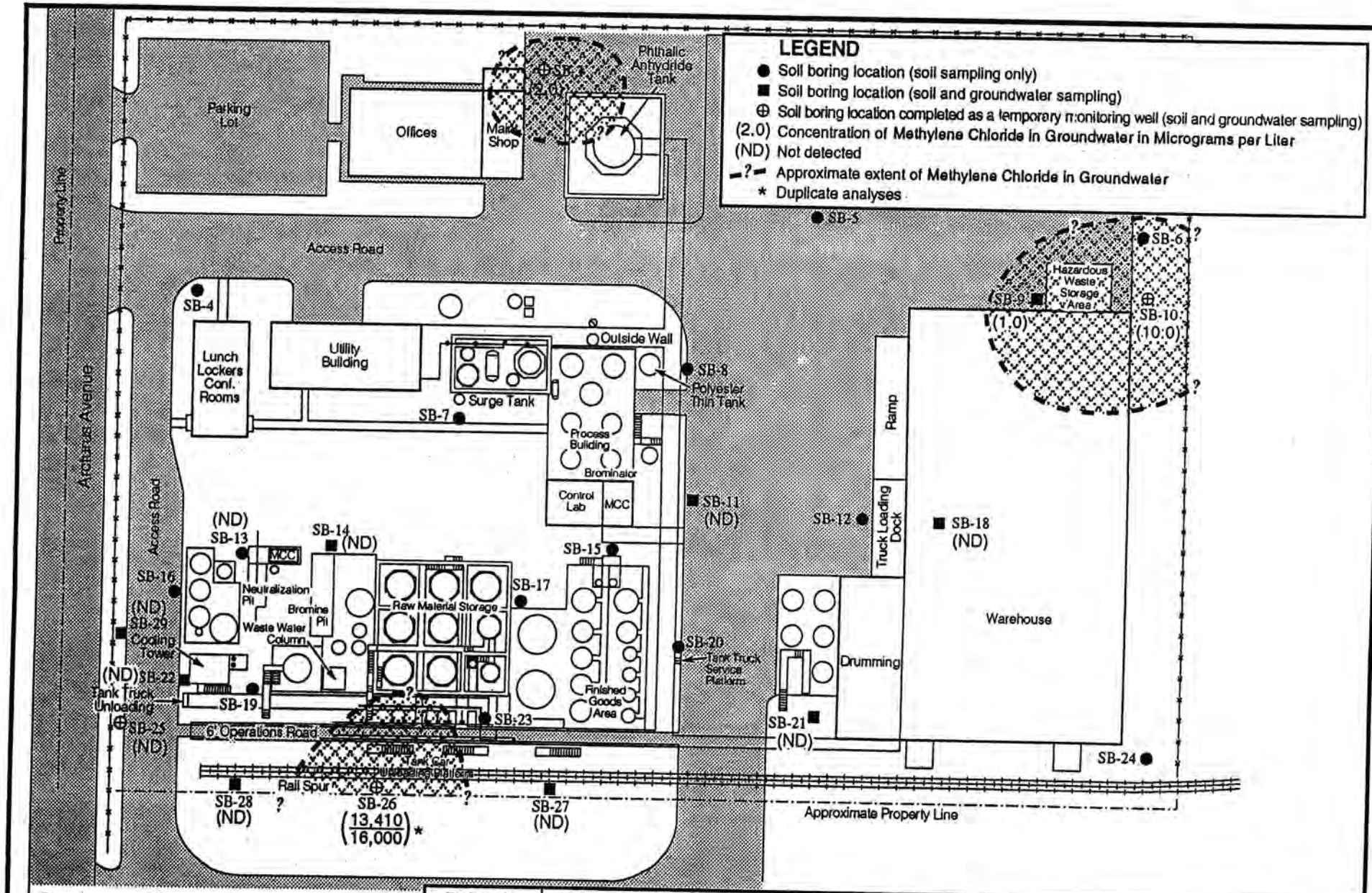
Project No. 5E09593	Figure 5. Concentration of Ethylbenzene in Soil at a Depth of 5 Feet	December 1995
Woodward-Clyde Consultants	Reichhold Chemicals; 5980 Arcturus Ave.; Oxnard, CA	



Project No. 5E09593	Figure 6. Concentration of Methylene Chloride in Soil at a Depth of 5 Feet	December 1995
Woodward-Clyde Consultants	Reichhold Chemicals; 5980 Arcturus Ave.; Oxnard, CA	



Project No. 5E09593	Figure 7. Concentration of Ethylbenzene in Groundwater	December 1995
Woodward-Clyde Consultants	Reichhold Chemicals; 5980 Arcturus Ave.; Oxnard, CA	



Project No. 5E09593	Figure 8. Concentration of Methylene Chloride in Groundwater	December 1995
Woodward-Clyde Consultants	Reichhold Chemicals; 5980 Arcturus Ave.; Oxnard, CA	

APPENDIX A

FIELD METHODS AND QUALITY ASSURANCE/QUALITY CONTROL

Field QA/QC

To reduce the chance of cross-contamination between boreholes, all downhole equipment was cleaned with alconox soap and water before each use. To reduce the chance of cross-contamination between sampling events, the sampler was washed and double rinsed before each use.

Each soil and groundwater sample was collected in a suitable container, preserved correctly for the intended analysis, and stored for no longer than the maximum allowable holding time. Each sample container was labeled to identify the job number, sampler, date and time of collection, and a unique sample number.

A chain-of-custody (COC) form was used to record possession of the samples from the time of collection to arrival at the laboratory. When the samples were shipped, the person in custody of the samples relinquished them by signing the COC and noting the time. The sample control officer at the laboratory recorded the condition of the samples upon arrival.

Laboratory QA/QC

The samples were analyzed by TEG's on-site mobile analytical laboratory and/or Zymax Envirotechnology analytical laboratory in San Luis Obispo, California. Both laboratories are certified by the California Department of Health Services to perform the analyses requested. QA/QC procedures followed by both labs included analysis of instrument and method blanks, surrogate spikes, and spike duplicates. The results of these analyses were within acceptable data quality parameters.

As an additional QA/QC check, duplicate soil and groundwater samples from borings SB-26 and SB-27 were submitted to both laboratories for VOC analysis. The results of the duplicate analyses were generally close (usually within an order of magnitude), however, several analytes were detected by one laboratory but not the other. This may be due to differences in the initial concentration in the duplicate samples, holding time prior to analysis, analytical methods, and/or laboratory procedures.

APPENDIX B

SOIL BORING LOGS

Project Name: Reichhold Chemicals

Project Location:
Reichhold Chemicals
5980 Arcturus Avenue
Oxnard, California

Log of Boring SB-1

Logged By: Richard E. Chandler, R.G.

Checked By: Richard E. Chandler, R.G.

Project No.: 5E09593

Drilling Subcontractor: TEG

Surface Elevation: Approx. 10 to 11 feet above mean sea level

Driller: Roy

Start Date & Time: 11/28/95 3:40 P.M.

Drill Rig: Strataprobe

Completion Date & Time: 11/28/95 4:00 P.M.

Drill Method: Hydraulic push

Depth to Groundwater: Approx. 6 feet below surface at time of drilling

Sampler Type: 36" long X 1.5" O.D. core sampler

Depth (ft.)	Soil Description	OVM (ppm)	Sample Interval	Sample No.	Notes
	SILT WITH SAND (ML) - moist, dark brown, very fine grained sand				
	SILTY SAND (SM) - moist, brown, fine grained				
5	SILT (ML) - moist, dark brown wet at 6 feet	0.5		SB-1-5'	
	CLAYEY SILT (ML) - wet, brown, trace of fine grained sand	0.7			
10	Total depth of boring = 10 feet. Completed as a temporary monitoring well. Casing removed and boring backfilled with bentonite on 12/1/95.				
15					
20					
25					

Woodward-Clyde

Project Name: Reichhold Chemicals	**Log of Boring SB-2**
Project Location: Reichhold Chemicals 5980 Arcturus Avenue Oxnard, California	Page 1 of 1
	Logged By: Richard E. Chandler, R.G.
	Checked By: Richard E. Chandler, R.G.
Project No.: 5E09593	Drilling Subcontractor: TEG
Surface Elevation: Approx. 10 to 11 feet above mean sea level	Driller: Roy
Start Date & Time: 11/30/95 4:30 P.M.	Drill Rig: Strataprobe
Completion Date & Time: 11/28/95 4:45 P.M.	Drill Method: Hydraulic push
Depth to Groundwater: Not encountered	Sampler Type: 36" long X 1.5" O.D. core sampler

Depth (ft.)	Soil Description	OVM (ppm)	Sample Interval	Sample No.	Notes
	SILT WITH SAND (ML) - moist, dark brown, fine grained sand				
	SILTY SAND (SM) - moist, brown, fine grained	0.4			
5	SILT WITH SAND (ML) - moist, brown, fine grained sand			SB-2-5'	
	Total depth of boring = 5 feet. Backfilled with bentonite.				
10					
15					
20					
25					

Woodward-Clyde

Project Name: Reichhold Chemicals	**Log of Boring SB-3**
Project Location: Reichhold Chemicals, 5980 Arcturus Avenue, Oxnard, California	Page 1 of 1
	Logged By: Richard E. Chandler, R.G.
	Checked By: Richard E. Chandler, R.G.
Project No.: 5E09593	Drilling Subcontractor: TEG
Surface Elevation: Approx. 10 to 11 feet above mean sea level	Driller: Roy
Start Date & Time: 11/28/95 12:15 P.M.	Drill Rig: Strataprobe
Completion Date & Time: 11/28/95 12:40 P.M.	Drill Method: Hydraulic push
Depth to Groundwater: Approx. 8 feet below surface at time of drilling	Sampler Type: 36" long X 1.5" O.D. core sampler

Depth (ft.)	Soil Description	OVM (ppm)	Sample Interval	Sample No.	Notes
	Approx. 6" of pea gravel				
	SILT WITH SAND (ML) - moist, dark brown, very fine grained sand				
5	POORLY GRADED SAND (SP) - moist, brown, fine grained	3.1		SB-3-5'	
	SILTY CLAY (CL) - wet, brown	0			
10	Total depth of boring = 10 feet. Completed as a temporary monitoring well. Casing removed and boring backfilled with bentonite on 12/1/95.				
15					
20					
25					

Project Name: Reichhold Chemicals	**Log of Boring SB-4**
Project Location: Reichhold Chemicals 5980 Arcturus Avenue Oxnard, California	Page 1 of 1
	Logged By: Richard E. Chandler, R.G.
	Checked By: Richard E. Chandler, R.G.
Project No.: 5E09593	Drilling Subcontractor: TEG
Surface Elevation: Approx. 10 to 11 feet above mean sea level	Driller: Roy
Start Date & Time: 11/30/95 3:10 P.M.	Drill Rig: Strataprobe
Completion Date & Time: 11/30/95 3:20 P.M.	Drill Method: Hydraulic push
Depth to Groundwater: Not encountered	Sampler Type: 36" long X 1.5" O.D. core sampler

Depth (ft.)	Soil Description	OVM (ppm)	Sample Interval	Sample No.	Notes
	Approx. 6" decorative lava rock SILTY SAND (SM) - moist, brown, fine grained	0.3			
5	SANDY SILT (ML) - moist, olive brown, fine grained sand Total depth of boring = 5 feet. Backfilled with bentonite.			SB-4-5'	
10					
15					
20					
25					

Woodward-Clyde

Project Name: Reichhold Chemicals

Project Location:
Reichhold Chemicals
5980 Arcturus Avenue
Oxnard, California

Log of Boring SB-5

Page 1 of 1

Logged By: Richard E. Chandler, R.G.

Checked By: Richard E. Chandler, R.G.

Project No.: 5E09593

Drilling Subcontractor: TEG

Surface Elevation: Approx. 10 to 11 feet above mean sea level

Driller: Roy

Start Date & Time: 11/30/95 1:00 P.M.

Drill Rig: Strataprobe

Completion Date & Time: 11/30/95 1:30 P.M.

Drill Method: Hydraulic push

Depth to Groundwater: Not encountered

Sampler Type: 36" long X 1.5" O.D. core sampler

Depth (ft.)	Soil Description	OVM (ppm)	Sample Interval	Sample No.	Notes
	Approx. 6" concrete and 2" base rock				
	SILTY SAND (SM) - dry, brown, fine to medium grained, fill (?)	4.9			
5	SANDY SILT (ML) - moist, dark gray- brown, fine grained sand			SB-5-5'	
	Total depth of boring = 5 feet. Backfilled with bentonite.				
10					
15					
20					
25					

Woodward-Clyde

Project Name: Reichhold Chemicals	**Log of Boring SB-6**
Project Location: Reichhold Chemicals 5980 Arcturus Avenue Oxnard, California	Page 1 of 1
	Logged By: Richard E. Chandler, R.G.
	Checked By: Richard E. Chandler, R.G.
Project No.: 5E09593	Drilling Subcontractor: TEG
Surface Elevation: Approx. 10 to 11 feet above mean sea level	Driller: Roy
Start Date & Time: 11/28/95 3:05 P.M.	Drill Rig: Strataprobe
Completion Date & Time: 11/28/95 3:15 P.M.	Drill Method: Hydraulic push
Depth to Groundwater: Not encountered	Sampler Type: 36" long X 1.5" O.D. core sampler

Depth (ft.)	Soil Description	OVM (ppm)	Sample Interval	Sample No.	Notes
	SANDY SILT (ML) - moist, dark brown, fine grained sand				
		2.5		SB-6-5'	
5	POORLY GRADED SAND (SP) - moist, brown, fine grained				
	Total depth of boring = 5.5 feet. Backfilled with bentonite.				
10					
15					
20					
25					

Woodward-Clyde

Project Name: Reichhold Chemicals	**Log of Boring SB-7**
Project Location: Reichhold Chemicals 5980 Arcturus Avenue Oxnard, California	Page 1 of 1
	Logged By: Richard E. Chandler, R.G.
	Checked By: Richard E. Chandler, R.G.
Project No.: 5E09593	Drilling Subcontractor: TEG
Surface Elevation: Approx. 10 to 11 feet above mean sea level	Driller: Roy
Start Date & Time: 11/30/95 4:30 P.M.	Drill Rig: Strataprobe
Completion Date & Time: 11/30/95 4:45 P.M.	Drill Method: Hydraulic push
Depth to Groundwater: Not encountered	Sampler Type: 36" long X 1.5" O.D. core sampler

Depth (ft.)	Soil Description	OVM (ppm)	Sample Interval	Sample No.	Notes
	Approx. 6" of pea gravel				
	SILTY SAND (SM) - moist, brown, fine grained	0.3			
5	SILT WITH SAND (ML) - moist, olive brown, fine grained sand			SB-7-5'	
	POORLY GRADED SAND (SP) - moist, dark brown, fine grained				
	Total depth of boring = 5 feet. Backfilled with bentonite.				
10					
15					
20					
25					

Woodward-Clyde

Project Name: Reichhold Chemicals

Project Location:
Reichhold Chemicals
5980 Arcturus Avenue
Oxnard, California

Log of Boring SB-8

Logged By: Richard E. Chandler, R.G.
Checked By: Richard E. Chandler, R.G.
Project No.: 5E09593
Drilling Subcontractor: TEG
Surface Elevation: Approx. 10 to 11 feet above mean sea level
Driller: Roy
Start Date & Time: 11/29/95 1:30 P.M.
Drill Rig: Strataprobe
Completion Date & Time: 11/29/95 1:45 P.M.
Drill Method: Hydraulic push
Depth to Groundwater: Not encountered
Sampler Type: 36" long X 1.5" O.D. core sampler

Depth (ft.)	Soil Description	OVM (ppm)	Sample Interval	Sample No.	Notes
	Approx. 6" concrete and 2" base rock				
	SILT WITH SAND (ML) - moist, dark brown, fine grained sand				
		2.6			
5	SILTY SAND (SM) - moist, brown, fine grained			SB-8-5'	
	Total depth of boring = 5.5 feet. Backfilled with bentonite.				
10					
15					
20					
25					

Woodward-Clyde

Preliminary Final

Preliminary Endangerment Assessment Report

Prepared for

Reichhold, Inc.

5980 Arcturus Avenue
Oxnard, California

November 2004

CH2MHILL
3 Hutton Centre Drive
Suite 200
Santa Ana, California 92707

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Acronyms

°F	degrees Fahrenheit
µg/L	micrograms per liter
ASTM	American Society for Testing and Materials
BTEX	benzene, toluene, ethylbenzene, and xylenes
bgs	below ground surface
CalEPA	State of California Environmental Protection Agency
CAM	California Assessment Manual
CCP	Cook Composites and Polymers
COPC	chemical of potential concern
CSM	conceptual site model
DCDP	dicyclopentadiene
DTSC	State of California Department of Toxic Substances Control
ELCR	excess lifetime cancer risk
HERD	Human and Ecological Risk Division
HI	hazard index
Koppers	Koppers Company
MCL	Maximum Contaminant Level
MDL	method detection limit
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
msl	mean sea level
OxyChem	Occidental Chemical
PCB	polychlorinated biphenyl
PEA	Preliminary Endangerment Assessment
PVC	polyvinyl chloride
SSI	site screening inspection
SVOC	semivolatile organic compound

TDS	total dissolved solids
USEPA	United States Environmental Protection Agency
VCDEH	Ventura County Department of Environmental Health
VCDHS	Ventura County Department of Health Services
VCP	Voluntary Cleanup Program
VOC	volatile organic compound

Executive Summary

Purpose of the Investigation

A preliminary field investigation completed in 1995 of the property at 5980 Arcturus Avenue in Oxnard, California (the "Site") revealed that shallow soil and groundwater beneath the Site has been impacted by volatile organic compounds (VOCs) as a result of past chemical releases to surface soil.

Reichhold, Inc. (Reichhold), a former owner of the Site, has entered into the Voluntary Cleanup Program (VCP) administered by the State of California Department of Toxic Substances Control (DTSC). The VCP scope of work specifies that Reichhold prepare a Preliminary Endangerment Assessment (PEA) to characterize the extent of VOC contamination and determine whether a threat to human health or to the environment exists. This PEA is designed to meet that item of the VCP scope of work.

Site Operations

A polyester resin manufacturing plant has been operated at the Site since 1969. The Site has undergone ownership by multiple property owners and operators. Reichhold owned the Site from 1989 to 1995, when the Site was sold to the current owner and operator, Cook Composites and Polymers (CCP). The principal raw materials at the facility have included bromine, styrene, phthalic and maleic anhydride, various glycol compounds, caustic soda, and methylene chloride.

Known and Potential Releases

Several studies have been conducted at the Site, ranging from records reviews and agency inspections to subsurface investigations. These studies have documented known or suspected releases of raw materials within the facility process area dating from 1972 to 2001. These releases may have contributed to the presence of VOCs in the subsurface. A more detailed discussion of the chemical releases is included in Section 5.

Previous Investigations

Several subsurface investigations have been conducted at the Site and are summarized as follows:

- **1987 Soil Sampling.** In this effort, two soil samples were collected after the removal of discolored and odorous soil (Koppers, 1987). Limited analytical results for VOCs are discussed; however, the reference does not provide details of the sampling activities.
- **1988 Soil Investigation.** Shallow soil was analyzed for VOCs (EPA Method 8240) from selected locations across the Site (Groundwater Management, 1988), and a monitoring

well was installed and sampled for VOCs (EPA Method 8240) (Keystone Environmental Resources, 1988).

- **1995 Soil and Groundwater Investigation.** Soil and groundwater samples were collected from multiple locations across the site and were analyzed for VOCs (EPA Method 8260), semivolatile organic compounds (SVOCs) (EPA Method 8270), and metals (EPA Method 6010/7471) (Woodward-Clyde Consultants, 1995).
- **1995 Soil and Groundwater Investigation at Neighboring OxyChem Facility.** Monitoring wells were installed, and soil and groundwater samples were collected and analyzed for VOCs, SVOCs, pesticides/polychlorinated biphenyls (PCBs), and metals (analytical methods not specified in reference) (TreaTek-CRA, 1995).

Analytical data from these past investigations identified VOCs as the chemicals of concern for the Site. Six different VOCs were detected in the shallow groundwater at concentrations exceeding Maximum Contaminant Levels (MCLs) for drinking water. Several VOCs were also detected in shallow soil. A more detailed presentation of previous analytical data is included in Section 7.

2002 PEA Field Investigation

In October 2002, a PEA field investigation was conducted by Reichhold to further characterize and delineate the extent of VOC contamination in the subsurface at the Site. The investigation included surface soil, shallow soil, and groundwater sampling at 13 locations throughout the Site. Additionally, groundwater samples were analyzed from two existing monitoring wells to provide further spatial data coverage. Soil and groundwater samples were analyzed for VOCs. The only VOC exceeding a groundwater screening criterion was benzene at a maximum concentration of 1.8 micrograms per liter (µg/L), slightly above the MCL of 1.0 µg/L. No chemicals of concern detected at the site exceeded risk criteria evaluated under the human health risk assessment. Based on 2002 analytical data, VOC concentrations have decreased considerably in both soil and groundwater compared to data obtained during past subsurface investigations.

2004 Soil and Groundwater Sampling

To further investigate benzene detected in groundwater, temporary monitoring wells were installed in two locations at the Site. Groundwater samples were collected from the temporary wells in February and May 2004, and were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). Analytical results indicate significant decreases in ethylbenzene and xylene concentrations. Ethylbenzene concentrations decreased three orders of magnitude from 2002 to 2004 and are well below its MCL. Xylene and toluene concentrations are also well below their MCLs. Benzene concentrations slightly exceed its MCL (e.g., 2004 concentrations range between 1.4 and 1.9 µg/L, with a 1.0 µg/L MCL).

Soil samples were collected in February 2004 from two locations and analyzed for physical parameters (dry bulk density, total porosity, water-filled porosity, and total organic carbon). The results of these physical characteristics were used in the site-specific human health risk assessment conducted for the Site.

Exposure Pathways

Human Health Risk Assessment

A site-specific human health risk assessment was conducted to evaluate the following exposure pathways for the Site:

- Ingestion of surface soil onsite
- Dermal contact with surface soil onsite
- Ingestion of subsurface soil onsite (during excavation activities)
- Dermal contact with subsurface soil onsite (during excavation activities)
- Inhalation of dust from site
- Inhalation of vapors in indoor air emanating from shallow soil and groundwater

Exposure to groundwater (either through ingestion or dermal contact) is not a complete exposure pathway at the Site. The perched aquifer beneath the Site is not used for potable or drinking water. Previous studies also have shown that shallow groundwater within the perched aquifer contains both fresh and brackish water and is affected by local agricultural runoff. Concentrations of total dissolved solids (TDS) in the shallow perched aquifer in the area have been reported at concentrations of 2,700 milligrams per liter (mg/L) (Izbicki, 1995), precluding its use as a potable drinking water source without treatment. Deeper and more prolific confined aquifers are used for water supplies in the area. Thick aquitards (up to 100 feet thick) separating the shallow and deeper aquifers, combined with an upward hydraulic gradient, are expected to preclude the migration of the low concentrations of VOCs from the shallow perched aquifer to deeper aquifers used for water supply.

Ecological Screening Evaluation

An ecological screening evaluation was conducted for the Site. It concluded that no further evaluation of the potential effects to ecological receptors from analytes detected at the Site was necessary. This conclusion was made because the majority of the industrial portion of the property is paved with concrete, asphalt, or gravel; therefore, few ecological receptors are expected to be present. The highly industrialized area of the Site is the location where past chemical spills have occurred and where VOC contamination was identified during previous investigations. Due to human activity at the Site and the absence or limited quality of wildlife habitat, any vertebrate receptors at the site are likely to be transient; consequently, the frequency and duration of exposure will be very low. Furthermore, analyte concentrations found in soil were relatively low. For these reasons, the exposure to ecological receptors and exposure to plants and soil biota is expected to be minimal.

Potential Receptors

The Site is located in the southern portion of the City of Oxnard in an area that is primarily industrial/agricultural. Properties within 0.25 mile from the Site are industrial businesses. The nearest residential receptors are located approximately 3,000 feet from the Site.

The active facility at the Site currently operates 24 hours per day. The human health risk assessment evaluated exposure scenarios for onsite workers, temporary site visitors, and onsite excavation workers.

As part of the ecological screening evaluation, a biological characterization of the site was conducted to identify biological resources within the project vicinity, including the extent of coverage of site-specific habitats, potentially occurring special-status species, and biological reserves or management areas in the project vicinity. The ecological screening evaluation concluded that few ecological receptors are expected to be present at the Site.

Conclusions and Recommendations

The human health risk assessment concluded that the Site does not pose a significant threat to human health. Because of hydrogeologic conditions (e.g., shallow groundwater separated from deeper aquifers by multiple low-permeability clay layers), the perched groundwater beneath the Site does not pose a threat to local groundwater supplies. Consequently, no further action and site closure are recommended. This conclusion and recommendation are supported by the following observations and analysis:

1. **The site has been fully characterized.** Groundwater and soil samples have been collected at or adjacent to the site in 1987, 1988, 1995, 2002, and 2004, and adequate data have been collected to characterize former source areas and the extent of VOC impacts.

2. **VOC concentrations have decreased considerably across the site.** Over time, VOC concentrations in both soil and groundwater have decreased dramatically, apparently due to natural biodegradation (see item number 3 below). The largest decrease in concentrations was observed from the 1995 investigation to the 2002 investigation. For example, ethylbenzene concentrations in groundwater at the Site have dropped from as high as 29,888 µg/L to virtually nondetect. In previous investigations, ethylbenzene was the compound with the highest detected concentration.

3. **Biodegradation of VOCs (including BTEX) has occurred and will continue.** Biodegradation is often an important destructive process that reduces contaminant concentrations in soil and groundwater. Biodegradation is achieved when naturally occurring microorganisms, such as yeast, fungi, and bacteria, break down organic compounds. Compounds such as BTEX and chlorinated hydrocarbons are readily biodegraded through electron acceptor reactions. Biodegradation of BTEX is mainly limited by electron acceptor availability, and generally will proceed until all of the contaminants biochemically accessible to the microbes are destroyed. There is typically an adequate supply of electron acceptors in most hydrogeologic environments to maintain full degradation of BTEX (Wiedemeier et al., 1998). This suggests that further degradation of BTEX compounds will continue at the Site. Benzene is the slowest of the BTEX compounds to biodegrade. Toluene is the most readily degraded, followed by ethylbenzene and xylenes (Battelle, 1996). This explains why toluene is absent, concentrations of ethylbenzene and xylene in groundwater have decreased significantly, and benzene concentrations have remained stable. With the consumption of ethylbenzene and xylene, benzene should be next to degrade.

4. **No significant adverse risks to human health exist at the site.** Results of a site-specific human health risk assessment indicate that no significant adverse health effects exist at the Site as a result of potential impacts from VOCs in the subsurface.

5. **Benzene concentrations in perched groundwater do not pose adverse human health risks.** Although benzene is detected in perched groundwater at concentrations near or above the MCL, no adverse health risks result from the presence of benzene in the groundwater. Perched groundwater in that area is not used for water-supply purposes, and is not a direct exposure pathway for risks at the Site. Also, no adverse risks are predicted from indoor air pathways originating from groundwater.

6. **Benzene is not a raw material used at the site.** Benzene concentrations in neither soil nor groundwater indicate that a significant source is present to impact groundwater. With no significant source of benzene present, concentrations in groundwater will continue to decrease with time.

7. **No significant adverse effects to ecological receptors.** An ecological screening assessment conducted as part of this PEA concluded that the Site does not pose a significant risk to ecological receptors; and, that no further evaluation of the exposure and potential effects on ecological receptors from analytes detected at the Site is necessary.

8. **Impacted groundwater beneath the site is perched, and is not used for potable water.** The nearest municipal well to the site is approximately 2.5 miles west of the Site, and is screened in the deeper aquifers below the Oxnard aquifer. There are no water-supply wells immediately downgradient of the Site. Shallow groundwater beneath the Site is perched above a clay layer, is brackish due to seawater intrusion, and is not used for potable water or irrigation. Thus, onsite contamination does not pose a threat to local water supplies.

9. **Localized occurrence of low concentrations of benzene in groundwater is not migrating offsite.** Water-level data from monitoring wells installed during previous investigations indicate that shallow groundwater flow beneath the Site changes seasonally (TreaTek-CRA, 1995). In general, previous investigations have indicated that shallow groundwater is perched, with groundwater flow to both the north and the south. Benzene was not detected in shallow groundwater samples collected in locations to the north and downgradient of locations R-06 and R-10 (e.g., R-07, R-03, and R-09), nor to the south (e.g., R-11, R-08, and OW4-94). This demonstrates that the occurrence of low concentrations of benzene in onsite groundwater is localized and does not extend offsite.

For these reasons, no further action is recommended for this Site.

1. Introduction

1.1 Purpose of the Investigation

A preliminary field investigation completed in 1995 of the property at 5980 Arcturus Avenue in Oxnard, California (the "Site") revealed that shallow groundwater beneath the Site has been impacted by ethylbenzene, chlorinated solvents, xylenes, and benzene. Also, shallow soil beneath the Site has been impacted by ethylbenzene and chlorinated solvents.

Reichhold, Inc. (Reichhold), a former owner of the Site, has entered into the Voluntary Cleanup Program (VCP) administered by the State of California Department of Toxic Substances Control (DTSC). Under this program, DTSC will provide review and oversight of investigation and response activities conducted by Reichhold. The VCP scope of work specifies that Reichhold will prepare a Preliminary Endangerment Assessment (PEA) to determine whether a release of hazardous substances could pose a threat to human health or to the environment. Reichhold prepared a PEA Work Plan for the Site (CH2M HILL, 2002), which was approved by DTSC in August 2002. This PEA was conducted in accordance with that Work Plan.

This PEA Report has been designed to conform to the VCP scope of work, and to summarize PEA sampling activities conducted at the Site. On May 1, 2003, Reichhold submitted the Draft PEA Report to DTSC. On September 8, 2003, DTSC issued review comments to Reichhold. The DTSC Geological Services Unit staff requested additional groundwater sampling at two locations that were investigated in October 2002. This Preliminary Final PEA Report has been revised to incorporate responses to DTSC review comments, and to include a summary of the additional groundwater sampling results.

1.2 Site Operations

A polyester resin manufacturing plant has been operated at the Site since 1969. The Site has had multiple property owners and operators, as follows:

- Diamond Shamrock Chemicals Company (1969 to 1978)
- Koppers Company (Koppers) (1978 to 1989)
- Reichhold Chemicals, Inc. (1989 to 1995)
- Cook Composites and Polymers (CCP) (1995 to present)

The polyester resin plant at the Site produces various types of polyester resins in liquid form. The principal raw materials have included bromine, styrene, phthalic and maleic anhydride, various glycol compounds, caustic soda, and methylene chloride.

1.3 Report Organization

This PEA Report has been prepared to meet the requirements of the VCP scope of work. It has been prepared in accordance with the *Preliminary Endangerment Assessment Guidance Manual* (DTSC, 1994 [1999 second printing]). The Report is organized into the following sections:

1. Introduction
2. Site Description
3. Site Background
4. Hazardous Substance/Hazardous Waste Management Information
5. Apparent Problem: Focus of the PEA
6. Environmental Setting
7. PEA Sampling Activities and Results
8. Human Health Risk Assessment
9. Ecological Screening Evaluation
10. Community Profile
11. Conclusions and Recommendations
12. References

Supporting Documentation (Appendixes) include the following:

Appendix A – Laboratory Reports for 2002 and 2004 PEA Investigation Sampling Data

Appendix B – Soil Boring Logs for 2002 and 2004 PEA Investigation

Appendix C – Data Validation Reports for 2002 and 2004 PEA Investigation Sampling Data

Appendix D – Human Health Risk Assessment

Appendix E – Ecological Risk Screening Evaluation

2. Site Description

This section provides information that identifies the physical setting of the Site in relation to the surrounding areas.

2.1 Site Identification

2.1.1 Site Name – Cook Composites and Polymers (CCP)

The polyester resin plant at the Site is currently owned and operated by CCP. Reichhold, a former property owner, is conducting the PEA at the Site.

2.1.2 Contact Persons

Contact information for the Site is provided for the current property owner/operator, CCP, and for Reichhold, the former property owner responsible for the PEA, as follows:

Reichhold

Bill Schmithorst, Project Manager
P.O. Box 13582
Research Triangle Park, NC 27709-3582
Phone (919) 558-2356

CCP

Michael Gromacki, Director of Quality/Safety/Environment
P.O. Box 419389
Kansas City, MO 94141
Phone (816) 391-6011

2.1.3 Site and Mailing Address

Cook Composites and Polymers
5980 Arcturus Avenue
Oxnard, CA 93033

2.1.4 Site Phone Number

(805) 986-3635

2.1.5 Other Site Names

The Site has been owned and operated by other companies in the past; however, currently the Site is known only by the name of the current property owner/operator, CCP.

2.1.6 USEPA Identification Number

The United States Environmental Protection Agency (USEPA) Identification Number for the CCP Oxnard facility is CAD087163267.

2.1.7 CalSites Database Number

No CalSites Database Number has been assigned to the Site.

2.1.8 Assessor's Parcel Number and Maps

The Site parcel number, according to the Ventura County Tax Assessor's Office, is:

5980 Arcturus Avenue
Parcel # 2310093135

2.1.9 Township, Range, Section, and Meridian

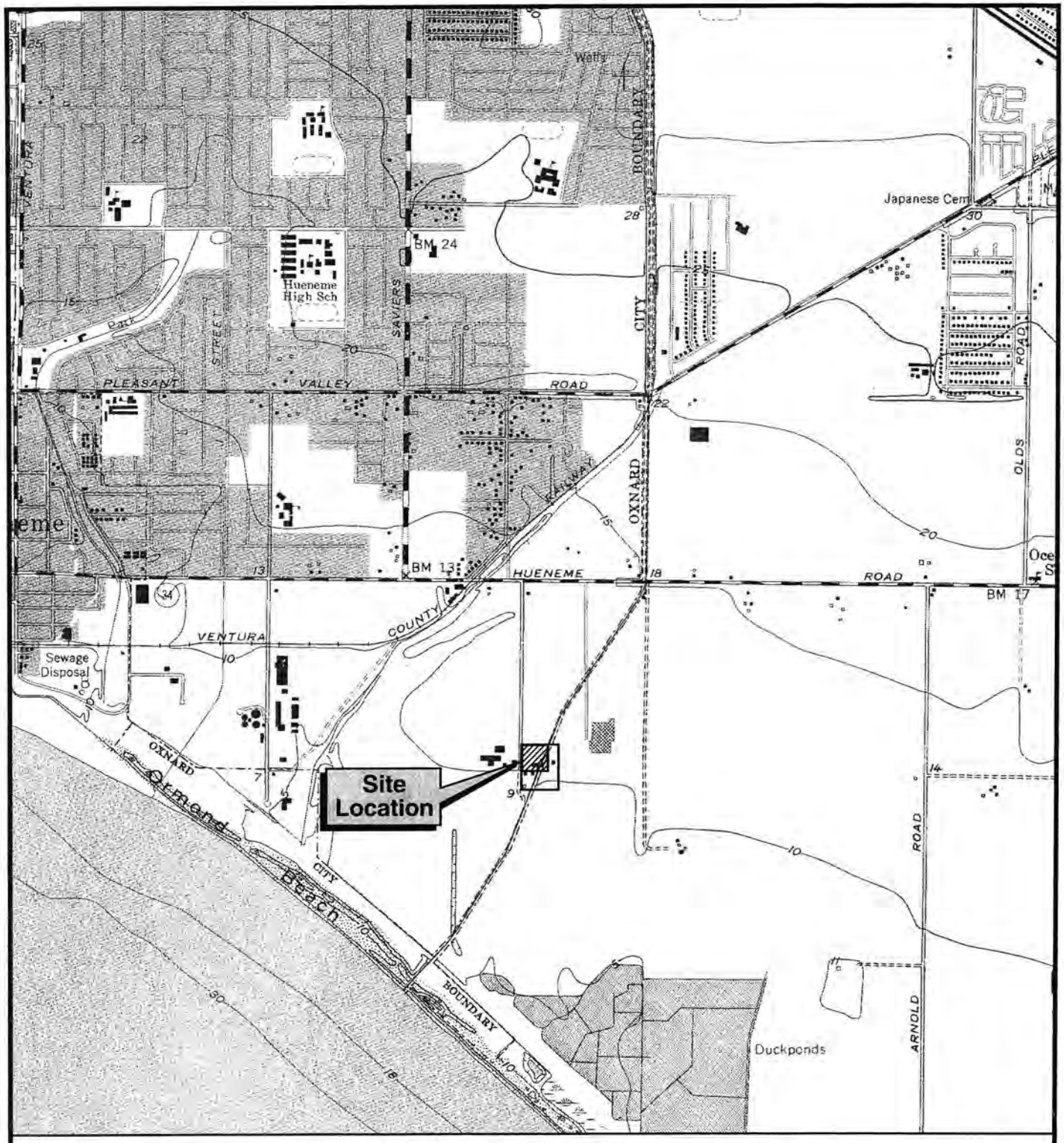
Township - N22
Range - W22
Section - 27
Meridian - S

2.1.10 Land Use and Zoning

The current land use for the Site is characterized as industrial, and the land is zoned for heavy manufacturing. Adjacent properties are zoned as "manufacturing planned development," with both heavy and light manufacturing planned (City of Oxnard, Planning and Environmental Services Department, 2003).

2.2 Site Maps

Figure 2-1 shows the Site location at a scale of 1 inch = 2,000 feet. Figure 2-2 (2 pages) is the 2003 City of Oxnard zoning map for the area near the Site. This figure identifies the nearest residential areas (approximately 3,000 feet to the northeast) and other nearby land uses. Figure 2-3 is a site-specific map that shows significant site features (buildings, tanks, process areas, etc.).



Source: USGS Quadrangle Maps, 7.5 Minute, Oxnard, CA, Photorevised 1967

N

0 1000 2000

Scale in Feet

Figure 2-1
Site Location Map
5980 Arcturus Avenue, Oxnard, CA

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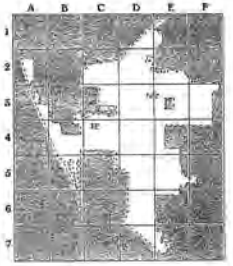
ZONE LEGEND



RESIDENTIAL

- R-1 (Single-Family Residential)
- R-2 (Multiple-Family Residential)
- R-3 (Garden Apartment)
- R-4 (High Rise Residential)
- R-PD (Residential Planned Development)
- MH-PD (Mobile Home Park)

COASTAL RESIDENTIAL

- R-B-1 (Single-Family Beach)
- R-BF (Beachfront Residential)
- R-W-1 (Single-Family Water Oriented)
- R-W-2 (Townhouse Water Oriented)
- R-2-C (Coastal Low Density Multiple-Family)
- R-3-C (Coastal Medium Density Multiple-Family)
- CPC (Coastal Planned Unit Community)

COMMERCIAL

- C-O (Commercial Office)
- C-1 (Neighborhood Shopping Center)
- C-2 (General Commercial)
- CBD (Central Business District)
- C-PD (Commercial Planned Development)
- C-M-PD (Commercial & Light Manufacturing)

INDUSTRIAL

- BRP (Business & Research Park)
- M-L (Limited Manufacturing)
- M-1 (Light Manufacturing)
- M-2 (Heavy Manufacturing)
- M-3 (Heavy Manufacturing & Group Housing Zone)
- M-PD (Manufacturing Planned Development)

COASTAL ZONING

- CNC (Coastal Neighborhood Commercial)
- CVC (Coastal Visitor-Serving Commercial)
- HCI (Harbor Channel Islands)
- CDI (Coastal Dependent Industry)
- RC (Coastal Recreation)
- RP (Coastal Resource Protection)
- EC (Coastal Energy Facilities)

OTHER

- C-R (Community Reserve)
- A-O (Agricultural-Oil Drilling

See Specific Plan for Zoning

January, 2003

Planning & Environmental Services

Figure 2-2
City of Oxnard Zoning Map
Page 2 of 2
5980 Arcturus Avenue, Oxnard, California

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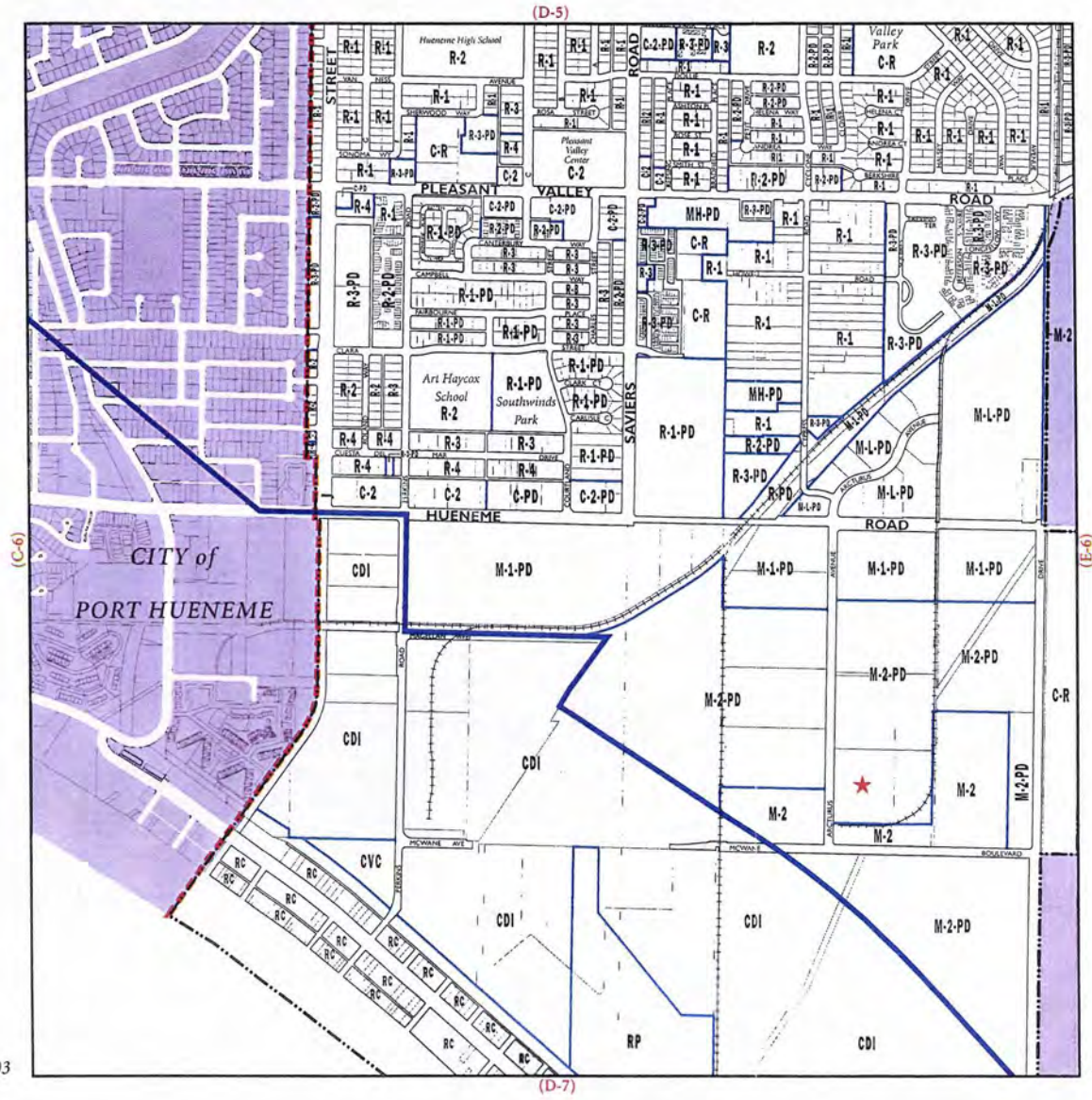
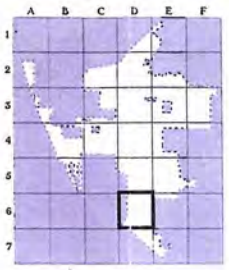
SCO167538.FW.DR Figure2-2-p2.ai 03/03





D-6

★ 5980 Arcturus Avenue
Oxnard City Limits
Zone Boundary
Coastal Zone Boundary
Sphere of Influence
Planning Area Boundary

0 1,000 2,000 4,000
Feet

See next page
for Zone Legend

January, 2003

Planning & Environmental Services

Figure 2-2
City of Oxnard Zoning Map
Page 1 of 2
5980 Arcturus Avenue, Oxnard, California

CH2MHILL

SCO167538.FW.DR Figure2-2-p1.ai 04/03

3. Site Background

3.1 General Features

The Site, which covers approximately 10.5 acres, is located in the southern portion of the City of Oxnard in an area that is primarily industrial (see Figure 2-2). An active polymer resin manufacturing plant occupies the southern 3.5 acres of the Site. The remaining 7 acres are currently undeveloped, but were used for commercial agriculture prior to 1993. Adjacent to the southern boundary of the Site is the former location of the Occidental Chemical (OxyChem) facility. Details of both the Site and the adjacent former OxyChem facility are shown in Figure 2-3. Figure 3-1 outlines the boundaries of both the former Reichhold and former OxyChem properties.

3.2 History of Ownership and Business Activities

In 1966, Diamond Shamrock Chemicals Company, which at that time was named Diamond Alkali, acquired the property where both the Site and the adjacent former OxyChem facility are located. Diamond Shamrock constructed two chemical manufacturing facilities on the property, starting with a sodium silicate production area in 1967, followed by a polyester resin plant in 1969. The polyester resin production portion of the property, which constitutes the Site and is the focus of this PEA Report, was sold to Koppers in 1978. Reichhold purchased the resin production plant from Koppers in 1989, and subsequently sold it in 1995 to CCP, who currently operates the facility.

The sodium silicate portion of the original property was purchased by OxyChem from Diamond Shamrock in 1986, and was operated by OxyChem until approximately 1995. The sodium silicate plant is currently inactive, and the property is now owned by CCP. Reichhold never owned or operated on the OxyChem facility property.

3.3 Surrounding Land Use

Other manufacturing facilities occupy properties surrounding the Site. Figure 2-2 identifies current and planned zoning for the area.



N

0 150 300 Feet

Figure 3-1
Former Property Boundaries

5980 Arcturus Avenue
and Neighboring Property
Oxnard, California

CH2MHILL

Galt\gis2\reichhold\plots\Figure_E1.mxd April 22, 2003 tfaludy

4. Hazardous Substance/Hazardous Waste Management Information

4.1 Manufacturing Activities

The Site produces various types of polyester resins in liquid form. The principal raw materials have included bromine, styrene, phthalic and maleic anhydride, various glycol compounds, caustic soda, and methylene chloride. These materials have been, or currently are, stored in aboveground tanks or 55-gallon drums. The manufacturing process involves heating liquid and solid materials in a reactor and cooling them, when required, through cooling coils. The resin is then transferred to a thinning tank where it is mixed with a monomer (usually styrene), and agitated. The resin is transferred to other tanks where it is stored for packaging and shipment. The raw materials used in the manufacturing process are stored in large tanks and pumped to the reactor (Ecology and Environment, 1990).

4.2 Facility Waste Products

The principal waste streams include permitted wastewater discharges to the City of Oxnard wastewater plant, permitted air emissions, and offsite (Class I Landfill) disposal of acid distillate and nonrecyclable resins. There are, both currently and in the past, no underground storage tanks, and no onsite waste storage for more than 90 days (Ecology and Environment, 1990). Process wastewater is discharged to the city sewer after pH adjustment. The focus of this PEA investigation was to delineate and characterize potential subsurface contamination at the Site (building upon site information gathered during previous investigations). Therefore, specific information about facility wastewater, air emissions, and offsite disposal practices was not collected.

5. Apparent Problem: Focus of the PEA

This section summarizes the available information from past investigations at the Site and at the neighboring former OxyChem facility, including known or potential spills and releases to the Site. Section 5.2 presents the primary purpose and objectives of the PEA, including an identification of contaminants of concern.

5.1 Previous Environmental Investigations

Investigations of the Site and the adjacent former OxyChem property have been conducted as a result of specific reports of contaminant releases or the historical transfer of property ownership. Although Reichhold never owned or operated on the OxyChem facility property, previous investigations at the OxyChem facility are listed below because the analytical results provide information about subsurface characterization. Evaluating subsurface information for both the former OxyChem site and the former Reichhold property provides more information about of sources and migration of contamination.

5.1.1 OxyChem Facility (1995)

A preliminary investigation was conducted at the adjacent former OxyChem facility in March 1995 (TreaTek-CRA, 1995). The investigation included: (1) a review of historical site information; (2) surface geophysical analyses to examine areas where one suspected buried drum was located; (3) installation of monitoring wells; and (4) the collection and analysis of soil and groundwater samples for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and metals (analytical methods not specified in reference). Both the Site and the former OxyChem facility are shown in Figure 2-3. Locations of previous soil borings and monitoring wells are shown in Figure 7-2 (refer to Section 7). The findings of the OxyChem preliminary investigation include the following:

- Low concentrations of acetone, toluene, trichloroethylene, and ethylbenzene in soil at the OxyChem facility.
- Localized areas of high sodium concentration in soil at the OxyChem facility.
- Identification of areas where drums could have been buried on the OxyChem facility based on surface geophysical anomalies.
- Ethylbenzene in groundwater at a concentration (18,000 micrograms per liter [μg/L]) that exceeds the California Maximum Contaminant Level (MCL) of 700 μg/L in well OW-4 (identified as OW4-94 in Figure 7-2).
- Ethylbenzene, acetone, and benzene detected in groundwater at concentrations below MCLs in wells OW-5 and OW-6 (OW5-94 and OW6-94 in Figure 7-2).

5.1.2 The Site

1985 Preliminary Assessment Summary

The first known environmental report on the Site is a Preliminary Assessment Summary prepared in 1985 (when the property was owned by Koppers) by the Toxic Substances Control Division of the California Department of Health Services (California Department of Health Services, 1985). This assessment concluded that there was no onsite disposal of hazardous waste, but reported problems with onsite spills and leaks and complaints of odor. The Department of Health Services recommended that the Site be given the designation of "active status, low priority."

1987 Soil Sampling Effort

The first field investigation at the Site was a small soil-sampling effort performed in 1987 in response to the observation of discolored soil and strong chemical odors during excavation activities near the tank-truck unloading area (Koppers, 1987). In this effort, two soil samples were collected near the excavation. The specific analyses performed on the samples are unknown, but it was reported that one sample contained styrene at 5 milligrams per kilogram (mg/kg) and ethylbenzene at 10 mg/kg. According to the results analysis, neither compound was detected in the second sample (Koppers, 1987). A summary of this sampling activity was submitted to the Environmental Health Department in a letter from Koppers. No site maps or analytical data are available in that letter.

1988 Soil Investigation

At the request of the Ventura County Department of Environmental Health (VCDEH), the 1987 soil sampling effort was followed in 1988 by a more comprehensive soil investigation (Groundwater Management, 1988). In that investigation, the scope of sampling extended beyond the area where discolored soil was previously encountered. Samples were collected from the adjacent property to the north of the Site (BMW, located at 5650 Arcturus Avenue), where some of the excavated soil had been spread as fill. The BMW property at 5650 Arcturus Avenue is located approximately 900 feet north of the northern boundary of the process area at 5980 Arcturus Avenue. No contaminants were detected in the samples from the BMW property.

Samples were also collected from seven locations at the Site where potential releases could have impacted soil. The soil was analyzed for VOCs (EPA Method 8240) and selected parameters indicative of Site operations (e.g., bromide, glycol compounds, various acid compounds). Some samples contained concentrations of styrene, ethylbenzene, and glycol compounds.

Although the VCDEH reportedly accepted the conclusion that the soil concentrations did not warrant remediation, the agency requested that a monitoring well be installed and sampled. Accordingly, a monitoring well (MW-1), which was subsequently abandoned, was installed by Koppers south of the rail spur, in line with the southwest corner of the raw materials storage area (Keystone Environmental Resources, 1988). A sample of shallow groundwater (< 18 feet below grade) was analyzed for VOCs (EPA Method 8240), and found to contain ethylbenzene at a concentration of 2 μg/L, which is well below the State

MCL of 700 µg/L. Acetone was reported at 20 µg/L; however, it is believed to have been a product of the laboratory analysis (Groundwater Management, 1988).

1990 Screening Site Inspection

In 1990, the USEPA conducted a Screening Site Inspection (SSI) of the Site (Ecology and Environment, 1990). The records search conducted as part of the SSI revealed that releases of bromine gas, and surface spills of styrene, maleic anhydride and methylene chloride had occurred at the Site dating back to 1972. The releases identified in the SSI that are potentially relevant to this PEA are summarized in Table 5-1. Based on the review of the available information, the SSI concluded that no further investigation or remedial action was necessary (Ecology and Environment, 1990).

TABLE 5-1
Listing of Known Releases at the Site with Potential Impacts to the Subsurface

Date	Incident
October 1972	Two separate liquid bromine leaks (100 pounds each) and pipeline rupture. According to references, the bromine was neutralized with a caustic solution and cleaned up by firemen (Ecology and Environment, 1990; Ventura County Department of Health Services [VCDHS], 1985; and Diamond Shamrock, 1972).
July 1972	Styrene monomer spill (quantity not specified) into City of Oxnard sanitary sewer system and onto soil and Arcturus Avenue. According to references, the NCRSD cleaned up the spill (Ecology and Environment, 1990; VCDHS, 1985; and City of Oxnard, 1972). Note: the acronym NCRSD is not defined in VCDHS, 1985 reference.
September 1985	Bromine spill to ground with air release (unspecified amount released). Bromine tank was overfilled and liquid bromine spilled to the ground. The event caused a gas cloud release (Ecology and Environment 1986 and 1990). According to references, facility provided the materials necessary to neutralize the effect of the bromine contamination of the City of Oxnard sanitary sewer system lift station.
September 1987	Stained soil observed. Soil investigation conducted and presented in June 1988. Results show styrene, diethylene glycol, ethylene glycol, ethylbenzene and acetone in soil at levels up to 70 mg/kg (Keystone Environmental Resources, 1988; Groundwater Management Inc., 1988; and Koppers, 1987). References did not include any further details about the release.
December 1987	Maleic anhydride (4,200 pounds) released to the ground following rupture of pipe seal. The material (stored as a liquid at 150°F) solidified as it cooled. According to references, all material was removed from the ground and contained in storage drums (Environmental Health Department, 1987).
March 1988	Methylene chloride (200 gallons) released from aboveground tank into concrete sump and into the sanitary sewer system. According to references, the facility contained the spill and properly disposed of it (Oxnard Fire Department, 1988).
November 1993	Phthalic anhydride (5,000 pounds) released, potentially affecting the nearby soil. Reference did not include any further details about the release (VISTA, 2001).

1995 Soil and Groundwater Investigation

In December 1995 an investigation was commissioned on behalf of CCP to provide information pertinent to the property transaction from Reichhold, including a review of the OxyChem investigation (see Section 5.1.1), and the collection and analysis of soil and groundwater samples at the Site (Woodward-Clyde Consultants, 1995). Soil and groundwater samples were analyzed for VOCs (EPA Method 8260), SVOCs (EPA

Method 8270) and metals (EPA Method 6010/7471). The relevant findings of the baseline investigation included the following:

- Ethylbenzene, methylene chloride, toluene, xylenes, and bis(2-ethylhexyl)phthalate were detected in soil at the Site. Ethylbenzene and methylene chloride were generally detected more frequently and at higher concentrations than other organic compounds.

- Benzene, chloroform, cis-1,2-dichloroethane, ethylbenzene, methylene chloride, and xylenes were detected in groundwater at concentrations at or above their MCLs. Toluene, benzoic acid, l,l,l-trichloroethane, and 4-methylphenol were also detected in groundwater at the Site, but at concentrations below MCLs.

- Metals were detected in soil and groundwater at the Site but at concentrations that do not pose a significant health risk. One groundwater sample was analyzed for California Assessment Manual (CAM) 17 metals. Only barium (2 milligrams per liter [mg/L]), vanadium (0.02 mg/L), and zinc (0.03 mg/L) were detected, and the detected concentrations are below MCLs. Five soil borings were analyzed for CAM 17 metals. The maximum detected metals concentrations in soil are as follows:

  - Barium (96 mg/kg)
  - Chromium (17 mg/kg)
  - Cobalt (6.8 mg/kg)
  - Copper (12 mg/kg)
  - Nickel (14 mg/kg)
  - Vanadium (31 mg/kg)
  - Zinc (61 mg/kg)

2001 Records Review

CH2M HILL conducted a records review of the Site in November 2001. Table 5-2 summarizes the reported releases identified during the records review that are relevant to this PEA. According to the sources reviewed, these releases were either not contained or have the potential to impact soil or groundwater.

The reported releases listed in Table 5-2 occurred in the industrial area of the Site, near the Raw Material Storage area and the Rail Car Unloading Area (refer to Figure 2-3). Analytical data were collected during the 2002 PEA field investigation at seven locations (R-03, R-06, R-10, R-11, R-08, OW4-94, and R-12) near these areas (refer to Section 7 and Figure 7-2). The analytical results of the 2002 PEA field investigation were used in a site-specific risk assessment following USEPA and DTSC guidelines to determine whether the constituents detected in soil and groundwater pose any risks to human receptors at the site. Results of the site-specific human health risk assessment indicate both potential noncancer and cancer risks are within acceptable regulatory limits (Hazard Index less than 1 and excess lifetime cancer risk less than 1×10^{-6} for all exposure pathways). Analytical results are discussed in Section 7, and the human health risk assessment is discussed in Section 8.

Preliminary investigations were conducted at the Site at the time of purchase by Reichhold (IT Corporation, 1989), and again when Reichhold sold the property to CCP (Woodward-Clyde, 1995). The IT assessment consisted of a review of records and

interviews of plant personnel. The Woodward-Clyde investigation consisted of soil and groundwater sampling, and is described in the previous subsection "1995 Soil and Groundwater Investigation."

TABLE 5-2
Listing of Reported Releases at the Site with Potential Impacts to the Subsurface

Date	Incident
August 1991	Dilute caustic soda (sodium hydroxide) solution, (300 gallons) released to containment dike (VISTA, 2001).
January 1992	Bromine (150 gallons) released to the scrubber system (VISTA, 2001).
November 1992	Styrene (250 – 300 gallons) released (VISTA, 2001).
January 1993	Methylene chloride (600 pounds) released (VISTA, 2001).
April 1994	Styrene (1,500 gallons) released to containment dike (VISTA, 2001).
July 2001	Unspecified quantity of dicyclopentadiene (DCDP) and NUODEX powder released to soil, discovered during a City of Oxnard site visit (City of Oxnard, 2001).

5.2 PEA Objectives

Based on past Site investigations and known or suspected chemical releases at the Site, a PEA was initiated in 2002 to:

1. Further delineate the type and general extent of VOC contamination at the Site (building upon site information gathered during previous investigations). As approved by DTSC, VOCs were determined to be the contaminants of concern for the PEA; however, sampling for hexavalent chromium was also conducted at the cooling tower area at the request of DTSC.
2. Produce data of known quality following a quality assurance/quality control plan.
3. Evaluate site risks associated with subsurface contamination. In Section 6 of this PEA Report, conceptual site models are introduced to identify potential exposure pathways for human and ecological receptors. Section 6 also describes soil and groundwater conditions that relate to potential exposure pathways.

This PEA Report presents results of the 2002 investigation, as well as groundwater data collected in 2004 as follow-on to the 2002 investigation. Final data are used to assess general risks to potential receptors and to evaluate whether further action is necessary.

6. Environmental Setting

This section identifies site environmental conditions that could influence the transport of contaminants through identified potential exposure pathways to human or environmental receptors.

6.1 General

The Site is located approximately 1 mile from the Pacific Ocean on the Oxnard Plain in southeast Ventura County, California. The topography over the 120-square mile plain is flat; the elevation at the Site is approximately 10 to 11 feet above mean sea level (msl). There is no freshwater surface-water body downgradient of the Site. As discussed in Section 2, the surrounding land use is primarily industrial and agricultural.

6.2 Near-Surface Geology

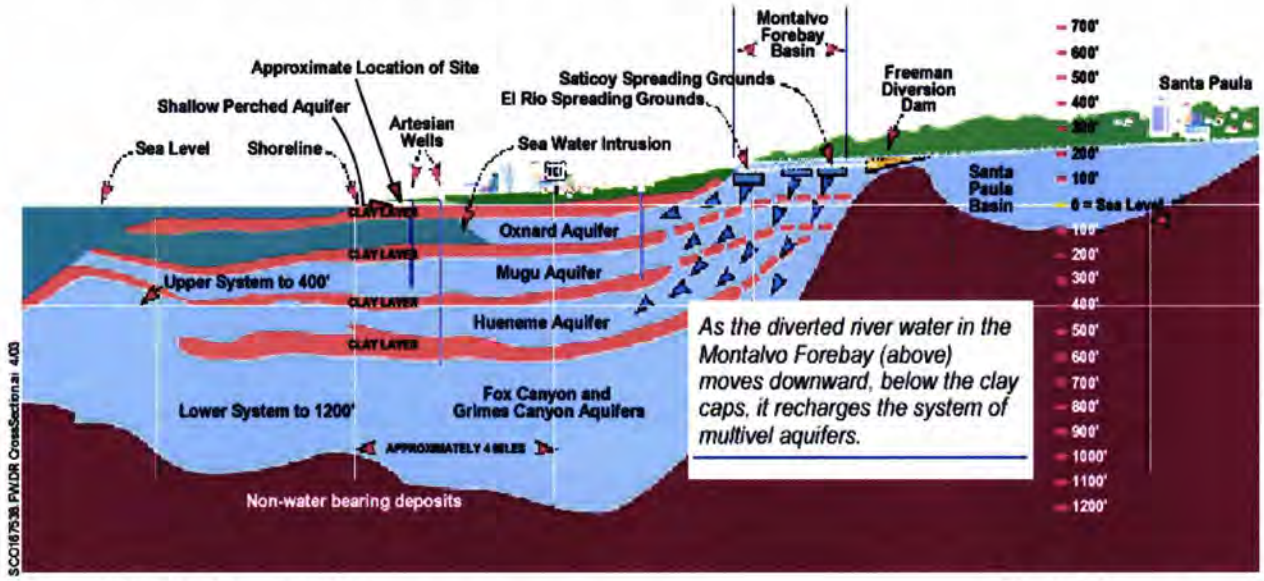
The Oxnard Plain is comprised largely of unconsolidated coalesced alluvial-fan deposits from the Santa Clara River and other local drainages (e.g., Las Posas Creek). These unconsolidated sediments extend to a depth of more than 2,000 feet below ground surface (bgs) (California Water Resources Board, 1953). The sediments in the uppermost 40 to 50 feet are described by the California Water Resources Board (1953) as consisting of sand and gravel. TreaTek-CRA (1995) describes these same materials as becoming progressively finer in texture with depth, with silt and clay predominating to depths of approximately 40 to 50 feet. Underlying this material is an alternating sequence of sands/gravel with finer-textured sediments beginning with a relatively thick (50 to 150 feet) unit of clay (California Water Resources Board, 1953).

At the Site, the native soil has been observed to be consistent with the regional stratigraphy. Soils encountered within the uppermost 10 feet during previous investigations were generally mixtures of fine sand and silt. Silty clay or clayey silt is typically present below 10 feet. Fill material was encountered at depths between 2 and 7 feet bgs at some locations at the Site (Woodward-Clyde, 1995). The deepest borehole drilled to date at the Site is 20 feet (Keystone Environmental Resources, 1988). This borehole terminated within a layer of sandy silt of unknown thickness that underlies an 11-foot-thick layer of silty clay.

6.3 Hydrogeology

Groundwater in the Oxnard Plain occurs both within a relatively shallow zone, which represents groundwater perched above the thick near-surface clay unit identified above (i.e., within the uppermost 40 feet approximately), and in several regionally defined deeper aquifers under confined conditions. Figure 6-1 shows a cross section of the aquifers of the Oxnard Plain (United Water Conservation District [UWCD], 2003). The regional aquifers are generally separated into upper and lower aquifer systems, with the upper system containing the Oxnard and Mugu aquifers, both of which are local sources of water supply

for the Cities of Oxnard and Port Hueneme, and for local irrigated agriculture. The lower aquifers (Hueneme, Fox Canyon, and Grimes Canyon) exist beneath 350 feet bgs.



Source: United Water Conservation District
On-Line Brochure #4, "Safeguarding the Santa Clara Valley and Oxnard Plain"

Figure 6-1
Cross Section of Oxnard Plain Regional Aquifers

6.3.1 Shallow Groundwater

The most comprehensive regional publication about the near-surface groundwater (California Water Resources Board, 1953) describes the groundwater in the shallow zone as being "semiperched." The U.S. Geological Survey (Izbicki, 1996), however, refers to this zone as a shallow unconfined aquifer, and specifically acknowledges that previous studies refer to this zone as the "perched aquifer." The shallow zone, which is not used as a source of water supply, is reported to contain both fresh and brackish water (Izbicki, 1996).

At the Site, groundwater was encountered in borings at depths ranging from approximately 6 to 9 feet bgs (Keystone Environmental Resources, 1988; Woodward-Clyde, 1995). The depth to groundwater at well OW4-94 was reported to range from approximately 5.7 to 6.5 feet bgs (TreaTek-CRA, 1995). During the 2002 field investigation, groundwater was encountered at approximately 6 feet bgs. Based on the elevation of the Site ranging between approximately 10 and 11 feet above msl, the elevation of the shallow groundwater encountered to date is between approximately 1 and 4.5 feet above msl.

Water-level data from monitoring wells installed during the investigation of the OxyChem facility indicate that the horizontal component of hydraulic gradient and the principal direction of flow of local groundwater changes seasonally (TreaTek-CRA, 1995). This interpretation, along with the data presented by Woodward-Clyde (1995) that suggests the direction of flow is to the north (i.e., away from the ocean and directly opposite the interpretation of the data from TreaTek-CRA [1995]), supports the premise that the shallow groundwater is perched at the Site.

Water-quality data from a shallow (65-foot) well within approximately 0.5 mile northwest of the Site (1N/22W-27C4) indicate that the concentration of total dissolved solids (TDS) in

relatively shallow groundwater exceeds 2,700 mg/L (Izbicki, 1995), which is considered brackish (Davis and DeWiest, 1966). Approximately 0.5 mile southwest of the Site, the TDS concentration in a well 110 feet deep (1N/22W-27R5) was as high as 46,800 mg/L (Izbicki, 1995), which is considered saline.

6.3.2 Oxnard Aquifer

The Oxnard aquifer is the uppermost aquifer within the upper aquifer system of the Oxnard Plain. Near the Site, the top of the Oxnard aquifer is between approximately 140 and 180 feet bgs, and the thickness ranges between 75 and 200 feet (California Water Resources Board, 1953; Izbicki, 1996). Overlain by a "clay cap" between 50 and 100 feet thick, the Oxnard aquifer largely consists of horizontal layers of sand and gravel with only minor lenses of silt and clay (California Water Resources Board, 1953). The overlying clay acts to confine the groundwater in this aquifer under pressure. The aquifer is recharged primarily by infiltration in the Oxnard Forebay, which is approximately 10 miles north-northwest and upgradient of the Site where the coarse aquifer materials outcrop, and, to a lesser extent, by interbasin groundwater flow from the upgradient North Los Posas Basin north-northeast of the Site.

Unpublished data from the Ventura County Public Works Agency indicate that the piezometric surface in the confined Oxnard aquifer was approximately 10 feet above msl in the vicinity of the Site in 1994. Izbicki (1996) reports that since 1993, a combination of groundwater management strategies and increased availability of water from the Santa Clara River for groundwater recharge has caused piezometric heads in deep wells near the coast to rise above groundwater levels in the shallow zone. These conditions support the conclusion in Ecology and Environment (1990) that the prevailing vertical component of hydraulic gradient in the Oxnard aquifer is upward in the vicinity of the Site.

Although the Oxnard aquifer historically has been a source of water supply, production from this aquifer has resulted in seawater intrusion near the coast. Data from Izbicki (1995) indicate relatively high TDS concentrations (5,800 mg/L in 1N/22W-27C3 and 1,600 mg/L in 1N/22W-27R4) within 1 mile of the Site. Izbicki (1996) presents maps that show that the Site overlies a portion of the Oxnard aquifer where seawater has degraded the water quality since at least the mid 1960s.

6.3.3 Lower Aquifer System

Below the Oxnard aquifer, layers of clay and silt define the boundary between the Oxnard aquifer and the Mugu aquifer and the deeper aquifers (i.e., Hueneme and Fox Canyon aquifers) of the lower aquifer system.

6.3.4 Groundwater as a Source of Local Water Supply

Both the Cities of Oxnard and Port Hueneme rely on groundwater from both the upper and lower aquifer systems for potable water supply. In addition, groundwater is the principal source of water for irrigated agriculture on the Oxnard Plain. The nearest municipal well to the Site, which is approximately 2.5 miles west and serves Port Hueneme, is screened in the deeper aquifers below the Oxnard aquifer (Ecology and Environment, 1990). There are no water-supply wells downgradient of the Site. The shallow aquifer (i.e., perched groundwater) is not used for water supply.

6.4 Nearby Receptors

The Site is located in the southern portion of the City of Oxnard in an area that is primarily industrial/agricultural. Properties within 0.25 mile of the Site are industrial businesses:

- Trucking company
- Titanium, nickel base and stainless steel alloy manufacturing company
- Automobile engineering, research, and vehicle emissions testing facility
- Aluminum forging facility

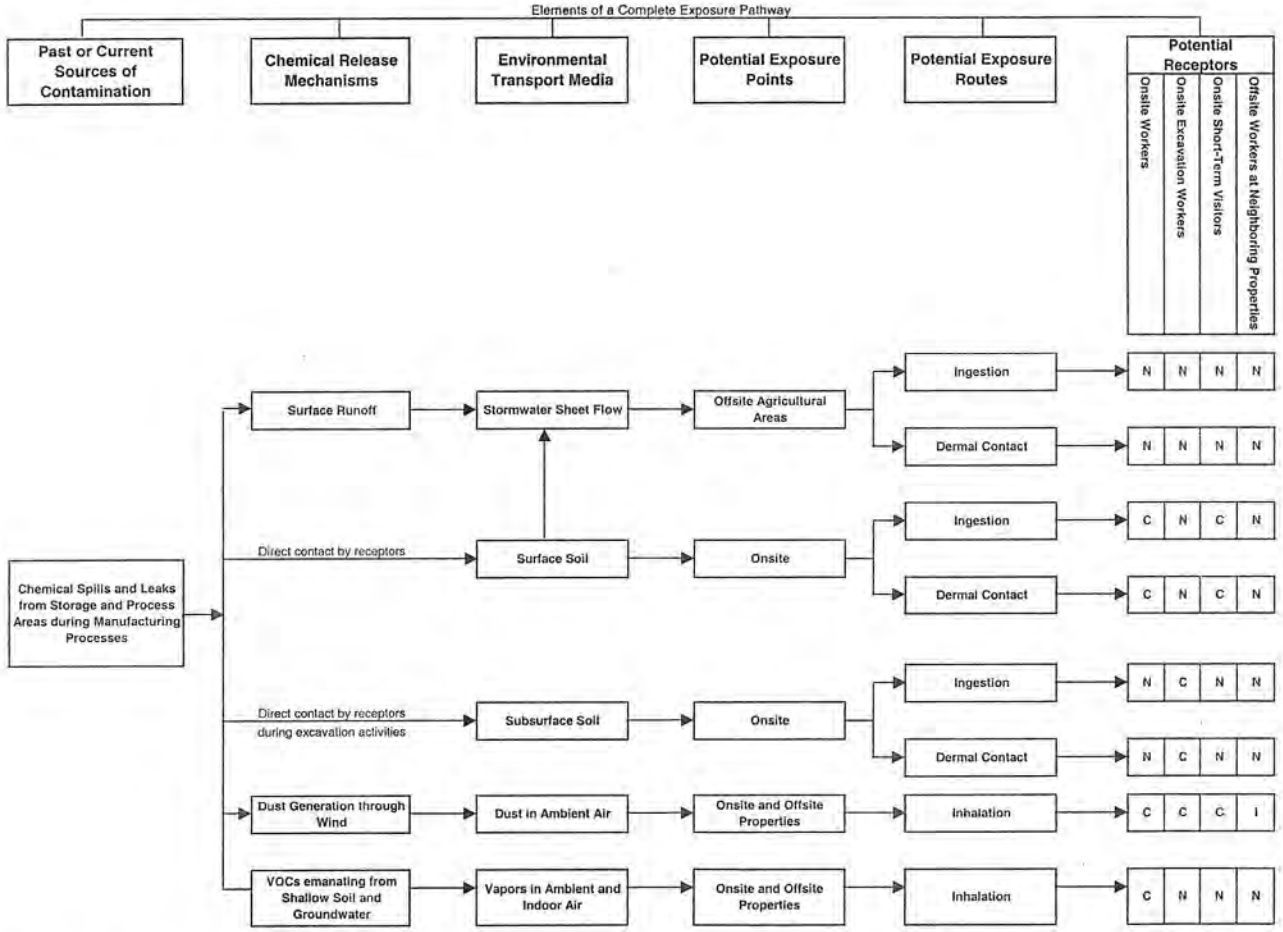
The nearest residential receptors are located approximately 3,000 feet from the Site, as shown in Figure 2-2.

The resin manufacturing portion of the Site is secured by a chain-link fence and is locked at all times. A facility office is operated during normal business hours; however, the resin manufacturing activities occur 24 hours per day.

6.5 Potential Exposure Pathways

Figures 6-2 and 6-3 present conceptual site models for the Site, and the potential exposure pathways related to past releases of VOCs into the subsurface. The conceptual site models provide a basis for site risk evaluation (discussed in Section 8).

Figure 6-2
Sitewide Conceptual Model for Potential Human Exposures
5980 Arcturus Avenue, Oxnard, CA



C = Potentially complete pathway
I = Potential complete, but insignificant pathway
N = Incomplete pathway

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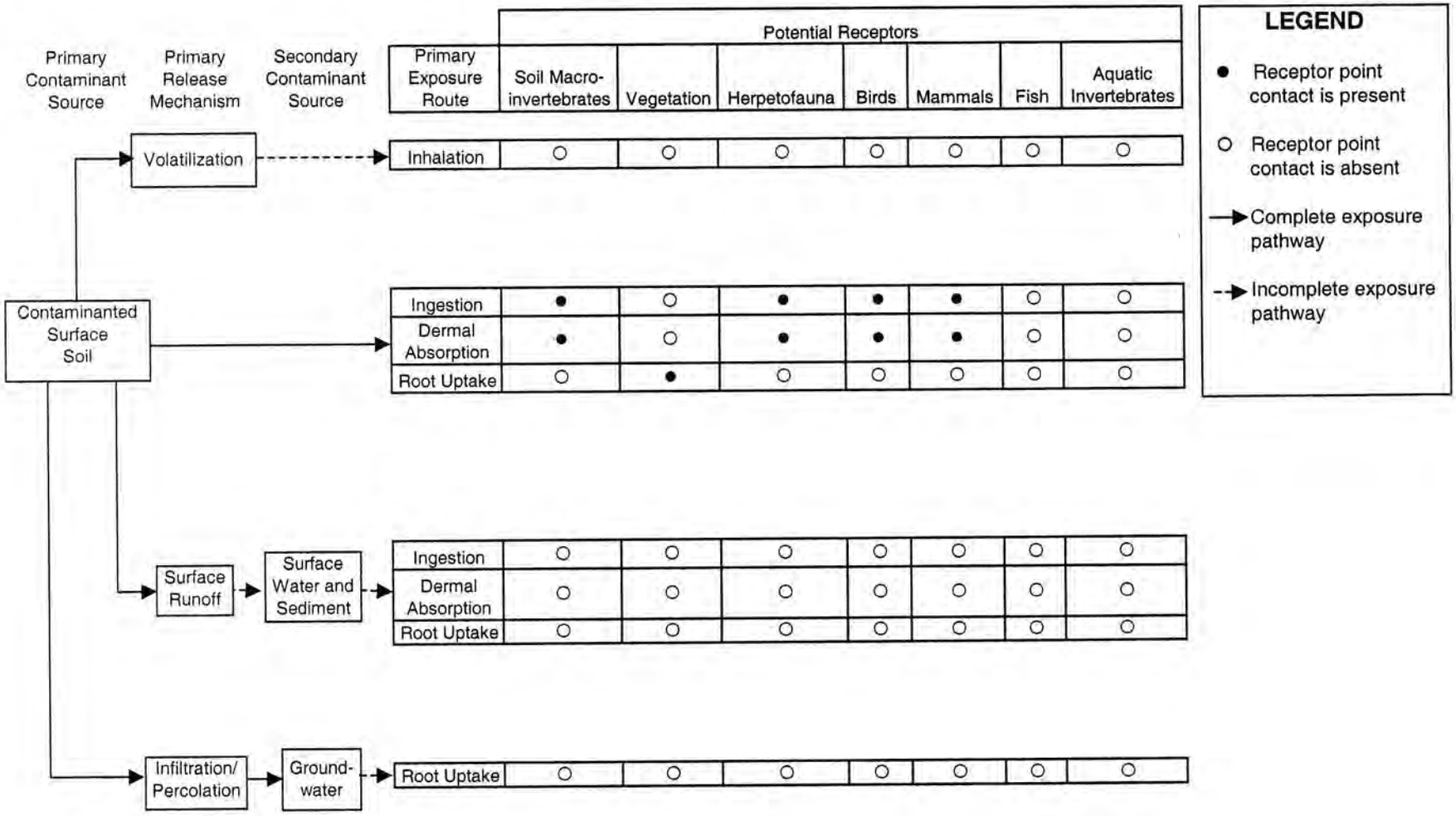
Figure 6-3
Sitewide Conceptual Model for Potential Ecological Receptors
5980 Arcturus Avenue, Oxnard, CA



7. PEA Sampling Activities and Results

This section describes field activities conducted during the 2002 PEA soil and groundwater investigation under the VCP Cleanup Agreement between Reichhold and DTSC. It also describes follow-on groundwater sampling that was conducted in 2004 at the Site in response to DTSC comments on the Draft PEA Report.

7.1 Summary of Sampling Activities

Table 7-1 summarizes the environmental sampling activities conducted in October 2002 at the Site.

TABLE 7-1
Summary of Field Investigation Activities as part of the PEA Conducted at the Site

Field Investigation Activity	Number of Locations	Comments
Soil Boring and Sampling, October 2002	13	Soil borings were advanced using a direct-push rig.* Continuous soil cores were collected and lithologic logging was conducted based on visual inspection of soil. Soil headspace readings were taken using a photoionization detector. Surface soil samples were collected at a depth ranging from 0 to 1 foot bgs. Shallow soil samples were collected at a depth of 4 to 5 feet bgs.
Geoprobe and Groundwater Sampling, October 2002	15	In situ groundwater sampling was conducted at each of the initial thirteen (13) soil boring locations using a peristaltic pump. At two additional locations, existing monitoring wells were purged and sampled using a peristaltic pump. Groundwater was encountered at the site at approximately 6 feet bgs.
Groundwater Sampling, February and May 2004	2	Temporary groundwater wells were installed at two locations that were previously sampled in 2002. Each boring was advanced using a hand auger due to rig access limitations, and was completed as a 1-inch-diameter monitoring well. The wells were developed by hand swabbing and bailing. Groundwater was encountered between 6 and 8 feet bgs.
Soil Sampling, February 2004	2	Soil samples from two borings were collected to assess soil physical parameters. Samples were collected from 0 to 1 foot and from 4 to 5 feet bgs using a drive sampler to collect relatively undisturbed samples.

*Note: Location R-06 was hand-augered for soil sample collection, and the open hole was bailed to collect a groundwater sample.

Proposed sampling locations and rationale were presented in the Final PEA Work Plan (CH2M HILL, 2002). On October 8, 2002, DTSC met with Reichhold and CCP at the Site and reviewed the rationale and location of each proposed sampling location. Based on the meeting, some field adjustments were made to the proposed sampling plan. As part of a follow-on investigation in 2004, CH2M HILL installed temporary groundwater wells and

collected groundwater samples in accordance with the *Final Temporary Monitoring Well Installation and Sampling Workplan* (CH2M HILL, 2004a). A representative from the DTSC Geological Services Unit was present during the installation and development of the temporary groundwater wells.

Table 7-2 summarizes the final sampling locations and lists the agreed-upon rationale for locating the borings.

Figure 7-1 shows sampling locations from the October 2002 PEA investigation and follow-on soil and groundwater sampling conducted in 2004. Figure 7-2 shows all historic sampling locations for the Site.

7.2 Presentation of Data

During the 2002 initial PEA investigation, all samples were analyzed for VOCs by method 8260B. At one location (R-07), soil and groundwater were also analyzed for hexavalent chromium using EPA Methods 7199 and 7196A, respectively. During the follow-on investigation in February and May 2004, groundwater samples were analyzed for BTEX by Method 8260B. Table 7-3 presents a summary of the analytical results in a similar format to Table 7-2 so that the sample rationale can be compared with the analytical results. Table 7-4 presents a summary of all compounds detected in groundwater during the October 2002 PEA investigation and follow-on 2004 investigation. Table 7-5 presents a summary of all compounds detected in soil during the October 2002 PEA investigation. Original laboratory reports are included in Appendix A. Soil boring logs and temporary groundwater well development sheets for the PEA investigation are included in Appendix B. Data validation was conducted for all samples, and data validation summary reports are included in Appendix C. Results of the 2004 physical parameter analyses for soil are discussed in Appendix D, Table D2-1, as they were collected to assist with the human health risk assessment.

7.3 Discussion of Results

During the 2002 PEA and subsequent groundwater sampling in 2004, sampling results for VOCs were, in general, much lower than previously reported in past investigations. Hexavalent chromium, which was analyzed at location R-07 (near the cooling tower), was not detected above the practical quantitation limit. Two tables are presented to provide a comparison of historical results to those of the 2002 and 2004 PEA sampling activities. Table 7-6 presents a summary of detected VOCs in groundwater for the site, including previous investigations as well as the 2002 and 2004 PEA field investigation. Table 7-7 presents a summary of detected VOCs in soil for the site, including previous investigations as well as the 2002 and 2004 PEA field investigations.

TABLE 7-2
Site Investigation Methods and Rationale Implemented during PEA Field Investigation (October 8 through 10, 2002) and Follow-On Sampling (February and May 2004)
5980 Arcturus Avenue - PEA Report

Sample Location	Sample Matrix/Depth	Sampling Method	Analysis	Rationale
Phthalic Anhydride Tank Area (Near Maintenance Shop) R-01 R-01W	Soil 1 foot bgs and 5 feet bgs Groundwater (6 feet bgs)	Geoprobe Peristaltic pump	VOCs (8260B and 5035) for both soil and groundwater	Determine the extent of methylene chloride and ethylbenzene at this location (suspected upgradient source).
Former Hazardous Waste Storage Area R-02 R-02W	Soil 1 foot bgs and 5 feet bgs Groundwater (6 feet bgs)	Geoprobe Peristaltic pump	VOCs (8260B and 5035) for both soil and groundwater	Determine the extent of methylene chloride and ethylbenzene at this location (where previously detected).
Tank Storage (Raw Material Storage Area) R-03 R-03W	Soil 1 foot bgs and 5 feet bgs Groundwater (5.5 feet bgs)	Geoprobe Peristaltic pump	VOCs (8260B and 5035) for both soil and groundwater	Evaluate methylene chloride in soil and groundwater near previously detected elevated concentrations in soil at SB-17. Evaluate how past chemical releases discussed in Table 5-2 have impacted shallow soil or groundwater.
Warehouse Area R-04 R-04W	Soil 1 foot bgs and 5 feet bgs Groundwater (6 feet bgs)	Geoprobe Peristaltic pump	VOCs (8260B and 5035) for both soil and groundwater	Evaluate eastern extent of ethylbenzene detected in the processing area.
Current CCP Drum Storage Area* R-05 R-05W *Change from R-05 location presented in Final PEA Workplan (See Rationale notes)	Soil 1 foot bgs and 5 feet bgs Groundwater (6 feet bgs)	Geoprobe Peristaltic pump	VOCs (8260B and 5035) for both soil and groundwater	Evaluate presence of VOCs in groundwater and soil where hazardous materials are currently stored. No evidence of past contamination; however, this sampling location provides information for a previously unsampled location. DTSC requested this sample be relocated from the area of the Tank Car Unloading Area (where multiple samples have been collected) to this previously unsampled location at the current hazardous waste storage area.

TABLE 7-2 (CONTINUED)
Site Investigation Methods and Rationale
5980 Arcturus Avenue - PEA Investigation Work Plan

Sample Location	Sample Matrix/Depth	Sampling Method	Analysis	Rationale
Process Area (Near Rail Tank Car Unloading Area) R-06 R-06W	Soil 1 foot bgs and 5 feet bgs Groundwater (6 feet bgs)	Hand auger and bailer (2002) Hand auger and completed temporary PVC well (2004)	VOCs (8260B and 5035) for both soil and groundwater (2002) Soil physical parameters (2004): Dry bulk density (ASTM D2937), Total porosity (API RP 40), Water-filled porosity (EPA 160.3), Total organic carbon (EPA 9060A Mod) BTEX (8260B) for groundwater (2004)	2002 PEA Rationale: Confirm suspected center of elevated methylene chloride concentrations close to the suspected source area at the tank car unloading platform. Evaluate whether past chemical releases discussed in Table 5-2 have impacted shallow soil or groundwater. Evaluate potential lateral distribution of methylene chloride. 2004 Follow-on Sampling Rationale: Confirm level of BTEX in groundwater. Evaluate physical parameters of soil for site-specific data to be used in the human health risk assessment.
Cooling Tower Area R-07 R-07W	Soil 1 foot bgs and 5 feet bgs Groundwater (9 feet bgs)	Geoprobe Peristaltic pump	VOCs (8260B and 5035), hexavalent chromium (7199) VOCs (8260B and 5035)	Evaluate the western extent of ethylbenzene in the processing area and potential presence of hexavalent chromium in soil at the cooling tower area. No previous analysis for hexavalent chromium.
Former OxyChem Facility and Rail Car Unloading R-08 R-08W	Soil 1 foot bgs and 5 feet bgs Groundwater (6 feet bgs)	Geoprobe Peristaltic pump	VOCs (8260B and 5035) for both soil and groundwater	Evaluate the lateral distribution of methylene chloride and ethylbenzene at suspected downgradient location on former OxyChem property. Evaluate how past chemical releases discussed in Table 5-2 have impacted shallow soil or groundwater.
Maintenance Shop Area R-09 R-09W	Soil 1 foot bgs and 4 feet bgs Groundwater (6 feet bgs)	Geoprobe Peristaltic pump	VOCs (8260B and 5035) for both soil and groundwater	Evaluate the southern extent of 1,1,1-trichloroethane at this area (previously detected northeast of the maintenance shop).

TABLE 7-2 (CONTINUED)
Site Investigation Methods and Rationale
5980 Arcturus Avenue - PEA Investigation Work Plan

Sample Location	Sample Matrix/Depth	Sampling Method	Analysis	Rationale
Former OxyChem Facility OW4-94	Groundwater (6 feet bgs)	Peristaltic pump	VOCs (8260B and 5035) for groundwater	DTSC requested that this existing monitoring well be sampled to evaluate the presence of VOCs in groundwater (where previously detected). Evaluate how past chemical releases discussed in Table 5-2 have impacted shallow soil or groundwater.
Former OxyChem Facility OW3-94	Groundwater (6 feet bgs)	Peristaltic pump	VOCs (8260B and 5035) for groundwater	DTSC requested that this existing monitoring well be sampled to evaluate the presence of VOCs in groundwater. No VOCs were previously detected at this location.

Notes:
bgs = below ground surface
CAM = California Administrative Manual (presently known as CCR or *California Code of Regulations*). CAM 17, 9, and 7 refer to lists of heavy metals identified in the manual.
CCP = Cook Composites and Polymers
DTSC = State of California Department of Toxic Substances Control
PEA = Preliminary Endangerment Assessment
VOC = volatile organic compound

TABLE 7-2 (CONTINUED)
Site Investigation Methods and Rationale
5980 Arcturus Avenue - PEA Investigation Work Plan

Sample Location	Sample Matrix/Depth	Sampling Method	Analysis	Rationale
Rail Car Unloading Area and Process Area Drain (near Cooling Tower)* R-10 R-10W *Change from R-05 location presented in Final PEA Workplan (See Rationale notes)	Soil (2002) 1 foot bgs and 4.5 feet bgs Groundwater (5 feet bgs) (2002) Soil (4.5 feet bgs) and Groundwater (6 – 6.5 feet bgs) (2004)	Geoprobe (2002) Peristaltic pump (2002) Hand auger and completed temporary PVC well (2004)	VOCs (8260B and 5035) for both soil and groundwater (2002) Soil physical parameters (2004): Dry bulk density (ASTM D2937), Total porosity (API RP 40), Water-filled porosity (EPA 160.3), Total organic carbon (EPA 9060A Mod) BTEX (8260B) for groundwater (2004)	2002 PEA Rationale: Evaluate the presence of VOCs in soil and groundwater (where previously detected). Evaluate how past chemical releases discussed in Table 5-2 have impacted shallow soil or groundwater. This sample was relocated approximately 25 feet south of its planned location (shown in Figure 4-1 of the Final PEA Work Plan). Access in this area was too limited for a drill rig, and the concrete impaired hand-augering. Also, DTSC requested the boring be moved south near a process area drain to determine if the drain had leaked in the past. 2004 Follow-on Sampling Rationale: Confirm level of BTEX in groundwater. Evaluate physical parameters of soil for site-specific data to be used in the human health risk assessment.
Former OxyChem Facility (and Rail Car Unloading) R-11 R-11W	Soil 1 foot bgs and 4 feet bgs Groundwater (5 feet bgs)	Geoprobe Peristaltic pump	VOCs (8260B and 5035) for both soil and groundwater	Evaluate the presence of VOCs in soil and groundwater south of the styrene storage area (where previously detected in samples north of the boring location). Evaluate how past chemical releases discussed in Table 5-2 have impacted shallow soil or groundwater.
Former OxyChem Facility (and Rail Car Unloading) R-12 R-12W	Soil 1 foot bgs and 5 feet bgs Groundwater (6 feet bgs)	Geoprobe Peristaltic pump	VOCs (8260B and 5035) for both soil and groundwater	Evaluate the presence of VOCs in soil and groundwater south of the raw material storage area (where previously detected in samples north of the boring location). Evaluate how past chemical releases discussed in Table 5-2 have impacted shallow soil or groundwater.
Former OxyChem Facility R-13 R-13W	Soil 1 foot bgs and 4.5 feet bgs Groundwater (7 feet bgs)	Geoprobe Peristaltic pump	VOCs (8260B and 5035) for both soil and groundwater	Evaluate the presence of VOCs in soil and groundwater south of the drumming area (where previously detected in samples north of the boring location).

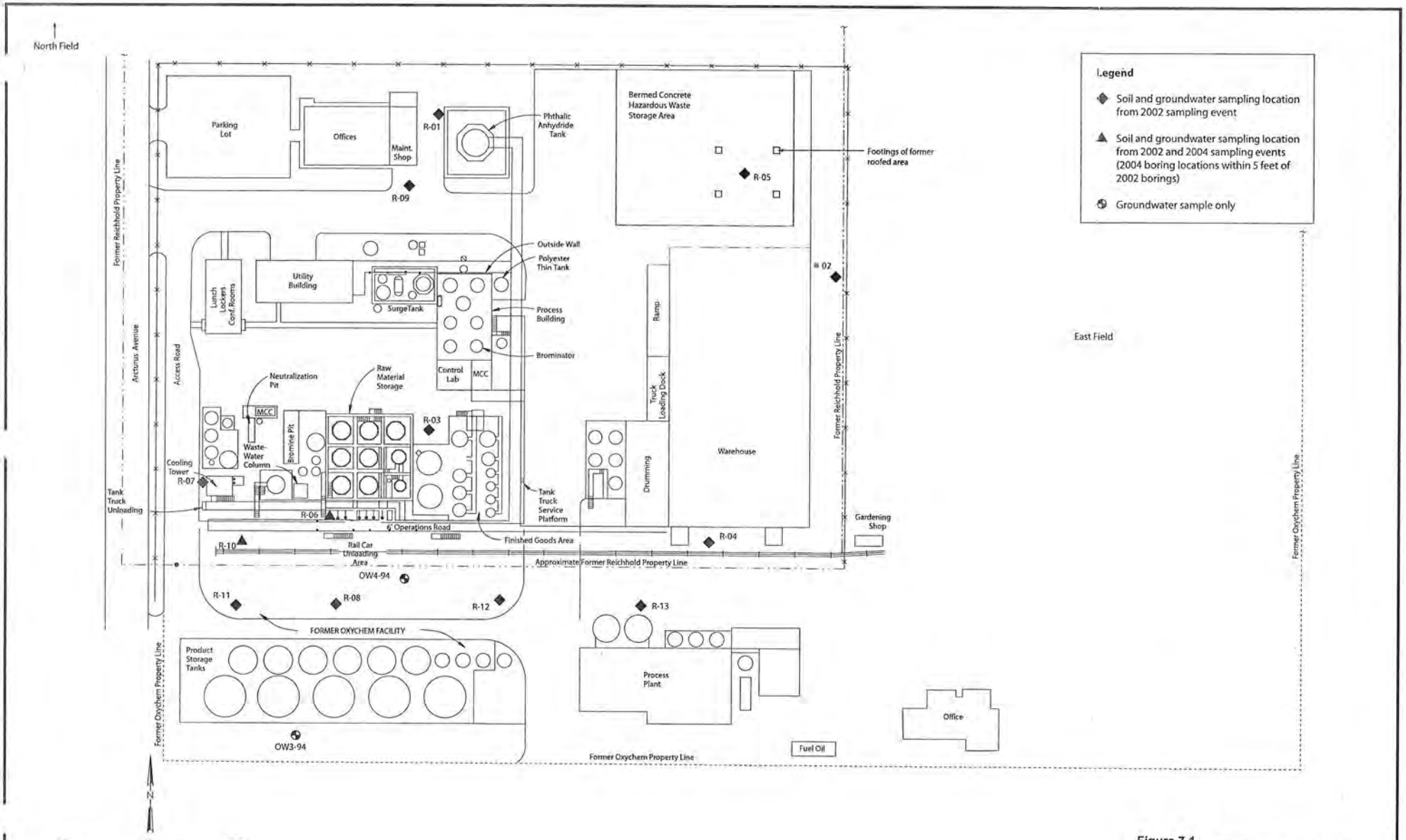


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Figure 7-1
2002 and 2004 Soil and Groundwater Sampling Locations
5980 Arcturus Avenue, Oxnard, California

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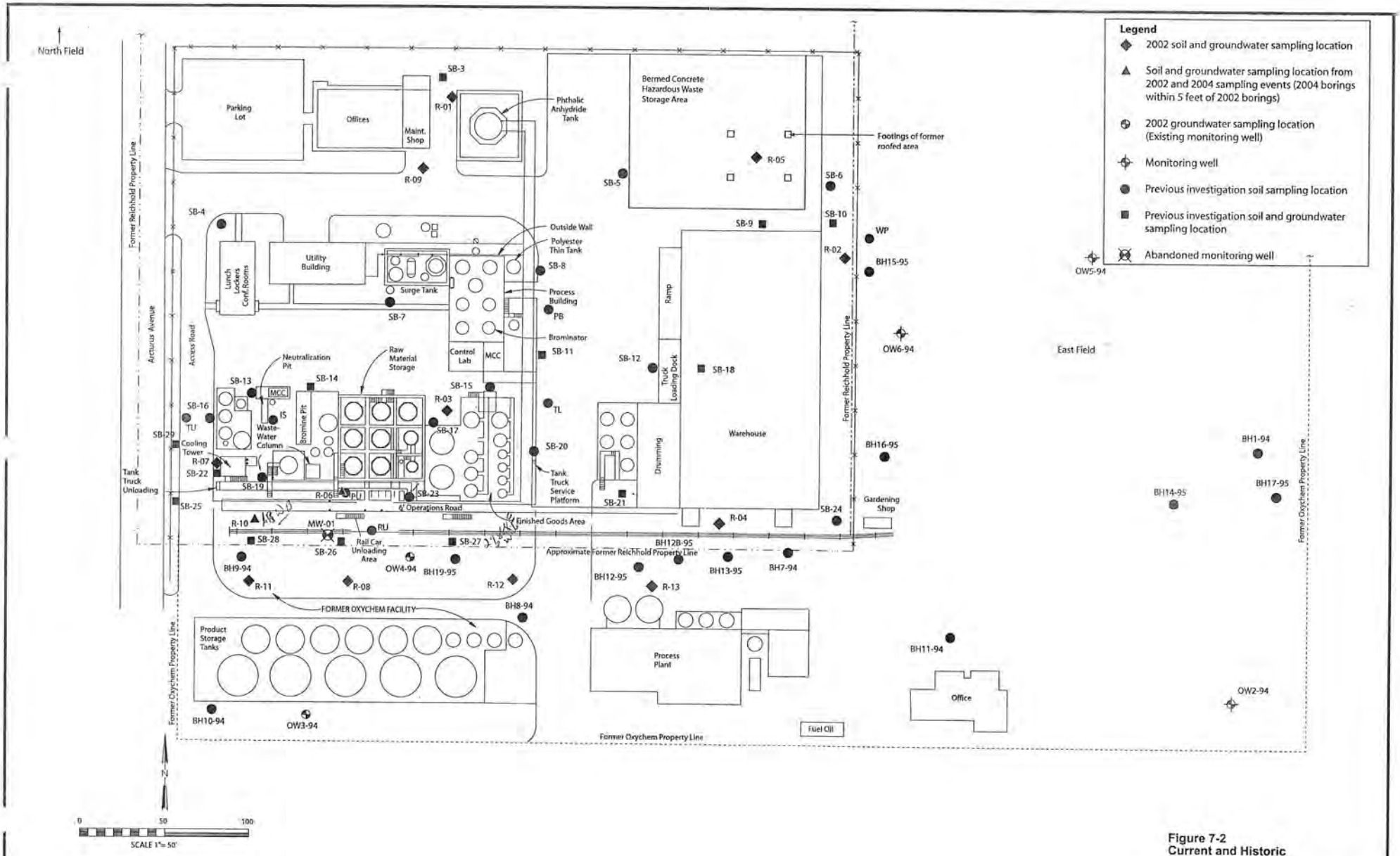

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Figure 7-2
Current and Historic Sampling Locations
5980 Arcturus Avenue, Oxnard, California

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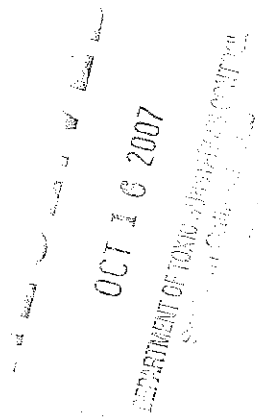
Updated Human Health Risk Assessment

Prepared for

Reichhold, Inc.

5980 Arcturus Avenue
Oxnard, California



October 15, 2007

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Acronyms and Abbreviations

ABS	dermal absorption fraction
bgs	below ground surface
Cal-EPA	California Environmental Protection Agency
CHHSL	California Human Health Screening Levels
cm^2	squared centimeter
COPC	chemical of potential concern
CSM	conceptual site model
DTSC	California Department of Toxic Substances Control
ECLR	excess lifetime cancer risk
EPC	exposure point concentration
HEAST	Health Effects Assessment Summary Tables
HHRA	human health risk assessment
HI	hazard index
HQ	hazard quotient
ID	identification
IRIS	Integrated Risk Information System
kg	kilogram
LAUSD	Los Angeles Unified School District
m^3	cubic meter
mg	milligram
mg/kg	milligram per kilogram
mg/kg-day	milligrams of chemical per kilogram body weight per day
OEHHA	Office of Environmental Health Hazard Assessment
PEA	Preliminary Endangerment Assessment
PRGs	Preliminary Remediation Goals
RAGS	Risk Assessment Guidance for Superfund
RfD	reference dose value

SECTION 1

Introduction

This human health risk assessment (HHRA) was conducted to address contamination associated with the former Reichhold site located at 5980 Arcturus Avenue in Oxnard, California (Figure 1). This HHRA evaluates the potential for adverse health effects for identified potential receptors that may have contact with impacted soil, soil gas, or groundwater associated with the southern 3.5-acre industrial area of the former Reichhold site (Figure 2). The results of this HHRA will be used as the basis for determining whether further action is necessary at the site. Per discussions with California Department of Toxic Substances Control (DTSC), this HHRA is conducted as an update to the *Draft Human Health Risk Assessment* (CH2M HILL, 2004a) and includes more recent sampling data collected during the *Preliminary Endangerment Assessment Report* (PEA Report) (CH2M HILL, 2004b) and *Preliminary Endangerment Assessment Report Addendum* (CH2M HILL, 2007) in order to provide a more site-specific evaluation of potential risk. The site investigations to date have provided sufficient spatial information on the nature and extent of contamination at the site, so a site-specific HHRA could be conducted.

1.1 Organization of the HHRA

The risk assessment consists of the following components:

- **Selection of Chemicals of Potential Concern** (Section 2) – Identifies the constituents considered to be most important to the human health risk quantification process.
- **Exposure Assessment** (Section 3) – Identifies the pathways by which potential human exposures could occur, describes how they are evaluated, and evaluates the magnitude, frequency, and duration of these exposures.
- **Toxicity Assessment** (Section 4) – Summarizes the toxicity of the selected chemicals and the relationship between magnitude of exposure and the occurrence of adverse health effects.
- **Risk Characterization** (Section 5) – Integrates information from the exposure and toxicity assessments to characterize the risks to human health from potential exposure to chemicals in environmental media.
- **Uncertainties Analysis** (Section 6) – Summarizes the basic assumptions used in the HHRA, as well as limitations of data and methodology.
- **Conclusions** (Section 7) – Presents the conclusions of the HHRA.

SECTION 2

Selection of Chemicals of Potential Concern

Chemicals of potential concern (COPCs) are those chemicals that should be carried through the human health risk quantification process. This component of the risk assessment process summarizes those chemicals detected in environmental media at the site and identifies the COPCs for environmental media that are accessible for human exposures. During the course of the risk assessment, the COPCs are evaluated to identify and prioritize those chemicals that are estimated to pose an unacceptable risk and should be addressed.

2.1 Data Used in the Risk Assessment

Analytical data evaluated for this HHRA include those from surface soil, subsurface soil, soil gas, and groundwater samples collected within the boundaries of the southern industrial portion of the property. Analytical data included in the HHRA are from site characterization activities conducted during October 2002, February 2004, and November 2006.

Analytical data collected were validated and results of the validation are presented in Appendix C of the PEA Report (CH2M HILL, 2004b) and in the *Preliminary Endangerment Assessment Report Addendum* (CH2M HILL, 2007). Table 1 present a summary of all the samples included in the HHRA by location (or station identification [ID]), sample ID, depth interval, matrix, and date of collection. The following rules were used to identify data to be used in the HHRA:

- Estimated values flagged with a "J" qualifier were treated as detected concentrations
- Data qualified as rejected (flagged "R") were not used in the risk assessment
- When field duplicates were collected, only the parent sample was used in the HHRA

For the purposes of the HHRA, the analytical data were partitioned into the following data groups:

- Surface soil (0 to 1 foot below ground surface [bgs])
- Subsurface soil (0 to 5 feet bgs)
- Soil gas (5.5 feet bgs)
- Groundwater

Analytical data from 15 surface soil, 30 subsurface soil, 1 soil gas, and 21 groundwater samples from the site were included in this HHRA. The sample locations are presented in Figure 3.

background concentrations. None of the other metal analytes exceeded screening levels or background concentrations, indicating that metals concentrations are representative of naturally occurring levels and are not site-related. Therefore, the other metal analytes will not be considered COPCs and will not be considered further in this HHRA.

Soil arsenic concentrations, which range to 2.3 milligrams per kilogram (mg/kg), exceed Region 9 PRGs and Cal-EPA CHHSLs for arsenic in soil. However, the arsenic background concentration in California soils reported by Bradford et al. (1996, as cited by USEPA Region 9 in October 2004 in PRG documentation) of a geometric mean of 2.75 mg/kg and an arithmetic mean of 3.54 mg/kg are not exceeded by onsite soils (reported at a maximum concentration of 2.3 mg/kg).

DTSC has issued guidance intended to supplement the DTSC PEA Guidance Manual which evaluated background soil arsenic concentrations at Los Angeles Unified School District (LAUSD) school sites (DTSC, 2005). The 95 percent Upper Confidence Limit of the 99th Percentile Concentration for arsenic in the LAUSD school sites is 6 mg/kg. That background soil arsenic concentration is almost three times the onsite soil arsenic concentration for the former Reichhold site. These comparisons indicate that concentrations of arsenic measured at the former Reichhold site are representative of naturally occurring levels of arsenic and are not related to site activities. Considering this, arsenic is not considered a COPC. Additional information supporting the exclusion of arsenic from quantitative risk analysis is provided in the uncertainty discussion (Section 6).

2.3 Summary of COPCs

A summary of the COPCs identified in surface soil, subsurface soil, soil gas, and groundwater is presented in Table 6.

SECTION 3

Exposure Assessment

The exposure assessment component of the HHRA identifies the means by which individuals on or near the site investigation area may contact chemicals in environmental media. It addresses exposures that may result under current site conditions and from reasonably anticipated potential uses of the site and the surrounding areas in the future. The exposure assessment also identifies the populations that may be exposed, the routes by which these individuals may become exposed, and the magnitude, frequency, and duration of potential exposures.

The exposure assessment step of the HHRA includes the following tasks:

- Development of conceptual site model (CSM)
- Computation of exposure point concentrations
- Development of exposure assumptions for potentially complete exposure pathways
- Calculation of chemical intake for COPCs

3.1 Conceptual Site Model for Human Health

This section provides the CSM for the 3.5-acre investigation area. This CSM provides a current understanding of the sources of contamination, physical setting, current and future land use, and identifies potentially complete human exposure pathways for the site. Information generated during previous site investigations have been described in the PEA Report (CH2M HILL, 2004b) and have been incorporated into this CSM to identify potential exposure scenarios.

The following sections briefly describe site characteristics that influence the exposure potential for human receptors, including characterization of land use and zoning. Section 6 of the PEA Report (CH2M HILL, 2004b) describes the environmental setting at the site.

3.1.1 Characterization of Land Use

The current and reasonably anticipated future land uses were used to identify potentially exposed populations and to determine exposure patterns for the environmental media sampled at the site.

The site is located approximately 1 mile from the Pacific Ocean on the Oxnard Plain in southeast Ventura County, California within the city limits of Oxnard. An active polymer resin manufacturing plant is currently operated at the site. The land at the site is zoned for industrial use, and the site is located in an industrial park , with several industrial facilities located within a quarter mile. It is anticipated that land use at the site will remain the same in the future.

In the absence of any one of these components, an exposure pathway is considered incomplete and by definition, there is no risk or hazard. Figure 4 presents the conceptual exposure model schematic for the site.

Contaminant Sources

The primary source of contaminants at the site is chemical leaks and spills from storage and process areas during manufacturing processes.

Release Mechanisms and Environmental Transport Media

The primary release mechanisms transporting the COPCs from the source, via environmental media, to potential receptors include the following:

- Infiltration, percolation, and leaching of contaminants from the site to shallow groundwater.
- Direct contact with soil containing COPCs (receptor contact with onsite surface or subsurface soil replaces release and transport)
- Generation of dust emanating from surface or subsurface soil to ambient air from wind or during maintenance or construction activities at the site.[1]
- Volatilization of chemicals emanating from surface or subsurface soil to ambient air at the site.
- Volatilization of chemicals emanating from soil gas and shallow groundwater to indoor air at the site (where buildings are currently present or could exist in the future).

Potential Human Exposure Pathways

On the basis of the current understanding of land use conditions at and near the site, as represented in Figure 4, the most plausible exposure pathways that are considered for characterizing human health risks are identified.

For the purposes of the HHRA, surface soils are defined as those samples collected from 0 to 1 foot bgs and subsurface soils are defined as those samples collected from 0 to 5 feet bgs. Groundwater samples collected from beneath the site investigation area are considered representative of current and future site conditions. Stormwater runoff to offsite agricultural areas is considered potentially complete; however, it is considered an insignificant pathway because there are no direct run-off channels from the Site to agricultural areas. Additionally, no surface water bodies exist at the site. Therefore, exposure to surface water is not addressed in the HHRA.

The following exposure pathways will be the primary focus of the quantitative HHRA.

- **Future Occupational Workers:** Potential exposure of future occupational workers to constituents in soil to 1 foot bgs by incidental ingestion, dermal contact, and inhalation

[1] The results of the evaluation of dust in ambient air are expected to be more health protective than exposures to dust in indoor air, which are expected to be lower exposures. Therefore, exposures to dust in indoor air will not be evaluated in this document.

possibilities. The computation of intake for the site exposure scenarios is described in the following subsections, and the results are provided in the risk calculation tables (Appendix A).

3.4.1 Direct Contact Exposure Equations

This section describes the equations and exposure assumptions that were used to calculate direct contact exposures to contaminants in surface soil and subsurface soil.

Intake Equations for Incidental Ingestion of Soil

Incidental Ingestion of Soil. The following equation is used to calculate the intake associated with the incidental ingestion of constituents in soil for the future occupational worker and excavation/construction worker scenarios:

$$Intake = \frac{C_s \times IRS \times 10^{-6} kg/mg \times EF \times ED}{BW \times AT}$$

where:

C_S = Constituent concentration in soil (mg/kg)
IRS = Soil ingestion rate (mg/day)
EF = Exposure frequency (days/year)
ED = Exposure duration (years)
BW = Body weight (kilogram [kg])
AT = Averaging time (days)

The following equation is used to calculate the chemical intake associated with the incidental ingestion of contaminants in soil by hypothetical future residents:

$$Intake = \frac{C_s \times IRS_{adj} \times 10^{-6} kg/mg \times EF}{AT}$$

where:

$$IRS_{adj} = \frac{ED_c \times IRS_c}{BW_c} + \frac{ED_a \times IRS_a}{BW_a}$$

where:

IRS_{adj} = Age-adjusted soil ingestion rate ([year-mg]/[kg-day])
IRS_a = Adult soil ingestion rate (mg/day)
IRS_c = Child soil ingestion rate (mg/day)
ED_a = Adult exposure duration (years)
ED_c = Child exposure duration (years)
BW_a = Adult body weight (kg)
BW_c = Child body weight (kg)

The exposure assumptions for estimating chemical intake from the ingestion of constituents in soil are presented in Table 7.

Inhalation of Ambient Dust and Vapors from Soil. Chemical intake from inhalation of dust and vapors from ambient air for the future occupational worker and excavation/construction worker scenarios is estimated using the following equation:

$$Intake = \frac{C_s \times INH \times \left(\frac{1}{PEF} + \frac{1}{VF}\right) \times EF \times ED}{BW \times AT}$$

where:

C_S	=	Constituent concentration in soil (mg/kg)
INH	=	Inhalation rate (cubic meters [m^3]/day)
PEF	=	Particulate emissions factor (m^3/kg)
VF	=	Volatilization factor (m^3/kg)
EF	=	Exposure frequency (days/year)
ED	=	Exposure duration (years)
BW	=	Adult body weight (kg)
AT	=	Averaging time (days)

The following equation is used to calculate the intake associated with the inhalation of ambient dust or vapors from soil by hypothetical future residents:

$$Intake = \frac{C_s \times INH_{adj} \times \left(\frac{1}{PEF} + \frac{1}{VF}\right) \times EF}{AT}$$

where:

$$IN_{adj} = \frac{ED_c \times INH_c}{BW_c} + \frac{ED_a \times INH_a}{BW_a}$$

where:

INH_{adj}	=	Age-adjusted inhalation rate ([year-m^3]/[kg-day])
INH_a	=	Adult inhalation rate (m^3/day)
INH_c	=	Child inhalation rate (m^3/day)

The volatilization factors for the VOCs identified as COPCs in soil were calculated using the Jury Model as described in USEPA *Soil Screening Guidance: Users Guide* (USEPA, 1996) and are provided in Table 8. The particulate emissions factor used was the default value recommended by USEPA Region 9 (USEPA, 2004b).

Ingestion of Groundwater. Groundwater concentrations from two samples (R-06 and R-10) were compared with California maximum contaminant levels for drinking water quality in the PEA Addendum (CH2M HILL, 2007). All detected concentrations were below maximum contaminant levels and it was determined that no further groundwater evaluation was required in the HHRA, with the exception of the potential inhalation of volatile constituents migrating into indoor air.

Inhalation of Vapors from Soil Gas and Groundwater Migrating into Indoor Air. Chemical intake from inhalation of vapors emanating from soil gas and groundwater that could migrate into indoor air for the hypothetical future residential scenario was estimated using a modified

SECTION 4

Toxicity Assessment

This toxicity assessment evaluates the relationship between the magnitude of exposure to a chemical at the former Reichhold site and the likelihood of adverse health effects to potentially exposed populations. This assessment provides, where possible, a numerical estimate of the increased likelihood of adverse effects associated with chemical exposure (USEPA, 1989). The toxicity assessment contains two steps: hazard characterization, and dose-response evaluation. These two components are discussed in the following two subsections.

4.1 Hazard Characterization

Hazard characterization identifies the types of toxic effects a chemical can exert. For the toxicity assessment, chemicals can be divided into two broad groups on the basis of their effects on human health: noncarcinogens and carcinogens. This classification has been selected because health risks are calculated quite differently for carcinogenic and noncarcinogenic effects, and separate toxicity values have been developed for them.

Carcinogens are those chemicals suspected of causing cancer following exposure; noncarcinogenic effects cover a wide variety of systemic effects, such as liver toxicity or developmental effects. Some chemicals (such as benzene) are capable of eliciting both carcinogenic and noncarcinogenic responses; therefore, these carcinogens also are evaluated for systemic (noncarcinogenic) effects.

For cancer effects, USEPA has developed a carcinogen classification system that is a weight-of-evidence approach to classify the likelihood that a chemical is a human carcinogen (USEPA, 2005). Information considered in developing the classification includes human studies of the association between cancer incidence and exposure, as well as long-term animal studies under controlled laboratory conditions. Other supporting evidence considered includes short-term tests for genotoxicity, metabolic and pharmacokinetics properties, toxicological effects other than cancer, structure-activity relationships, and physical and chemical properties of the chemical. A description of the weight-of-evidence classification is presented in Table 9. Of the COPCs identified, four have been classified by USEPA as known (Group A), probable (Groups B1 and B2), or possible (Group C) human carcinogens with available cancer slope factors. These chemicals and their USEPA classifications are presented in Table 8.

For noncancer effects, toxicity values are derived on the basis of the critical toxic endpoint (that is, the most sensitive adverse effect following exposure). The COPCs detected at the former Reichhold site that have been identified as having documented systemic effects are listed in Table 8.

> *In general, the reference dose value is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. The reference dose value is generally expressed in units of milligram per kilogram of body weight each day (mg/kg-day). (USEPA, 1989)*

This HHRA uses available chronic and subchronic (when available, used for the excavation/construction worker scenario) reference dose values for the oral and inhalation exposure routes. Because Cal-EPA or USEPA have derived no toxicity values specific to skin contact, oral reference dose values were used as dermal reference dose values.

Slope Factors for Cancer Effects

The dose-response relationship for cancer effects is expressed as a cancer slope factor that converts estimated intake directly to excess lifetime cancer risk. Slope factors are presented in units of risk per level of exposure (or intake). The data used for estimating the dose-response relationship are taken from lifetime animal studies or human occupational or epidemiological studies where excess cancer risk has been associated with exposure to the chemical. However, because risk at low intake levels cannot be measured directly in animal or human epidemiological studies, a number of mathematical models and procedures have been developed to extrapolate from the high doses used in the studies to the low doses typically associated with environmental exposures. The model choice leads to uncertainty. USEPA assumes linearity at low doses and uses the linearized multistage procedure when uncertainty exists about the mechanism of action of a carcinogen and when information suggesting nonlinearity is absent.

Therefore, assuming a cancer response occurs at the dose levels used in the study, some probability exists that a response will occur at all lower exposure levels (that is, a dose-response relationship with no threshold is assumed). Moreover, the dose-response slope chosen is usually the upper confidence limit on the dose-response curve observed in the laboratory studies. As a result, uncertainty and conservatism are built into the USEPA risk extrapolation approach. USEPA has stated that cancer risks estimated by this method produce estimates that "provide a rough but plausible upper limit of risk." In other words, the true risk is not likely to be much more than the estimated risk, but "the true value of the risk is unknown and may be as low as zero" (USEPA, 1986).

Because USEPA has not derived toxicity values specific to skin contact, oral slope factors were used for dermal slope factors.

SECTION 5

Risk Characterization

Risk is quantified by combining the results of the exposure assessment with the results of the dose-response assessment to provide numerical estimates of potential health effects. The quantification approach differs for potential noncancer and cancer effects, as described in the following subsections. Interpretation of the risk estimates provided should consider the nature and weight of evidence supporting these estimates, as well as the magnitude of uncertainty surrounding them.

Although this HHRA produces numerical estimates of risk, these numbers might not predict actual health outcomes because they are based largely on hypothetical assumptions to provide a frame of reference for risk management decisionmaking. Any actual risks are likely to be lower than these estimates, and they might even be zero. Interpretation of the risk estimates provided should consider the nature and weight of evidence supporting these estimates, as well as the magnitude of uncertainty surrounding them.

For the purposes of this evaluation, the potential for unacceptable human health risk is identified using the following risk thresholds:

- For this HHRA, based on communications with DTSC, excess lifetime cancer risk values less than 10^{-6} for the unrestricted land use (hypothetical residential) scenario, and less than 10^{-5} for the commercial land use (worker) scenarios would be acceptable.
- A hazard index (the ratio of chemical intake to the RfD) greater than one indicates that there is some potential for adverse noncancer health effects associated with exposure to the contaminants of concern (USEPA, 1991b).

5.1 Noncarcinogenic Hazard Estimation

For noncancer effects, the likelihood that a receptor will develop an adverse effect is estimated by comparing the predicted level of exposure for a particular chemical with the highest level of exposure that is considered protective (that is, its reference dose value [RfD]). The ratio of the chronic daily intake divided by the reference dose value is termed the hazard quotient (HQ):

$$HQ = \frac{Intake}{RfD}$$

where:

HQ = Hazard quotient (unitless probability)
Intake = Chronic daily intake averaged over a lifetime (mg/kg-day)
RfD = Noncancer reference dose (mg/kg-day)

When the HQ for a chemical exceeds 1.0 (that is, exposure exceeds RfD), a concern exists for potential noncancer health effects. To assess the potential for noncancer effects posed by exposure to multiple chemicals, a "hazard index" (HI) approach was used according to

5.3 Summary of Risk Estimates by Exposure Scenario

This subsection summarizes the risk estimates for the three exposure scenarios at the former Reichhold site and includes:

- Future occupational worker scenario
- Excavation/construction worker scenario
- Hypothetical future residential scenario

The cancer and noncancer risk estimates for the site, under future site conditions, are summarized in the following subsections. Risk estimates are provided for the ingestion, dermal, and inhalation routes, as well as cumulative risks across all exposure routes. The risk calculation data sheets used to develop the risk summary tables for each exposure scenario described below are in Appendix B.

5.3.1 Future Occupational Worker Exposure Scenario

Direct Contact with Soil

Potential exposure to COPCs in surface soils (0 to 1 feet bgs) was evaluated under the occupational scenario. Potential routes of exposure to soil include incidental ingestion, dermal contact, and inhalation of vapors and fugitive dust in ambient air. For future occupational workers, a 70-kg adult was assumed to be exposed to soil for 250 days per year over a duration of 25 years. The ELCR and HI estimates for the future occupational worker exposure scenario are summarized in Table 10. The risk calculation worksheets are provided in Appendix B, Tables B-1 and B-2.

The potential cumulative ELCR for occupational workers from all carcinogenic COPCs is 9×10^{-9}, which is below the DTSC regulatory point of departure value for workers of 1×10^{-5}.

For noncarcinogenic COPCs, none of the individual constituents had an HQ exceeding the threshold of 1. The potential HI for cumulative noncancer effects is less than 0.01, which does not exceed the DTSC regulatory point of departure value of 1.

Inhalation of Indoor Air

Potential exposure to COPCs in indoor air originating from soil gas (5.5 feet bgs) and groundwater was evaluated under the future occupational worker exposure scenario. A future indoor worker was assumed to be exposed for 250 days per year over a duration of 25 years. For groundwater and soil gas, the ELCR and HI estimates for the future occupational worker are summarized in Tables 11 and 12, respectively. Indoor air risk screening model methodology, assumptions, and results are provided in Appendix A and are summarized below.

Groundwater. For indoor air, the potential cumulative ELCR from all carcinogenic volatile compounds detected in groundwater is 1×10^{-7}, which is below the DTSC regulatory point of departure value for workers of 1×10^{-5}.

For noncarcinogenic COPCs, the potential HI for cumulative noncancer effects is 0.04, which does not exceed the DTSC regulatory point of departure value of 1.

For noncarcinogenic COPCs, none of the individual constituents had a HQ exceeding the threshold of 1. The potential HI for cumulative noncancer effects is 0.24, which does not exceed the DTSC regulatory point of departure value of 1.

Inhalation of Indoor Air

Potential exposure to COPCs in indoor air originating from soil gas (5.5 feet bgs) and groundwater was evaluated under the hypothetical future residential exposure scenario. A hypothetical future resident was assumed to be exposed for 350 days per year over a duration of 30 years. For groundwater and soil gas, the ELCR and HI estimates for the future resident are summarized in Tables 11 and 12, respectively. Indoor air risk screening model methodology, assumptions, and results are provided in Appendix A and are summarized below.

Groundwater. For future residential indoor air exposures, the potential cumulative ELCR from all carcinogenic COPCs detected in groundwater is 2×10^{-7}, which is below the DTSC regulatory point of departure value for unrestricted use of 1×10^{-6}. For noncarcinogenic COPCs, the potential HI for cumulative noncancer effects is 0.06, which does not exceed the DTSC regulatory point of departure value of 1.

Soil Gas. For future residential indoor air exposures, the potential cumulative ELCR from all carcinogenic COPCs detected in soil gas is 7×10^{-8}, which is below the DTSC regulatory point of departure value for unrestricted use of 1×10^{-6}.

For noncarcinogenic COPCs, the potential HI for cumulative noncancer effects is less than 0.001, which does not exceed the DTSC regulatory point of departure value of 1.

SECTION 6

Risk Assessment Limitations and Uncertainties

Full characterization of human risks requires that numerical estimates of health risks must be accompanied by a discussion of the uncertainties inherent in the assumptions used to estimate risks. Several sources of uncertainty affect the overall risk estimates as presented in this HHRA. This risk assessment is subject to uncertainty with regard to a variety of factors that include:

- Environmental sampling and analysis
- Fate and transport estimation
- Exposure assessment
- Toxicity assessment
- Risk characterization

Uncertainties associated with the results of this risk assessment are a function of both the state of the practice of risk assessment in general and the uncertainties specific to the site. General and site-specific uncertainties, as well as their potential effects on the results of the risk assessment, are summarized in Table 13.

6.1 Environmental Sampling and Analysis

Uncertainties associated with sampling and analyses include the inherent variability (standard error) in the analyses, the representativeness of the samples, sampling errors, and heterogeneity of the sample matrix. The quality assurance/quality control program used in the investigation serves to reduce these errors, but it cannot eliminate all errors associated with sampling and analysis. The degree to which sample collection and analyses reflect real EPCs partly determines the reliability of the risk estimates.

The uncertainties associated with EPC estimates based on small sample sizes (for example, because some constituents were not analyzed as frequently as others) are higher than for those EPC estimates where sample sizes are large enough to allow for meaningful statistical analyses. These uncertainties could contribute to under- or overestimation of risk.

6.2 Fate and Transport Estimation

This risk assessment makes simplifying assumptions about the environmental fate and transport of COPCs. Specifically, that no constituent loss or transformation occurs in the future, and that the constituent concentrations detected in soil, soil gas, and shallow groundwater remain constant during the assessed exposure duration. In cases where natural attenuation or other degradation processes are high, the analytical data chosen to represent EPCs may overstate actual long-term exposure levels.

Attenuation factors are assumed in the screening model to estimate indoor air VOC concentrations from those measured in soil gas, in accordance with DTSC guidance.

6.5 Risk Characterization

In the risk characterization phase, the assumption is made that the total risk of developing an adverse effect from aggregate exposure to site constituents is the sum of the hazard quotients or cancer risks estimated for exposure to each individual constituent. This approach does not account for the possibility that chemicals act synergistically or antagonistically.

6.6 Arsenic Background Discussion

The following similarities between the soils from the LAUSD school sites arsenic background report (LAUSD report) and the soils from the former Reichhold site support that arsenic measured in soils at the former Reichhold site are representative of naturally occurring levels of arsenic and are not related to site activities:

- **Lithology:** Soil lithologies reported in the LAUSD report and the soil lithologies found at the two recent Reichhold site borings (R-14 and R-15) are similar. The soil lithologies encountered at recent Reichhold site borings R-14 and R-15 were mainly silty sand (SM) with some poorly graded sand (SP), consistent with the soil lithology from other historical borings at the site. The soil lithologies listed in Appendix A of the LAUSD report were generally silty sand (SM) or poorly graded sand (SP). Therefore, it is concluded that the soil lithologies found at the Reichhold site are similar to the soil lithologies in the LAUSD report.

- **Depositional Pattern and Geomorphic Processes:** Depositional patterns and other geomorphic processes for the soils reported in the LAUSD report and the soils at the two recent Reichhold site borings (R-14 and R-15) are similar. The former Reichhold site is located within the Oxnard Plain Groundwater Basin (Regional Water Quality Control Board, 1994). The shallow soils underlying this basin in the vicinity of the Reichhold site consist of Recent Alluvium composed of stream and terrace deposits that are mainly sand, gravel, and clay (State Water Resources Board, 1953). This is consistent with the soil lithologies encountered at recent Reichhold site borings R-14 and R-15, which were mainly silty sand (SM) with some poorly graded sand (SP) as noted above. The LAUSD school sites are located within the Los Angeles Coastal Plain Groundwater Basin (Regional Water Quality Control Board, 1994). The shallow soils underlying this basin in the vicinity of the LAUSD school sites consist of Recent Alluvium composed primarily of stream deposited gravel, sand, silts and clay in the Coastal Plain (DWR, 1988). The near surface alluvium underlying each site was deposited by fluvial processes and both sites are located over groundwater basins within the Transverse Mountains. Therefore, it is concluded that the depositional pattern and geomorphic processes for the shallow soils found at the former Reichhold site are similar those for the soils found at the LAUSD sites.

- **Proximity:** The former Reichhold site is approximately 50 miles to the west/northwest from the LAUSD sites.

Given the similarities in soil lithologies, similarities in depositional patterns and geomorphic process of the soils, and given their proximity to one another, it is concluded that the

SECTION 7

Conclusions

This HHRA was conducted in accordance with Cal-EPA and USEPA risk assessment guidance. Risks were estimated for the most plausible potential pathways of human exposure, based on reasonably anticipated land and water uses at and surrounding the former Reichhold site. The HHRA results, summarized in Tables 10 through 12, indicate that ELCR estimates do not exceed 1×10^{-5} for all scenarios, however the cumulative risk associated with direct contact exposures for the hypothetical residential scenario is above the unrestricted land use point of departure of 1×10^{-6}.

The results of the HHRA demonstrate that the potential for unacceptable adverse health effects are not expected for future commercial/industrial land use at this site from exposure to COPCs in soil, soil gas, and shallow groundwater. Furthermore, the current and future planned land uses for this site are industrial.

SECTION 8

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TABLE 1

Samples Used in the Human Health Risk Assessment

Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

Station Identifier	Sample Identifier	Depth	Matrix	Date Collected
MW OW3-94	OW3-94	6	Groundwater	October 10, 2002
MW OW4-94	OW4-94	6	Groundwater	October 10, 2002
R-01	R-01-3	6-12	Groundwater	October 8, 2002
R-02	R-02-3	6-10	Groundwater	October 9, 2002
R-03	R-03-3	5.5-9.5	Groundwater	October 10, 2002
R-04	R-04-3	6-10	Groundwater	October 9, 2002
R-05	R-05-3	6-10	Groundwater	October 9, 2002
R-06	R-06-3	6-8	Groundwater	October 9, 2002
R-07	R-7-3	9-13	Groundwater	October 8, 2002
R-08	R-08-3	6-10	Groundwater	October 10, 2002
R-09	R-09-3	6-10	Groundwater	October 8, 2002
R-10	R-10-3	5-9	Groundwater	October 10, 2002
R-10-A	R-10-A	6.5	Groundwater	February 4, 2004
R-10-A-2	R-10-A-2	6.55	Groundwater	February 4, 2004
R-11	R-11-3	5-9	Groundwater	October 10, 2002
R-12	R-12-3	6-10	Groundwater	October 9, 2002
R-13	R-13-3	7-11	Groundwater	October 8, 2002
R-6-A	R-6-A	6.5	Groundwater	February 4, 2004
R-6-A-D	R-6-A-D	6.5	Groundwater	February 4, 2004
R-06	R-06		Groundwater	November, 2006
R-10	R-10		Groundwater	November, 2006
R-01	R-01-1	1	Soil	October 8, 2002
R-01	R-01-2	5	Soil	October 8, 2002
R-02	R-02-1	1	Soil	October 9, 2002
R-02	R-02-2	5	Soil	October 9, 2002
R-03	R-03-1	1	Soil	October 10, 2002
R-03	R-03-2	5	Soil	October 10, 2002
R-04	R-04-1	1	Soil	October 9, 2002
R-04	R-04-2	5	Soil	October 9, 2002
R-05	R-05-1	1	Soil	October 9, 2002
R-05	R-05-2	5	Soil	October 9, 2002
R-06	R-06-1	1	Soil	October 9, 2002
R-06	R-06-2	5	Soil	October 9, 2002
R-07	R-07-1	1	Soil	October 8, 2002
R-07	R-07-2	5	Soil	October 8, 2002
R-08	R-08-1	1	Soil	October 9, 2002
R-08	R-08-2	5	Soil	October 9, 2002
R-09	R-09-1	1	Soil	October 8, 2002
R-09	R-09-2	4	Soil	October 8, 2002
R-10	R-10-1	1	Soil	October 10, 2002
R-10	R-10-2	4.5	Soil	October 10, 2002
R-11	R-11-1	1	Soil	October 9, 2002
R-11	R-11-2	4	Soil	October 9, 2002
R-12	R-12-1	1	Soil	October 9, 2002
R-12	R-12-2	5	Soil	October 9, 2002
R-13	R-13-1	1	Soil	October 8, 2002
R-13	R-13-2	4.5	Soil	October 8, 2002
R-14	R-14-1	1	Soil	November, 2006

TABLE 2

Maximum Detected COPC Concentrations in Surface Soil

Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

Constituent Name	Constituent Group	Units	Number Samples Analyzed	Number Detected	Frequency of Detection	Maximum Result
1,2,4-Trimethylbenzene	VOC	mg/kg	13	1	8%	0.0053
Acetone	VOC	mg/kg	13	3	23%	0.11
Ethylbenzene	VOC	mg/kg	13	5	38%	0.012
m,p-Xylenes	VOC	mg/kg	13	4	31%	0.0068
Methylene chloride (DCM)	VOC	mg/kg	13	1	8%	0.080
o-Xylene	VOC	mg/kg	13	1	8%	0.0024
Toluene	VOC	mg/kg	13	3	23%	0.0043

Notes:

mg/kg = milligrams per kilogram

VOC = volatile organic compound

COPC = chemical of potential concern

TABLE 3

Maximum Detected COPC Concentrations in Subsurface Soil

Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

Constituent Name	Constituent Group	Units	Number Samples Analyzed	Number Detected	Frequency of Detection	Maximum Result
1,2,4-Trimethylbenzene	VOC	mg/kg	28	4	14%	0.038
Acetone	VOC	mg/kg	28	8	29%	0.11
Benzene	VOC	mg/kg	28	3	11%	0.0023
Ethylbenzene	VOC	mg/kg	28	13	46%	56
Isopropylbenzene	VOC	mg/kg	28	4	14%	1.4
total-Xylenes	VOC	mg/kg	28	13	46%	3.4
Methylene chloride (DCM)	VOC	mg/kg	28	2	7%	0.080
Naphthalene	VOC	mg/kg	28	3	11%	22
Styrene	VOC	mg/kg	28	2	7%	22
Toluene	VOC	mg/kg	28	15	54%	0.0043

Notes:

mg/kg = milligrams per kilogram

VOC = volatile organic compound

COPC = chemical of potential concern

TABLE 4

VOC Concentrations Detected in Soil Gas

Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

Analyte	Date Collected	R-15 ($\mu g/m^3$)
1,1-Dichloroethane	11/29/2006	5.8 J
1,1-Dichloroethene	11/29/2006	2.3 J
1,3-Dichlorobenzene	11/29/2006	4.2 J
2-Butanone (MEK)	11/29/2006	26 J
4-Methyl-2-pentanone	11/29/2006	4.7 J, M
Acetone	11/29/2006	140 J, B, M
Benzene	11/29/2006	50
Carbon disulfide	11/29/2006	130
cis-1,2-Dichloroethene	11/29/2006	44
Cumene	11/29/2006	150
Cyclohexane	11/29/2006	540
Ethylbenzene	11/29/2006	35 J
m,p-Xylenes	11/29/2006	22 J
Methylcyclohexane*	11/29/2006	200
Methylene chloride	11/29/2006	3.9 J
Naphthalene	11/29/2006	22
o-Xylene	11/29/2006	12 J
Styrene	11/29/2006	16 J
Toluene	11/29/2006	24 J
trans-1,2-Dichloroethene	11/29/2006	8.1 J
Trichlorotrifluoroethane	11/29/2006	6.6 J

Notes:

B - analyte found in the associated blank

J - estimated concentration

M - matrix interference; results may be biased high

$\mu g/m^3$ - micrograms per cubic meter

* - analyte is a tentatively identified compound and result is estimated

VOC = volatile organic compound

TABLE 5

Maximum Detected Constituent Concentrations in Groundwater

Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

Constituent Name	Constituent Group	Units	Number Samples Analyzed	Number Detected	Frequency of Detection	Maximum Result
1,2,4-Trimethylbenzene	VOC	mg/L	17	4	24%	0.043
1,3,5-Trimethylbenzene	VOC	mg/L	17	1	6%	0.0036
Acetone	VOC	mg/L	17	5	29%	0.70
Benzene	VOC	mg/L	20	8	40%	0.0018
Carbon disulfide	VOC	mg/L	17	1	6%	0.0024
cis-1,2-Dichloroethene	VOC	mg/L	17	1	6%	7.00E-04
Ethylbenzene	VOC	mg/L	20	4	20%	0.64
Isopropylbenzene	VOC	mg/L	17	3	18%	0.0042
m,p-Xylenes	VOC	mg/L	20	5	25%	0.024
Methyl-tert-butyl ether (MTBE)	VOC	mg/L	17	6	35%	0.0019
Naphthalene	VOC	mg/L	17	3	18%	0.0044
n-Propylbenzene	VOC	mg/L	17	2	12%	0.0015
o-Xylene	VOC	mg/L	20	7	35%	0.013
Toluene	VOC	mg/L	20	3	15%	9.00E-04

Notes:

mg/L = milligrams per liter

VOC = volatile organic compound

TABLE 6

Summary of Chemicals of Potential Concern Identified for Soil, Soil Gas, and Groundwater

Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

Constituent Name	Constituent Group	Surface Soil	Subsurface Soil	Soil Gas	Groundwater
1,1-Dichloroethane	VOC			x	
1,1-Dichloroethene	VOC			x	
1,3-Dichlorobenzene	VOC			x	
2-Butanone	VOC			x	
4-Methyl-2-pentanone	VOC			x	
1,2,4-Trimethylbenzene	VOC	x	x		x
1,3,5-Trimethylbenzene	VOC				x
Acetone	VOC	x	x	x	x
Benzene	VOC		x	x	x
Carbon disulfide	VOC			x	x
cis-1,2-Dichloroethene	VOC			x	x
Cumene	VOC			x	
Cyclohexane	VOC			x	
Ethylbenzene	VOC	x	x	x	x
Isopropylbenzene	VOC		x		x
Methylene chloride (DCM)	VOC	x	x	x	
Methyl-tert-butyl ether (MTBE)	VOC				x
Methylcyclohexane	VOC			x	
Naphthalene	VOC		x	x	x
n-Propylbenzene	VOC				x
Xylenes	VOC	x	x	x	x
Styrene	VOC		x	x	
Toluene	VOC	x	x	x	x
trans-1,2-Dichloroethene	VOC			x	
Trichlorotrifluoroethane	VOC			x	

Notes:

VOC = volatile organic compound

TABLE 7

Summary of Exposure Assumptions Used for Soil Risk Estimates

Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

Parameter	Units	Future Occupational Worker	Source	Excavation/ Construction Worker	Source	Hypothetical Future Resident	Source
Constituent Concentration	mg/kg	Maximum Detect	--	Maximum Detect	--	Maximum Detect	--
Body Weight - adult	kg	70	a	70	a	70	a
Body Weight - child	kg	--	--	--	--	15	a
Carcinogenic Averaging Time	yrs	70	a	70	a	70	a
Noncarcinogenic Averaging Time	yrs	25	a	1	b	30	a
Exposure Frequency	day/yr	250	a	250	b	350	a
Exposure Duration - adult	yrs	25	a	1	b	24	a
Exposure Duration - child	yrs	--	--	--	--	6	a
Exposure Time - adult (showering)	hr/event	--	--	--	--	--	--
Exposure Time - child (showering)	hr/event	--	--	--	--	--	--
Incidental Soil Ingestion Rate - adult	mg/day	100	a	330	b	100	a
Incidental Soil Ingestion Rate - child	mg/day	--	--	--	--	200	a
Water Ingestion Rate - adult	L/day	1	a	--	--	--	--
Water Ingestion Rate - child	L/day	--	--	--	--	--	--
Skin Surface Area - adult	cm^2	5,700	b	5,700	b	5,700	c
Skin Surface Area - child	cm^2	--	--	--	--	2,800	c
Dermal Absorption Fraction	unitless	Chemical-specific	c	Chemical-specific	c	Chemical-specific	c
Dermal Permeability Constant	cm/hr	--	--	--	--	--	--
Soil-to-Skin Adherence Factor - adult	mg/cm^2	0.2	c	0.8	b	0.07	c
Soil-to-Skin Adherence Factor - child	mg/cm^2	--	--	--	--	0.2	c
Inhalation Rate - adult	m^3/day	20	a	20	a	20	a
Inhalation Rate - child	m^3/day	--	--	--	--	10	a
Particulate Emission Factor	m^3/kg	1.32E+09	e	1.32E+09	e	1.32E+09	e
Volatilization Factor	m^3/kg	Chemical-specific	e	Chemical-specific	e	Chemical-specific	e

Sources:

a Risk Assessment Guidance for Superfund, Vol I: Human Health Evaluation Manual. Supplemental Guidance: Standard Default Exposure Factors.OSWER 9285.6-03. (EPA, 1991)

b. Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Military Facilities. HERD HHRA Note Number 1 (DTSC, 2005).

c Risk Assessment Guidance for Superfund, Vol I: Human Health Evaluation Manual. Part E, Supplemental Guidance for Dermal Risk Assessment, Interim. EPA/540/R/99/005.

d. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. OSWER 9355.4-24. (U.S.EPA 2002).

e Soil Screening Guidance: Users Guide. EPA/540/R-96/018. Office of Emergency and Remedial Response, Washington, D.C. PB96-963505.

TABLE 8

Summary of Toxicity Factors for Direct Contact Risk Estimates

Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

Analyte	Weight of Evidence	Volatilization Factor VF (m^3/Kg)	Dermal Absorption Coefficient ABSd	Oral Slope Factor SFo (mg/kg-day)	Inhalation Slope Factor SFi (mg/kg-day)	Chronic Oral Reference Dose RfDo (mg/kg-day)	Chronic Inhalation Reference Dose RfDi (mg/kg-day)	Subchronic Oral Reference Dose* RfDo (mg/kg-day)	Subchronic Inhalation Reference Dose* RfDi (mg/kg-day)
1,2,4-Trimethylbenzene	-	2.0E+04	-	-	-	5.0E-02	1.7E-03	-	-
Acetone	D	1.3E+04	-	-	-	9.0E-01	9.0E-01	1.0E+00	9.0E-01
Benzene	A	2.7E+03	-	1.0E-01	1.0E-01	4.0E-03	8.6E-03	-	-
Ethylbenzene	D	5.4E+03	-	-	-	1.0E-01	2.9E-01	1.1E-01	2.9E-01
Isopropylbenzene	D	3.6E+03	-	-	-	1.0E-01	1.1E-01	4.0E-01	2.6E-02
Methylene chloride	B2	2.39E+03	-	1.4E-02	3.5E-03	6.0E-02	8.6E-01	6.0E-02	8.6E-01
Styrene	C	1.30E+04	-	-	-	2.0E-01	2.9E-01	-	8.6E-01
Toluene	D	4.0E+03	-	-	-	8.0E-02	1.4E+00	2.0E+00	2.6E-01
Xylenes (total)	-	6.1E+03	-	-	-	2.0E-01	2.9E-02	3.6E-01	-
Naphthalene	C	4.3E+04	-	1.2E-01	1.2E-01	2.0E-02	8.6E-04	-	-
Arsenic	A	-	0.03	9.5E+00	1.2E+01	3.0E-04	-	3.0E-04	-

Notes:

* For COPCs in soil, subchronic toxicity factors listed were used for the future excavation/construction worker scenario; values were obtained from Oak Ridge National Laboratory at: http://risk.lsd.ornl.gov/cgi-bin/tox/TOX_select?select=nrad (ORNL, 2007)

cm/hour = centimeters per hour
GI = gastro-intestinal
Inhal = inhalation
mg/kg = milligrams per kilogram
mg/kg-day = milligrams of chemical per kilogram body weight per day
RfD = reference dose value
SF = slope factor
VF = volatilization factor

TABLE 9

U.S. Environmental Protection Agency Weight-of-Evidence Classification System for Carcinogenicity
Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

Group	Description
A	Human carcinogen, based on evidence from epidemiological studies
B1 or B2	Probable human carcinogen B1 indicates that limited human data are available. B2 indicates sufficient evidence in animals and inadequate or no evidence in humans.
C	Possible human carcinogen, based on limited evidence in animals
D	Not classifiable as to human carcinogenicity
E	Evidence of noncarcinogenicity for humans

Source: U.S. Environmental Protection Agency, Guidelines for Carcinogen Risk Assessment (U.S. EPA, 1986)

TABLE 10

Summary of Soil Risk Estimates

Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

Exposure Scenario	Exposure Route	Excess Lifetime Cancer Risk	Noncancer Hazard Index
Future Occupational Worker	Ingestion	$4x10^{-10}$	<0.01
	Dermal	---	---
	Inhalation	$8x10^{-9}$	<0.01
	Total	**$9x10^{-9}$**	**<0.01**
Intermittent Excavation / Construction Worker	Ingestion	$1x10^{-7}$	<0.01
	Dermal	---	---
	Inhalation	$2x10^{-7}$	0.13
	Total	**$3x10^{-7}$**	**0.14**
Hypothetical Future Resident	Ingestion	$4x10^{-6}$	<0.01
	Dermal	---	---
	Inhalation	$9x10^{-6}$	0.23
	Total	**$1x10^{-5}$**	**0.24**

TABLE 11

Summary of Groundwater Risk Estimates for Indoor Air Exposure Scenarios

Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

Analyte	Maximum Concentration (mg/L)	Indoor Worker Scenario		Residential Scenario	
		Excess Lifetime Cancer Risk	Noncancer Hazard Quotient	Excess Lifetime Cancer Risk	Noncancer Hazard Quotient
1,2,4-Trimethylbenzene	0.043	---	0.028	---	0.04
1,3,5-Trimethylbenzene	0.0036	---	0.0022	---	0.003
Acetone	0.70	---	0.00016	---	0.00022
Benzene	0.0018	9.1E-08	0.00029	1.5E-07	0.00041
Carbon disulfide	0.0024	---	0.00010	---	0.00015
cis-1,2-Dichloroethene	7.00E-04	---	0.00007	---	0.00009
Ethylbenzene	0.64	---	0.0037	---	0.0052
Isopropylbenzene	0.0042	---	0.0074	---	0.010
m,p-Xylenes	0.024	---	0.0012	---	0.0017
Methyl-tert-butyl ether (MTBE)	0.0019	1.3E-10	0.0000005	2.2E-10	0.0000006
Naphthalene	0.0044	2.1E-08	0.0006	3.5E-08	0.0008
n-Propylbenzene	0.0015	---	0.00007	---	0.0001
o-Xylene	0.013	---	0.00056	---	0.0008
Toluene	9.00E-04	---	0.000017	---	0.000023
Total ELCR and HI		**1E-07**	**0.04**	**2E-07**	**0.06**

Notes:

ELCR = excess lifetime cancer risk

HI = hazard index

TABLE 12

Summary of Soil Gas Risk Estimates for Indoor Air Exposure Scenarios

Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

Analyte	Sample R-15 Concentration (ug/m3)	Indoor Worker Scenario		Residential Scenario	
		Excess Lifetime Cancer Risk	Noncancer Hazard Quotient	Excess Lifetime Cancer Risk	Noncancer Hazard Quotient
1,1-Dichloroethane	5.8	1.8E-10	0.0000006	3.0E-10	0.0000009
1,1-Dichloroethene	2.3	---	0.0000019	---	0.0000026
1,3-Dichlorobenzene	4.2	---	0.0000021	---	0.0000029
2-Butanone (MEK)	26	---	0.0000004	---	0.0000003
4-Methyl-2-pentanone	4.7	---	0.0000032	---	0.0000045
Acetone	140	---	0.000026	---	0.000036
Benzene	50	2.9E-08	0.000094	4.9E-08	0.00013
Carbon disulfide	130	---	0.000011	---	0.000015
cis-1,2-Dichloroethene	44	---	0.000067	---	0.000094
Cumene	150	---	0.000019	---	0.000027
Cyclohexane	540	---	---	---	---
Ethylbenzene	35	---	0.0000019	---	0.0000026
m,p-Xylenes	22	---	0.000012	---	0.000016
Methylcyclohexane*	200	---	0.0000035	---	0.000005
Methylene chloride	3.9	8.2E-11	0.0000006	1.4E-10	0.0000008
Naphthalene	22	1.3E-08	0.00037	2.2E-08	0.00051
o-Xylene	12	---	0.0000067	---	0.0000094
Styrene	16	---	0.0000009	---	0.0000013
Toluene	24	---	0.0000045	---	0.0000063
trans-1,2-Dichloroethene	8.1	---	0.0000061	---	0.0000085
Trichlorotrifluoroethane	6.6	---	0.00000001	---	0.00000002
Total ELCR and HI		**4E-08**	**0.0006**	**7E-08**	**0.0009**

Notes:

* Analyte is a tentatively identified compound and result is estimated.

TABLE 13

Uncertainties Associated with Human Health Risk Estimations

Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

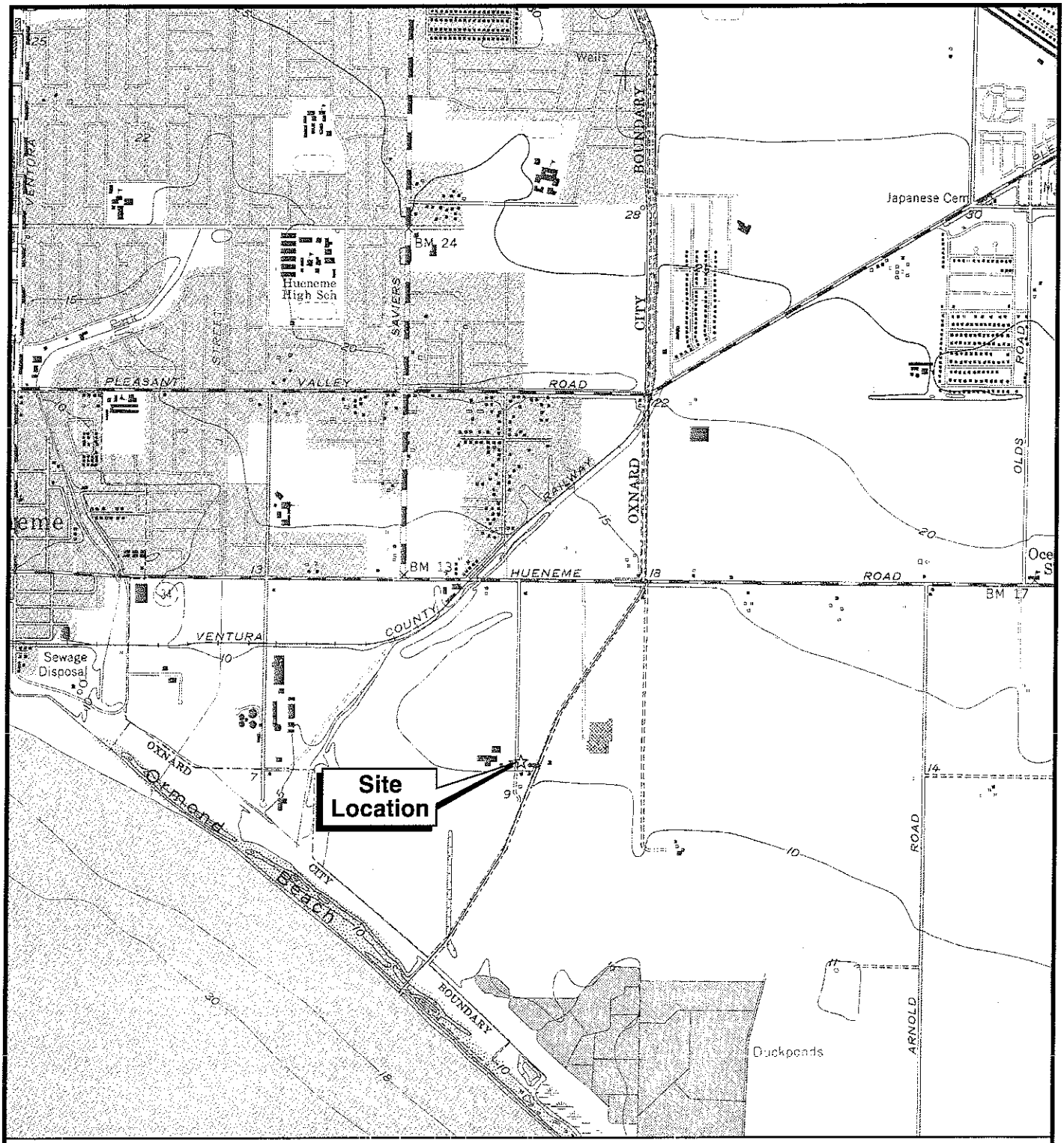
Uncertainty Factor	Effects of Uncertainty	Comment
I. Uncertainty in Environmental Sampling and Analysis		
Estimates of chemical concentrations	May underestimate or overestimate risk	Sampling errors, sample representativeness, and variability in chemical analyses will affect chemical concentrations. Available analytical data may not accurately reflect site conditions. Chemical concentrations may change as a result of migration or degredation
II. Uncertainty in Fate and Transport		
Source concentrations assumed constant over time	May underestimate or overestimate risk	Did not account for environmental fate, transport, or transfer, which may alter contaminant concentrations. Concentrations may decrease, but contaminated areas may increase.
III. Exposure Assessment		
Exposure point concentrations	May overestimate risks	Use of upper confidence limits and maximum detected concentrations will likely overestimate site risks.
Exposure assumptions	May underestimate or overestimate risk	Assumptions regarding media intake, population characteristics, and exposure patterns may not characterize exposures.
Use of applied dose to estimate risks	May underestimate or overestimate risk	Assumes that the absorption of the chemical is the same as it was in the study that derived the toxicity value. Assumes that absorption is equivalent across species (animal to humans). Absorption may vary with age and species.
Population characteristics	May underestimate or overestimate risk	Assumes weight, lifespan, and ingestion rate, are potentially representative for a potentially exposed population.
Intake	May underestimate risks	Assumes all intake of COPCs is from the exposure medium being evaluated (no relative source contribution).
IV. Toxicity Assessment		
Slope Factor	May overestimate risks	Slope factors are upperbound UCLs derived from a linearized model. In general, risks are likely to be overestimated.
Toxicity values derived from animal studies	May underestimate or overestimate risk	Extrapolation from animal to humans may induce error because of differences in pharmacokinetics, target organs, and population variability.
Toxicity values derived primarily from high doses (most exposures are at low doses)	May underestimate or overestimate risk	Assumes linearity at low doses. Tends to have conservative exposure assumptions.
Dermal toxicity values	May underestimate or overestimate risk	No dermal toxicity values are available, oral slope factors and RfDs are adjusted by a gastrointestinal absorption value to represent the absorption efficiency across the gastrointestinal tract.

TABLE 13

Uncertainties Associated with Human Health Risk Estimations

Updated Human Health Risk Assessment for 5980 Arcturus Avenue, Oxnard, CA

Uncertainty Factor	Effects of Uncertainty	Comment
Toxicity values	May underestimate or overestimate risk	Not all values represent the same degree of certainty. All are subject to change as new evidence becomes available.
Toxicity data not available for all constituents	Risks could not be estimated	Use of surrogate toxicity factors for structurally similar compounds may over- or underestimate risks.
Some toxicity values derived from short-term tests to predict chronic exposures	May underestimate or overestimate risk	Assumes that the dose-response observed from short-term exposure to high concentrations is similar to exposure to low concentration environmental exposures. Uncertainty factors are used to ensure protectiveness.
Toxicity values derived from homogeneous animal populations	May underestimate or overestimate risk	Human populations may have a wide range of sensitivities to a chemical.
V. Risk Estimation		
Estimation of risks across exposure routes	May underestimate or overestimate risk	Some exposure routes have greater uncertainty associated with their risk estimates than others.
Cumulative risk estimates	May underestimate or overestimate risk	Assumes additivity of risks from multiple chemicals; may have synergistic or antagonistic effects.
Cancer risk estimates (no threshold assumed)	May overestimate risks	Possibility that some thresholds do exist.
Cancer risk estimate (low dose) linearity	May overestimate risks	Response at low doses is not known.

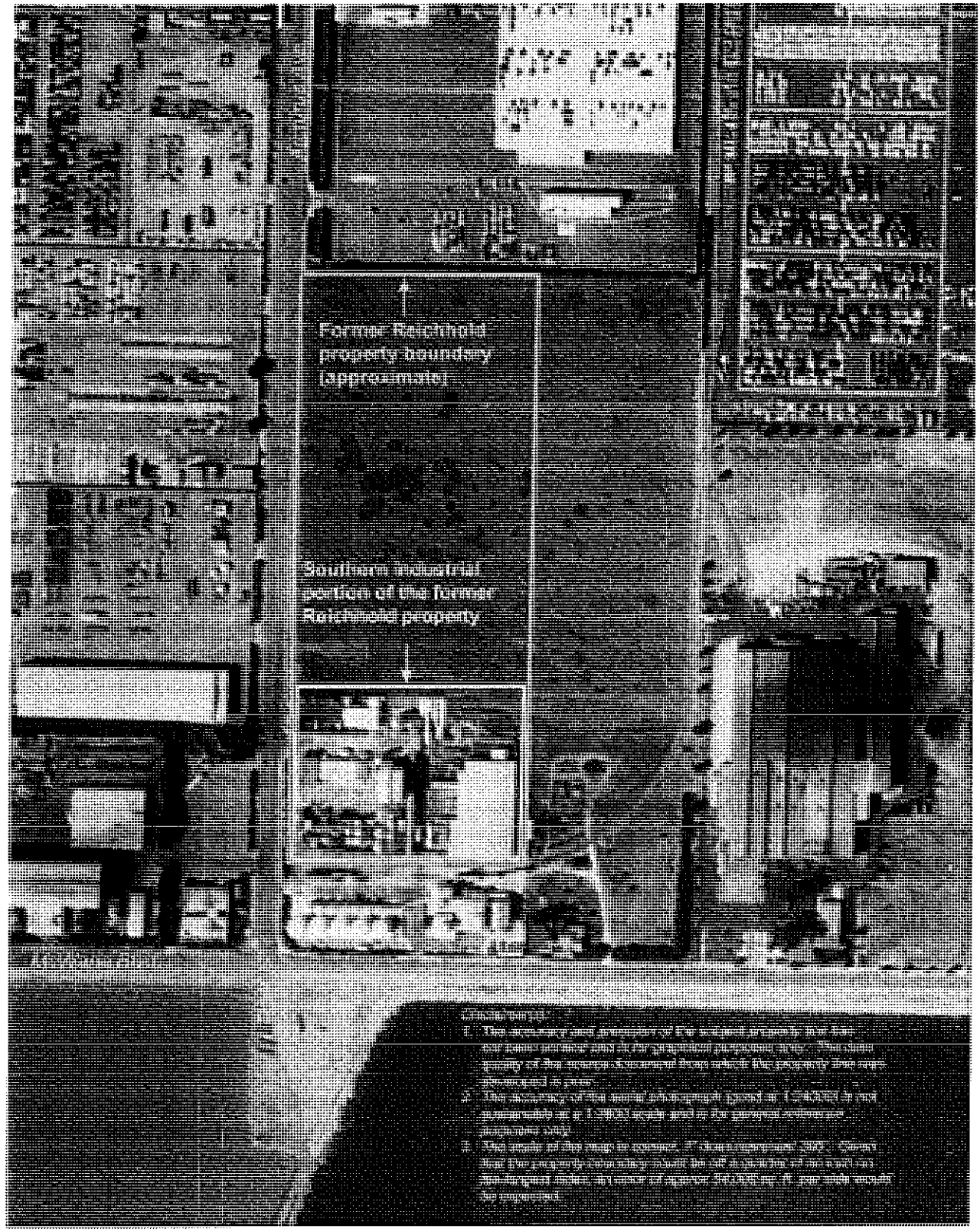


Source: USGS Quadrangle Maps, 7 5 Minute, Oxnard, CA, Photorevised 1967

Figure 1
Site Location Map
5980 Arcturus Avenue, Oxnard, CA

CH2MHILL

ES092006006SAC_RPEA Figure_1-site location.fh10 09/18/06 tdaus



N

0 150 300 Feet

Figure 2
Former Property Boundaries
5980 Arcturus Avenue and Neighboring Property
Oxnard, California

CH2MHILL

Galt\gis2\reichhold\plots\Figure_E1_v2.mxd November 3 2005 tfaludy
ES092006006SAC_RPEA figure_2.ai 03/28/07 afint

North Field

Legend

◆ Data used in the updated Human Health Risk Assessment

Former Reichhold Property Line

Arcturus Avenue

Access Road

Parking Lot

Offices

Maint Shop

R-01

Phthalic Anhydride Tank

R-09

Bermed Concrete Hazardous Waste Storage Area

Footings of former roofed area

R-05

Outside Wall

Polyester Thin Tank

Lunch Lockers Conf.Rooms

Utility Building

SurgeTank

Process Building

Brominator

Control Lab

MCC

Neutralization Pit

Raw Material Storage

MCC

R-03

R-14

Waste-Water Column

Bromine Pit

Cooling Tower

R-07

R-15

Tank Truck Unloading

R-06

Tank Truck Service Platform

6' Operations Road

Finished Goods Area

R-10

Rail Car Unloading Area

OW4-94

R-11

R-08

R-12

FORMER OXYCHEM FACILITY

Product Storage Tanks

OW3-94

Former Oxychem Property Line

Ramp

Truck Loading Dock

Drumming

Warehouse

R-02

Former Reichhold Property Line

R-04

Gardening Shop

Approximate Former Reichhold Property Line

R-13

Process Plant

Fuel Oil

Office

Former Oxychem Property Line

East Field

Former Oxychem Property Line

N

0 50 100

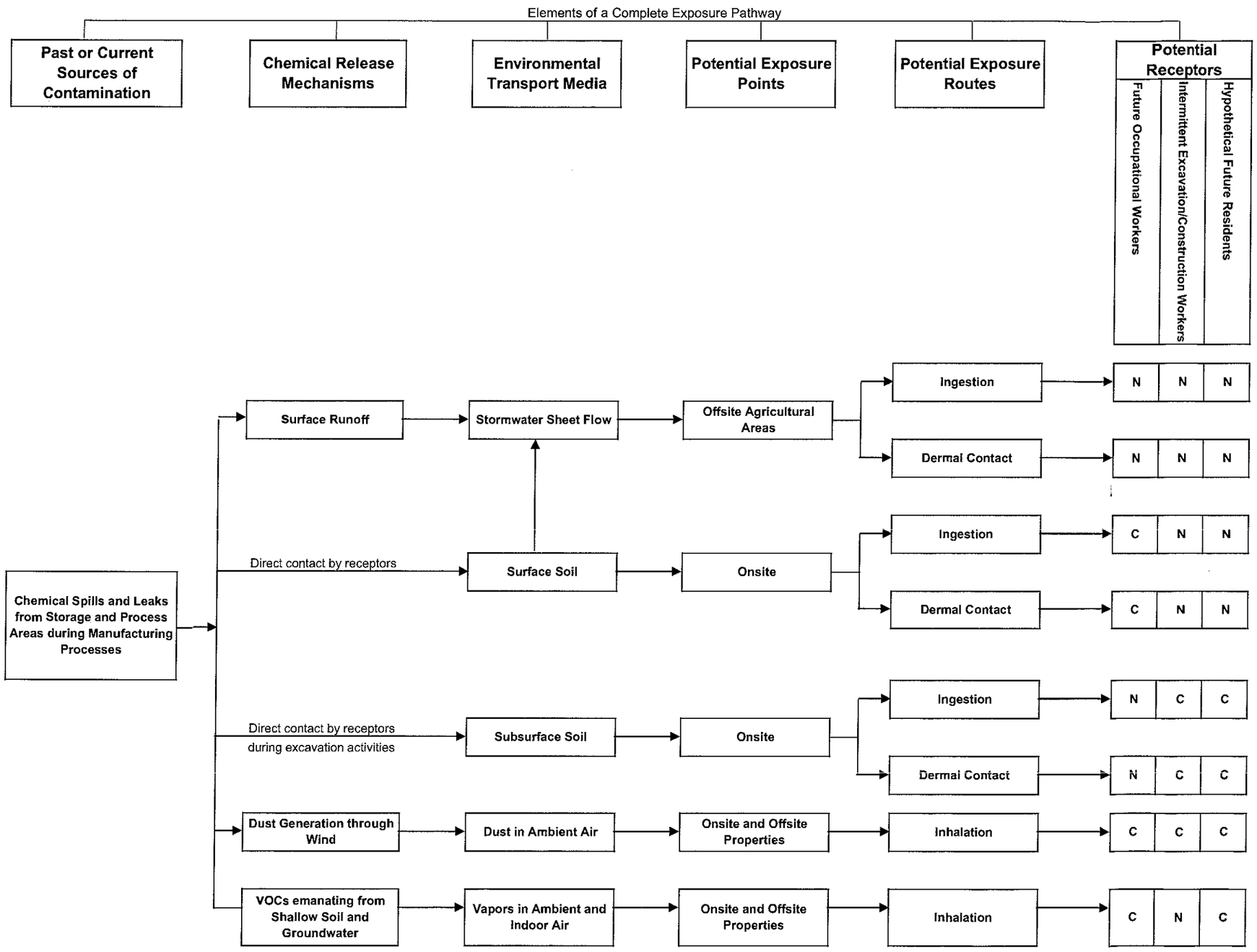
SCALE 1"= 50'

Source: I:\PROJECTS\WALKUP\REICHOLD\35438-2a.DGN

ES092006006SAC_RPEA figure_3.ai 10/11/07 tdaus

Figure 3
Sampling Locations
5980 Arcturus Avenue, Oxnard, California

CH2MHILL



C = Potentially complete pathway
I = Potential complete, but insignificant pathway
N = Incomplete pathway

Figure 4
Sitewide Conceptual Model for Potential Human Exposures
5980 Arcturus Avenue, Oxnard, California

CH2MHILL

ES092006006SAC_RPEA figure_4 ai 10/11/07 tdaus

APPENDIX A

Risk Estimates for the Hypothetical Indoor Air Exposure Scenario

Introduction

This appendix presents the risk assessment methods for calculating occupational worker and hypothetical future residential risk estimates for volatile organic compounds (VOCs) in groundwater and soil gas at the Reichhold property, based on an indoor air exposure scenario. The objectives of this appendix are as follows:

- Provide an overview of the Johnson and Ettinger (1991) model for evaluation of VOC intrusion from soil into indoor air and risks from inhalation of air indoors
- Present the model parameters for the Johnson and Ettinger (1991) model, and the rationale for selecting parameter values
- Present the risk estimates calculated using the Johnson and Ettinger (1991) model.

Overview of the Johnson and Ettinger (1991) Model

This section introduces the Johnson and Ettinger (1991) model, provides a brief history of its use, lists the key assumptions in the model, and describes its use in calculating risk estimates. A detailed description of the model theory and equations is presented in the U.S. Environmental Protection Agency's (EPA) user guide for the Johnson and Ettinger (1991) model (EPA, 2000). As recommended by DTSC, the CalEPA-modified version of the Johnson and Ettinger (1991b) model was used to estimate indoor air risks (DTSC, 2003).

Background

Volatilization of contaminants located in groundwater or soil gas, and the subsequent transport of these vapors into indoor spaces constitutes a potential inhalation exposure pathway. This potential exposure pathway may need to be evaluated when preparing risk assessments. Johnson and Ettinger (1991) introduced a screening-level model which incorporates both convective and diffusive mechanisms for estimating the transport of contaminant vapors emanating from groundwater or subsurface soil into indoor spaces located directly above or in close proximity to the source of contamination.

Exposure Scenario and Model Description

The Johnson and Ettinger (1991) model is used to estimate the concentration in indoor air from a contaminant vapor source (C_{source}) located some distance (L_T) below the floor of an enclosed building constructed with a basement or constructed slab-on-grade. The source of contamination is either a soil-incorporated VOC or a VOC in solution with groundwater below the top of the water table.

- The model does not account for transformation processes (e.g., biodegradation, hydrolysis, etc.).
- The soil layer in contact with the structure floor and walls is isotropic with respect to permeability.
- Both the building ventilation rate and the difference in dynamic pressure between the interior of the structure and the soil surface are constant values.

Use of Johnson and Ettinger (1991) Model for Calculating Risk Estimates for the Occupational Exposure Scenario

The Johnson and Ettinger (1991) model was used to calculate the excess lifetime cancer risks (ELCR) or the hazard quotient (HQ) associated with each VOC detected in groundwater or soil gas.

To estimate worst-case conditions, maximum soil gas or groundwater concentrations were used as the initial concentrations at the source. The exposure point concentration (EPC) for the indoor air pathway is the vapor concentration entering the building ($C_{building}$). The vapor concentration in the building was calculated using the following equation:

$$C_{building} = \frac{\rho_b C_R \Delta H_c A_B}{Q_{building} \tau}$$

Where:

$C_{building}$	=	Vapor concentration in the building mg/m³ per µg/kg-soil
ρ_b	=	Soil dry bulk density at the source of contamination, g/cm³
C_R	=	Initial soil concentration, g/g
ΔH_c	=	Initial thickness of contamination, cm
A_B	=	Area of enclosed space below grade, cm²
$Q_{building}$	=	Building ventilation rate, cm³/s
τ	=	Exposure interval, s

The following equation was used to estimate the excess lifetime cancer risk (ELCR) for carcinogenic chemicals:

$$ELCR = \frac{URF \times EF \times ED \times C_{building}}{ATC \times 365\ days/year}$$

The following equation was used to estimate the hazard quotient (HQ) for noncarcinogenic chemicals:

$$HQ = \frac{EF \times ED \times \frac{1}{RfC} \times C_{buildihng}}{ATNC \times 365\ days/year}$$

TABLE A-2
Parameters Used to Calculate Preliminary Cleanup Goals for Indoor Air Scenarios

Exposure Parameters	Abbreviations	Indoor Worker	Residential
Reference concentration (mg/m^3)*	RfC	Chemical-specific	Chemical-specific
Unit risk factor $(\mu g/m^3)^{-1}$ [a]	URF	Chemical-specific	Chemical-specific
Body weight, adult (kg)	BW	70	70
Inhalation rate (m^3/day)	IRA	20	20
Exposure frequency (d/yr)	EF	250	350
Exposure duration (yr)	ED	25	30
Averaging time – carcinogenic (yr)	ATC	70	70
Averaging time – noncarcinogenic (yr)	ATNC	25	30

* URFs and RfCs for the occupational scenario were calculated based on a 70-kg man and an inhalation rate of 20 m^3/day.

Risk Estimate Results

Groundwater to Indoor Air

The noncancer and ELCR estimates for the indoor worker and residential scenarios are summarized in Table 11. The risk calculation data tables are included in this appendix.

The potential HI for noncancer effects under the RME scenario is less than 0.1 under both exposure scenarios, which is below the regulatory threshold value of 1.0. The potential cumulative ELCR from all carcinogenic COPCs are 1×10^{-7} and 2×10^{-7}, for the indoor worker and residential exposure scenarios, respectively, which are below the DTSC regulatory point of departure value for workers of 1×10^{-5} and residents of 1×10^{-6}.

Soil Gas to Indoor Air

The noncancer and ELCR estimates for the indoor worker and residential scenarios are summarized in Table 12 The risk calculation data tables are included in this appendix.

The potential HI for noncancer effects under the RME scenario is less than 0.1 under both exposure scenarios, which is below the regulatory threshold value of 1.0. The potential cumulative ELCR from all carcinogenic COPCs are 4×10^{-8} and 7×10^{-8}, for the indoor worker and residential exposure scenarios, respectively, which are below the DTSC regulatory point of departure value for workers of 1×10^{-5} and residents of 1×10^{-6}.

References

California Department of Toxic Substances Control. 2003. Phone conversation between Dr. Gerald Pollock, DTSC, and Mr. Dennis Shelton, CH2M HILL regarding Indoor Air Exposure Assessment. March 6.

Johnson, P. C., and R. A. Ettinger. 1991. "Heuristic Model for Predicting the Intrusion Rate of Contaminant Vapors into Buildings." *Environ. Sci. Technol.* 25: 1445-1452.

Exhibit A-1
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN
Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION
(enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
95636	4.30E+01	1,2,4-Trimethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

Exhibit A-3
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN
Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION
(enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
95636	4.30E+01	1,2,4-Trimethylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350

Used to calculate risk-based groundwater concentration.

END

Exhibit A-5
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN
Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION
(enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
108678	3.60E+00	1,3,5-Trimethylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

DATA ENTRY SHEET

Exhibit A-7
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
108678	3.60E+00	1,3,5-Trimethylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vepor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350

Used to calculate risk-based groundwater concentration.

END

Exhibit A-9
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
67641	7.00E+02	Acetone

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm²)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm³)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm³/cm³)
SIL				1.92	0.353	0.185

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

Exhibit A-11
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemicel CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
67641	7.00E+02	Acetone

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350

Used to calculate risk-based groundwater concentration.

END

Exhibit A-13
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
71432	1.80E+00	Benzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm²)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm³)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm³/cm³)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

Exhibit A-15
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
71432	1.60E+00	Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350

Used to calculate risk-based groundwater concentration.

END

Exhibit A-17
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER initial groundwater conc., C_W (µg/L)	Chemical
75150	2.40E+00	Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

Exhibit A-19
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN
Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
75150	2.40E+00	Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350

Used to calculate risk-based groundwater concentration.

END

Exhibit A-21
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
156592	7.00E-01	cis-1,2-Dichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

Exhibit A-23
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN
Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION
(enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
156592	7.00E-01	cis-1,2-Dichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350

Used to calculate risk-based groundwater concentration.

END

DATA ENTRY SHEET

Exhibit A-25
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
100414	6.40E+02	Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vepor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

Exhibit A-27
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
100414	6.40E+02	Ethylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350

Used to calculate risk-based groundwater concentration.

END

Exhibit A-29
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
98828	4.20E+00	Cumene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm²)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm³)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm³/cm³)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

Exhibit A-31
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
98828	4.20E+00	Cumene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350

Used to calculate risk-based groundwater concentration.

END

Exhibit A-33
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN
Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION
(enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
108383	2.40E+01	m-Xylene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Terget hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-08	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

Exhibit A-35
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER initial groundwater conc., C_W (µg/L)	Chemical
108383	2.40E+01	m-Xylene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350
Used to calculate risk-based groundwater concentration.					

END

DATA ENTRY SHEET

Exhibit A-37
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
1634044	1.90E+00	MTBE

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

Exhibit A-39
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
1634044	1.90E+00	MTBE

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350

Used to calculate risk-based groundwater concentration.

END

Exhibit A-41
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
103651	1.50E+00	n-Propylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

Exhibit A-43
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN
Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION
(enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
103651	1.50E+00	n-Propylbenzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350

Used to calculate risk-based groundwater concentration.

END

DATA ENTRY SHEET

Exhibit A-45
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
91203	4.40E+00	Naphthalene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

DATA ENTRY SHEET

Exhibit A-47
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
91203	4.40E+00	Naphthalene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE ↓

ENTER Terget risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350

Used to calculate risk-based groundwater concentration.

END

DATA ENTRY SHEET

Exhibit A-49
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
95476	1.30E+01	o-Xylene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Terget hezard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

Exhibit A-51
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
95476	1.30E+01	o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350

Used to calculate risk-based groundwater concentration.

END

DATA ENTRY SHEET

Exhibit A-53
Groundwater to Indoor Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

GW-SCREEN Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
108883	9.00E-01	Toluene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Avarage vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	25	25	250

Used to calculate risk-based groundwater concentration.

END

DATA ENTRY SHEET

Exhibit A-55
Groundwater to Indoor Vapor Intrusion
Residential Exposure Scenario - Input Parameters

GW-SCREEN
Version 3.0; 04/03

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [ ]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION
(enter "X" in "YES" box and initial groundwater conc. below)

YES [X]

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (µg/L)	Chemical
108883	9.00E-01	Toluene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER SCS soil type directly above water table	ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
15	183	SIL	20	

MORE ↓

ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)	ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^V (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
SIL				1.92	0.353	0.185

MORE ↓

ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
1.0E-06	1	70	30	30	350

Used to calculate risk-based groundwater concentration.

END

Exhibit A-57
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108101	4.70E+00			Methylisobutylketone (4-methyl-2-pentanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

Lookup Soil Parameters

ENTER Vandose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-59
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108101	4.70E+00			Methylisobutylketone (4-methyl-2-pentanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-61
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67641	1.40E+02			Acetone

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-63
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
67641	1.40E+02			Acetone

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE

ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-65
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	5.00E+01			Benzene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_s (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-67
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
?A Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (µg/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
71432	5.00E+01			Benzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm²)
15	168	20	SiL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm³)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm³/cm³)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-69
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	1.50E+02			Cumene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
	1.92	0.353	0.185

ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)

MORE

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-71
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
98828	1.50E+02			Cumene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-73
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
?A Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	1.30E+02			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-75
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75150	1.30E+02			Carbon disulfide

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

ENTER Vadose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-77
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
156592	4.40E+01			cis-1,2-Dichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

Lookup Soil Parameters

ENTER Vandose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-79
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (µg/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
156592	4.40E+01			cis-1,2-Dichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm²)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm³)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm³/cm³)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-81
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
?A Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75343	5.80E+00			1,1-Dichloroethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-83
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75343	5.80E+00			1,1-Dichloroethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-85
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
?A Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_n ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_n (ppmv)	Chemical
541731	4.20E+00			1,3-Dichlorobenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

Lookup Soil Parameters

ENTER Vandose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)
	1.92	0.353	0.185

ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-87
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (µg/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
541731	4.20E+00			1,3-Dichlorobenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm²)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm³)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm³/cm³)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-89
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (µg/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75354	2.30E+00			1,1-Dichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm²)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm³)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm³/cm³)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-91
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75354	2.30E+00			1,1-Dichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_s (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-93
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	3.50E+01			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm³)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-95
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

ENTER Chemical CAS No. (numbers only, no dashes)	Soil Gas Concentration Data: ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100414	3.50E+01			Ethylbenzene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-97
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (µg/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108383	2.20E+01			m-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-99
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_a ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_a (ppmv)	Chemical
108383	2.20E+01			m-Xylene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE

Lookup Soil Parameters

ENTER Vandose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-101
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	3.90E+00			Methylene chloride

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-103
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
75092	3.90E+00			Methylene chloride

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE

Lookup Soil Parameters

ENTER Vandose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-105
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
?A Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108872	2.00E+02			Methylcyclohexane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

Lookup Soil Parameters

ENTER Vandose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-109
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (µg/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	2.60E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm²)
15	168	20	SIL		

MORE ↓

Lookup Soil Parameters

ENTER Vandose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm³)	ENTER Vadose zone soil total porosity, n^v (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^v (cm³/cm³)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-111
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
78933	2.60E+01			Methylethylketone (2-butanone)

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-113
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
?A Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
91203	2.20E+01			Naphthalene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg, (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-117
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (µg/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
95476	1.20E+01			o-Xylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm²)
15	168	20	SIL		

MORE ↓

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm³)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm³/cm³)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-121
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
100425	1.60E+01			Styrene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-127
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
?A Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (µg/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
108883	2.40E+01			Toluene

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm³)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-129
Soil Gas to Indoor Air Vapor Intrusion
Occupational Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g ($\mu g/m^3$)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
76131	6.60E+00			1,1,2-Trichloro-1,2,2-trifluoroethane

MORE

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm^2)
15	168	20	SIL		

MORE

ENTER Vandose zone SCS soil type (Lookup Soil Parameters)	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm^3/cm^3)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	25	25	250

END

Exhibit A-131
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (µg/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
76131	8.10E+00			1,1,2-Trichloro-1,2,2-trifluoroethane

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm²)
15	168	20	SIL		

MORE ↓

Lookup Soil Parameters

ENTER Vandose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm³)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm³/cm³)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

Exhibit A-135
Soil Gas to Indoor Air Vapor Intrusion
Residential Exposure Scenario - Input Parameters

SG-SCREEN
PA Version 2.0; 04/

Reset to Defaults

DTSC
Vapor Intrusion Guidance
Interim Final 12/04
(last modified 1/21/05)

Soil Gas Concentration Data

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., C_g (µg/m³)	OR	ENTER Soil gas conc., C_g (ppmv)	Chemical
156605	8.10E+00			trans-1,2-Dichloroethylene

MORE ↓

ENTER Depth below grade to bottom of enclosed space floor, L_F (15 or 200 cm)	ENTER Soil gas sampling depth below grade, L_s (cm)	ENTER Average soil temperature, T_S (°C)	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vadose zone soil vapor permeability, k_v (cm²)
15	168	20	SiL		

MORE ↓

Lookup Soil Parameters

ENTER Vandose zone SCS soil type	ENTER Vadose zone soil dry bulk density, ρ_b^A (g/cm³)	ENTER Vadose zone soil total porosity, n^V (unitless)	ENTER Vadose zone soil water-filled porosity, θ_w^V (cm³/cm³)	ENTER Average vapor flow rate into bldg. (Leave blank to calculate) Q_{soil} (L/m)
	1.92	0.353	0.185	

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)
70	30	30	350

END

TABLE B-1
Future Occupational Worker Scenario - Potential Excess Lifetime Cancer Risk
Human Health Risk Assessment for RCI-Oxnard

Chemical	WOE	SF_o $(mg/kg\text{-}day)^{-1}$	SF_d $(mg/kg\text{-}day)^{-1}$	SF_i $(mg/kg\text{-}day)^{-1}$	EPC (mg/kg)	ABS_d	ABS_{gi}	Ingestion CDI (mg/kg-day)	Ingestion ELCR	Dermal CDI (mg/kg-day)	Dermal ELCR	Inhalation CDI (mg/kg-day)	Inhalation ELCR	Total ELCR	% Contribution
Methylene chloride	B2	1.40E-02	1.40E-02	3.50E-03	8.00E-02		1.00E+00	2.80E-08	3.9E-10			2.34E-06	8.2E-09	8.6E-09	100
Total Risk									**4E-10**				**8E-09**		**100**
												Total Risk =	**9E-09**		

Notes:
Cancer WOE Classifications:
Group A: Human carcinogen
Group B (B1, B2): Probable human carcinogen
Group C: Possible human carcinogen
Group D: Not classifiable
Group E: No evidence of carcinogenicity
ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
ELCR = Excess Lifetime Cancer Risk
EPC = Exposure Point Concentration
mg/kg-day = milligrams per kilogram per day
SF_d = Dermal Slope Factor
SF_o = Oral Slope Factor
SF_i = Inhalation Slope Factor
WOE = Weight of Evidence

TABLE B-2
Future Occupational Worker Scenario - Potential Noncarcinogenic Risk
Human Health Risk Assessment for RCI-Oxnard

						Ingestion		Dermal		Inhalation			%
Chemical	RfD_o (mg/kg-day)	RfD_d (mg/kg-day)	RfD_i (mg/kg-day)	EPC (mg/kg)	ABS_d	ABS_{gi}	CDI (mg/kg-day)	HQ	CDI (mg/kg-day)	HQ	CDI (mg/kg-day)	HQ	Total HQ	Contribution
1,2,4-Trimethylbenzene	5.00E-02	5.00E-02	1.70E-03	5.30E-03		1.00E+00	5.19E-09	0.000			5.27E-08	0.00	0.000	58
Acetone	9.00E-01	9.00E-01	9.00E-01	1.10E-01		1.00E+00	1.08E-07	0.000			1.71E-06	0.00	0.000	4
Ethylbenzene	1.00E-01	1.00E-01	2.90E-01	1.20E-02		1.00E+00	1.17E-08	0.000			4.35E-07	0.00	0.000	3
Methylene chloride	6.00E-02	6.00E-02	8.60E-01	8.00E-02		1.00E+00	7.83E-08	0.000			6.54E-06	0.00	0.000	16
Toluene	8.00E-02	8.00E-02	1.43E+00	4.30E-03		1.00E+00	4.21E-09	0.000			2.11E-07	0.00	0.000	0
Xylenes (total)	2.00E-01	2.00E-01	2.90E-02	9.20E-03		1.00E+00	9.00E-09	0.000			2.95E-07	0.00	0.000	19
Total Risk								**0.000002**				**0.0001**		**100**
											Total HI =	**0.0001**		

Notes:
ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
EPC = Exposure Point Concentration
HI = Hazard Index
HQ = Hazard Quotient;
mg/kg-day = milligrams per kilogram per day
RfC = Reference Concentration
RfD_d = Dermal Reference Dose;
RfD_o = Oral Reference Dose
RfD_i = Inhalation Reference Dose

TABLE B-3
Future Excavation/Construction Worker Scenario - Potential Excess Lifetime Cancer Risk
Human Health Risk Assessment for RCI-Oxnard

								Ingestion		Dermal		Inhalation			
Chemical	WOE	SF_o $(mg/kg\text{-}day)^{-1}$	SF_d $(mg/kg\text{-}day)^{-1}$	SF_i $(mg/kg\text{-}day)^{-1}$	EPC (mg/kg)	ABS_d	ABS_{gi}	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	Total ELCR	% Contribution
Benzene	A	1.00E-01	1.00E-01	1.00E-01	2.30E-03		1.00E+00	1.06E-10	1.1E-11			2.38E-09	2.4E-10	2.5E-10	0
Naphthalene	C	1.20E-01	1.20E-01	1.20E-01	2.20E+01		1.00E+00	1.01E-06	1.2E-07			1.42E-06	1.7E-07	2.9E-07	100
Methylene chloride	B2	1.40E-02	1.40E-02	3.50E-03	8.00E-02		1.00E+00	3.69E-09	5.2E-11			9.35E-08	3.3E-10	3.8E-10	0
Sytrene	C				2.20E+01		1.00E+00	1.01E-06				4.73E-06			
Total Risk									**1E-07**				**2E-07**		**100**
												Total Risk =	**3E-07**		

Notes:
Cancer WOE Classifications:
Group A: Human carcinogen
Group B (B1, B2): Probable human carcinogen
Group C: Possible human carcinogen
Group D: Not classifiable
Group E: No evidence of carcinogenicity
ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
ELCR = Excess Lifetime Cancer Risk
EPC = Exposure Point Concentration
mg/kg-day = milligrams per kilogram per day
SF_d = Dermal Slope Factor
SF_o = Oral Slope Factor
SF_i = Inhalation Slope Factor
WOE = Weight of Evidence

TABLE B-5
Hypothetical Future Residential Scenario - Potential Excess Lifetime Cancer Risk
Human Health Risk Assessment for RCI-Oxnard

								Ingestion		Dermal		Inhalation			
Chemical	WOE	SF_o $(mg/kg\text{-}day)^{-1}$	SF_d $(mg/kg\text{-}day)^{-1}$	SF_i $(mg/kg\text{-}day)^{-1}$	EPC (mg/kg)	ABS_d	ABS_{gi}	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	Total ELCR	% Contribution
Benzene	A	1.00E-01	1.00E-01	1.00E-01	2.30E-03		1.00E+00	3.60E-09	3.6E-10			1.27E-07	1.3E-08	1.3E-08	0.1
Naphthalene	C	1.20E-01	1.20E-01	1.20E-01	2.20E+01		1.00E+00	3.44E-05	4.1E-06			7.56E-05	9.1E-06	1.3E-05	99.8
Methylene chloride	B2	1.40E-02	1.40E-02	3.50E-03	8.00E-02		1.00E+00	1.25E-07	1.8E-09			4.97E-06	1.7E-08	1.9E-08	0.1
Styrene	C				2.20E+01		1.00E+00	3.44E-05				2.52E-04			
Total Risk									**4E-06**				**9E-06**		**100**
												Total Risk =	**1E-05**		

Notes:
Cancer WOE Classifications:
Group A: Human carcinogen
Group B (B1, B2): Probable human carcinogen
Group C: Possible human carcinogen
Group D: Not classifiable
Group E: No evidence of carcinogenicity
ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
ELCR = Excess Lifetime Cancer Risk
EPC = Exposure Point Concentration
mg/kg-day = milligrams per kilogram per day
SF_d = Dermal Slope Factor
SF_o = Oral Slope Factor
SF_i = Inhalation Slope Factor
WOE = Weight of Evidence

TABLE B-6
Hypothetical Future Residential Scenario - Potential Noncarcinogenic Risk
Human Health Risk Assessment for RCI-Oxnard

							Ingestion		Dermal		Inhalation			
Chemical	RfD_o (mg/kg-day)	RfD_d (mg/kg-day)	RfD_i (mg/kg-day)	EPC (mg/kg)	ABS_d	ABS_{gi}	CDI (mg/kg-day)	HQ	CDI (mg/kg-day)	HQ	CDI (mg/kg-day)	HQ	Total HQ	% Contribution
1,2,4-Trimethylbenzene	5.00E-02	5.00E-02	1.70E-03	3.80E-02		1.00E+00	1.39E-07	0.000			6.71E-07	0.00	0.000	0
Acetone	9.00E-01	9.00E-01	9.00E-01	1.10E-01		1.00E+00	4.02E-07	0.000			3.04E-06	0.00	0.000	0
Benzene	4.00E-03	4.00E-03	8.60E-03	2.30E-03		1.00E+00	8.40E-09	0.000			2.96E-07	0.00	0.000	0
Ethylbenzene	1.00E-01	1.00E-01	2.90E-01	5.60E+01		1.00E+00	2.05E-04	0.002			3.60E-03	0.01	0.014	6
Isopropylbenzene	1.00E-01	1.00E-01	1.10E-01	1.40E+00		1.00E+00	5.11E-06	0.000			1.35E-04	0.00	0.001	1
Naphthalene	2.00E-02	2.00E-02	8.57E-04	2.20E+01		1.00E+00	8.04E-05	0.004			1.76E-04	0.21	0.210	89
Methylene chloride	6.00E-02	6.00E-02	8.60E-01	8.00E-02		1.00E+00	2.92E-07	0.000			1.16E-05	0.00	0.000	0
Styrene	2.00E-01	2.00E-01	2.86E-01	2.20E+01		1.00E+00	8.04E-05	0.000			5.87E-04	0.00	0.002	1
Toluene	8.00E-02	8.00E-02	1.43E+00	4.30E-03		1.00E+00	1.57E-08	0.000			3.75E-07	0.00	0.000	0
Xylenes (total)	2.00E-01	2.00E-01	2.90E-02	3.40E+00		1.00E+00	1.24E-05	0.000			1.93E-04	0.01	0.007	3
Total Risk								**0.007**				**0.23**		**100**
											Total HI =	**0.24**		

Notes:
ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
EPC = Exposure Point Concentration
HI = Hazard Index
HQ = Hazard Quotient;
mg/kg-day = milligrams per kilogram per day
RfC = Reference Concentration
RfD_d = Dermal Reference Dose;
RfD_o = Oral Reference Dose
RfD_i = Inhalation Reference Dose

TABLE B-7
Subsurface Soil Naphthalene ProUCL Output
Human Health Risk Assessment for RCI-Oxnard

General UCL Statistics for Full Data Sets

Confidence Coefficient	95%	**Naphthalene (averaging duplicates)**	
Number of Bootstrap Operations	2000		
General Statistics			
Number of Valid Samples	28	Number of Unique Samples	4
Raw Statistics		Log-transformed Statistics	
Minimum	0.003	Minimum of Log Data	-5.991
Maximum	20.5	Maximum of Log Data	3.02
Mean	0.777	Mean of log Data	-5.366
Median	0.003	SD of log Data	2.051
SD	3.872		
Coefficient of Variation	4.982		
Skewness	5.265		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.21	Shapiro Wilk Test Statistic	0.353
Shapiro Wilk Critical Value	0.924	Shapiro Wilk Critical Value	0.924
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	2.023	95% H-UCL	0.185
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.102
95% Adjusted-CLT UCL	2.758	97.5% Chebyshev (MVUE) UCL	0.133
95% Modified-t UCL	2.145	99% Chebyshev (MVUE) UCL	0.193
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.158	Data do not follow a Discernable Distribution (0.05)	
Theta Star	4.919		
nu star	8.846		
Approximate Chi Square Value (.05)	3.234	Nonparametric Statistics	
Adjusted Level of Significance	0.04	95% CLT UCL	1.981
Adjusted Chi Square Value	3.027	95% Jackknife UCL	2.023
		95% Standard Bootstrap UCL	2.003
Anderson-Darling Test Statistic	9.804	95% Bootstrap-t UCL	478.2
Anderson-Darling 5% Critical Value	0.92	95% Hall's Bootstrap UCL	365.5
Kolmogorov-Smirnov Test Statistic	0.553	95% Percentile Bootstrap UCL	2.202
Kolmogorov-Smirnov 5% Critical Value	0.185	95% BCA Bootstrap UCL	2.972
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	3.966
		97.5% Chebyshev(Mean, Sd) UCL	5.346
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	8.057
95% Approximate Gamma UCL	2.125		
95% Adjusted Gamma UCL	2.271		
Potential UCL to Use		**Use 99% Chebyshev (Mean, Sd) UCL**	**8.057**

TABLE B-8
Hypothetical Future Residential Scenario - Potential Excess Lifetime Cancer Risk
Human Health Risk Assessment for RCI-Oxnard

								Ingestion		Dermal		Inhalation			
Chemical	WOE	SF_o $(mg/kg\text{-}day)^{-1}$	SF_d $(mg/kg\text{-}day)^{-1}$	SF_i $(mg/kg\text{-}day)^{-1}$	EPC (mg/kg)	ABS_d	ABS_{gi}	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	Total ELCR	% Contribution
Benzene	A	1.00E-01	1.00E-01	1.00E-01	2.30E-03		1.00E+00	3.60E-09	3.6E-10			1.27E-07	1.3E-08	1.3E-08	0.3
Naphthalene	C	1.20E-01	1.20E-01	1.20E-01	8.06E+00		1.00E+00	1.26E-05	1.5E-06			2.77E-05	3.3E-06	4.8E-06	99.3
Methylene chloride	B2	1.40E-02	1.40E-02	3.50E-03	8.00E-02		1.00E+00	1.25E-07	1.8E-09			4.97E-06	1.7E-08	1.9E-08	0.4
Styrene	C				2.20E+01		1.00E+00	3.44E-05				2.52E-04			
Total Risk									**2E-06**				**3E-06**		**100**
												Total Risk =	**5E-06**		

Notes:
Cancer WOE Classifications:
Group A: Human carcinogen
Group B (B1, B2): Probable human carcinogen
Group C: Possible human carcinogen
Group D: Not classifiable
Group E: No evidence of carcinogenicity
ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
ELCR = Excess Lifetime Cancer Risk
EPC = Exposure Point Concentration
mg/kg-day = milligrams per kilogram per day
SF_d = Dermal Slope Factor
SF_o = Oral Slope Factor
SF_i = Inhalation Slope Factor
WOE = Weight of Evidence

Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maureen F. Gorsen, Director
1011 North Grandview Avenue
Glendale, California 91201

Arnold Schwarzenegger
Governor

CERTIFIED MAIL

January 15, 2008

Ms. Linda Miszkewycz
Assistant Project Manager
CH2MHILL
2485 Natomas Park Drive, Suite 600
Sacramento, California 95833-2937

PRELIMINARY ENDANGERMENT ASSESSMENT REPORT FOR THE SITE LOCATED AT 5980 ARCTURUS AVENUE, OXNARD, CALIFORNIA 93033

Dear Ms. Miszkewycz:

The Department of Toxic Substances Control (DTSC) has reviewed the Preliminary Endangerment Assessment Report Addendum dated March 2007, and the Updated Human Health Risk Assessment dated October 10, 2007 for the southern industrial portion (approximately 3.5 acres) of the former Reichhold property located at 5980 Arcturus Avenue, Oxnard, California (Site).

Based on information in the above documents, DTSC concludes that the soil at the Site poses an acceptable risk for industrial/commercial use and No Further Action is necessary for soil, if the use is limited to commercial or industrial land use. However, the risk is unacceptable for sensitive land use, such as single family homes, schools and day care facilities for children. Accordingly, the implementation of a Land Use Covenant for commercial and/or industrial land use will be necessary.

Should you have any questions or concerns, please call me at (818) 551-2822, or Mr. Alberto Valmidiano, Project Manger, at (818) 551-2870.

Sincerely,

Sayareh Amir, Chief
Southern California Cleanup Operations Branch – Glendale Office

cc: See next page

cc: Mr. Brian A Kanzler
Senior Project Manager
Reichhold, Inc.
P.O. Box 13582
Research Triangle Park, North Carolina 27709-3582

Mr. Rob Lowey
CH2MHILL
3 Hutton Centre Drive, Suite 200
Santa Ana, California 92707

Mr. Michael Gromacki
Cook Composites and Polymers
820 East 14th Avenue
North Kansas City, Missouri 64116

CERTIFIED MAIL
7006 0810 0003 4560 0158
Return Receipt Requested

APPENDIX E

THE EDR AERIAL PHOTO DECADE PACKAGE

5980 and 6000 Arctutus Avenue
5980 and 6000 Arctutus Avenue
Oxnard, CA 93033

Inquiry Number: 4285348.12
May 06, 2015

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

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Date EDR Searched Historical Sources:

Aerial Photography May 06, 2015

Target Property:

5980 and 6000 Arctutus Avenue

Oxnard, CA 93033

Year	***Scale***	***Details***	***Source***
1938	Aerial Photograph. Scale: 1"=500'	Flight Year: 1938	USGS
1947	Aerial Photograph. Scale: 1"=500'	Flight Year: 1947	USGS
1953	Aerial Photograph. Scale: 1"=500'	Flight Year: 1953	USGS
1959	Aerial Photograph. Scale: 1"=500'	Flight Year: 1959	Robinson
1967	Aerial Photograph. Scale: 1"=500'	Flight Year: 1967	USGS
1977	Aerial Photograph. Scale: 1"=500'	Flight Year: 1977	Teledyne
1985	Aerial Photograph. Scale: 1"=500'	Flight Year: 1985	USGS
1994	Aerial Photograph. Scale: 1"=500'	/DOQQ - acquisition dates: 1994	USGS/DOQQ
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	USDA/NAIP
2009	Aerial Photograph. Scale: 1"=500'	Flight Year: 2009	USDA/NAIP
2010	Aerial Photograph. Scale: 1"=500'	Flight Year: 2010	USDA/NAIP
2012	Aerial Photograph. Scale: 1"=500'	Flight Year: 2012	USDA/NAIP



INQUIRY #: 4285348.12

YEAR: 1938

= 500'

N

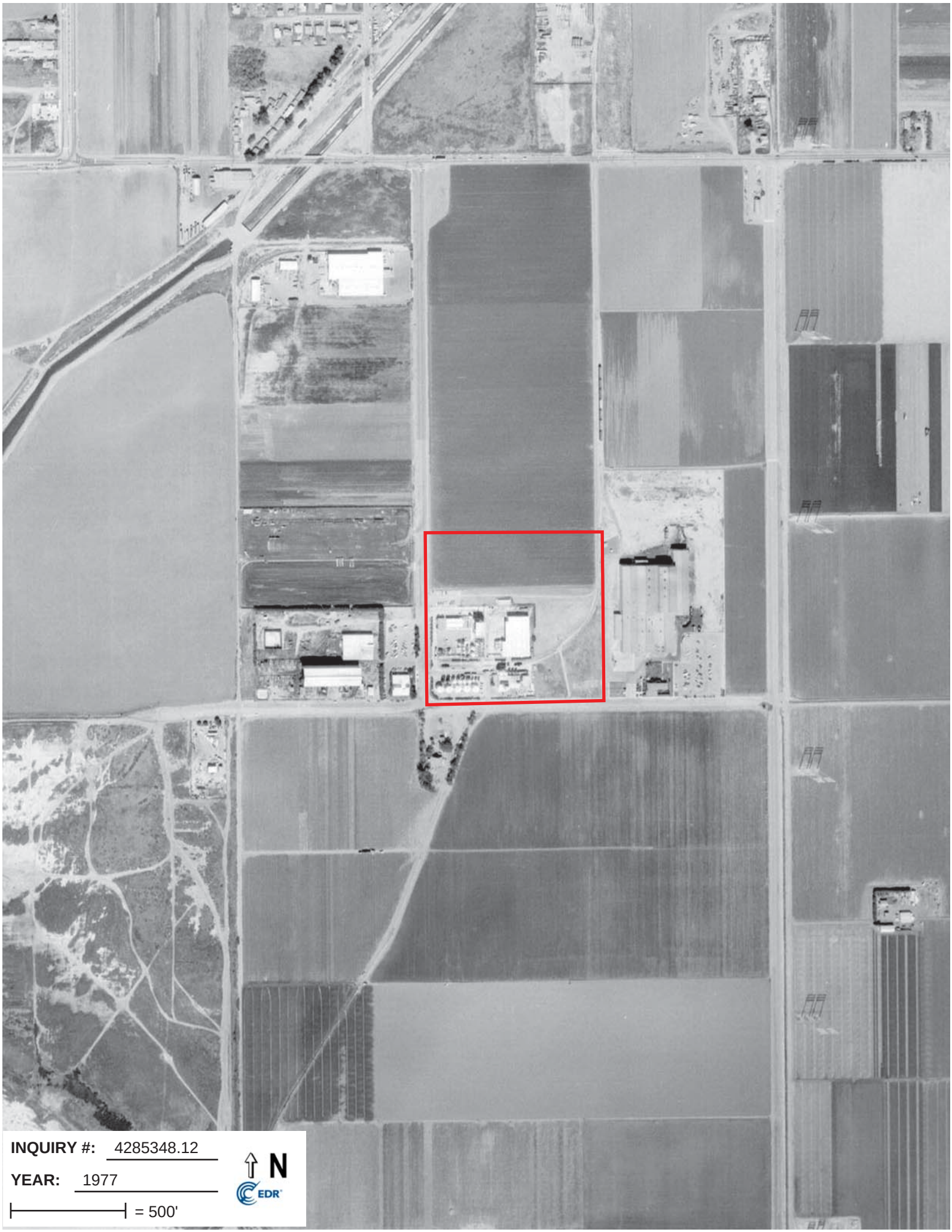
EDR


INQUIRY #: 4285348.12
YEAR: 1947
= 500'
N
EDR

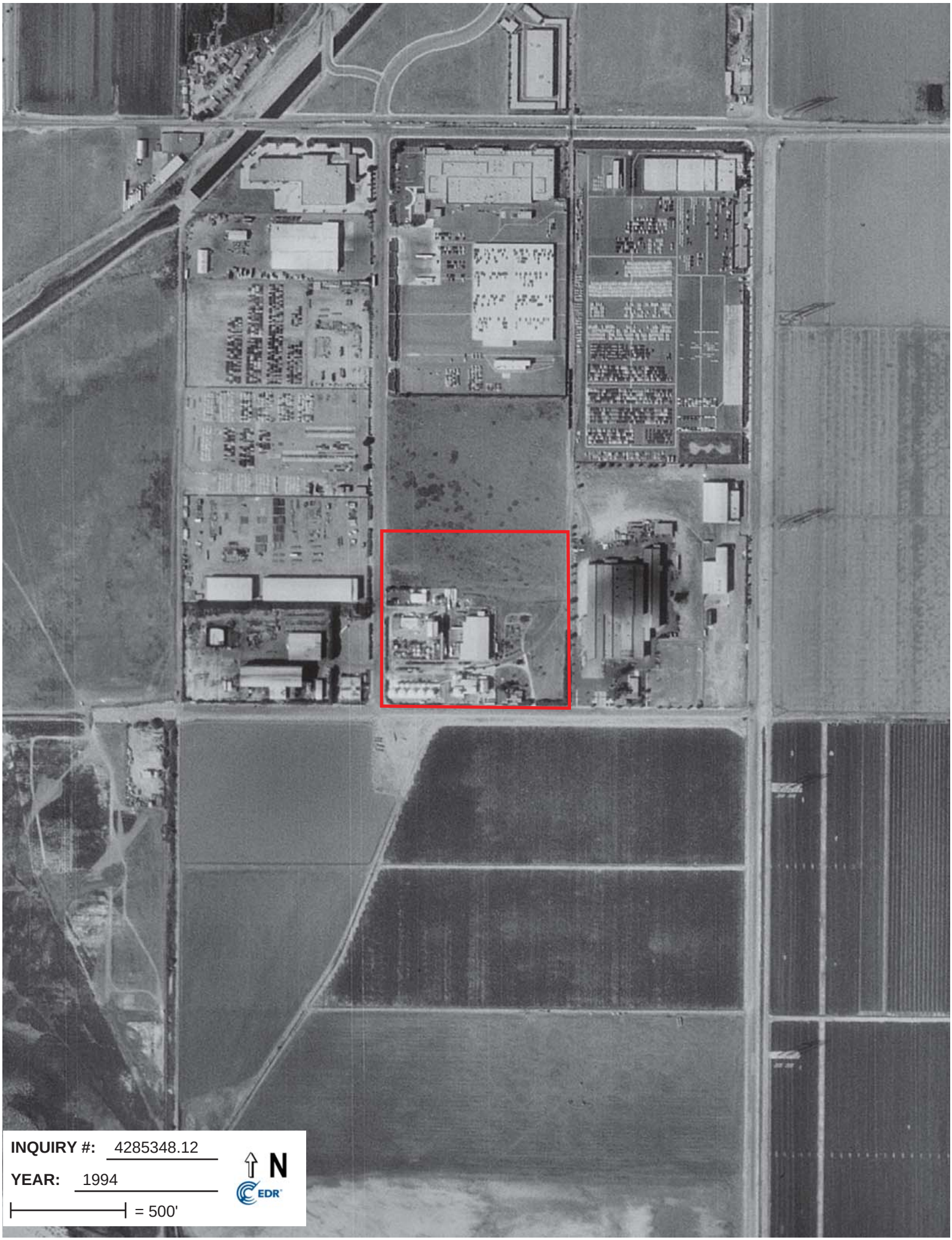

INQUIRY #: 4285348.12
YEAR: 1953
= 500'
N
EDR


INQUIRY #: 4285348.12
YEAR: 1959
= 500'
N
EDR


INQUIRY #: 4285348.12
YEAR: 1967
= 500'
N
EDR


INQUIRY #: 4285348.12
YEAR: 1977
= 500'
N
EDR


INQUIRY #: 4285348.12
YEAR: 1985
= 500'
N
EDR


INQUIRY #: 4285348.12
YEAR: 1994
= 500'
N
EDR


INQUIRY #: 4285348.12
YEAR: 2005
= 500'
N
EDR


INQUIRY #: 4285348.12
YEAR: 2009
= 500'
N
EDR


INQUIRY #: 4285348.12
YEAR: 2010
= 500'
N
EDR


INQUIRY #: 4285348.12
YEAR: 2012
= 500'
N
EDR

APPENDIX F

THE EDR HISTORICAL TOPOGRAPHIC MAP REPORT

5980 and 6000 Arctutus Avenue
5980 and 6000 Arctutus Avenue
Oxnard, CA 93033

Inquiry Number: 4285348.4
May 06, 2015

EDR Historical Topographic Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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Historical Topographic Map



N	TARGET QUAD NAME: HUENEME MAP YEAR: 1904 SERIES: 15 SCALE: 1:62500	SITE NAME: 5980 and 6000 Arctutus Avenue ADDRESS: 5980 and 6000 Arctutus Avenue Oxnard, CA 93033 LAT/LONG: 34.1415 / -119.1713	CLIENT: Northgate Env. Management, Inc. CONTACT: Nicky Galloway INQUIRY#: 4285348.4 RESEARCH DATE: 05/06/2015

Historical Topographic Map



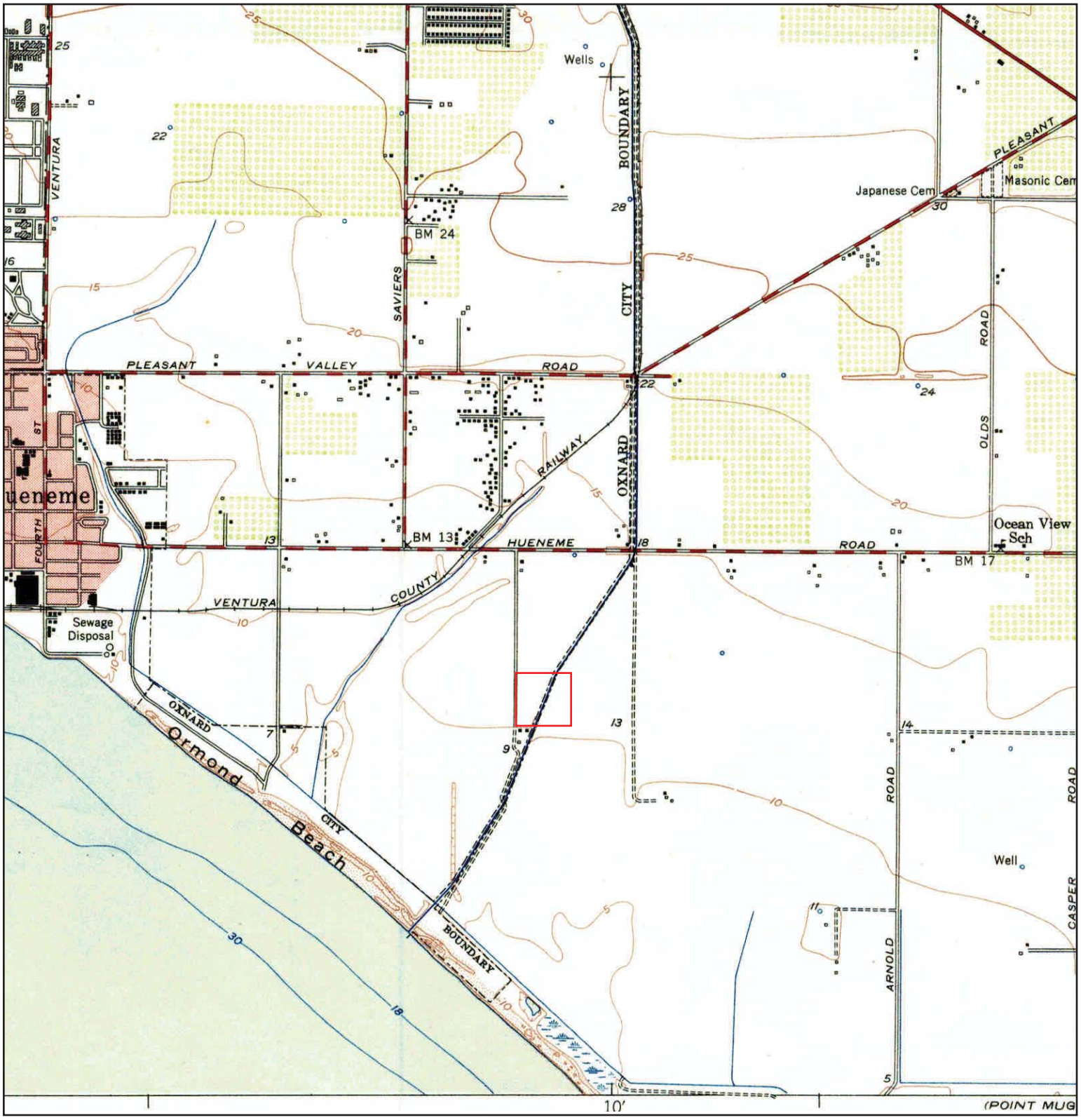
N	TARGET QUAD				
	NAME:	SOUTHERN CA SHEET 3	SITE NAME:	5980 and 6000 Arctutus Avenue	CLIENT: Northgate Env. Management, Inc.
	MAP YEAR:	1910	ADDRESS:	5980 and 6000 Arctutus Avenue Oxnard, CA 93033	CONTACT: Nicky Galloway
	SERIES:	60	LAT/LONG:	34.1415 / -119.1713	INQUIRY#: 4285348.4
	SCALE:	1:250000			RESEARCH DATE: 05/06/2015

Historical Topographic Map



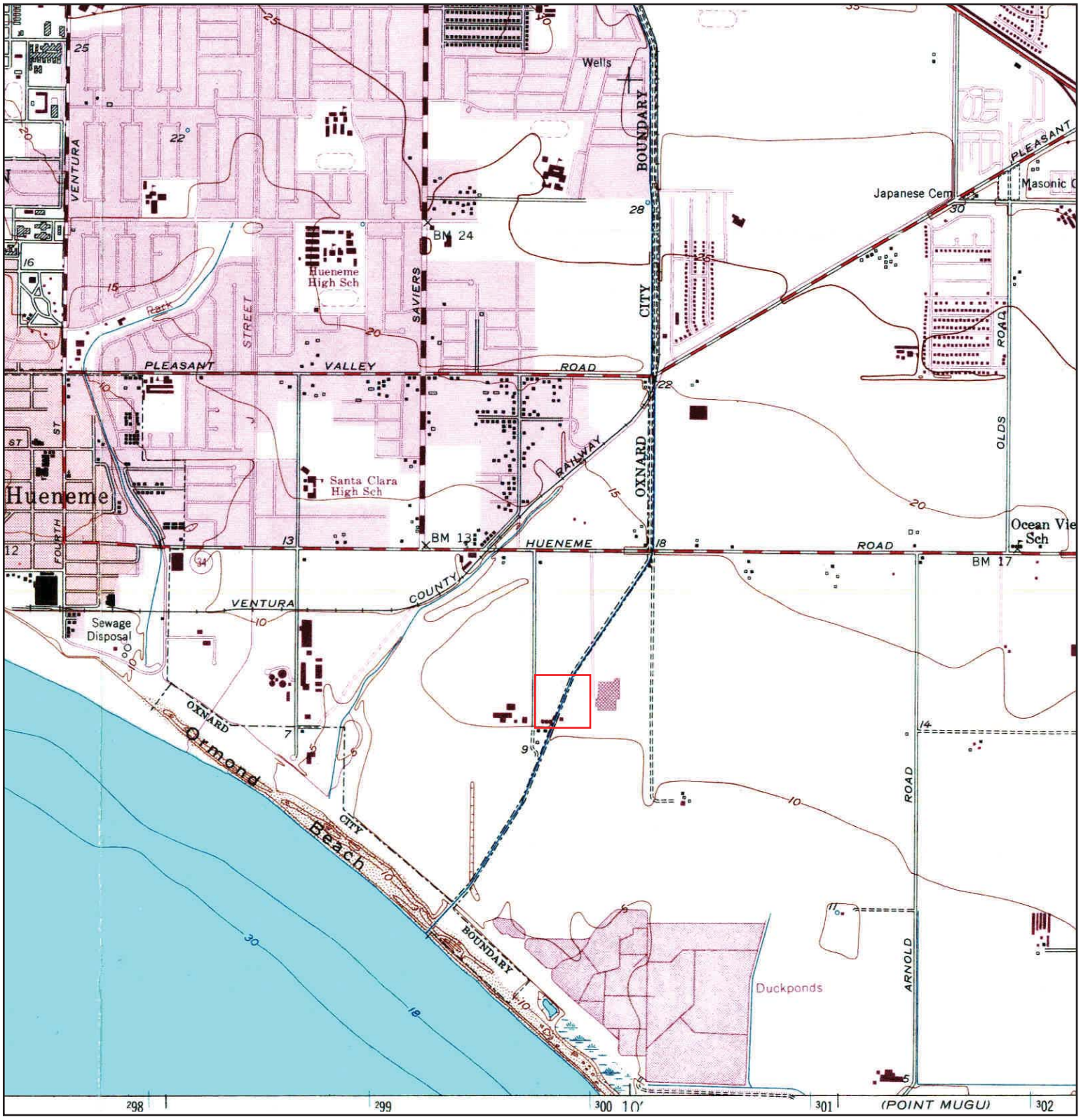
N	TARGET QUAD			
	NAME:	HUENEME	SITE NAME: 5980 and 6000 Arctutus Avenue	CLIENT: Northgate Env. Management, Inc.
	MAP YEAR:	1947	ADDRESS: 5980 and 6000 Arctutus Avenue	CONTACT: Nicky Galloway
			Oxnard, CA 93033	INQUIRY#: 4285348.4
	SERIES:	15	LAT/LONG: 34.1415 / -119.1713	RESEARCH DATE: 05/06/2015
	SCALE:	1:50000		

Historical Topographic Map



N	TARGET QUAD				
	NAME:	OXNARD	SITE NAME:	5980 and 6000 Arctutus Avenue	CLIENT: Northgate Env. Management, Inc.
	MAP YEAR:	1951	ADDRESS:	5980 and 6000 Arctutus Avenue Oxnard, CA 93033	CONTACT: Nicky Galloway INQUIRY#: 4285348.4
	SERIES:	7.5	LAT/LONG:	34.1415 / -119.1713	RESEARCH DATE: 05/06/2015
	SCALE:	1:24000			

Historical Topographic Map



N	TARGET QUAD NAME: OXNARD MAP YEAR: 1967 PHOTOREVISED FROM :1949 SERIES: 7.5 SCALE: 1:24000	SITE NAME: 5980 and 6000 Arctutus Avenue ADDRESS: 5980 and 6000 Arctutus Avenue Oxnard, CA 93033 LAT/LONG: 34.1415 / -119.1713	CLIENT: Northgate Env. Management, Inc. CONTACT: Nicky Galloway INQUIRY#: 4285348.4 RESEARCH DATE: 05/06/2015

APPENDIX G

THE EDR-CITY DIRECTORY ABSTRACT

5980 and 6000 Arctutus Avenue
5980 and 6000 Arctutus Avenue
Oxnard, CA 93033

Inquiry Number: 4285348.5
May 06, 2015

The EDR-City Directory Abstract

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

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Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1926 through 2013. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2013	Cole Information Services	-	X	X	-
2008	Cole Information Services	-	X	X	-
	Cole Information Services	X	X	X	-
2003	Cole Information Services	-	X	X	-
	Cole Information Services	X	X	X	-
2002	Haines & Company, Inc.	-	X	X	-
2000	Pacific Bell Telephone Co	-	-	-	-
1996	Pacific Bell	-	-	-	-
1993	GTE	-	X	X	-
	GTE	X	X	X	-
1986	Pacific Bell	-	X	X	-
1985	Pacific Telephone Co	-	X	X	-
1980	Polk	-	X	X	-
1976	R. L. Polk & Co.	-	X	X	-
	R. L. Polk & Co.	X	X	X	-
1975	Pacific Telephone Co	-	-	-	-
1971	B&G Publications	-	-	-	-
1970	General Telephone Company of California	-	X	X	-
	General Telephone Company of California	X	X	X	-
1968	B&G Publications	-	-	-	-
1965	R. L. Polk & Co.	-	X	X	-
1964	Pacific Telephone Co	-	-	-	-
1961	R. L. Polk & Co.	-	-	-	-
1957	R. L. Polk & Co.	-	-	-	-

EXECUTIVE SUMMARY

Year	Source	TP	Adjoining	Text Abstract	Source Image
1953	R. L. Polk & Co. of California	-	-	-	-
1949	Los Angeles Directory Co.	-	-	-	-
1940	Southern California	-	-	-	-
1930	Los Angeles Directory Co.	-	-	-	-
1926	Los Angeles Directory Co.	-	-	-	-

EXECUTIVE SUMMARY

SELECTED ADDRESSES

The following addresses were selected by the client, for EDR to research. An "X" indicates where information was identified.

Address	*Type*	*Findings*
6000 Arctutus Avenue	Client Entered	
1001 McWane Boulevard	Client Entered	X
5900 Arctutus Avenue	Client Entered	
801 McWane Boulevard	Client Entered	
6001 Arctutus Avenue	Client Entered	
5901 Arctutus Avenue	Client Entered	
5901 Edison Drive	Client Entered	X
5650 Eisenhower Circle	Client Entered	
5851 Arctutus Avenue	Client Entered	

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

5980 and 6000 Arctutus Avenue
Oxnard, CA 93033

FINDINGS DETAIL

Target Property research detail.

ARCTURUS AVE

5980 ARCTURUS AVE

Year	*Uses*	*Source*
2008	COOK COMPOSITES & POLYMERS CO	Cole Information Services
2003	COOKS COMPOSITES & POLYMERS CO	Cole Information Services

ARCTURUS AVE S

6000 ARCTURUS AVE S

Year	*Uses*	*Source*
1976	Diamond Shamrock Corp chem mfrs	R. L. Polk & Co.

ARCTURUS ST

6000 ARCTURUS ST

Year	*Uses*	*Source*
1970	Diamond Shamrock Chemical Co	General Telephone Company of California

Arctutus Avenue

6000 Arctutus Avenue

Year	*Uses*	*Source*

S ARCTURUS AVE

5980 S ARCTURUS AVE

Year	*Uses*	*Source*
1993	Reichhold Chemicals Inc	GTE

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

ARCTURUS AVE

5900 ARCTURUS AVE

Year	Uses	Source
2013	BMW	Cole Information Services
2008	BMW OF NORTH AMERICA LLC	Cole Information Services
	BMW ENGINEERING CENTER LLC	Cole Information Services

5901 ARCTURUS AVE

Year	Uses	Source
2008	WA GROUP INTERNATIONAL	Cole Information Services
2002	OFFSHORE F	Haines & Company, Inc.
	MORRISON KNUDSEN	Haines & Company, Inc.

6001 ARCTURUS AVE

Year	Uses	Source
2013	ARCTURUS MANUFACTURING CORP	Cole Information Services
2008	ARCTURUS MANUFACTURING CORP	Cole Information Services
2003	ARCTURUS MFG CORP	Cole Information Services
2002	ARCIRUS MPGCOBP	Haines & Company, Inc.

ARCTURUS AVE S

6001 ARCTURUS AVE S

Year	Uses	Source
1976	Arcturus Mfg Corp metal forgings mfg	R. L. Polk & Co.
1965	ARCTURUS MFG CORP METAL FORGERS MFG	R. L. Polk & Co.

ARCTURUS ST

6001 ARCTURUS ST

Year	Uses	Source
1970	From Los Angeles telephones call	General Telephone Company of California

FINDINGS

EDISON DR

5901 EDISON DR

Year	*Uses*	*Source*
2013	IRWIN INDUSTRIES	Cole Information Services
2008	BORLA PERFORMANCE INDUSTRIES INC	Cole Information Services
2003	BORLA PERFORMANCE	Cole Information Services
	BORLA PERFORMANCE INDUSTRIES	Cole Information Services

Edison Drive

5901 Edison Drive

Year	*Uses*	*Source*
2002	BORLA Alexander	Haines & Company, Inc.
	BORLAPRFRMNC	Haines & Company, Inc.
	INDUSTRIES INC	Haines & Company, Inc.
1993	Vironex Inc	GTE
	Baro M R	GTE
	i Baroid Drilling Fluid	GTE
	i Baroid Drilling Fluid	GTE
	Vironex Inc	GTE
	Vironex Inc @Port Hueneme	GTE
1986	Pennington Industrial Equipment Rental	Pacific Bell
	Pennington J B @Somis	Pacific Bell
	From Saticoy Telephones Call	Pacific Bell
	Pennington Manufacturing	Pacific Bell
1985	Pennington Industrial Equipment Rental	Pacific Telephone Co
	PENNINGTON MFG	Pacific Telephone Co

MCWANE BLVD

1001 MCWANE BLVD

Year	*Uses*	*Source*
2013	ALUMINUM PRECISION PRODUCTS	Cole Information Services
2008	ALUMINUM PRECISION PRODUCTS INC	Cole Information Services
2003	OXNARD FORGE PLANT	Cole Information Services

FINDINGS

801 MCWANE BLVD

Year	Uses	Source
2013	WAGGONERS TRUCKING	Cole Information Services
2008	WAGGONERS TRUCKING	Cole Information Services

McWane Boulevard

1001 McWane Boulevard

Year	Uses	Source
2002	KAISER ALUM OXNARD	Haines & Company, Inc.
	FRGNG PLNT	Haines & Company, Inc.
1980	Kaiser Aluminum Oxnard Forging Plant	Polk
1976	Kaiser Aluminum & Chemical Sales Inc	R. L. Polk & Co.

S ARCTURUS AVE

5901 S ARCTURUS AVE

Year	Uses	Source
1993	Exxon Chemical Company @Santa Paula	GTE
	Exxon Chemical	GTE
	Exxon Chemical	GTE

6001 S ARCTURUS AVE

Year	Uses	Source
1993	Arcturus Mfg Corp	GTE
	Arcturus Mfg Corp	GTE

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
5980 and 6000 Arctutus Avenue	2013, 2002, 2000, 1996, 1986, 1985, 1980, 1975, 1971, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched	Address Not Identified in Research Source
1001 MCWANE BLVD	2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
1001 McWane Boulevard	2013, 2008, 2003, 2000, 1996, 1993, 1986, 1985, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5650 Eisenhower Circle	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5851 Arctutus Avenue	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5900 ARCTURUS AVE	2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5900 Arctutus Avenue	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5901 ARCTURUS AVE	2013, 2008, 2003, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5901 ARCTURUS AVE	2013, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5901 Arctutus Avenue	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5901 EDISON DR	2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5901 Edison Drive	2013, 2008, 2003, 2000, 1996, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
5901 S ARCTURUS AVE	2013, 2008, 2003, 2002, 2000, 1996, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
6001 ARCTURUS AVE	2013, 2008, 2003, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
6001 ARCTURUS AVE	2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
6001 ARCTURUS AVE S	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1975, 1971, 1970, 1968, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
6001 ARCTURUS ST	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926

FINDINGS

Address Researched	Address Not Identified in Research Source
6001 Arctutus Avenue	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
6001 S ARCTURUS AVE	2013, 2008, 2003, 2002, 2000, 1996, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
801 MCWANE BLVD	2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926
801 McWane Boulevard	2013, 2008, 2003, 2002, 2000, 1996, 1993, 1986, 1985, 1980, 1976, 1975, 1971, 1970, 1968, 1965, 1964, 1961, 1957, 1953, 1949, 1940, 1930, 1926

APPENDIX H

PHASE I ENVIRONMENTAL SITE ASSESSMENT QUESTIONNAIRE

northgate
environmental management, inc.

Phase I Environmental Site Assessment Questionnaire

(User Provided Information Questionnaire)

Date: 6/2/2015

Your Name: Gary Guesman

Your Title: owners agent

Site Name: Arcturus Oxnard

Site Location: 5980 Arcturus Ave., Oxnard, CA 93033

Relationship to Site: ☐ **Owner** ☐ **Occupant** ☐ **Purchaser** ☒ **Other (please explain)** prospective owners agent

Length of Time Associated with Site: 3 years

Please review and complete this questionnaire which will assist Northgate in completing our site assessment. If sufficient space in not provided, please compete your response on a separate sheet of paper and attach it to this questionnaire.

1. Are you aware of any environmental cleanup liens against the Site that are filed or recorded under federal, tribal, state or local law?

   ☐ Yes ☐ No ☒ Unknown ☐ N/A

   If Yes, please explain:_____

24411 Ridge Route Drive, Suite 130, Laguna Hills, California tel 949.716.0050 fax 949.716.0055
www.ngem.com

2. Are you aware of any activity or land use limitations, such as engineering controls (for contaminant control), land use restrictions or institutional controls, that are in place at the Site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

☒ Yes ☐ No ☐ Unknown ☐ N/A

If Yes, please explain: NFA from DTSC

3. Do you have any specialized knowledge or experience related to the Site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the Site or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

☐ Yes ☒ No ☐ Unknown ☐ N/A

If Yes, please explain:

4. Are you aware of commonly known or reasonably ascertainable information about the Site that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,

a) Do you know the past uses of the Site?

☒ Yes ☐ No ☐ Unknown ☐ N/A

If Yes, please explain: Composite manufacturing site.

b) Do you know of specific chemicals that are present or once were present at the Site?

☐ Yes ☒ No ☐ Unknown ☐ N/A

If Yes, please explain:

c) Do you know of chemical spills that have taken place at the Site?

☐ Yes ☒ No ☐ Unknown ☐ N/A

If Yes, please explain:_____

_____

d) Do you know of any environmental cleanups that have taken place at the Site?

☐ Yes ☒ No ☐ Unknown ☐ N/A

If Yes, please explain:_____

_____

e) Do you know if any fill material has been imported to the Site?

☐ Yes ☒ No ☐ Unknown ☐ N/A

If Yes, please explain:_____

_____

5. Do you know of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the Site?

☐ Yes ☒ No ☐ Unknown ☐ N/A

If Yes, please explain:_____

_____

6. Do you know of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on or from the Site?

☐ Yes ☒ No ☐ Unknown ☐ N/A

If Yes, please explain:_____

_____

7. Do you know of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products at the Site?

☐ Yes ☒ No ☐ Unknown ☐ N/A

If Yes, please explain:_____

_____

8. Based on your knowledge and experience related to the Site are there any obvious indicators that point to the presence or likely presence of contamination at the Site?

☒ Yes ☐ No ☐ Unknown ☐ N/A

If Yes, please explain: DTSC envirostor online database

_____

9. Does the Site's purchase price reasonably reflect the fair market value of the property?

☐ Yes ☐ No ☒ Unknown ☐ N/A

If No, do you know the reason for lower purchase price? Is it possible that the lower purchase price is because of contamination known or believed to be present at the Site?

☐ Yes ☐ No ☒ Unknown ☐ N/A

If Yes, please explain:_____

_____

10. Have any of the following documents been prepared for the Site and, if so, can copies be provided to Northgate:

- Environmental site assessment reports ☒ Yes ☐ No ☒ Copies available - envirostor online
- Environmental compliance audit reports ☐ Yes ☒ No ☐ Copies available
- Environmental permits (for example, solid waste disposal permits, hazardous waste disposal permits, wastewater permits, National Pollutant Discharge Elimination System permits, underground injection permits) ☐ Yes ☒ No ☐ Copies available
- Registrations for underground storage tanks (USTs) and/or above ground storage tanks (ASTs) ☐ Yes ☒ No ☐ Copies available
- Registrations for underground injection systems ☐ Yes ☒ No ☐ Copies available

- Material safety data sheets ☐ Yes ☒ No ☐ Copies available
- Community right-to-know plan ☐ Yes ☒ No ☐ Copies available
- Safety plans; preparedness and prevention plans; spill prevention, countermeasure, and control plans; etc. ☐ Yes ☒ No ☐ Copies available
- Reports regarding hydrogeologic conditions on the Site or in the surrounding area
  ☐ Yes ☒ No ☐ Copies available
- Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the Site or relating to environmental liens encumbering the Site ☐ Yes ☒ No ☐ Copies available
- Hazardous waste generator notices or reports ☐ Yes ☒ No ☐ Copies available
- Risk assessments ☒ Yes ☐ No ☒ Copies available – envirostor online
- Recorded Activity and Use Limitations (e.g. deed restriction, asphalt cap)
  ☒ Yes ☐ No ☒ Copies available – envirostor online

If you know of specific chemicals or other hazardous materials (e.g., PCB associated with transformers, batteries, etc.) that are present or were once present at the property, how were they used, stored, and disposed? unknown

Do you know of aboveground or underground storage tanks on the property? If yes, what did they contain? Yes, contants unknown.

Do you have any knowledge or experience with nearby/adjacent properties? If yes, do you have knowledge of chemicals, releases, or cleanups on these properties? Yes, no knowledge of chemicals, releases, or cleanups.

How long have you owned, operated, leased, or been familiar the present and past uses of the property? 3 years

Northgate Environmental appreciates your assistance on this project.

APPENDIX I

ENVIRONMENTAL PROFESSIONAL QUALIFICATIONS

DERRICK S. WILLIS

PRINCIPAL

Mr. Willis has over 24 years' experience serving both public sector and private clients in California and Canada on a wide variety of environmental projects. For the last several years, Mr. Willis' focus has been on formulating and facilitating closure and development strategies for large, complex, high profile, environmental projects for aerospace, industrial, and real estate development firms. Mr. Willis has extensive experience with due diligence/property transfer and development issues in a wide variety of industrial and regulatory settings. He is familiar with the industrial processes that generate environmental wastes, the fate and transport of chemicals in the environment, the potential adverse effects of these substances on human and ecological receptors, compliance challenges faced by business operators, the performance of remedial technologies, and how these issues play into site acquisition, development, and divestiture.

REPRESENTATIVE EXPERIENCE

Site Investigation and Remediation

- *Kimco Realty Corporation, multiple locations in California and Nevada, – Serves Principal-in-Charge and program manager for investigation and remediation of several dry-cleaner sites in California (Cupertino, Daly City, Lakewood, and LaVerne) and Reno, Nevada. Projects range from investigation of soil impact to remediation of soil and groundwater. Mr. Willis is responsible for developing remedial strategies, negotiating with regulatory agencies, and providing technical direction to staff in order to evaluate and remediate site impacts, and bring sites to regulatory closure.*
- *Baker Cold Storage, Port of Long Beach Pier B Facility, California* – Serves as project manager for remediation and redevelopment support of a 12-acre former wood treatment facility in the Port of Long Beach. The site is impacted with pentachlorophenol (PCP), metals, VOCs, and dioxins/furans. In addition, tidally influenced groundwater is impacted with PCP and petroleum hydrocarbons and methane charged from oilfield operations. Mr. Willis successfully streamline the regulatory process by aggregating the remedial work plans including RCRA closure of a drip pad, into one encompassing work plan (Soil and Groundwater Response Plan) and one Remedial Design Document ([RDD]that incorporated the facility design components into building mitigation design), and securing agency approvals on components of site construction concurrent with development of the RDD. Site is currently being developed with a 250,000 square-foot cold storage facility.
- *Black Mountain Industrial Complex Remedial Design and Implementation, Nevada* – Served as project manager for expedited investigation and remediation program for the Tronox industrial facility within the BMI Complex. Previously the world's largest magnesium production facility during World War II, the site was later utilized for the manufacture of rocket fuel, other products, and most recently alkali and manganese oxide-based chemicals. Historical Industrial operations resulted in subsurface impacts from heavy metals, perchlorate, pesticides, chlorinated solvents, asbestos, radionuclides, and other chemicals. Developed streamlined investigation and remedial approach, prepared remedial plans, and rapidly mobilized and managed a team of staff and subcontractors to remove approximately 800,000 cubic yards of soil from the site to meet commercial soil cleanup goals for direct contact exposure in an expedited timeframe.
- *Hawaii Wood Preserving Company Treatment Facility, Maui, Hawaii* – Served as project manager, for decommissioning, investigation, remediation, and closure for a former wood treatment facility to allow for redevelopment. The site operated as from 1972 to 2001 to treat

lumber with PCP, chromated copper arsenate (CCA), permithrin, and disodium octoborate. Chemicals were profiled, all equipment was decontaminated and ecommissioned, and verification sampling was conducted as part of decommissioning. A remedial investigation and remedial alternatives analysis was developed and implemented to investigate and develop a path-forward to closure. The implemented remedial approach consisted of site capping and long-term groundwater monitoring.

- *Lockheed Martin Former International Light Metals Facility, Torrance, California*— Served as project manager and principal investigator for a 67-acre aerospace facility where client objective was expedited redevelopment. The project included facility demolition, preparation and implementation of a Resource Conservation and Recovery Act (RCRA) closure plan for 11 permitted RCRA units, negotiations with the Department of Toxic Substance Control (DTSC), preparation of a RCRA Facility Assessment (RFA) (210 features identified that required intrusive investigation), implementation of a RCRA Facility Investigation (RFI) for soil, preparation of a health-based risk assessment, and implementation of soil remediation. Site closure for soil was granted only three years after project initiation, in contrast to the normal six to eight year process, and has been used as an example by head DTSC officials as an example of industry and the regulatory community working together to achieve expedited site closures for property redevelopment purposes. Mr. Willis also developed strategy for groundwater investigation and remediation and negotiated the corrective action consent agreement (CACA) with DTSC.

- *Playa Capital Corporation, Playa Vista Development Project, Los Angeles, California*— Mr. Willis served as program manager for the Playa Vista project, one of the largest and most visible brownfield development projects in the country. At 1,100 acres, it is the largest underway in Los Angeles County. His primary responsibility included environmental program management (including scoping, developing, scheduling, and tracking environmental activities for the development project), risk management (including developing and negotiating with agencies for appropriate cleanup criteria), remedial strategy/management (including development and implementation of pilot tests and oversight of investigation and remediation activities), agency/RP/buyer negotiations, consultant and contractor selection/oversight, coordination with Playa's infrastructure group on the development/implementation of integrated remedial approach where appropriate, litigation support, data management, and transactional support with respect to the sale of remediated parcels.

- *Project Manager, Confidential Client, Buena Park, California*— Served as project manager for multi-media remediation project at a commercial development in Buena Park, California. The site was a former food processing facility that was redeveloped into commercial offices and warehouse space. Evaluated the environmental liability for a Real Estate Investment Trust (REIT) that subsequently purchased the property, and managed remediation program in conjunction with site redevelopment.

- *Project Manager, Brownfield Redevelopment, Torrance, California*— Served as project manager for site redevelopment project for a PacTrust. Evaluated environmental liabilities associated with a 12-acre parcel that was part of a butadiene plant (Del Amo Superfund Site) left undeveloped as a brownfield, and formulated a strategy to expedite regulatory closure and redevelopment. A comprehensive investigation was completed on the parcel, and the report submitted to the Environmental Protection Agency (EPA) for review. Successfully negotiated with EPA to conduct a non-Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) closure program. Conducted soil remediation program under EPA oversight in conjunction with site construction activities.

- *Project Manager, Investigation and Remediation Program, Safety Kleen, Vancouver, British Columbia, Canada*— Managed remediation of former solvent recycler transfer stations in British Columbia and Alberta, Canada. Sites involved characterization and remediation of soil and

perched groundwater zones. Assessed feasibility of vapor extraction for cleanup of vadose zone contamination, and designed and installed a dewatering system for perched water in former tank cavities and surficial saturated zone for Vancouver transfer station. Achieved regulatory site closure two years faster than previous consultant's estimate.

- *Cupples Manufacturing, Investigation and Remediation Program, La Mirada, California*— Project manager for soil/groundwater characterization and remediation program at a truck maintenance facility in La Mirada, California. Conducted an underground storage tank and clarifier removal program in conjunction with site characterization activities. Implemented remediation of soil and groundwater impacted with petroleum hydrocarbons. Negotiated and received closure from Regional Water Quality Control Board (RWQCB).
- *Alberta Environment, Abandoned Wood Treatment Sites, Various Locations, Alberta, Canada*— Project manager for the Wood Preserving Sites Characterization Program for Alberta Environment. Performed site characterization of four former wood preservation sites in Alberta, Canada. The sites had been used for many years for treating wood poles and railroad ties with a pentachlorophenol/diesel mixture. Soil and/or groundwater were impacted at the sites. Soil borings and groundwater monitoring wells were installed, and laboratory analysis of soil and groundwater was performed, to help determine the lateral and vertical migration of dissolved-phase hydrocarbons in the groundwater and dense non-aqueous phase liquids (DNAPLs) through glacial tills and several non-confining layers. Detailed drilling and sampling plans were necessary to ensure correct evaluation of vertical DNAPL migration. Aquifer tests were performed and receptor data were collected in order to formulate a quantitative assessment of both health-based and environmental risk.
- *Texaco Refining and Marketing Inc., Investigation and Remediation Programs, Various Locations, Southern California*— Responsible for remediation programs at several petroleum retail outlets for Texaco in the southern California area. Projects included soil and groundwater investigation programs, underground storage tank (UST) removals, remedial design (including design and implementation of vapor extraction and aquifer tests), implementation of remedial program, and operation and maintenance of remediation systems. This included designing, specifying, permitting, and installing of all equipment (including piping, downhole pumps, off-gas treatment, and water treatment).
- *Groundwater Contamination Investigation and Analysis, Technisol, Raymond, Alberta, Canada*— Conducted a groundwater investigation program at a solvent recycling facility located in southern Alberta, Canada. The program was implemented to determine the lateral and vertical extent of several species of chlorinated volatile organic compounds present in the confined aquifer beneath the facility. Aquifer testing was performed to estimate migration rates and to provide preliminary data for remedial action. Successfully negotiated with Alberta Environment (lead regulatory agency) for monitored natural attenuation approach.
- *Pier A Railyard, Port of Los Angeles, Los Angeles, California— Managed* a soil and groundwater investigation program at a Port of Los Angeles rail transfer yard. The objective of the project was to characterize previously identified polynuclear aromatic compounds, volatile organic compounds, and petroleum hydrocarbons in the soil and groundwater, and identify any regulated building materials in the site structures in order to facilitate an expedited redevelopment program. The project was finished ahead of schedule and under budget.
- *Soil and Groundwater Remediation, Texaco, Various Locations, Southern California*— Conducted vapor extraction tests, performed data analysis, and generated recommendations for an industrial manufacturing facility to determine the viability of using vapor extraction for remediating chlorinated solvents, primarily tetrachloroethene (PCE), present in the soil beneath the facility. Each test was designed to assess air flow rates and vacuums, vertical interference

and crossflow, radii of influence, potential for water upwelling, and effectiveness of vapor extraction in both vadose and capillary zones. Extracted vapors were collected to determine volatile organic compound concentrations. Data were used to determine well spacing and slotting intervals, optimum flow rate/vacuum combinations, extraction blower sizing, and vapor treatment equipment.

- *Texaco, Various Locations, Southern California*— Responsible for preparation of South Coast Air Quality Management District (SCAQMD) permitting, installation, operation and maintenance of thermal and catalytic oxidizers/vapor extraction systems for the remediation of soil (containing petroleum hydrocarbons) beneath operating service stations.

Environmental Site Assessments and Regulatory Compliance

- *TMDL Compliance, City of Torrance and Peninsula Cities, California* – Principal-in-Charge for surface/stormwater monitoring programs for both the City of Torrance and of the City of Rolling Hills Estates, Rolling Hills, Palos Verdes Estates, and Rancho Palos Verdes (Peninsula Cities). Programs are to maintain regulatory compliance with Total Maximum Daily Load (TMDL) requirements.
- *RREEF, Multiple Sites, Southern California*— Mr. Willis serves as client director for RREEF on multiple projects including acquisition studies (which include mold, asbestos and indoor air quality surveys), tenant audit programs, soil remediation, groundwater investigation and remediation, third party oversight, agency negotiation, and mold and asbestos abatement programs.
- *Opus Corporation, Multiple Sites, Southern California*— Mr. Willis has directed over 50 acquisition-related due diligence investigations for Opus Corporation (Opus). Scope of work has included Phase I ESAs, soil and groundwater investigations, risk evaluations, agency negotiation, and aiding Opus in evaluating and quantifying the potential risk associated with recognized environmental concerns.
- *Various Clients, Various Locations, Southern California*— Project manager for more than 200 Phase I environmental assessments (ESAs) for industrial facilities including aerospace, furniture and paper manufacturing factories; utility companies, vehicle and equipment maintenance facilities; and landfills as well former agricultural land. The objective of the ESAs was to evaluate and quantify potential liabilities associated with the acquisition and development of the properties.

EDUCATION

B.S., Geology, University of Alberta, Alberta, 1988

PROFESSIONAL HISTORY

Northgate Environmental Management, Principal, 2006 to date

LFR Levine Fricke, Principal Hydrogeologist, 2002 – 2006
Integrated Environmental Services, Director of Operations/Senior Program Manager, 1999 – 2002
ARCADIS Geraghty & Miller, Inc. Senior Hydrogeologist, 1993 – 1999
Environmental Design Corporation, Vice President, 1992
Environmental Science & Engineering, Inc., Staff Geologist, 1991
Terracon Geotechnique, Ltd., Geologist, 1989 – 1991
Contract Positions, Various Locations, Geologist, 1988

REGISTRATIONS

Registered Geologist: Alberta, Canada No. 48113
Certified Environmental Manager, Nevada, No.

Nicky Galloway, P.E.

PROJECT ENGINEER

Ms. Galloway is a Staff Engineer whose focus has been in remediation construction site oversight, Phase I and II environmental site assessments, environmental field sampling, environmental audits, site inspections, and technical data review. Her environmental field experience includes soil and groundwater sampling, soil vapor studies, stormwater sampling, indoor air quality studies, air monitoring activities, and site cleanups. Ms. Galloway has received the OSHA 40 Hour HAZWOPER Training.

REPRESENTATIVE EXPERIENCE

- *Machado Lake Nutrient TMDL Sampling, Rolling Hills Estates, California* – Ms. Galloway collected stormwater samples and obtained flow measurements in accordance with the Palos Verdes Peninsula Coordinated Monitoring Plan and the Machado Lake Eutrophic, Algae, Ammonia, and Odors (Nutrient) TMDL (established by the Los Angeles Regional Water Quality Control Board) to monitor nutrients, including nitrogen and phosphorous discharged from Rolling Hills Estates to Machado Lake. Sampling activities included rapid mobilization during wet weather and dry weather events on a monthly basis since 2012 to collect samples from surface waters and confined conveyance systems. She calculated monthly averages of total nitrogen and total phosphorous and compared the results to waste load allocations to determine attainment status.

- *Machado Lake Nutrient TMDL Sampling, Torrance, California* – Ms. Galloway collected stormwater samples and obtained flow measurements in accordance with the provisions of the Machado Lake TMDL Special Studies Work Plan and the Machado Lake Eutrophic, Algae, Ammonia, and Odors (Nutrient) TMDL (established by the Los Angeles Regional Water Quality Control Board) to monitor nutrients, including nitrogen and phosphorous discharged from Rolling Hills Estates to Machado Lake. Sampling activities included rapid mobilization during wet weather and dry weather events on a monthly basis since 2012 and data collection from data loggers to calculate flow rate and discharge volume and to monitor storm events. She also maintains discharge flow and volume calculations for annual reporting.

- *Baker Cold Storage Facility Brownfield Clean-up, Long Beach, California* – Ms. Galloway prepared a Phase I ESA for the site, conducted site visits, and performed work zone and perimeter air monitoring for the Site that is under the regulation of the DTSC. She also prepared daily activity reports including the analysis of air monitoring and Rule 1166 monitoring data to submit to the DTSC. Ms. Galloway also coordinated field activities including the decontamination and sampling of former drip pads, air monitoring activities, and wastewater sampling.

- *Anthropogenic Source Nutrient Assessment, Rolling Hills Estates, California* – Conducted wet weather event stormwater sampling for identification of nutrient sources to study nutrient load reduction at the Model Equestrian Center Project, Rolling Hills Estates, CA.

- *Former Apartment Complex Close-Out, Carson, California* – Ms. Galloway was responsible for the oversight of environmental field activities related to the demolition of an existing apartment complex for redevelopment. Field activities included asbestos and lead-based paint surveys and removal, hazardous waste packaging and disposal, geophysical surveys, and air monitoring. Ms. Galloway also prepared close out reports and documents for the site.

- *Monsanto Former Detergent Manufacturing Facility, Carson, California* – Ms. Galloway measured groundwater levels and collected groundwater samples to monitor for hydrocarbons, predominantly benzene, which migrated through the soil to the groundwater beneath the site and migrated downgradient. Some samples were collected on the adjacent oil refinery property and Ms. Galloway received the appropriate training to access the refinery.

- *Former Paint Facility, City of Commerce, California* – Ms. Galloway was responsible for coordinating the field activities associated with collecting soil vapor and LNAPL samples for a former paint facility. A soil vapor extraction system was operated on the site and sampling was performed to develop a conceptual site model to assess the effectiveness of continued remediation at the Site. Ms. Galloway was responsible for coordinating the sample collection and analysis with the laboratory and worked to draft the analytical report.

- *Oxygen Biosparge Pilot Scale Investigation, Carson, California* – Ms. Galloway collected groundwater samples using low flow sampling techniques as part of an oxygen biosparge in situ treatment system. Work was performed using supplied air in Level B personal protective equipment. She also routinely works in conjunction with a mobile laboratory to simultaneously collect and analyze soil vapor samples to monitor benzene concentrations as part of the pilot scale investigation.

- *Wetland Restoration Project, San Francisco, California* – Ms. Galloway reviewed contractor submittals, including dust control, decontamination, soil stabilization, and execution plans for compliance with the project specifications and regulatory requirements and prepared responses to requests for information for the restoration of 26.5 acres of tidal wetland habitat. The site is known to have soil containing naturally occurring asbestos, copper, lead, nickel, zinc, TPH, PAHs, pesticides, and PCBs and some metals impacting groundwater.

- *National Pollutant Discharge Elimination System Monitoring, Marina del Rey, California* – Ms. Galloway has coordinated field activities associated with water quality sampling and analysis, flow data collection and analysis, and system operation and maintenance for groundwater treatment system prior to discharge to the storm drain. Her responsibilities also included preparing quarterly and annual monitoring reports for the Regional Water Quality Control Board per requirements in the monitoring and reporting program of the NPDES permit for the project.

- *Environmental Site Assessments, Various Locations, California, Nevada, and Texas* – Ms. Galloway has conducted multiple Phase I and Phase II environmental site assessments for commercial, industrial, and residential properties. Her responsibilities included complete site history reviews, identifying recognized environmental conditions and areas of potential concern, as well as field sampling and analysis to investigate potential impacts to soil and groundwater quality. Work was performed in general conformance with the ASTM environmental assessment standard and the U.S. EPA *All Appropriate Inquiry* guidelines.

- *Environmental Audits, Various Locations, California* – Ms. Galloway has performed environmental audits at several commercial and industrial facilities in California. Her responsibilities included conducting interviews with current tenants, inspecting site facilities to determine environmental compliance or potential issues, and completing a final audit report of findings.

- *Black Mountain Industrial Complex, Henderson, Nevada* – Ms. Galloway was a staff engineer on site for the remediation of Tronox's industrial facility in Henderson, Nevada in which approximately 800,000 cubic yards of impacted soil were removed. Her responsibilities included providing technical oversight of excavation, construction, and groundwater pumping well installation activities; collecting groundwater samples; obtaining soil and air samples; monitoring dust levels; and conducting weekly site inspections for SWPPP compliance.

- *Former Dry Cleaning Facility, Santa Rosa, California* – Ms. Galloway performed low flow groundwater sampling for quarterly reporting for a site containing both a dry cleaner and a residential apartment building to monitor impacts to the groundwater. The site is known to have existing soil and groundwater impacts from historic use and storage of petroleum products and other hazardous substances on surrounding sites.
- *Sulphur Bank Mercury Mine Superfund Site, Clearlake Oaks, California* – Ms. Galloway was a staff engineer for a site analysis of Sulphur Bank Mercury Mine, a site impacted by metals in the soil as a result of historic mining operations for mercury. Responsibilities included reviewing previous reports; comparing risk based site screening levels; conducting a technical review of past field investigations and data to provide an assessment of background levels of mercury, arsenic, and antimony at the site; and determining the estimated extent of metal-impacted soil as well as the range of appropriate site screening and background levels.
- *Port of Oakland Embarcadero Cove, Oakland, California* – Ms. Galloway was a staff engineer on site to oversee the abandonment of existing groundwater monitoring wells and the installation and development of new groundwater monitoring wells. Her responsibilities also included annual groundwater sampling at the site that is known to have been impacted by VOCs, SVOCs, organochlorine pesticides, PCBs, dioxins, and furans from facilities that previously occupied the site that were known to have handled and stored solvents, refined petroleum products, wood, preservatives, pesticides, and herbicides. She also assisted the preparation of the annual report and five year review for the site.
- *King's Court Shopping Center, Los Gatos, California* – Ms. Galloway collected groundwater samples for the semi-annual monitoring report, in compliance with a monitoring plan outlined by the California Regional Water Quality Control Board.

EDUCATION

B.S., Civil and Environmental Engineering, University of California, Los Angeles, 2009

PROFESSIONAL HISTORY

Northgate Environmental Management, Inc., Staff Engineer, August 2010 to date

Incledon Consulting Group, Civil Engineer, July 2009 to July 2010
Incledon Kirk Engineers, Engineering Intern, June to September 2007 and June to September 2008

REGISTRATIONS / CERTIFICATIONS

Professional Engineer, California, No. 83985
OSHA 40-hour HAZWOPER

G2 Addendum to the Phase I ESA

July 14, 2015

Mr. Gary Guesman
Controlled Environments Construction
1562 Parkway Loop, Suite E
Tustin, California 92780

RE: Addendum to Phase I Environmental Site Assessment
5980 and 6000 Arcturus Avenue
Oxnard, California
Project No.: 2036.04

Dear Mr. Guesman:

Northgate Environmental Management, Inc. (Northgate) previously prepared and submitted a Phase I Environmental Site Assessment (ESA) report dated June 19, 2015 to Controlled Environments Construction (CEC) for the property located at 5980 and 6000 Arcturus Avenue in Oxnard, California (the Site). During the course of this investigation, a file review request was submitted to the City of Oxnard's Fire Department (OFD). At the time the report was prepared, no response to request for file review had been received, which constituted a data gap. Northgate indicated in the Phase I ESA report that an updated addendum would be provided once the request have been received and any available files reviewed if the results of the file review changed the conclusions and recommendations presented.

In the report dated June 19, 2015, Northgate concluded that the assessment had revealed no evidence of Recognized Environmental Conditions (RECs) in connection with the property. Our review identified the following historic REC (HREC):

- Soil and groundwater have historically been reported to have been variously impacted by ethylbenzene, chlorinated solvents, xylenes, benzene, and cadmium. No further action (NFA) letters have been issued for the Site with land use restricted to commercial and/or industrial development.

Our review also identified the following potential environmental concerns:

- An off-Site source located at 6001 Arcturus Avenue was identified on the leaking underground storage tank (LUST) database as a closed case as of 1994, but no further information was available. Based on the proximity to the Site and the lack of available information regarding the release, possible impacts to groundwater as a result of this release could not be ruled out.
- The site was used for agricultural purposes and may pesticides may have been used.
- An undocumented soil pile was observed on the Site.

Northgate recommended the following:

- A Phase II investigation to document the current conditions of soil, soil vapor and groundwater beneath the Site.
- A Soil Management Plan be completed and implemented to address the handling of soil during excavation and Site activities during development. The plan should address required monitoring and actions required should impacted soil be encountered.

A summary of the OFD file review is presented below.

SUMMARY OF FILE REVIEW

Northgate reviewed files maintained by the OFD for the Site on July 7, 2015. Most of the available files pertained to notices of violation, notices to comply, inspection records, and inspections based on complaints from neighbors. The complaints primarily indicated odors from releases to the air. Manifests noted the transportation for disposal of acetone, petroleum distillates, resin solution, styrene, and naphtha from the Site. Copies of all of the available files that were reviewed are attached in Reports 1 through 7.

A Remediation of Diesel Impacted Soil report was prepared for the Site by URS, dated July 27, 2011. This report indicates that Cook Composites and Polymers Company (CCP), which previously occupied the Site, was closed and the facilities were demolished as documented in a report by URS, dated May 3, 2011. During the removal of a concrete foundation, black, odorous soil was encountered in the southeastern portion of the Site, near McWane Boulevard. Test borings and pits were advanced at the Site and samples were analyzed in March and April of 2011. Total petroleum hydrocarbons as diesel (TPH-d) impacts were characterized in the area; however, the southern extents were not determined as the southernmost sample results still exceeded the action level of 100 milligrams per kilogram (mg/kg).

The source of the TPH-d impacts were not known, but possible explanations documented by URS included a possible fuel tank, believed to be an above ground storage tank, as previous owner records indicated a tank located east of the impacted area, fill material may have been brought on Site during grading that may have already been impacted, the contractor may have utilized this area for servicing equipment and leaking in the area may have caused the impacts, or prior to construction, the previous agricultural practices at the Site may have resulted in the impacts (i.e. smudge pots).

The impacted soil (TPH-d concentrations greater than the action level of 100 mg/kg) was excavated and transported off-Site for treatment and disposal. Confirmation samples were collected, and results from 8 of the 33 samples indicated concentrations of TPH-d above the action level. URS discussed the results with the City of Oxnard Fire Department and conducted additional excavation in the vicinity of 3 of these samples and advanced additional step-out borings in the vicinity of two of these samples. The excavation was not extended further to the south as it was near the property line and an encroachment permit would be needed by the City of Oxnard and the work would destabilize a utility pole in the vicinity. Approximately 1,529 tons of impacted soil were removed, verbal approval was provided by the fire department, the excavation was stabilized due to the low depth to groundwater, and the excavation was back filled.

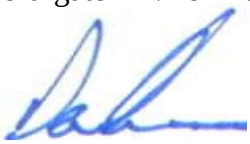
No further work was proposed at the Site for soil exploration or removal. Some diesel impacted soil is known to remain on-Site along the southern property line. URS concluded that no further removals were warranted as the remaining impacted area is predominately covered by concrete sidewalk and the pavement of McWane Boulevard, the impacts are limited to diesel range hydrocarbons, and the groundwater in the area is brackish or saline and not used for drinking water.

In addition to the recommendations provided by Northgate in the Phase I ESA dated June 19, 2015, we recommend that sampling also be conducted in the vicinity of the remediated diesel impacted soil to determine if any impacts remain. In addition, we recommend that procedures for handling diesel impacted soil be included in the recommended soil management plan for any impacted soils encountered during any earthwork and redevelopment activities at the Site.

CLOSING

We appreciate the opportunity to work with you on this project. Should you have any questions or require additional information, please do not hesitate to call.

Sincerely,
Northgate Environmental Management, Inc.



Derrick Willis
Principal

Attachments: Reports 1 through 7

URS

July 27, 2011

Ms. Ines Gonzalez
City of Oxnard Fire Administration Office
360 W. Second Street
Oxnard, California 93030

SUBJECT: REMEDIATION OF DIESEL-IMPACTED SOIL
CCP PROPERTY
5980 ARCTURUS AVENUE
OXNARD, CALIFORNIA

Dear Ms. Gonzales:

URS Corporation (URS) has prepared this report on behalf of Cook Composites and Polymers Co. (CCP) to document remediation of a layer of diesel-impacted soil that was discovered at their property located at 5980 Arcturus Avenue in Oxnard, California. The location of the property is shown on the attached Figure 1. As described in our report of May 3, 2011 (URS, 2011), CCP has closed the facility at this property and has retained Aman Environmental Construction, Inc. (AECI) to [illegible] the concrete floor slab and foundations of the forme[illegible] of black, odorous soil was observed immediately b[illegible] side of the building. Upon discovery of this soil la[illegible]ature and extent of the black, odorous soil.

As documented in our earlier [illegible]ed seven test borings, HA-1 to HA-7, and seven test [illegible]2211-11 to 42211-13, at the property. Soil sample[illegible]nalyzed by a state of California-certified analytical [illegible]roleum Hydrocarbons (TPH) with carbon chain bre[illegible](M), volatile organic compounds (VOCs) followi[illegible] organic compounds (SVOCs) following USEPA [illegible]s following USEPA Methods 6010B/7471A, and pl[illegible] following USEPA Method 9045D. The results of these analyses are summarized in the attached Table 1 and indicate that the samples contained TPH in the diesel and heavier range at concentrations ranging from not detected above the laboratory reporting limit (ND) to a maximum of 4,900 milligrams per kilogram (mg/kg). No VOCs were detected in

INACTIVE

URS Corporation
2020 East First Street, Suite 400
Santa Ana, CA 92705-4032
Tel: 714.835.6886
Fax: 714.667.7147
www.urscorp.com

URS

July 27, 2011

Ms. Ines Gonzalez
City of Oxnard Fire Administration Office
360 W. Second Street
Oxnard, California 93030

SUBJECT: REMEDIATION OF DIESEL-IMPACTED SOIL
CCP PROPERTY
5980 ARCTURUS AVENUE
OXNARD, CALIFORNIA

Dear Ms. Gonzales:

URS Corporation (URS) has prepared this report on behalf of Cook Composites and Polymers Co. (CCP) to document remediation of a layer of diesel-impacted soil that was discovered at their property located at 5980 Arcturus Avenue in Oxnard, California. The location of the property is shown on the attached Figure 1. As described in our report of May 3, 2011 (URS, 2011), CCP has closed the facility at this property and has retained Aman Environmental Construction, Inc. (AECI) to demolish the closed facility. Upon removing the concrete floor slab and foundations of the former Building 17 (see attached Figure 2), a layer of black, odorous soil was observed immediately beneath the removed foundation on the east side of the building. Upon discovery of this soil layer, CCP retained URS to characterize the nature and extent of the black, odorous soil.

As documented in our earlier report (URS, 2011), URS drilled and sampled seven test borings, HA-1 to HA-7, and seven test pits, identified as 41911-7 to 41911-10 and 42211-11 to 42211-13, at the property. Soil samples from the test borings and test pits were analyzed by a state of California-certified analytical laboratory, Calscience Lab, for Total Petroleum Hydrocarbons (TPH) with carbon chain breakdown following USEPA Method 8015B(M), volatile organic compounds (VOCs) following USEPA Method 8260B, semi-volatile organic compounds (SVOCs) following USEPA Method 8270C, California Title 22 metals following USEPA Methods 6010B/7471A, and pH following USEPA Method 9045D. The results of these analyses are summarized in the attached Table 1 and indicate that the samples contained TPH in the diesel and heavier range at concentrations ranging from not detected above the laboratory reporting limit (ND) to a maximum of 4,900 milligrams per kilogram (mg/kg). No VOCs were detected in

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sample HA-1-2 and only four SVOCs (n-Butylbenzene, sec-Butylbenzene, p-Isopropyltoluene, and 1,2,4-Trimethylbenzene) were detected in sample HA-1-2.5 at relatively low concentrations (220 micrograms per kilogram [ug/kg], 200 ug/kg, 190 ug/kg, and 350 ug/kg, respectively). A number of metals were detected in sample HA-1-2.5 at concentrations considered typical of naturally occurring background concentrations. The pH of sample HA-1-2.5 was 7.95. The soil samples from 5 ft below ground surface (bgs) were found to have TPH-diesel concentrations less than 100 mg/kg, and in most cases there was no TPH-diesel detected in these samples.

The results of the subsurface soil characterization work identified that a layer of soil at the property was impacted with TPH in the diesel and heavier ranges, and generally defined the northern, eastern, and western limits of the impacted soil layer. The thickness of the diesel-impacted soil layer ranged from approximately 1 foot to about 3-1/2 feet. Groundwater appeared to exist at about 5 ft (bgs). The explorations performed at the property prior to the removal did not define the southern extent of the diesel-impacted soils. While TPH concentrations diminished moving from boring HA-2 towards the south, some of the southernmost samples still exceeded the THP action level of 100 mg/kg.

The source of the TPH encountered at the property is unknown. The building and adjacent concrete pavement beneath which the diesel-impacted soil layer was found were originally built in 1969. Possible explanations as to the source of the TPH include:

- Records from a previous owner of the property indicate that there was a fuel oil tank (believed to be an aboveground tank) located just to the east of the impacted soil layer. Leaks or spills of fuel oil from this tank could account for the TPH.
- During grading of the property for construction of the facility the TPH-impacted soil may have been brought in from off site and used as fill material.
- During the original construction of the facility the contractor may have used this area for servicing of construction equipment. At the time the facility was built it was not uncommon for equipment service technicians to allow used motor oil to drain onto the ground surface where the equipment was being serviced.
- Prior to construction of the facility the area was reportedly used for agricultural purposes. The TPH may be related to agricultural practices, e.g. smudge pots.

As described in the "*Preliminary Endangerment Assessment Report*" prepared for the property by CH2M Hill in November 2004, the shallow groundwater in the area is encountered at a depth

of approximately 6 ft bgs. The horizontal component of hydraulic gradient and the principal direction of flow of the local groundwater changes seasonally. Water quality data from a shallow (65-foot-deep) well within approximately 0.5 mile northwest of the property (1N/22W-27C4) indicate that the concentration of total dissolved solids (TDS) in relatively shallow groundwater exceeds 2,700 milligrams per liter (mg/L), which is considered brackish. Approximately 0.5 mile southwest of the property, the TDS concentration in a 110-foot-deep well (1N/22W-27R5) was as high as 46,800 mg/L, which is considered saline. The shallow perched groundwater is not used for water supply.

As we discussed during our meeting at the property on May 4, 2011, CCP retained AECI to remediate the impacted soils. The cleanup level of 100 mg/kg was based on recommendations presented in Table 4-1 (revised 3/30/04) of the Regional Water Quality Control Board - Los Angeles Region's publication, "*Interim Site Assessment & Cleanup Guidebook,*" dated May 1996. The work was done in accordance with the "*Impacted Soil Contingency Excavation Work Plan*" prepared by AECI and dated February 2011. AECI excavated soils containing TPH at concentrations greater than 100 mg/kg and removed them from the property for treatment at the Thermal Remediation Solutions (TRS) treatment facility located in Azusa, California. The treated soils were then used as daily cover at the Waste Management Azusa Landfill, at which the TRS facility is located.

Following removal of the diesel-impacted soils, cleanup confirmation samples were taken from the sidewalls and bottom of the excavation (Figure 3). A total of 33 soil samples were taken and analyzed for TPH with carbon chain breakdown following USEPA Method 8015B(M) at Calscience Lab. The results of these analyses are summarized in Table 2. Of the 33 samples analyzed, eight contained TPH diesel concentrations greater than 100 mg/kg, as follows.

Sample No.	Location	TPH diesel, mg/kg
1	Sidewall, southeast corner	15,000
14	Base, southeast corner	14,000
7	Sidewall, west side	330

11	Sidewall, south side near southwest corner	130
23	Base, west side near southwest corner	280
24	Base, south side near southwest corner	1,300
12	Sidewall, south side	1,200
31	Base, near center of west side	450

The above results were discussed with you on May 11, 2011. It was agreed that additional removals and cleanup confirmation samples would be done in the areas of cleanup confirmation sample numbers 7, 23, and 31. The extent of the impacted soil in the southeast corner of the removal area (represented by cleanup confirmation sample numbers 1 and 14) would be further explored by excavating and sampling two additional test pits stepping out to the east. The additional diesel impacted soil removals were performed on May 11, 2011, and additional cleanup confirmation samples 7A, 11A, and 20A were taken and analyzed. In addition, two step out test pits, 1A and 1B, were excavated and sampled 25 feet and 50 feet east, respectively, of the location of cleanup confirmation sample number 1. The results of all of these analyses were less than 100 mg/kg. Although additional soil removals were also performed at the location of cleanup confirmation sample number 31, no additional cleanup confirmation sample was taken at this location as cleanup confirmation sample number 33 was taken from approximately 6 inches below sample 31 and had no detectable diesel concentration.

The excavation to remove the diesel impacted soils extended to nearly the southern CCP property line. The excavation was not extended any further south as this would have required an encroachment permit from the City of Oxnard and it would have destabilized a utility pole located near the location of cleanup confirmation sample number 1. A total of approximately 1,529 tons of soil was removed from the property and taken to TRS for treatment and disposal. Following receipt of your verbal approval, the excavation was backfilled. Due to the relatively shallow depth to groundwater, the bottom of the excavation was stabilized prior to backfilling. Stabilization measures consisted of placing a layer of geotextile on the subgrade surface followed by an approximately 2-foot-thick layer of ¾-inch drain rock, covered with a second

layer of geotextile. The remainder of the excavation was then backfilled with clean soils taken from high areas on the property. The backfill was placed in layers with each layer compacted to a minimum of 90% of the maximum dry density as determined by American Society for Testing and Materials (ASTM) Method D698.

CCP does not propose to do any further soil exploration or removals. Although some diesel impacted soil remains along the south property line, it is predominantly covered by the concrete sidewalk and the pavement of McWane Boulevard. Given that the impact is limited to diesel range hydrocarbons and groundwater in the area is brackish or saline and is not used for drinking water, further removals do not appear to be warranted.

Please contact either Jon Schuckman of CCP (816) 391-6324, or Allen Blodgett of URS (714) 648-2795 with any questions or concerns. Thank you in advance for your assistance with this matter.

Very truly yours,

URS Corporation

REGISTERED PROFESSIONAL ENGINEER
ALLEN E. BLODGETT
No. 34356
EXPIRES 9-30-11
CIVIL
STATE OF CALIFORNIA

Allen E. Blodgett, P.E.
Principal Engineer

Attachments

cc: Mr. Jon Schuckman, CCP

References

Aman Environmental Construction, Inc. 2011. Impacted Soil Contingency Excavation Work Plan, February 2011.

California Regional Water Quality Control Board – Los Angeles Region, 1996. Interim Site Assessment & Cleanup Guidebook, May 1996.

CH2M Hill, 2004. Preliminary Endangerment Assessment Report, November 2004.

URS, 2011. Notification of Diesel-Impacted Soil, CCP Property, 5980 Arcturus Avenue, Oxnard, California, May 3, 2011.

TABLES

ATTACHMENTS

FIGURES

TABLE 1
SUMMARY OF SITE CHARACTERIZATION SOIL SAMPLE ANALYTICAL RESULTS
COOK COMPOSITES AND POLYMERS CO.
OXNARD, CALIFORNIA

	Boring ID:	HA-1	HA-1	HA-1	HA-2	HA-2	HA-3	HA-3	HA-4	HA-4	HA-5	HA-5	HA-6	HA-6	HA-7	HA-7	41911-7	41911-8	41911-9	41911-10	42211-11	42211-12	42211-13
	Sample ID:	HA-1-2	HA-1-2.5	HA-1-5	HA-2-2	HA-2-5	HA-3-2	HA-3-5	HA-4-2	HA-4-5	HA-5-2	HA-5-5	HA-6-2	HA-6-5	HA-7-2	HA-7-5	41911-7	41911-8	41911-9	41911-10	42211-11	42211-12	42211-13
	Sample Date:	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	4/19/2011	4/19/2011	4/19/2011	4/19/2011	4/22/2011	4/22/2011	4/22/2011
	Sample Depth (ft bgs):	2	2.5	5.0	2.0	5	2	5	2	5	2	5	2	5	2	5	2	2	2	2	2	2	2
Total Petroleum Hydrocarbons (TPH)																							
TPH Carbon Chain C6	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C7	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C8	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C9 - C10	mg/kg	--	11	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	100	36	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C11 - C12	mg/kg	--	92	<5.0	420	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	43	610	150	<5.0	<5.0	20	<5.0
TPH Carbon Chain C13 - C14	mg/kg	--	280	11	1,100	18	<5.0	<5.0	<5.0	<5.0	14	<5.0	<5.0	<5.0	<5.0	<5.0	190	1,400	420	<5.0	<5.0	240	<5.0
TPH Carbon Chain C15 - C16	mg/kg	--	340	25	1,400	19	<5.0	<5.0	<5.0	<5.0	27	<5.0	<5.0	<5.0	<5.0	<5.0	200	1,900	480	<5.0	<5.0	380	<5.0
TPH Carbon Chain C17 - C18	mg/kg	--	420	29	1,300	22	<5.0	<5.0	<5.0	<5.0	29	<5.0	<5.0	<5.0	<5.0	<5.0	240	1,900	550	<5.0	<5.0	320	<5.0
TPH Carbon Chain C19 - C20	mg/kg	--	140	7.0	470	5.4	<5.0	<5.0	<5.0	<5.0	11	<5.0	<5.0	<5.0	<5.0	<5.0	83	410	170	<5.0	<5.0	160	<5.0
TPH Carbon Chain C21 - C22	mg/kg	--	37	<5.0	210	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	40	240	66	<5.0	<5.0	67	<5.0
TPH Carbon Chain C23 - C24	mg/kg	--	6.9	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	9.3	<75	<25	<5.0	<5.0	6	<5.0
TPH Carbon Chain C25 - C28	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C29 - C32	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C33 - C36	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C37 - C40	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C41 - C44	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<5.0	<5.0	<5.0	<5.0
TPH C6 - C44 (Total)	mg/kg	--	1,300	77	4,900	71	<5.0	<5.0	<5.0	<5.0	91	<5.0	<5.0	<5.0	<5.0	<5.0	810	6,600	1,900	<5.0	<5.0	1,200	<5.0
Volatile Organic Compounds (VOCs)																							
Benzene	µg/kg	<85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Butylbenzene	µg/kg	220	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	µg/kg	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/kg	<85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	µg/kg	190	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	µg/kg	<85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	µg/kg	350	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
m,p-Xylenes	µg/kg	<170	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylenes	µg/kg	<85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																							
Arsenic	mg/kg	--	3.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	mg/kg	--	101	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	mg/kg	--	0.480	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	mg/kg	--	0.516	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	mg/kg	--	12.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	mg/kg	--	6.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	mg/kg	--	10.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	--	4.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	mg/kg	--	<0.0835	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	mg/kg	--	0.996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	mg/kg	--	15.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	mg/kg	--	23.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	mg/kg	--	39.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)																							
Benzyl Alcohol	mg/kg	--	<0.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl) Phthalate	mg/kg	--	<0.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	mg/kg	--	0.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	mg/kg	--	0.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	mg/kg	--	<0.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	pH units	--	7.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.94	7.81	7.86

Notes:
ft bgs - feet below ground surface
mg/kg - milligrams per kilogram

TABLE 2
SUMMARY OF CLEANUP CONFIRMATION SOIL SAMPLE ANALYTICAL RESULTS
COOK COMPOSITES AND POLYMERS CO.
OXNARD, CALIFORNIA

Sample ID:		50911-1	50911-2	50911-3	50911-4	50911-5	50911-6	50911-7	50911-8	50911-9	50911-10	50911-11	50911-12	50911-13	50911-14	50911-15	50911-16	50911-17	50911-18	50911-19	50911-20	50911-21	50911-22
Sample Date:		5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011
Sample Depth (ft bgs):		2.5	2.5	3.0	2.0	2	2.5	2.0	2.5	2.5	3.0	3.0	3.0	2.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Total Petroleum Hydrocarbons (TPH)																							
TPH Carbon Chain C6	mg/kg	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<150.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C7	mg/kg	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<150.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C8	mg/kg	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<150.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C9 - C10	mg/kg	270	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	14	<5.0	160	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C11 - C12	mg/kg	1,100	<5.0	<5.0	<5.0	<5.0	<5.0	18	<5.0	<5.0	<5.0	<5.0	72	<5.0	740	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C13 - C14	mg/kg	3,800	<5.0	<5.0	<5.0	<5.0	<5.0	82	5.3	<5.0	<5.0	<5.0	280	<5.0	3,100	<5.0	10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C15 - C16	mg/kg	3,300	<5.0	<5.0	<5.0	<5.0	<5.0	83	11	<5.0	<5.0	<5.0	270	<5.0	3,300	<5.0	20	<5.0	<5.0	<5.0	<5.0	12	<5.0
TPH Carbon Chain C17 - C18	mg/kg	3,600	<5.0	<5.0	<5.0	<5.0	<5.0	100	9.5	<5.0	<5.0	5.7	340	<5.0	4,100	<5.0	23	<5.0	<5.0	<5.0	<5.0	14	<5.0
TPH Carbon Chain C19 - C20	mg/kg	2,200	<5.0	<5.0	<5.0	<5.0	<5.0	31	5.1	<5.0	<5.0	<5.0	97	<5.0	1,500	<5.0	5.7	<5.0	<5.0	<5.0	<5.0	17	<5.0
TPH Carbon Chain C21 - C22	mg/kg	710	<5.0	<5.0	<5.0	<5.0	<5.0	14	<5.0	<5.0	<5.0	<5.0	58	<5.0	530	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.6	<5.0
TPH Carbon Chain C23 - C24	mg/kg	100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	23	<5.0	240	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C25 - C28	mg/kg	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	10	8.4	<5.0	<150.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C29 - C32	mg/kg	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	29	14	<5.0	<150.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	11	<5.0
TPH Carbon Chain C33 - C36	mg/kg	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	29	14	<5.0	<150.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	9.1	<5.0
TPH Carbon Chain C37 - C40	mg/kg	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	24	13	<5.0	<150.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	13	<5.0
TPH Carbon Chain C41 - C44	mg/kg	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	16.0	8.9	<5.0	<150.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH C6 - C44 (Total)	mg/kg	15,000	<5.0	<5.0	<5.0	<5.0	<5.0	330	33	<5.0	<5.0	130	1,200	<5.0	14,000	<5.0	69	<5.0	<5.0	<5.0	54	50	<5.0

Sample ID:		50911-23	50911-24	50911-25	50911-26	50911-27	50911-28	50911-29	50911-30	50911-31	50911-32	50911-33	51211-1A	51211-7A	51211-20A	51211-11A	51211-1B
Sample Date:		5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/9/2011	5/12/2011	5/12/2011	5/12/2011	5/12/2011	5/12/2011
Sample Depth (ft bgs):		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.5	5.0	5.0	2.5	2.0	5.0	3.0	2.5
Total Petroleum Hydrocarbons (TPH)																	
TPH Carbon Chain C6	mg/kg	<10.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C7	mg/kg	<10.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C8	mg/kg	<10.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C9 - C10	mg/kg	<10.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C11 - C12	mg/kg	<10.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	27	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C13 - C14	mg/kg	<10.0	<25.0	<5.0	<5.0	<5.0	<5.0	18	<5.0	88	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C15 - C16	mg/kg	<10.0	<25.0	<5.0	<5.0	<5.0	<5.0	28	<5.0	140	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C17 - C18	mg/kg	<10.0	<25.0	<5.0	<5.0	<5.0	<5.0	29	<5.0	130	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C19 - C20	mg/kg	<10.0	<25.0	<5.0	<5.0	<5.0	<5.0	12	<5.0	39	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C21 - C22	mg/kg	<10.0	36	<5.0	<5.0	<5.0	<5.0	6.6	<5.0	25	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C23 - C24	mg/kg	<10.0	53	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C25 - C28	mg/kg	27	110	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C29 - C32	mg/kg	66	300	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C33 - C36	mg/kg	67	300	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C37 - C40	mg/kg	55	290	6.8	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C41 - C44	mg/kg	35	130	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TPH C6 - C44 (Total)	mg/kg	280	1,300	6.8	19	10	<5.0	98	<5.0	450	<5.0	<5.0	<5.0	<5.0	7.6	<5.0	<5.0

Notes:
ft bgs - feet below ground surface
mg/kg - milligrams per kilogram

FIGURES



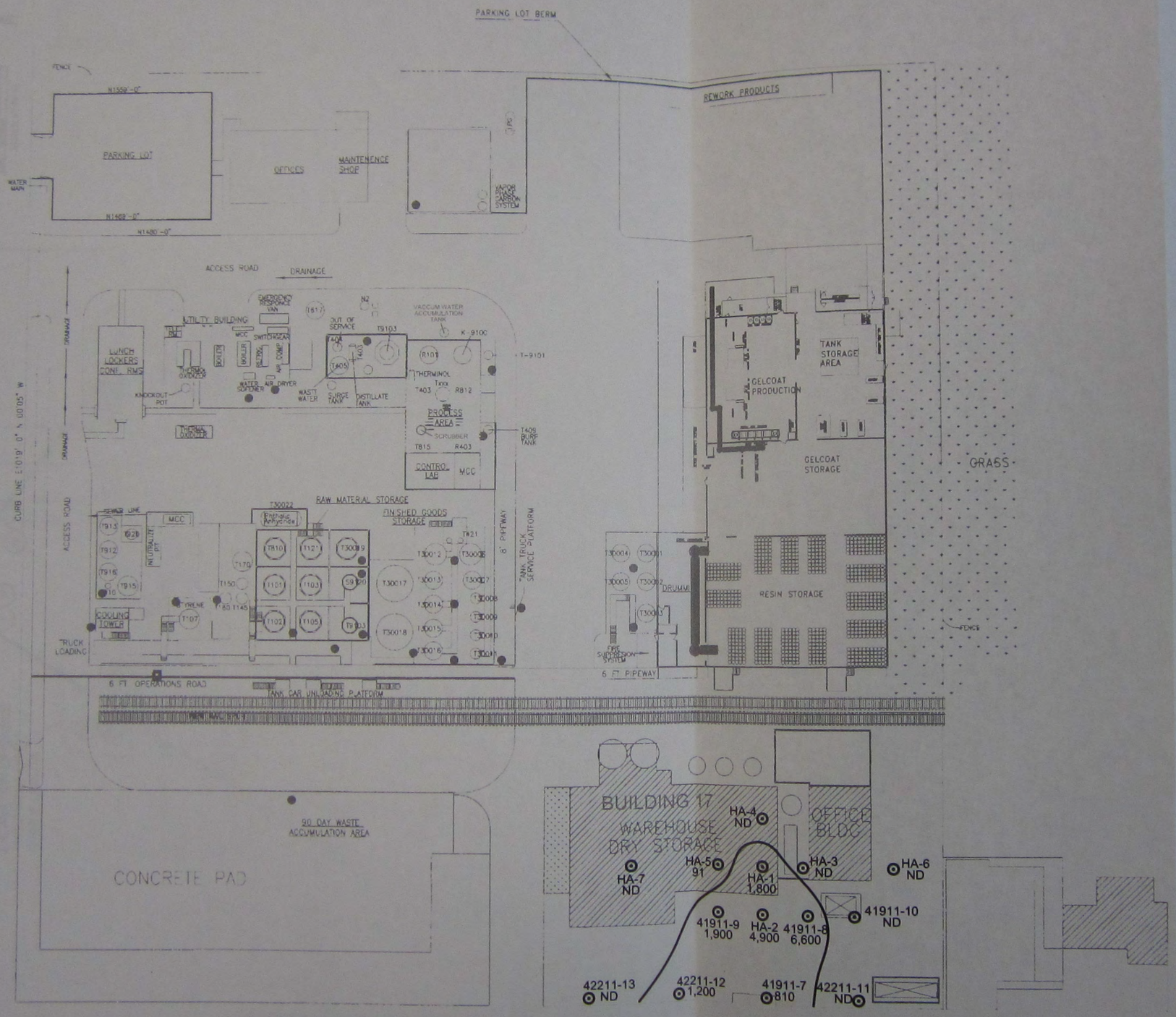
Source: Thomas Bros. Maps, Ventura County Street & Directory, 1991.

URS Corporation

SITE LOCATION MAP

Proj. No.:	29868635	Date:	JAN 2008
Project:	CCP OXNARD, CA	Figure:	1
Drawn by: GN	Checked by: AB		

S:\Gabriel Negrete\Figure 01 - Site Location Map.dwg, File date: 1/4/2008 11:48 AM, Print date: 1/4/2008 11:49 AM, by: Gabriel Negrete



EXPLANATION

- HA-1 — LOCATION AND NUMBER OF BORING/TEST PIT
- 1,800 — TPH CONCENTRATION IN mg/kg
- ND — NOT DETECTED ABOVE LABORATORY REPORTING LIMIT
- APPROXIMATE EXTENT OF TPH-IMPACTED LAYER

N

0 30 60

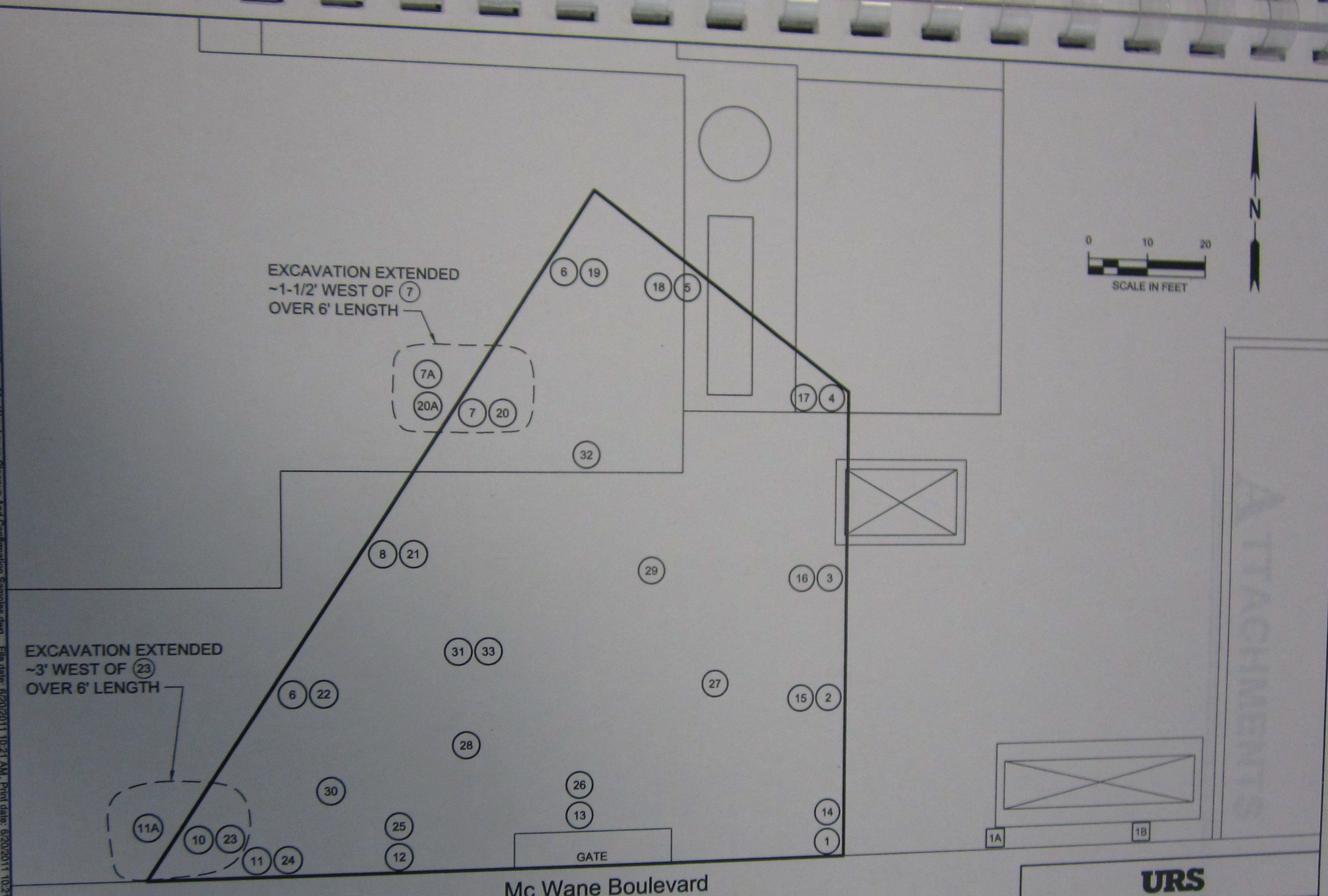
SCALE IN FEET

URS

BORING/TEST PIT SAMPLE LOCATIONS

Proj. No.: 29868843	Date: JUNE 2011
Project: COP OXNARD, CA	Figure: 2

T:\2011\29868843 COP Oxnard DeconDemo\Figures\Figure 02 - Sample Locations.dwg , File date: 6/14/2011 10:46 AM, Print date: 6/14/2011 10:48 AM by: Gabriel Negrete



EXPLANATION

(1) NUMBER AND LOCATION OF CLEANUP CONFIRMATION SAMPLE

[1A] NUMBER AND LOCATION OF STEP OUT TEST PIT

—— APPROXIMATE EXTENT OF SOIL REMOVALS

URS

SOIL REMOVAL AND CONFIRMATION SAMPLE LOCATIONS

Proj. No.: 29868843	Date: JUNE 2011
Project: CCP/OXNARD	Figure: 3

ATTACHMENTS

I:\2011\29868843 CCP Oxnard Decon\Demo\Report\Soil Remediation Report\Figure 03 - Warehouse Cleanup And Confirmation Samples.dwg , File date: 6/20/2011 10:21 AM, Print date: 6/20/2011 10:21 AM by: Gabriel Negrete

ATTACHMENTS

ATTACHMENT

LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORMS

Calscience Environmental Laboratories, Inc.

ACCREDITED IN ACCORDANCE WITH nelac

May 13, 2011

Allen Blodgett
URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Subject: **Calscience Work Order No.: 11-05-0812**
Client Reference: CCP Oxnard / 29868843.50000

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 5/12/2011 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Vikas Patel

Calscience Environmental
Laboratories, Inc.
Vikas Patel
Project Manager

Calscience Environmental Laboratories, Inc.

Client: URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032
Attn: Allen Blodgett

Work Order: 11-05-0812
Project name: CCP Oxnard / 29868843.50000
Received: 05/12/11 13:18

DETECTIONS SUMMARY

Client Sample ID

Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
51211-20A						
C6-C44 Total	7.6		5.0	mg/kg	EPA 8015B (M)	EPA 3550B

Subcontracted analyses, if any, are not included in this summary.

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/12/11
Work Order No: 11-05-0812
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
51211-1A	**11-05-0812-1-A**	**05/12/11 07:00**	**Solid**	**GC 45**	**05/12/11**	**05/12/11 17:35**	**110512B07**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	102	61-145	

51211-7A	11-05-0812-2-A	05/12/11 07:00	Solid	GC 45	05/12/11	05/12/11 17:51	110512B07

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	98	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/12/11
Work Order No: 11-05-0812
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
51211-20A	11-05-0812-3-A	05/12/11 07:00	Solid	GC 45	05/12/11	05/12/11 18:06	110512B07

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	7.6	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	98	61-145	

51211-11A	11-05-0812-4-A	05/12/11 07:00	Solid	GC 45	05/12/11	05/12/11 18:22	110512B07

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	108	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received:	05/12/11
Work Order No:	11-05-0812
Preparation:	EPA 3550B
Method:	EPA 8015B (M)
Units:	mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
51211-1B	**11-05-0812-5-A**	**05/12/11 07:00**	**Solid**	**GC 45**	**05/12/11**	**05/12/11 18:37**	**110512B07**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	108	61-145	

Method Blank	099-14-085-261	N/A	Solid	GC 45	05/12/11	05/12/11 16:18	110512B07

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	100	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/12/11
Work Order No: 11-05-0812
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project CCP Oxnard / 29868843.50000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
51211-1A	Solid	GC 45	05/12/11	05/12/11	110512S07

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	105	96	64-130	9	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-05-0812
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project: CCP Oxnard / 29868843.50000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-085-261	Solid	GC 45	05/12/11	05/12/11	110512B07

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	100	100	75-123	0	0-12	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

ACCREDITED IN ACCORDANCE WITH nelac

Work Order Number: 11-05-0812

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX: (714) 894-7501

CHAIN OF CUSTODY RECORD

Calscience Environmental Laboratories, Inc.

☐ SoCal Laboratory
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

☐ NorCal Service Center
5063 Commercial Circle, Suite H
Concord, CA 94520-8577
(925) 689-9022

CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: 05-0812

Date: 5-12-11

Page 1 of 1

LABORATORY CLIENT: URS Corp

ADDRESS: 2020 E First St Suite 400

CITY: Santa Ana Ca STATE: 92705 ZIP:

TEL: 7148756886

E-MAIL: Allen_Blodgett@urscorp.com

CLIENT PROJECT NAME / NUMBER: CCP Oxnard

P.O. NO.: CCP

PROJECT CONTACT: Allen Blodgett

SAMPLER(S): (PRINT)

TURNAROUND TIME: ☐ SAME DAY ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD

☐ COELT EDF

GLOBAL ID

LOG CODE

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH (g) or GRO	TPH (d) or DRO or (C6-C36) or (C6-C44)	TPH ( )	BTEX / MTBE (8260) or ( )	VOCs (8260)	Oxygenates (8260)	En Core / Terra Core Prep (5035)	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PNAs (8310) or (8270)	T22 Metals (6010/7470)	Cr(VI) (7196 or 7199 or 218.5)	Air - VOCs (TO-14A) or (TO-15)	Air - TPH (g) (TO-3)
1	51211-1A	5-12-11	0700	Soil	1					/	/												
2	51211-7A				1					/	/												
3	51211-20A				1					/	/												
4	51211-11A				1					/	/												
5	51211-1B				1																		

Relinquished by: (Signature) [signature]

Received by: (Signature/Affiliation) Danny le CCL Date: 5/12/11 Time: 13:18

Relinquished by: (Signature)

Received by: (Signature/Affiliation) Date: Time:

Relinquished by: (Signature)

Received by: (Signature/Affiliation) Date: Time:

DISTRIBUTION: White with final report, Green and Yellow to Client.
Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

06/01/10 Revision

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-05-0812

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: URS

DATE: 05/12/11

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 3.4 °C + 0.5 °C (CF) = 3.9 °C ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter Initial: bL

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☑ Not Present ☐ N/A Initial: bL

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: PS

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☒ 5/12/11	☑	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☐	☐	☑
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☑4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☐VOA**h** ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na$_2$** ☐1AGB**s** ☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐500PB ☐500PB**na** ☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** PS

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope **Reviewed by:** bL

Preservative: h: HCL n: HNO_3 na$_2$:$Na_2S_2O_3$ na: NaOH p: H_3PO_4 s: H_2SO_4 znna: $ZnAc_2$+NaOH f: Field-filtered **Scanned by:**

Calscience Environmental Laboratories, Inc.

ACCREDITED IN ACCORDANCE WITH nelac

May 10, 2011

Allen Blodgett
URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Subject: **Calscience Work Order No.: 11-05-0581**
Client Reference: CCP Oxnard / 29868843.50000

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 5/9/2011 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Vikas Patel

Calscience Environmental
Laboratories. Inc.
Vikas Patel
Project Manager

Calscience Environmental Laboratories, Inc.

Client: URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032
Attn: Allen Blodgett

Work Order: 11-05-0581
Project name: CCP Oxnard / 29868843.50000
Received: 05/09/11 18:15

DETECTIONS SUMMARY

Client Sample ID / Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
50911-1						
C9-C10	270		100	mg/kg	EPA 8015B (M)	EPA 3550B
C11-C12	1100		100	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14	3800		100	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	3300		100	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	3600		100	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	2200		100	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	710		100	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24	100		100	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	15000		100	mg/kg	EPA 8015B (M)	EPA 3550B
50911-7						
C11-C12	18		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14	82		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	83		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	100		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	31		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	14		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	330		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
50911-8						
C13-C14	5.3		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	11		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	9.5		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	5.1		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	33		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
50911-11						
C17-C18	5.7		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C25-C28	10		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C29-C32	29		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C33-C36	29		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C37-C40	24		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C41-C44	16		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	130		5.0	mg/kg	EPA 8015B (M)	EPA 3550B

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Client: URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032
Attn: Allen Blodgett

Work Order: 11-05-0581
Project name: CCP Oxnard / 29868843.50000
Received: 05/09/11 18:15

DETECTIONS SUMMARY

Client Sample ID / Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
50911-12						
C9-C10	14		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C11-C12	72		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14	280		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	270		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	340		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	97		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	58		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24	23		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C25-C28	8.4		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C29-C32	14		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C33-C36	14		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C37-C40	13		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C41-C44	8.9		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	1200		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
50911-14						
C9-C10	160		150	mg/kg	EPA 8015B (M)	EPA 3550B
C11-C12	740		150	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14	3100		150	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	3300		150	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	4100		150	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	1500		150	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	530		150	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24	240		150	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	14000		150	mg/kg	EPA 8015B (M)	EPA 3550B
50911-16						
C13-C14	10		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	20		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	23		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	5.7		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	69		5.0	mg/kg	EPA 8015B (M)	EPA 3550B

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Client: URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032
Attn: Allen Blodgett

Work Order: 11-05-0581
Project name: CCP Oxnard / 29868843.50000
Received: 05/09/11 18:15

DETECTIONS SUMMARY

Client Sample ID / Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
50911-20						
C13-C14	12		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	14		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	17		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	5.6		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	54		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
50911-21						
C29-C32	11		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C33-C36	9.1		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C37-C40	13		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	50		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
50911-23						
C25-C28	27		10	mg/kg	EPA 8015B (M)	EPA 3550B
C29-C32	66		10	mg/kg	EPA 8015B (M)	EPA 3550B
C33-C36	67		10	mg/kg	EPA 8015B (M)	EPA 3550B
C37-C40	55		10	mg/kg	EPA 8015B (M)	EPA 3550B
C41-C44	35		10	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	280		10	mg/kg	EPA 8015B (M)	EPA 3550B
50911-24						
C21-C22	36		25	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24	53		25	mg/kg	EPA 8015B (M)	EPA 3550B
C25-C28	110		25	mg/kg	EPA 8015B (M)	EPA 3550B
C29-C32	300		25	mg/kg	EPA 8015B (M)	EPA 3550B
C33-C36	300		25	mg/kg	EPA 8015B (M)	EPA 3550B
C37-C40	290		25	mg/kg	EPA 8015B (M)	EPA 3550B
C41-C44	130		25	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	1300		25	mg/kg	EPA 8015B (M)	EPA 3550B
50911-25						
C37-C40	6.8		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	6.8		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
50911-26						
C6-C44 Total	19		5.0	mg/kg	EPA 8015B (M)	EPA 3550B

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Client: URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032
Attn: Allen Blodgett

Work Order: 11-05-0581
Project name: CCP Oxnard / 29868843.50000
Received: 05/09/11 18:15

DETECTIONS SUMMARY

Client Sample ID / Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
50911-27						
C6-C44 Total	10		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
50911-29						
C13-C14	18		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	28		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	29		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	12		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	6.6		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	98		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
50911-31						
C11-C12	27		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14	88		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	140		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	130		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	39		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	25		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	450		5.0	mg/kg	EPA 8015B (M)	EPA 3550B

Subcontracted analyses, if any, are not included in this summary.

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received:	05/09/11
Work Order No:	11-05-0581
Preparation:	EPA 3550B
Method:	EPA 8015B (M)
Units:	mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-1	**11-05-0581-1-A**	**05/09/11 12:30**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 11:41**	**110509B13**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	100	20		C21-C22	710	100	20	
C7	ND	100	20		C23-C24	100	100	20	
C8	ND	100	20		C25-C28	ND	100	20	
C9-C10	270	100	20		C29-C32	ND	100	20	
C11-C12	1100	100	20		C33-C36	ND	100	20	
C13-C14	3800	100	20		C37-C40	ND	100	20	
C15-C16	3300	100	20		C41-C44	ND	100	20	
C17-C18	3600	100	20		C6-C44 Total	15000	100	20	
C19-C20	2200	100	20						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	121	61-145	

50911-2	**11-05-0581-2-A**	**05/09/11 12:30**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 06:18**	**110509B13**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	100	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received:	05/09/11
Work Order No:	11-05-0581
Preparation:	EPA 3550B
Method:	EPA 8015B (M)
Units:	mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-3	**11-05-0581-3-A**	**05/09/11 12:40**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 06:33**	**110509B13**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	106	61-145	

50911-4	**11-05-0581-4-A**	**05/09/11 12:40**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 06:48**	**110509B13**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	101	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-5	11-05-0581-5-A	05/09/11 12:50	Solid	GC 45	05/09/11	05/10/11 07:03	110509B13

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	103	61-145	

50911-6	11-05-0581-6-A	05/09/11 12:50	Solid	GC 45	05/09/11	05/10/11 07:19	110509B13

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	107	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-7	**11-05-0581-7-A**	**05/09/11 13:00**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 07:34**	**110509B13**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	14	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	18	5.0	1		C33-C36	ND	5.0	1	
C13-C14	82	5.0	1		C37-C40	ND	5.0	1	
C15-C16	83	5.0	1		C41-C44	ND	5.0	1	
C17-C18	100	5.0	1		C6-C44 Total	330	5.0	1	
C19-C20	31	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	105	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-8	**11-05-0581-8-A**	**05/09/11 13:00**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 07:50**	**110509B13**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	5.3	5.0	1		C37-C40	ND	5.0	1	
C15-C16	11	5.0	1		C41-C44	ND	5.0	1	
C17-C18	9.5	5.0	1		C6-C44 Total	33	5.0	1	
C19-C20	5.1	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	104	61-145	

RL - Reporting Limit ; DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-9	**11-05-0581-9-A**	**05/09/11 13:10**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 08:05**	**110509B13**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	103	61-145	

50911-10	11-05-0581-10-A	05/09/11 13:10	Solid	GC 45	05/09/11	05/10/11 08:20	110509B13

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	100	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-11	**11-05-0581-11-A**	**05/09/11 13:20**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 08:51**	**110509B13**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	10	5.0	1	
C9-C10	ND	5.0	1		C29-C32	29	5.0	1	
C11-C12	ND	5.0	1		C33-C36	29	5.0	1	
C13-C14	ND	5.0	1		C37-C40	24	5.0	1	
C15-C16	ND	5.0	1		C41-C44	16	5.0	1	
C17-C18	5.7	5.0	1		C6-C44 Total	130	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	106	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-12	**11-05-0581-12-A**	**05/09/11 13:20**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 09:07**	**110509B13**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	58	5.0	1	
C7	ND	5.0	1		C23-C24	23	5.0	1	
C8	ND	5.0	1		C25-C28	8.4	5.0	1	
C9-C10	14	5.0	1		C29-C32	14	5.0	1	
C11-C12	72	5.0	1		C33-C36	14	5.0	1	
C13-C14	280	5.0	1		C37-C40	13	5.0	1	
C15-C16	270	5.0	1		C41-C44	8.9	5.0	1	
C17-C18	340	5.0	1		C6-C44 Total	1200	5.0	1	
C19-C20	97	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	93	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-13	11-05-0581-13-A	05/09/11 13:30	Solid	GC 45	05/09/11	05/10/11 09:22	110509B13

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	95	61-145	

50911-14	11-05-0581-14-A	05/09/11 13:30	Solid	GC 45	05/09/11	05/10/11 11:57	110509B13

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	150	30		C21-C22	530	150	30	
C7	ND	150	30		C23-C24	240	150	30	
C8	ND	150	30		C25-C28	ND	150	30	
C9-C10	160	150	30		C29-C32	ND	150	30	
C11-C12	740	150	30		C33-C36	ND	150	30	
C13-C14	3100	150	30		C37-C40	ND	150	30	
C15-C16	3300	150	30		C41-C44	ND	150	30	
C17-C18	4100	150	30		C6-C44 Total	14000	150	30	
C19-C20	1500	150	30						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	116	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received:	05/09/11
Work Order No:	11-05-0581
Preparation:	EPA 3550B
Method:	EPA 8015B (M)
Units:	mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-15	**11-05-0581-15-A**	**05/09/11 13:40**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 12:28**	**110509B13**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	100	61-145	

50911-16	**11-05-0581-16-A**	**05/09/11 13:40**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 10:09**	**110509B13**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	10	5.0	1		C37-C40	ND	5.0	1	
C15-C16	20	5.0	1		C41-C44	ND	5.0	1	
C17-C18	23	5.0	1		C6-C44 Total	69	5.0	1	
C19-C20	5.7	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	99	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-17	11-05-0581-17-A	05/09/11 13:50	Solid	GC 45	05/09/11	05/10/11 10:24	110509B13

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	94	61-145	

50911-18	11-05-0581-18-A	05/09/11 13:50	Solid	GC 45	05/09/11	05/10/11 10:39	110509B13

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	97	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-19	**11-05-0581-19-A**	**05/09/11 14:00**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 10:55**	**110509B13**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	97	61-145	

50911-20	**11-05-0581-20-A**	**05/09/11 14:00**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 11:10**	**110509B13**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	12	5.0	1		C37-C40	ND	5.0	1	
C15-C16	14	5.0	1		C41-C44	ND	5.0	1	
C17-C18	17	5.0	1		C6-C44 Total	54	5.0	1	
C19-C20	5.6	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	92	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-21	11-05-0581-21-A	05/09/11 14:10	Solid	GC 47	05/09/11	05/10/11 00:31	110509B14

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	11	5.0	1	
C11-C12	ND	5.0	1		C33-C36	9.1	5.0	1	
C13-C14	ND	5.0	1		C37-C40	13	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	50	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	96	61-145	

50911-22	11-05-0581-22-A	05/09/11 14:10	Solid	GC 47	05/09/11	05/10/11 00:46	110509B14

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	92	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-23	**11-05-0581-23-A**	**05/09/11 14:20**	**Solid**	**GC 47**	**05/09/11**	**05/10/11 01:01**	**110509B14**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	10	2		C21-C22	ND	10	2	
C7	ND	10	2		C23-C24	ND	10	2	
C8	ND	10	2		C25-C28	27	10	2	
C9-C10	ND	10	2		C29-C32	66	10	2	
C11-C12	ND	10	2		C33-C36	67	10	2	
C13-C14	ND	10	2		C37-C40	55	10	2	
C15-C16	ND	10	2		C41-C44	35	10	2	
C17-C18	ND	10	2		C6-C44 Total	280	10	2	
C19-C20	ND	10	2						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	99	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-24	**11-05-0581-24-A**	**05/09/11 14:20**	**Solid**	**GC 47**	**05/09/11**	**05/10/11 01:16**	**110509B14**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	25	5		C21-C22	36	25	5	
C7	ND	25	5		C23-C24	53	25	5	
C8	ND	25	5		C25-C28	110	25	5	
C9-C10	ND	25	5		C29-C32	300	25	5	
C11-C12	ND	25	5		C33-C36	300	25	5	
C13-C14	ND	25	5		C37-C40	290	25	5	
C15-C16	ND	25	5		C41-C44	130	25	5	
C17-C18	ND	25	5		C6-C44 Total	1300	25	5	
C19-C20	ND	25	5						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	100	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-25	**11-05-0581-25-A**	**05/09/11 14:30**	**Solid**	**GC 47**	**05/09/11**	**05/10/11 01:31**	**110509B14**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	6.8	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	6.8	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	98	61-145	

50911-26	**11-05-0581-26-A**	**05/09/11 14:30**	**Solid**	**GC 47**	**05/09/11**	**05/10/11 01:46**	**110509B14**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	19	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	98	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-27	11-05-0581-27-A	05/09/11 14:40	Solid	GC 47	05/09/11	05/10/11 02:01	110509B14

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	10	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	95	61-145	

50911-28	11-05-0581-28-A	05/09/11 14:40	Solid	GC 47	05/09/11	05/10/11 02:16	110509B14

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	94	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-29	**11-05-0581-29-A**	**05/09/11 14:50**	**Solid**	**GC 47**	**05/09/11**	**05/10/11 02:32**	**110509B14**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	6.6	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	18	5.0	1		C37-C40	ND	5.0	1	
C15-C16	28	5.0	1		C41-C44	ND	5.0	1	
C17-C18	29	5.0	1		C6-C44 Total	98	5.0	1	
C19-C20	12	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	92	61-145	

50911-30	**11-05-0581-30-A**	**05/09/11 14:50**	**Solid**	**GC 47**	**05/09/11**	**05/10/11 02:46**	**110509B14**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	94	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-31	11-05-0581-31-A	05/09/11 15:00	Solid	GC 47	05/09/11	05/10/11 03:17	110509B14

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	25	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	27	5.0	1		C33-C36	ND	5.0	1	
C13-C14	88	5.0	1		C37-C40	ND	5.0	1	
C15-C16	140	5.0	1		C41-C44	ND	5.0	1	
C17-C18	130	5.0	1		C6-C44 Total	450	5.0	1	
C19-C20	39	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	88	61-145	

50911-32	11-05-0581-32-A	05/09/11 15:00	Solid	GC 47	05/09/11	05/10/11 03:32	110509B14

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	86	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
50911-33	**11-05-0581-33-A**	**05/09/11 15:00**	**Solid**	**GC 47**	**05/09/11**	**05/10/11 03:47**	**110509B14**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	94	61-145	

Method Blank	099-14-085-257	N/A	Solid	GC 47	05/09/11	05/09/11 23:16	110509B14

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	108	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.50000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-085-258**	**N/A**	**Solid**	**GC 45**	**05/09/11**	**05/10/11 04:45**	**110509B13**

Parameter	Result	RL	DF	Qual
C6	ND	5.0	1	
C7	ND	5.0	1	
C8	ND	5.0	1	
C9-C10	ND	5.0	1	
C11-C12	ND	5.0	1	
C13-C14	ND	5.0	1	
C15-C16	ND	5.0	1	
C17-C18	ND	5.0	1	
C19-C20	ND	5.0	1	
Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	110	61-145		

Parameter	Result	RL	DF	Qual
C21-C22	ND	5.0	1	
C23-C24	ND	5.0	1	
C25-C28	ND	5.0	1	
C29-C32	ND	5.0	1	
C33-C36	ND	5.0	1	
C37-C40	ND	5.0	1	
C41-C44	ND	5.0	1	
C6-C44 Total	ND	5.0	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project CCP Oxnard / 29868843.50000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
50911-11	Solid	GC 45	05/09/11	05/10/11	110509S13

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	96	96	64-130	0	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 05/09/11
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project CCP Oxnard / 29868843.50000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
50911-21	Solid	GC 47	05/09/11	05/10/11	110509S14

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	98	91	64-130	7	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project: CCP Oxnard / 29868843.50000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-085-258	Solid	GC 45	05/09/11	05/10/11	110509B13

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	99	99	75-123	0	0-12	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-05-0581
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project: CCP Oxnard / 29868843.50000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-085-257	Solid	GC 47	05/09/11	05/09/11	110509B14

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	91	91	75-123	0	0-12	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

ACCREDITED IN ACCORDANCE WITH nelac

Work Order Number: 11-05-0581

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

CHAIN OF CUSTODY RECORD

Calscience Environmental Laboratories, Inc.

☐ SoCal Laboratory
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

☐ NorCal Service Center
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(925) 689-9022

CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: 05-0581

Date 5-9-11

Page 1 of 4

LABORATORY CLIENT: URS Corp

ADDRESS: 2020 E First St Suite 400

CITY: Santa Ana STATE: Ca ZIP: 92705

TEL: 714 835 6886 E-MAIL: Allen_Blodgett@URSCorp.com

CLIENT PROJECT NAME / NUMBER: CCP Oxnard

P.O. NO.: CCP

PROJECT CONTACT: Allen Blodgett

SAMPLER(S): (PRINT) Rod Mihal

TURNAROUND TIME: ☐ SAME DAY ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD

☐ COELT EDF | GLOBAL ID | LOG CODE

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH (g) or GRO	TPH (d) or DRO or (C6-C36) or (C6-C44)	TPH ( )	BTEX / MTBE (8260) or ( )	VOCs (8260)	Oxygenates (8260)	En Core / Terra Core Prep (5035)	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PNAs (8310) or (8270)	T22 Metals (6010/747X)	Cr(VI) [7196 or 7199 or 218.6]	Air - VOCs (TO-14A) or (TO-15)	Air - TPH (g) [TO-3]
1	5091l-1	5-9-11	12:30	Soil	1					/													
2	5091l-2		12:30		1					/													
3	5091l-3		12:40		1					/													
4	5091l-4		12:40		1					/													
5	5091l-5		12:50		1					/													
6	5091l-6		12:50		1					/													
7	5091l-7		1:00		1					/													
8	5091l-8		1:00		1					/													
9	5091l-9		1:10		1					/													
10	5091l-10		1:10		1					/													

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 5/9/11	Time: 1815
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/01/10 Revision

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Calscience Environmental Laboratories, Inc.

☐ SoCal Laboratory
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

☐ NorCal Service Center
5063 Commercial Circle, Suite H
Concord, CA 94520-8577
(925) 689-9022

CHAIN OF CUSTODY RECORD

Date 5-9-11
Page 2 of 4

WO # / LAB USE ONLY: 05-0581

LABORATORY CLIENT: URS Corp
ADDRESS: 2020 E First St Suite 400
CITY: Santa Ana STATE: Ca ZIP: 92705
TEL: 7148356886 E-MAIL: Allen_Blodgett@urscorp.com

CLIENT PROJECT NAME / NUMBER: CCP oxnard
P.O. NO.: CCP
PROJECT CONTACT: Allen Blodgett
SAMPLER(S): (PRINT) RAMiller

TURNAROUND TIME: ☐ SAME DAY ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD
☐ COELT EDF GLOBAL ID LOG CODE

SPECIAL INSTRUCTIONS:

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11	50911-11	5-9-11	1:20	Soil	1					/													
12	50911-12	5-9-11	1:20		1					/													
13	50911-13	5-9-11	1:30		1					/													
14	50911-14	5-9-11	1:30		1					/													
15	50911-15	5-9-11	1:40		1					/													
16	50911-16	5-9-11	1:40		1					/													
17	50911-17	5-9-11	1:50		1					/													
18	50911-18	5-9-11	1:50		1					/													
19	50911-19	5-9-11	2:00		1					/													
20	50911-20	5-9-11	2:00		1					/													

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	[signature]	5/9/11	1815
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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		Date:	Time:

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Calscience Environmental Laboratories, Inc.

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Garden Grove, CA 92841-1427
(714) 895-5494

☐ NorCal Service Center
5063 Commercial Circle, Suite H
Concord, CA 94520-8577
(925) 689-9022

CHAIN OF CUSTODY RECORD

Date 5-9-11

Page 3 of 4

WO # / LAB USE ONLY: 05-0581

LABORATORY CLIENT: URS Corp

ADDRESS: 2020 E First St Suite 400

CITY: Santa Ana STATE: Ca ZIP: 92705

TEL: 714 835 6886 E-MAIL: Allen_Bloodgood@URSCorp.com

CLIENT PROJECT NAME / NUMBER: CC1 Oxnard

P.O. NO.: CCB

PROJECT CONTACT: Allen Bloodgood

SAMPLER(S): (PRINT) Ron M.Z.

TURNAROUND TIME: ☐ SAME DAY ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD

☐ COELT EDF

GLOBAL ID

LOG CODE

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.
21	50911-21	5091/	2:10	S.T	1
22	50911-22		2:10		1
23	50911-23		2:20		1
24	50911-24		2:20		1
25	50911-25		2:30		1
26	50911-26		2:30		1
27	50911-27		2:40		1
28	50911-28		2:40		1
29	50911-29		2:50		1
30	50911-30		2:50		1

Unpreserved | Preserved | Field Filtered | TPH (g) or GRO | TPH (d) or DRO or (C6-C44) | TPH (C6-C36) or DRO | TPH (___) | BTEX / MTBE (8260) or (___) | VOCs (8260) | Oxygenates (8260) | En Core / Terra Core Prep (5035) | SVOCs (8270) | Pesticides (8081) | PCBs (8082) | PNAs (8310) or (8270) | T22 Metals (6010/747X) | Cr(VI) [7196 or 7199 or 218.6] | Air - VOCs (TO-14A) or (TO-15) | Air - TPH (g) [TO-3] | | | | |

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 5/9/11	Time: 1815
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Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

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WO # / LAB USE ONLY: 05-0581

Date: 5-9-11

Page: 4 of 4

LABORATORY CLIENT: URS Corp

ADDRESS: 2020 E First Suite 400

CITY: Santa Ana STATE: Ca ZIP: 92705

TEL: 7148735684 E-MAIL: Allen-Blodgett@urscorp.com

CLIENT PROJECT NAME / NUMBER: CCF Oxnard

P.O. NO.: CCF

PROJECT CONTACT: Allen Blodgett

SAMPLER(S): (PRINT) Ron Mikol

TURNAROUND TIME:
☐ SAME DAY ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD

☐ COELT EDF | GLOBAL ID | LOG CODE

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH (g) or GRO	TPH (d) or DRO or (C6-C36) or (C6-C44)	TPH ( )	BTEX / MTBE (8260) or ( )	VOCs (8260)	Oxygenates (8260)	En Core / Terra Core Prep (5035)	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PNAs (8310) or (8270)	T22 Metals (6010/747X)	Cr(VI) [7196 or 7199 or 218.6]	Air - VOCs (TO-14A) or (TO-15)	Air - TPH (g) [TO-3]
31	5091I-31	5-05-11	3:00	Soil	1					1													
32	5091I-32	"	3:00	"	1					1													
33	5091I-33	"	3:00	"	1					1													

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Ron Mikol	[illegible]	5/9/11	1815
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
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Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-05-0581

SAMPLE RECEIPT FORM

Cooler 1 of 1

DATE: 05/09/11

CLIENT: URS CORP

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)

☐ Blank ☒ Sample

Temperature 9.2 °C + 0.5 °C (CF) = 9.7 °C

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☑ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Initial: PS

Ambient Temperature: ☐ Air ☐ Filter

CUSTODY SEALS INTACT:

☐ Cooler	☐_____	☐ No (Not Intact)	☑ Not Present	☐ N/A	Initial: PS
☐ Sample	☐_____	☐ No (Not Intact)	☑ Not Present		Initial: PS

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☐	☐	☑
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☑4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☐VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBp ☐1AGB ☐1AGBna_2 ☐1AGBs ☐500AGB ☐500AGJ ☐500AGJs ☐250AGB ☐250CGB ☐250CGBs ☐1PB ☐500PB ☐500PBna ☐250PB ☐250PBn ☐125PB ☐125PBznna ☐100PJ ☐100PJna_2 ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** PS

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope **Reviewed by:** DC

Preservative: h: HCL n: HNO_3 na_2:$Na_2S_2O_3$ na: NaOH p: H_3PO_4 s: H_2SO_4 znna: $ZnAc_2$+NaOH f: Field-filtered **Scanned by:** 4.C

SOP T100_090 (03/24/11)

Received by: (Signature) Date: 5/9/11 Time: 1815

Relinquished by: (Signature) Date: Time:

Received by: (Signature) Date: Time:

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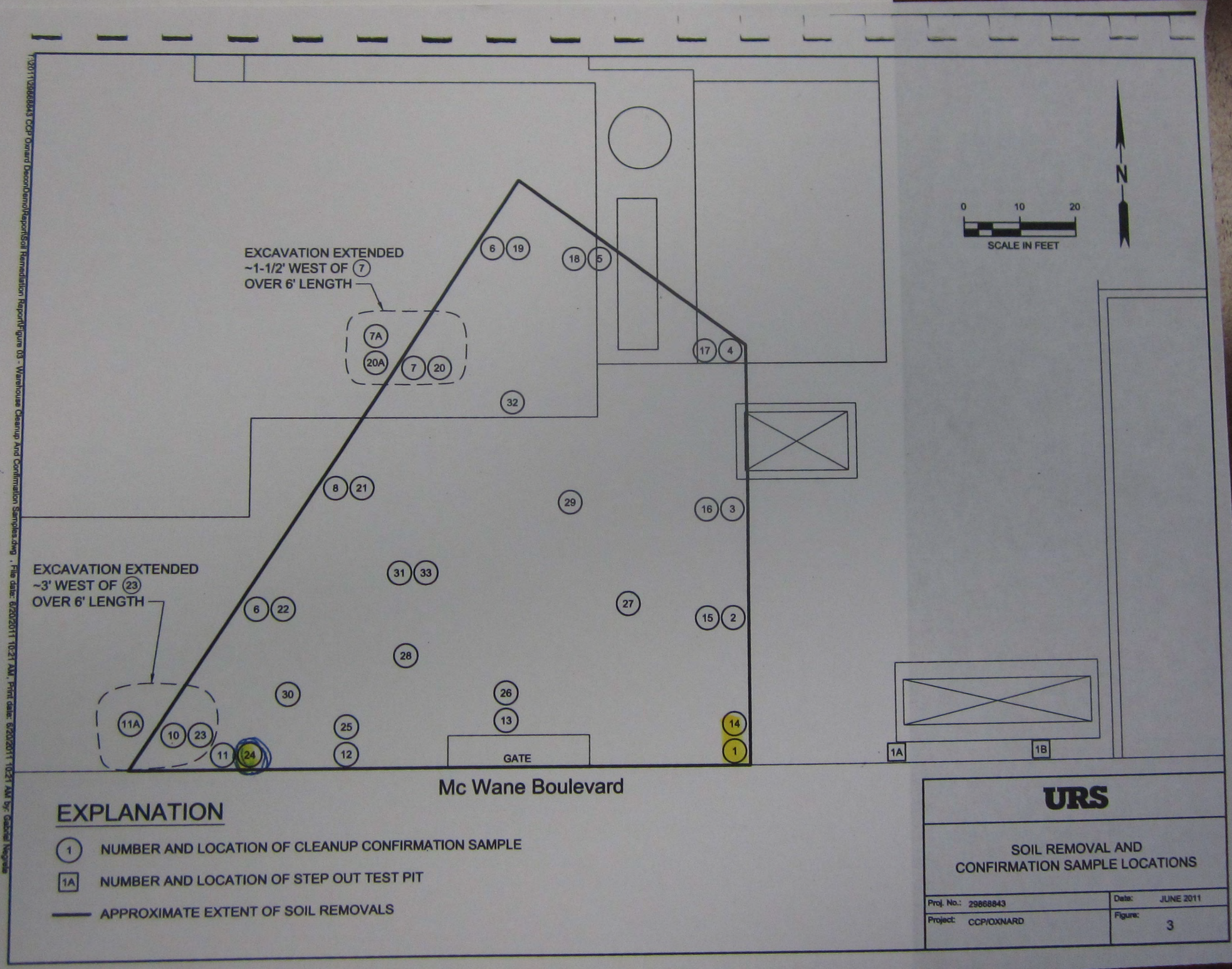

EXPLANATION

- (1) NUMBER AND LOCATION OF CLEANUP CONFIRMATION SAMPLE
- [1A] NUMBER AND LOCATION OF STEP OUT TEST PIT
- APPROXIMATE EXTENT OF SOIL REMOVALS

URS

SOIL REMOVAL AND
CONFIRMATION SAMPLE LOCATIONS

Proj. No.: 29868843	Date: JUNE 2011
Project: CCP/OXNARD	Figure: 3

I:\2011\29868843 CCP Oxnard Decon\Demo\Reports\Soil Remediation Report\Figure 03 - Warehouse Cleanup And Confirmation Samples.dwg , File date: 6/20/2011 10:21 AM, Print date: 6/20/2011 10:21 AM by: Gabriel Negrete

Fire Department

360 West Second Street
Oxnard, California 93030
(805) 385-7722
Fax (805) 385-8009
www.ci.oxnard.ca.us

CITY OF OXNARD CALIFORNIA

December 6, 2012

Alan Blodgett
URS Corporation
2020 East First St, Suite 400
Santa Ana, CA 92705-4032

SUBJECT: REMEDIATION OF DIESEL-IMPACTED SOIL REPORT FOR CCP PROPERTY LOCATED ATY 5980 ARCTURUS AVE, OXNARD, CA

Dear Mr. Blogett,

This letter confirms the completion of soil remediation at the above referenced site. Based on the information in the Remediation of Diesel-Impacted Report dated July 27, 2011 and the provision that the information provided to this agency was accurate and representative of the soil conditions, this agency finds the site in is compliance with the requirements of Health and Safety Code, Section 25296.10 and 25187.1.

Therefore, the Oxnard Fire/CUPA will consider the soil remediation completed and no further action is required at this time.

If you have any questions or concerns regarding this matter, please contact me at (805) 385-8364.

Miguel Trujillo
CUPA Coordinator
Oxnard Fire Department

From: Greg Abille
To: Ines Gonzalez
Date: 12/27/2010 11:07:55 AM
Subject: Cook Composites and Polymers, 5980 Arcturus Av

Ines,

Received a phone call from a representative from AMAN Environmental (Ray) inquiring about permit requirements to remove some aboveground tanks (resin and solvent). I told him that we would get back to him regarding permit requirements. To date, CCP has not, to my knowledge, submitted any type of closure plan. I advised Ray that we may require a closure plan for the entire site (which may include piping, storage tanks, process tanks, soil assessment, etc, etc.). He said to contact Orlando Flores at 626-967-4287, x-3010 if we had questions or concerns regarding their project proposal. According to Ray, AMAN Environmental has been contracted by CCP. AMAN Environmental's address is:

AMAN Environmental
614 East Edna Place
Covina, CA 91723

Ines Gonzalez - 5980 Arcturus

From: <Allen_Blodgett@URSCorp.com>
To: <Ines.Gonzalez@CI.Oxnard.CA.US>
Date: 5/17/2011 8:17 AM
Subject: 5980 Arcturus
CC: <Allen_Blodgett@URSCorp.com>, <Conan_Fitzgerald@URSCorp.com>, <schuckman@ccponline.com>

Ines,

Following our meeting at the CCP property at 5980 Arcturus, the contractor removed additional soils from the areas of cleanup confirmation samples 7, 23, and 31. At the location of sample 7 the excavation was extended about 1-1/2 feet further to the west over a north-south distance of about 6 feet where it appeared to be clean and additional cleanup confirmation samples 7A (ND) and 20A (7.6 mg/kg) were taken.

At the location of sample 23 the excavation was extended about 3 feet further to the west over a north-south distance of about 6 feet where it appeared to be clean and additional cleanup confirmation sample 23A (ND) was taken.

At the location of sample 31 another 6 inches of soil was removed over an area of about 7 feet further to the west over a north-south distance of about 7 feet. No additional cleanup confirmation sample was taken since the underlying previous sample 33 was ND.

Two test pits were excavated and sampled east of the location of samples 1 and 14. Sample 1A was taken 25 feet to the east and sample 1B was taken 50 feet to the east (see attached sketch). Both were ND indicating that the remaining diesel-impacted soils represented by samples 1 and 14 extend less than 25 feet in each of the north, east, and west directions. As we discussed, the excavation was not extended further to the south in this area due to the existence of a utility pole that would likely have to be temporarily supported and due to the fact that the excavation was already very close to the property line.

I will prepare a formal report to be submitted for your review and expect to have that to you by early next week. Please feel free to contact me at your convenience with any questions.

Thanks,
Allen

Allen E. Blodgett, P.E.
URS Corporation
2020 East First Street, Suite 400
Santa Ana, CA 92705
(714) 648-2795
Cell Phone (714) 227-6485
Fax (714) 667-7147
allen_blodgett@urscorp.com

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NORTH

EXCAVATION EXTENDED
~1½' WEST OF (7)
OVER 6' LENGTH

EXCAVATION EXTENDED
~3' WEST OF (23)
OVER 6' LENGTH

23A ND

7A ND

20A 7.6

1A ND

1/3
1/4 - 2.6
1/4 - 7.7
2 7 - 33

330

SH

120'

33

~7 x 4' = 450 cy

33 is 6" below 31

72'

25' 25'

About center of gate

URS

May 3, 2011

Ms. Ines Gonzalez
City of Oxnard Fire Administration Office
360 W. Second Street
Oxnard, California 93030

SUBJECT: NOTIFICATION OF DIESEL-IMPACTED SOIL
CCP PROPERTY
5980 ARCTURUS AVENUE
OXNARD, CALIRORNIA

Dear Ms. Gonzales:

URS Corporation (URS) has prepared this report on behalf of Cook Composites and Polymers Company (CCP) to document a layer of diesel-impacted soil that has been discovered at their property located at 5980 Arcturus Avenue in Oxnard, California. The location of the property is shown on the attached Figure 1. CCP has closed their facility at the property and has retained Aman Environmental Construction, Inc. (AECI) to demolish the closed facility. Upon removing the concrete floor slab and foundations of the former Building 17 (see attached Figure 2), a layer of black, odorous soil was observed immediately beneath the removed foundation on the east side of the building. Upon discovery of this soil layer, CCP retained URS to characterize the nature and extent of the black, odorous soil.

URS drilled and sampled seven test borings on March 17, 2011. The test boring locations are shown on Figure 2. The first boring, HA-1, was located at the point where the black, odorous soil was first observed. Subsequent borings HA-2 through HA-7 were drilled at locations stepping-out in each compass direction from boring HA-1. The borings were drilled using hand-auger techniques. Soil samples were taken from each test boring at depths of approximately two and five feet below ground surface (ft bgs). The samples were collected from the hand auger bucket into laboratory-supplied eight ounce glass jars. Samples for volatile organic compound (VOC) analysis were collected from the black, odorous soil layer encountered in test boring HA-1 by hand-pushing Encore samplers into the in-place soil following United States Environmental Protection Agency (USEPA) Method 5035.

The soil samples were sent to a state of California-certified analytical laboratory, Calscience Lab, for analyses. Each sample was analyzed for Total Petroleum Hydrocarbons (TPH) with carbon chain breakdown following USEPA Method 8015B(M). Sample HA-1-2 was analyzed for VOCs following USEPA Method 8260B and sample HA-1-2.5 was also analyzed for semi-volatile organic compounds (SVOCs) following USEPA Method 8270C, California Title 22 metals following USEPA Methods 6010B/7471A, and pH following USEPA Method 9045D. The results of these analyses are summarized in the attached Table 1 and indicate that the samples contained TPH in the diesel and heavier range at concentrations ranging from not detected above the laboratory reporting limit (ND) to a maximum of 4,900 milligrams per kilogram (mg/kg). No VOCs were detected in sample HA-1-2 and only four

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2020 East First Street, Suite 400
Santa Ana, CA 92705
Tel: 714.835.6886
Fax: 714.667.7147
www.urscorp.com

in the attached Table 1 and indicate that the samples contained TPH in the diesel and heavier range at concentrations ranging from not detected above the laboratory reporting limit (ND) to a maximum of 4,900 milligrams per kilogram (mg/kg). No VOCs were detected in sample HA-1-2 and only four SVOCs (n-Butylbenzene, sec-Butylbenzene, p-Isopropyltoluene, and 1,2,4-Trimethylbenzene) were detected in sample HA-1-2.5 at relatively low concentrations (220 micrograms per kilogram [ug/kg], 200 ug/kg, 190 ug/kg, and 350 ug/kg, respectively). A number of metals were detected in sample HA-1-2.5 at concentrations considered typical of naturally occurring background concentrations. The pH of sample HA-1-2.5 was 7.95. The soil samples from 5 ft bgs were found to have TPH-diesel concentrations less than 100 mg/kg, and in most cases there was no TPH-diesel detected in these samples.

The results of the soil sampling done on March 17, 2011 identified that a layer of soil at the property is impacted with TPH in the diesel and heavier ranges, generally defined the northern limits of the impacted soil layer, and partially defined the eastern and western limits. The thickness of the diesel-impacted soil layer ranges from approximately 1 foot to about 3-1/2 feet. Groundwater appeared to exist at about 5 ft bgs.

An additional set of step-out soil samples was collected from backhoe test pits on April 19, 2011. These test pits were identified as 41911-7 to 41911-10 and their locations are shown on Figure 2. These samples were collected from the black soil layer and sent to Calscience Lab for analysis for TPH with carbon chain breakdown. The results of these analyses ranged from ND to a maximum of 6,600 mg/kg. Consistent with the first set of samples, the carbon chain breakdown indicated the TPH to be in the diesel and heavier hydrocarbon ranges. Although the results of this sampling event further defined the limits of the diesel-impacted soil layer, they did not complete definition of its extent.

A final set of step-out backhoe test pits, identified as 42211-11 to 42211-13 (Figure 2), was excavated and sampled on April 22, 2011. As in the previous sampling events, soil samples were collected from the black soil layer and sent to Calscience Lab for analysis for TPH with carbon chain breakdown. The results of these analyses ranged from ND to a maximum of 1,200 mg/kg. Consistent with the previous samples, the carbon chain breakdown indicated the TPH to be in the diesel and heavier hydrocarbon ranges. This final set of soil samples, along with the previous samples, defined the east and west extents of the diesel-impacted soils on the property. Consistent with previous observations, the thickness of the diesel-impacted soil layer ranges from approximately 1 foot to about 3-1/2 feet.

The explorations performed at the property to date have not defined the southern extent of the diesel-impacted soils. While TPH concentrations diminish moving from boring HA-2 towards the south, the southern most samples still exceed the THP action level of 100 mg/kg. In lieu of further sampling to the south, the proposed excavation of impacted material (discussed below) will stop at McWane Blvd, with

sidewall samples collected along the southern edge to evaluate whether the impacted soil continues underneath McWane Blvd. URS also expects that more about the origin and nature of the release will be understood following the proposed removal.

The source of the TPH encountered at the property is unknown. The building and adjacent concrete pavement beneath which the diesel-impacted soil layer was found were originally built in 1969. Possible explanations as to the source of the TPH include:

- Records from a previous owner of the property indicate that there was a fuel oil tank (believed to be an aboveground tank) located just to the east of the impacted soil layer. Leaks or spills of fuel oil from this tank could account for the TPH.
- During grading of the property for construction of the facility the TPH-impacted soil may have been brought in from off site and used as fill material.
- During the original construction of the facility the contractor may have used this area for servicing of construction equipment. At the time the facility was built it was not uncommon for equipment service technicians to allow used motor oil to drain onto the ground surface where the equipment was being serviced.
- Prior to construction of the facility the area was reportedly used for agricultural purposes. The TPH may be related to agricultural practices, e.g. smudge pots.

As described in the "*Preliminary Endangerment Assessment Report*" prepared for the property by CH2M Hill in November 2004, the shallow groundwater in the area is encountered at a depth of approximately 6 ft bgs. The horizontal component of hydraulic gradient and the principal direction of flow of the local groundwater changes seasonally. Water quality from a shallow (65-foot-deep) well within approximately 0.5 mile northwest of the property (1N/22W-27C4) indicate that the concentration of total dissolved solids (TDS) in relatively shallow groundwater exceeds 2,700 milligrams per liter (mg/L), which is considered brackish. Approximately 0.5 mile southwest of the property, the TDS concentration in a 110-foot-deep well (1N/22W-27R5) was as high as 46,800 mg/L, which is considered saline. The shallow perched groundwater is not used for water supply.

CCP is working with AECI to remediate the impacted soils on an expedited basis while AECI is still working at the property. AECI is nearly finished with demolition of the facility and will otherwise be demobilizing from the property around May 4, 2011. At CCP's request, AECI will excavate soils containing TPH at concentrations greater than 100 mg/kg and remove them from the property for treatment at an appropriately licensed treatment facility. The proposed cleanup level of 100 mg/kg is based on recommendations presented in Table 4-1 (revised 3/30/04) of the Regional Water Quality Control Board - Los Angeles Region's publication, "*Interim Site Assessment & Cleanup Guidebook,*" dated May 1996. The work would be done in accordance with the "*Impacted Soil Contingency*

Excavation Work Plan" prepared by AECI and dated February 2011. Please contact either Jon Schuckman of CCP (816) 391-6324, or Allen Blodgett of URS (714) 648-2795 with any questions or concerns.

Thank you in advance for your assistance with this matter. URS will contact you in the next two days as the schedule for the soil excavation becomes clear.

Very truly yours,

URS Corporation

Allen E. Blodgett, P.E.
Principal Engineer

Attachments

cc: Mr. Jon Schuckman, CCP

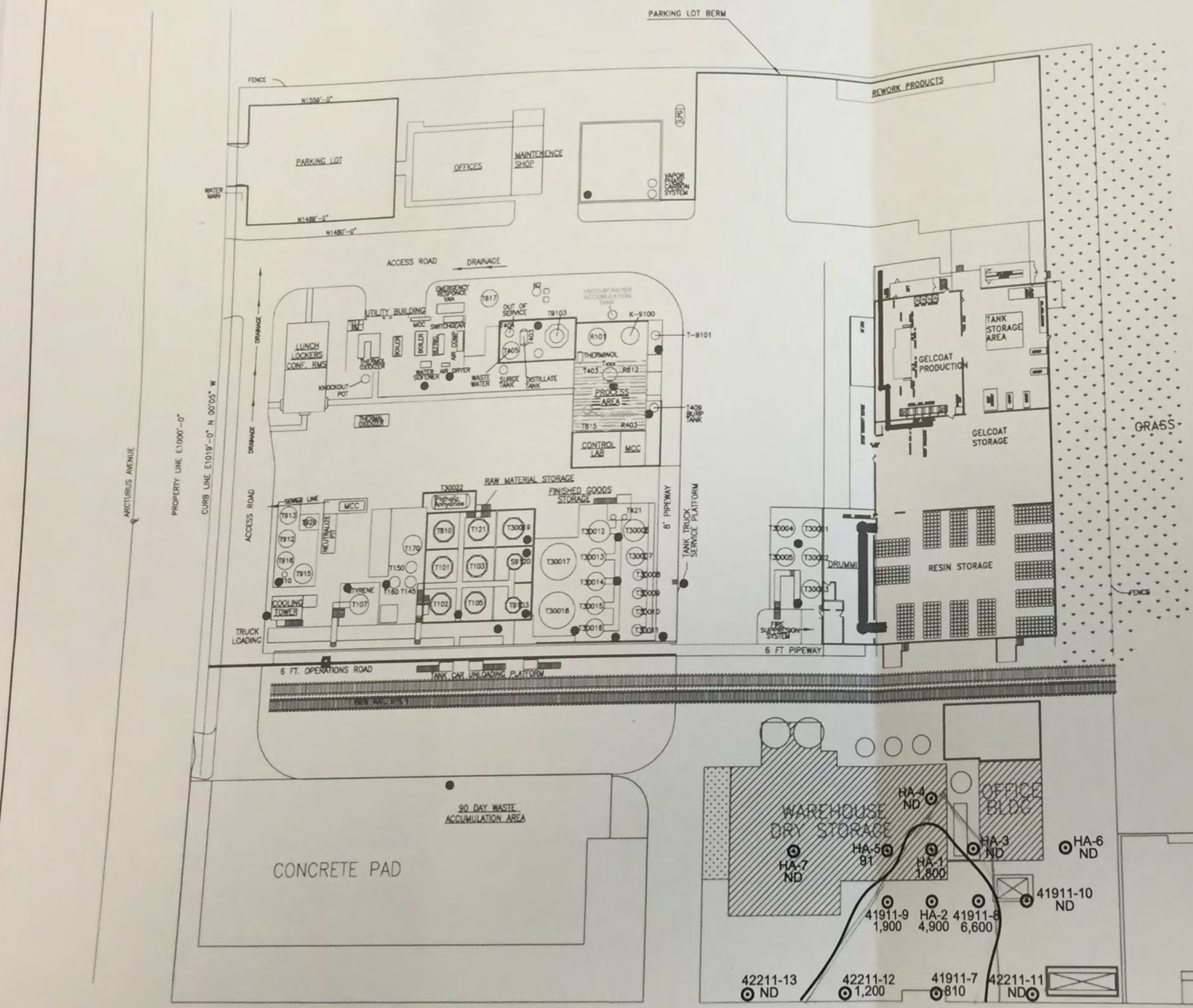
TABLE 1
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
COOK COMPOSITES AND POLYMERS CO.
OXNARD, CALIFORNIA

	Boring ID:	HA-1	HA-1	HA-1	HA-2	HA-2	HA-3	HA-3	HA-4	HA-4	HA-5	HA-5	HA-6	HA-6	HA-7	HA-7	41911-7	41911-8	41911-9	41911-10	42211-11	42211-12	42211-13
	Sample ID:	HA-1-2	HA-1-2.5	HA-1-5	HA-2-2	HA-2-5	HA-3-2	HA-3-5	HA-4-2	HA-4-5	HA-5-2	HA-5-5	HA-6-2	HA-6-5	HA-7-2	HA-7-5	41911-7	41911-8	41911-9	41911-10	42211-11	42211-12	42211-13
	Sample Date:	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	4/19/2011	4/19/2011	4/19/2011	4/19/2011	4/22/2011	4/22/2011	4/22/2011
	Sample Depth (ft bgs):	2	2.5	5.0	2.0	5	2	5	2	5	2	5	2	5	2	5	2	2	2	2	2	2	2
Total Petroleum Hydrocarbons (TPH)																							
TPH Carbon Chain C6	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C7	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C8	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C9 - C10	mg/kg	--	11	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	43	610	150	<5.0	<5.0	240	<5.0
TPH Carbon Chain C11 - C12	mg/kg	--	92	<5.0	420	<5.0	<5.0	<5.0	<5.0	<5.0	14	<5.0	<5.0	<5.0	<5.0	<5.0	190	1,400	420	<5.0	<5.0	380	<5.0
TPH Carbon Chain C13 - C14	mg/kg	--	280	11	1,100	18	<5.0	<5.0	<5.0	<5.0	27	<5.0	<5.0	<5.0	<5.0	<5.0	200	1,900	480	<5.0	<5.0	320	<5.0
TPH Carbon Chain C15 - C16	mg/kg	--	340	25	1,400	19	<5.0	<5.0	<5.0	<5.0	29	<5.0	<5.0	<5.0	<5.0	<5.0	240	1,900	550	<5.0	<5.0	160	<5.0
TPH Carbon Chain C17 - C18	mg/kg	--	420	29	1,300	22	<5.0	<5.0	<5.0	<5.0	11	<5.0	<5.0	<5.0	<5.0	<5.0	83	410	170	<5.0	<5.0	67	<5.0
TPH Carbon Chain C19 - C20	mg/kg	--	140	7.0	470	5.4	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	40	240	66	<5.0	<5.0	6	<5.0
TPH Carbon Chain C21 - C22	mg/kg	--	37	<5.0	210	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	9.3	<75	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C23 - C24	mg/kg	--	6.9	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C25 - C28	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C29 - C32	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C33 - C36	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<5.0	<5.0	<5.0	<5.0
TPH Carbon Chain C37 - C40	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<75	<25	<5.0	<5.0	1,200	<5.0
TPH Carbon Chain C41 - C44	mg/kg	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	91	<5.0	<5.0	<5.0	<5.0	<5.0	810	6,600	1,900	<5.0	<5.0		
TPH C6 - C44 (Total)	mg/kg	--	1,300	77	4,900	71	<5.0	<5.0	<5.0	<5.0													
Volatile Organic Compounds (VOCs)																							
Benzene	µg/kg	<85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Butylbenzene	µg/kg	220	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	µg/kg	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/kg	<85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	µg/kg	190	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	µg/kg	<85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	µg/kg	350	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
m,p-Xylenes	µg/kg	<170	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylenes	µg/kg	<85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																							
Arsenic	mg/kg	--	3.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	mg/kg	--	101	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	mg/kg	--	0.480	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	mg/kg	--	0.516	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	mg/kg	--	12.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	mg/kg	--	6.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	mg/kg	--	10.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	--	4.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	mg/kg	--	<0.0835	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	mg/kg	--	0.996	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	mg/kg	--	15.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	mg/kg	--	23.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	mg/kg	--	39.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)																							
Benzyl Alcohol	mg/kg	--	<0.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl) Phthalate	mg/kg	--	<0.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	mg/kg	--	0.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	mg/kg	--	0.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	mg/kg	--	<0.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	pH units	--	7.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.94	7.81	7.86

Notes:
ft bgs - feet below ground surface
mg/kg - milligrams per kilogram

may cause irritation.

ter. Obtain



EXPLANATION

- HA-1 — LOCATION AND NUMBER OF BORING/TEST PIT
- 1,800 — TPH CONCENTRATION IN mg/kg
- ND — NOT DETECTED ABOVE LABORATORY REPORTING LIMIT
- APPROXIMATE EXTENT OF TPH-IMPACTED LAYER

N

0 30 60

SCALE IN FEET

URS

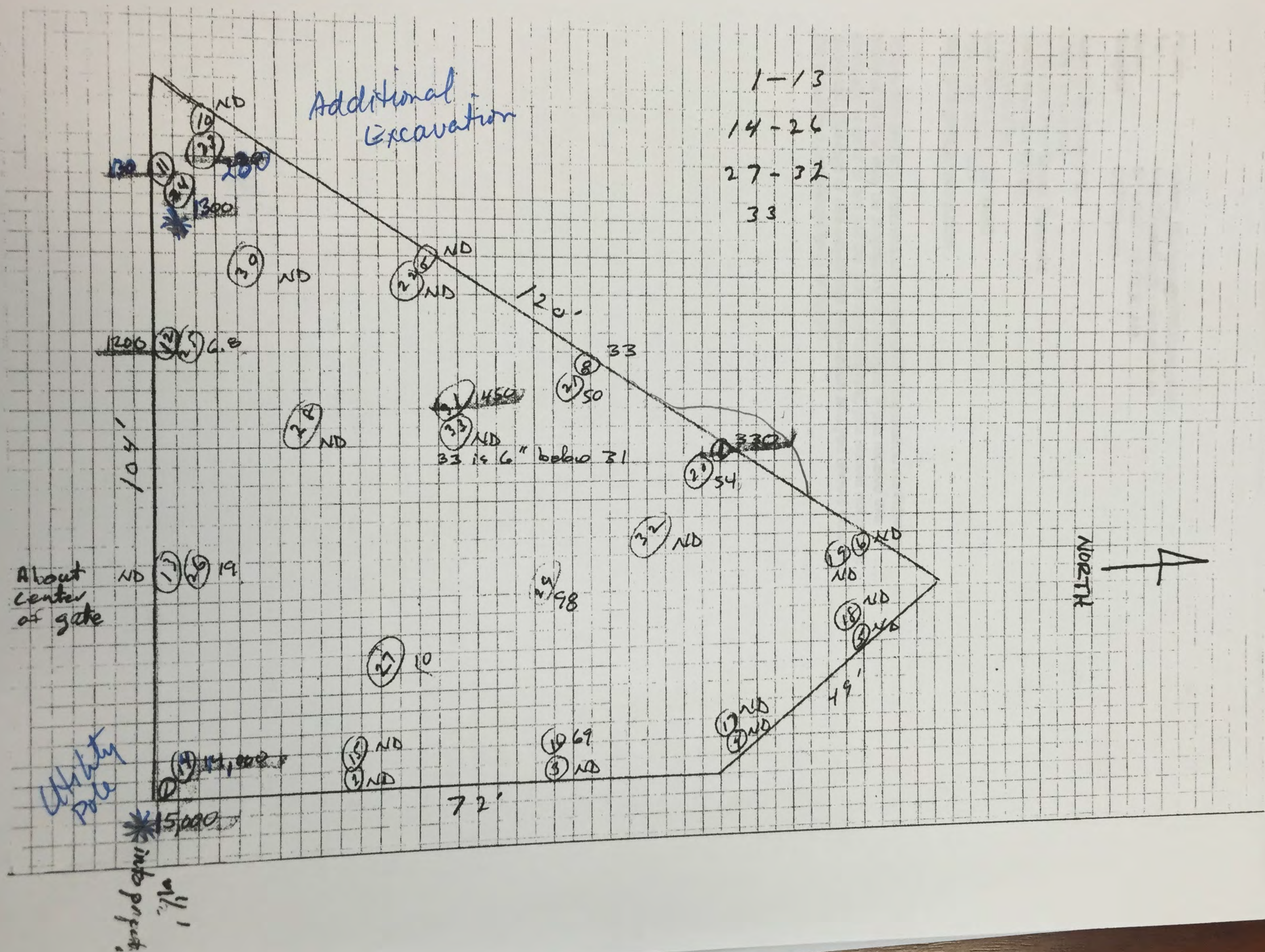
SAMPLE LOCATIONS

Proj. No.: 29868843	Date: APRIL 2011
Project: CCP OXNARD, CA	Figure: 1

T:\2011\29868843 CCP Oxnard DeconDemo\Figures\Figure 02 - Site Layout.dwg , File date: 5/2/2011 11:18 AM, Print date: 5/2/2011 11:17 AM by: Gabriel Negrete

s Unfiled Pape

is taken on phone
Cleaning of Tank
n of Tank Cleanou
e-mail corresp
on of diesel i


Additional Excavation
1-13
14-26
27-32
33
ND
10
23
200
130
11
24
1300
30
ND
ND
ND
120'
1200
12
25
6.8
33
8
21
50
450
31
28
ND
33
ND
33 is 6" below 31
330
21
54
104'
32
ND
About center of gate
ND
13
26
19
29
98
19
6
ND
ND
18
ND
5
ND
27
10
49'
17
ND
4
ND
15
ND
2
ND
10
69
3
ND
14
11,000
72'
15,000
Utility Pole
into project
NORTH

From: <Allen_Blodgett@URSCorp.com>
To: Ines.Gonzalez@ci.oxnard.ca.us
Date: 5/11/2011 10:10:30 AM
Subject: CCP Sketch

Allen E. Blodgett, P.E.
URS Corporation
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Project: CCP OXNARD
Project Location: OXNARD, CA
Project Number: 29868843.

Log of Boring HA-1

Sheet 1 of 1

Date(s) Drilled: 3/17/11		Logged By: A. BLODGETT/L. FANG	Checked By:
Drilling Method: HAND AUGER		Drilling Contractor: —	Total Depth of Borehole: 5'
Drill Rig Type: —		Sampler Type: —	Surface Elevation:
Groundwater Level: ~5' BGS		Drill Bit Size/Type: —	Top of PVC Elevation: —
Borehole Diameter (inches): 4	Diameter of Well (inches): —	Type of Well Casing: —	Screen Perforation: —
Type of Sand Pack: —		Type and Depth of Seal(s): —	

Comments: 78' N. OF PERIMETER FENCE; 30' W. OF UTILITY POLE ON S. SIDE OF GATE

Elevation, feet	Depth, feet	SAMPLES Type	Number	Blows/Foot	Inches Recovered	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	OVA Headspace (ppm)	OVA Background (ppm)	Sample Time	REMARKS
	0						HOLE CREATED BY REMOVAL OF FOOTING					
	5	HA	-1-2'				BLACK, MOIST, SANDY SILT (ML), STAINED, SLIGHT ODOR		75.8		9:40	JAR & ENCORES
5	10	HA	-1-5'				BROWN, MOIST TO WET, SILTY SAND (SM)		10.0		9:50	JAR
	15						BORING TERMINATED					
10	20											
	25											
	30											

Report: ENV_23AW_TEMP; File: URS_TE-1.GPJ; 6/13/2002 1

URS

Project: CCP OXNARD
Project Location: OXNARD, CA
Project Number: 29868843.

Log of Boring HA-2

Sheet 1 of 1

Date(s) Drilled	3/17/11		Logged By	A. BLODGETT/L. FANG	Checked By
Drilling Method	HAND AUGER		Drilling Contractor	—	Total Depth of Borehole 5'
Drill Rig Type	—		Sampler Type	—	Surface Elevation
Groundwater Level	~5' BGS		Drill Bit Size/Type	—	Top of PVC Elevation —
Borehole Diameter (inches)	4	Diameter of Well (inches) —	Type of Well Casing	—	Screen Perforation —
Type of Sand Pack	—		Type and Depth of Seal(s)	—	
Comments	25' S. OF HA-1				

Elevation, feet	Depth, feet	SAMPLES Type	Number	Blows/Foot	Inches Recovered	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	OVA Headspace (ppm)	OVA Background (ppm)	Sample Time	REMARKS
	0						BROWN, MOIST, SANDY CLAY (CL)					
							BLACK, MOIST, SANDY SILT (ML), STAINED, ODOR					
	5		HA-2-2'				BECOMING SANDIER, ODOR INCREASING		162		10:15	JAR
							BROWN, MOIST TO WET, SILTY SAND (SM)					
5	10		HA-2-5'						16.5		10:30	JAR
							BORING TERMINATED					
	15											
10	20											
	25											
	30											

URS

Report: ENV_23AW_TEMP; File: URS_TE~1.GPJ; 6/13/2002 1

Project: CCP OXNARD
Project Location: OXNARD, CA
Project Number: 29868843.

Log of Boring HA-3

Sheet 1 of 1

Date(s) Drilled	3/17/11		Logged By	A. BLODGETT/L. FANG	Checked By
Drilling Method	HAND AUGER		Drilling Contractor	—	Total Depth of Borehole — 5'
Drill Rig Type	—		Sampler Type	—	Surface Elevation
Groundwater Level	~5' BGS		Drill Bit Size/Type	—	Top of PVC Elevation —
Borehole Diameter (inches)	4	Diameter of Well (inches) —	Type of Well Casing	—	Screen Perforation —
Type of Sand Pack	—		Type and Depth of Seal(s)	—	
Comments	25' E. OF HA-1				

Elevation, feet	Depth, feet	SAMPLES Type	Number	Blows/Foot	Inches Recovered	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	OVA Headspace (ppm)	OVA Background (ppm)	Sample Time	REMARKS
	0						BLACK, MOIST, SILTY SAND (SM), STAINED					
	5		HA-3-2'				BROWN, MOIST, SANDY SILT (ML)		2.2		10:35	JAR
5	10		HA-3-5'				4" LAYER OF BROWN, MOIST, SANDY CLAY (CL) THEN BROWN, MOIST TO WET, SILTY SAND (SM)		1.4		10:40	JAR
	15						BORING TERMINATED					
10	20											
	25											
	30											

Report: ENV_23AW_TEMP; File: URS_TE~1.GPJ; 6/13/2002 1

URS

Project: CCP OXNARD
Project Location: OXNARD, CA
Project Number: 29868843.

Log of Boring HA-4

Sheet 1 of 1

Date(s) Drilled: 3/17/11	Logged By: A. BLODGETT/L. FANG	Checked By:	
Drilling Method: HAND AUGER	Drilling Contractor: —	Total Depth of Borehole: 5'	
Drill Rig Type: —	Sampler Type: —	Surface Elevation:	
Groundwater Level: ~5' BGS	Drill Bit Size/Type: —	Top of PVC Elevation: —	
Borehole Diameter (inches): 4 / Diameter of Well (inches): —	Type of Well Casing: —	Screen Perforation: —	
Type of Sand Pack: —	Type and Depth of Seal(s): —		
Comments: 27' N. OF HA-1			

Elevation, feet	Depth, feet	SAMPLES Type	SAMPLES Number	Blows/Foot	Inches Recovered	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	OVA Headspace (ppm)	OVA Background (ppm)	Sample Time	REMARKS
	0						HOLE CREATED BY REMOVAL OF FLOOR SLAB					
							BROWN, MOIST, SANDY CLAY (CL)					
	5		HA-4-2'				BLACK, MOIST, SILTY SAND (SM), STAINED		1.8		11:25	JAR
5	10		HA-4-5'				BROWN, WET, SILTY SAND (SM) WITH SOME CLAY		0.9		11:35	JAR
							BORING TERMINATED					
	15											
10	20											
	25											
	30											

URS

Report: ENV_23AW_TEMP; File: URS_TE-1.GPJ; 6/13/2002 1

Project: CCP OXNARD
Project Location: OXNARD, CA
Project Number: 29868843.

Log of Boring HA-5

Sheet 1 of 1

Date(s) Drilled	3/17/11	Logged By	A. BLODGETT/L. FANG	Checked By	
Drilling Method	HAND AUGER	Drilling Contractor	—	Total Depth of Borehole	5'
Drill Rig Type	—	Sampler Type	—	Surface Elevation	
Groundwater Level	~5' BGS	Drill Bit Size/Type	—	Top of PVC Elevation	—
Borehole Diameter (inches)	4	Diameter of Well (inches)	—	Type of Well Casing	—	Screen Perforation	—
Type of Sand Pack	—	Type and Depth of Seal(s)	—		
Comments	25' W. OF HA-1				

Elevation, feet	Depth, feet	SAMPLES Type	SAMPLES Number	Blows/Foot	Inches Recovered	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	OVA Headspace (ppm)	OVA Background (ppm)	Sample Time	REMARKS
	0						BROWN, DRY, SILTY SAND (SM)					
							BLACK, MOIST, SILTY SAND (SM), STAINED					
							BROWN, MOIST, SILTY SAND (SM)					
	5		HA-5-2'				BLACK, MOIST, SILTY SAND (SM), STAINED		9.1		11:48	JAR
							BROWN, MOIST TO WET, SILTY SAND (SM)					
							~3" LAYER SILTY CLAY AT ~4 1/2'					
5	10		HA-5-5'						0.4		12:00	JAR
							BORING TERMINATED					
	15											
10	20											
	25											
	30											

Report: ENV_23AW_TEMP; File: URS_TE-1.GPJ; 6/13/2002 1

URS

Project: CCP OXNARD
Project Location: OXNARD, CA
Project Number: 29868843.

Log of Boring HA-6

Sheet 1 of 1

Date(s) Drilled: 3/17/11		Logged By: A. BLODGETT/L. FANG	Checked By:
Drilling Method: HAND AUGER		Drilling Contractor: —	Total Depth of Borehole: 5'
Drill Rig Type: —		Sampler Type: —	Surface Elevation:
Groundwater Level: ~5' BGS		Drill Bit Size/Type: —	Top of PVC Elevation: —
Borehole Diameter (inches): 4	Diameter of Well (inches): —	Type of Well Casing: —	Screen Perforation: —
Type of Sand Pack: —		Type and Depth of Seal(s): —	

Comments: 72' E. OF HA-1

Elevation, feet	Depth, feet	SAMPLES Type	Number	Blows/Foot	Inches Recovered	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	OVA Headspace (ppm)	OVA Background (ppm)	Sample Time	REMARKS
	0						BROWN, MOIST, SILTY CLAY (CL)					
	5		HA-6-2'				BROWN, MOIST TO WET, SILTY SAND (SM), BECOMING FINER-GRAINED AT ~2'		1.1		2:10	JAR
5	10		HA-6-5'				BORING TERMINATED		3.5		2:20	JAR
	15											
10	20											
	25											
	30											

Report: ENV_23AW_TEMP; File: URS_TE-1.GPJ; 6/13/2002 1

URS

Project: CCP OXNARD
Project Location: OXNARD, CA
Project Number: 29868843.

Log of Boring HA-7

Sheet 1 of 1

Date(s) Drilled: 3/17/11		Logged By: A. BLODGETT/L. FANG	Checked By:
Drilling Method: HAND AUGER		Drilling Contractor: —	Total Depth of Borehole: 5'
Drill Rig Type: —		Sampler Type: —	Surface Elevation:
Groundwater Level: ~5'		Drill Bit Size/Type: —	Top of PVC Elevation: —
Borehole Diameter (inches): 4	Diameter of Well (inches): —	Type of Well Casing: —	Screen Perforation: —
Type of Sand Pack: —		Type and Depth of Seal(s): —	
Comments: 75' W. OF HA-1			

Elevation, feet	Depth, feet	SAMPLES Type	Number	Blows/Foot	Inches Recovered	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	OVA Headspace (ppm)	OVA Background (ppm)	Sample Time	REMARKS
	0						BROWN, MOIST, SILTY SAND (SM)					
							BLACK, MOIST, SILTY SAND (SM), STAINED, SLIGHT ODOR		2.0		2:16	JAR
	5		HA-7-2'				BROWN, MOIST TO WET, SILTY SAND (SM)					
5	10		HA-7-5'						0.2		2:20	JAR
							BORING TERMINATED					
	15											
10	20											
	25											
	30											

URS

Report: ENV_23AW_TEMP; File: URS_TE-1.GPJ; 6/13/2002 1

Calscience
Environmental
Laboratories, Inc.

April 25, 2011

Allen Blodgett
URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Subject: **Calscience Work Order No.:** **11-04-1435**
Client Reference: **CCP Oxnard**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 4/22/2011 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Vikas Patel

Calscience Environmental
Laboratories, Inc.
Vikas Patel
Project Manager

Calscience Environmental Laboratories, Inc.

Client: URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032
Attn: Allen Blodgett

Work Order: 11-04-1435
Project name: CCP Oxnard
Received: 04/22/11 11:56

DETECTIONS SUMMARY

Client Sample ID / Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
42211-11						
pH	**7.94**		0.01	pH units	EPA 9045D	N/A
42211-12						
pH	**7.81**		0.01	pH units	EPA 9045D	N/A
C11-C12	**20**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14	**240**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	**380**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	**320**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	**160**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	**67**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24	**6.2**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	**1200**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
42211-13						
pH	**7.86**		0.01	pH units	EPA 9045D	N/A

Subcontracted analyses, if any, are not included in this summary.

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/22/11
Work Order No: 11-04-1435
Preparation: N/A
Method: EPA 9045D

Project: CCP Oxnard

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
42211-11	**11-04-1435-1-A**	**04/22/11 09:30**	**Solid**	**PH 4**	**04/22/11**	**04/22/11 19:23**	**B0422PHD2**

Parameter	Result	RL	DF	Qual	Units
pH	7.94	0.01	1		pH units

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
42211-12	**11-04-1435-2-A**	**04/22/11 09:30**	**Solid**	**PH 4**	**04/22/11**	**04/22/11 19:23**	**B0422PHD2**

Parameter	Result	RL	DF	Qual	Units
pH	7.81	0.01	1		pH units

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
42211-13	**11-04-1435-3-A**	**04/22/11 09:30**	**Solid**	**PH 4**	**04/22/11**	**04/22/11 19:23**	**B0422PHD2**

Parameter	Result	RL	DF	Qual	Units
pH	7.86	0.01	1		pH units

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/22/11
Work Order No: 11-04-1435
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
42211-11	**11-04-1435-1-A**	**04/22/11 09:30**	**Solid**	**GC 48**	**04/22/11**	**04/22/11 18:19**	**110422B01**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						
Surrogates:	REC (%)	Control Limits		Qual					
Decachlorobiphenyl	100	61-145							

42211-12	**11-04-1435-2-A**	**04/22/11 09:30**	**Solid**	**GC 48**	**04/22/11**	**04/22/11 18:35**	**110422B01**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	67	5.0	1	
C7	ND	5.0	1		C23-C24	6.2	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	20	5.0	1		C33-C36	ND	5.0	1	
C13-C14	240	5.0	1		C37-C40	ND	5.0	1	
C15-C16	380	5.0	1		C41-C44	ND	5.0	1	
C17-C18	320	5.0	1		C6-C44 Total	1200	5.0	1	
C19-C20	160	5.0	1						
Surrogates:	REC (%)	Control Limits		Qual					
Decachlorobiphenyl	96	61-145							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/22/11
Work Order No: 11-04-1435
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
42211-13	**11-04-1435-3-A**	**04/22/11 09:30**	**Solid**	**GC 48**	**04/22/11**	**04/22/11 18:50**	**110422B01**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						
Surrogates:	REC (%)	Control Limits		Qual					
Decachlorobiphenyl	97	61-145							

Method Blank	**099-14-085-237**	**N/A**	**Solid**	**GC 48**	**04/22/11**	**04/22/11 14:15**	**110422B01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						
Surrogates:	REC (%)	Control Limits		Qual					
Decachlorobiphenyl	101	61-145							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/22/11
Work Order No: 11-04-1435
Preparation: N/A
Method: EPA 9045D

Project: CCP Oxnard

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
42211-11	Solid	PH 4	04/22/11	04/22/11	B0422PHD2

Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
pH	7.94	7.90	1	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/22/11
Work Order No: 11-04-1435
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project CCP Oxnard

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-04-1332-6	**Solid**	**GC 48**	**04/22/11**	**04/22/11**	**110422S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	98	102	64-130	4	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-04-1435
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project: CCP Oxnard

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-085-237	**Solid**	**GC 48**	**04/22/11**	**04/22/11**	**110422B01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	94	95	75-123	1	0-12	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 11-04-1435

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Calscience Environmental Laboratories, Inc.

☐ SoCal Laboratory
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

☐ NorCal Service Center
5063 Commercial Circle, Suite H
Concord, CA 94520-8577
(925) 689-9022

CHAIN OF CUSTODY RECORD

Date 4-22-11

Page 1 of 1

WO # / LAB USE ONLY: 04-1435

LABORATORY CLIENT: URS Corp

ADDRESS: 2020 E First St Suite 400

CITY: Santa Ana STATE: Ca ZIP: 92705

TEL: 7148356886 E-MAIL: allen_Bladgett@URSCorp.com

CLIENT PROJECT NAME / NUMBER: CCP Oxnard

P.O. NO.: CCP

PROJECT CONTACT: Allen Bladgett

SAMPLER(S): (PRINT) Rod Miller

TURNAROUND TIME: ☐ SAME DAY ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD

☐ COELT EDF GLOBAL ID LOG CODE

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH (g) or GRO	TPH (d) or DRO or (C6-C36) or (C6-C44)	TPH (___)	BTEX / MTBE (8260) or (___)	VOCs (8260)	Oxygenates (8260)	En Core / Terra Core Prep (5035)	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PNAs (8310) or (8270)	T22 Metals (6010/747X)	Cr(VI) [7196 or 7199 or 218.6]	Air - VOCs (TO-14A) or (TO-15)	Air - TPH (g) [TO-3]	PH		
1	42211-11	4-22-11	9:30	Soil	1					✓														✓		
2	42211-12	|	|	|	1					✓														✓		
3	42211-13	|	|	|	1					✓														✓		

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	[signature]	4/22/11	11:56
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

DISTRIBUTION: White with final report, Green and Yellow to Client.
Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

06/01/10 Revision

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-04- 1 4 3 5

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: URS CORP

DATE: 04/22/11

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 4 . 4 °C + 0.5 °C (CF) = 4 . 9 °C ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter **Initial:** RS

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☑ Not Present ☐ N/A **Initial:** RS

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present **Initial:** RS

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☑	☐	☐
Proper preservation noted on COC or sample container	☐	☐	☑
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☑8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☐VOA**h** ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na$_2$** ☐1AGB**s** ☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐500PB ☐500PB**na** ☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** BS

Container: **C:** Clear **A:** Amber **P:** Plastic **G:** Glass **J:** Jar **B:** Bottle **Z:** Ziploc/Resealable Bag **E:** Envelope **Reviewed by:** YC

Preservative: **h:** HCL **n:** HNO_3 **na$_2$:**$Na_2S_2O_3$ **na:** NaOH **p:** H_3PO_4 **s:** H_2SO_4 **znna:** $ZnAc_2$+NaOH **f:** Field-filtered **Scanned by:** YC

Calscience
Environmental
Laboratories, Inc.

April 20, 2011

Allen Blodgett
URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Subject: **Calscience Work Order No.: 11-04-1191**
Client Reference: CCP Oxnard

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 4/19/2011 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Vikas Patel

Calscience Environmental
Laboratories, Inc.
Vikas Patel
Project Manager

Calscience Environmental Laboratories, Inc.

Client: URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032
Attn: Allen Blodgett

Work Order: 11-04-1191
Project name: CCP Oxnard
Received: 04/19/11 14:23

DETECTIONS SUMMARY

Client Sample ID / Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
41911-7						
C11-C12	**43**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14	**190**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	**200**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	**240**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	**83**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	**40**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24	**9.3**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	**810**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
41911-8						
C9-C10	**100**		75	mg/kg	EPA 8015B (M)	EPA 3550B
C11-C12	**610**		75	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14	**1400**		75	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	**1900**		75	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	**1900**		75	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	**410**		75	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	**240**		75	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	**6600**		75	mg/kg	EPA 8015B (M)	EPA 3550B
41911-9						
C9-C10	**36**		25	mg/kg	EPA 8015B (M)	EPA 3550B
C11-C12	**150**		25	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14	**420**		25	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	**480**		25	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	**550**		25	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	**170**		25	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	**66**		25	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	**1900**		25	mg/kg	EPA 8015B (M)	EPA 3550B

Stained from diesel upgradient to 41911-8

Subcontracted analyses, if any, are not included in this summary.

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Project: CCP Oxnard

Date Received:	04/19/11
Work Order No:	11-04-1191
Preparation:	EPA 3550B
Method:	EPA 8015B (M)
Units:	mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
41911-7	**11-04-1191-1-A**	**04/19/11 10:00**	**Solid**	**GC 46**	**04/19/11**	**04/19/11 20:45**	**110419B10**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	40	5.0	1	
C7	ND	5.0	1		C23-C24	9.3	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	43	5.0	1		C33-C36	ND	5.0	1	
C13-C14	190	5.0	1		C37-C40	ND	5.0	1	
C15-C16	200	5.0	1		C41-C44	ND	5.0	1	
C17-C18	240	5.0	1		C6-C44 Total	810	5.0	1	
C19-C20	83	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	103	61-145	

41911-8	**11-04-1191-2-A**	**04/19/11 10:00**	**Solid**	**GC 46**	**04/19/11**	**04/20/11 09:57**	**110419B10**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	75	15		C21-C22	240	75	15	
C7	ND	75	15		C23-C24	ND	75	15	
C8	ND	75	15		C25-C28	ND	75	15	
C9-C10	100	75	15		C29-C32	ND	75	15	
C11-C12	610	75	15		C33-C36	ND	75	15	
C13-C14	1400	75	15		C37-C40	ND	75	15	
C15-C16	1900	75	15		C41-C44	ND	75	15	
C17-C18	1900	75	15		C6-C44 Total	6600	75	15	
C19-C20	410	75	15						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	120	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/19/11
Work Order No: 11-04-1191
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
41911-9	**11-04-1191-3-A**	**04/19/11 10:00**	**Solid**	**GC 46**	**04/19/11**	**04/20/11 10:12**	**110419B10**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	25	5		C21-C22	66	25	5	
C7	ND	25	5		C23-C24	ND	25	5	
C8	ND	25	5		C25-C28	ND	25	5	
C9-C10	36	25	5		C29-C32	ND	25	5	
C11-C12	150	25	5		C33-C36	ND	25	5	
C13-C14	420	25	5		C37-C40	ND	25	5	
C15-C16	480	25	5		C41-C44	ND	25	5	
C17-C18	550	25	5		C6-C44 Total	1900	25	5	
C19-C20	170	25	5						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	100	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
41911-10	**11-04-1191-4-A**	**04/19/11 12:10**	**Solid**	**GC 46**	**04/19/11**	**04/19/11 21:31**	**110419B10**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	97	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/19/11
Work Order No: 11-04-1191
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-085-236-A**	**N/A**	**Solid**	**GC 46**	**04/19/11**	**04/19/11 17:54**	**110419B10**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	98	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/19/11
Work Order No: 11-04-1191
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project CCP Oxnard

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-04-1154-1	**Solid**	**GC 46**	**04/19/11**	**04/19/11**	**110419S10**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	174	186	64-130	5	0-15	3

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-04-1191
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project: CCP Oxnard

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-085-236	**Solid**	**GC 46**	**04/19/11**	**04/19/11**	**110419B10**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	96	96	75-123	0	0-12	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 11-04-1191

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Calscience Environmental Laboratories, Inc.

☐ SoCal Laboratory
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

☐ NorCal Service Center
5063 Commercial Circle, Suite H
Concord, CA 94520-8577
(925) 689-9022

CHAIN OF CUSTODY RECORD

Date 4-15-11

Page 1 of 1

WO # / LAB USE ONLY: 04-1199

LABORATORY CLIENT: URS Corp

ADDRESS: 2020 E First St Suite 400

CITY: Santa Ana STATE: Ca ZIP: 92705

TEL: 714-835-6886 E-MAIL: allan_blodgett@urscorp.com

CLIENT PROJECT NAME / NUMBER: CCP Oxnard

P.O. NO.: CCP

PROJECT CONTACT: Allan Blodgett

SAMPLER(S): (PRINT) Ron Miller

TURNAROUND TIME: ☐ SAME DAY ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ STANDARD

☐ COELT EDF | GLOBAL ID | LOG CODE

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH (g) or GRO	TPH (d) or DRO or (C6-C36) or (C6-C44)	TPH ( )	BTEX / MTBE (8260) or ( )	VOCs (8260)	Oxygenates (8260)	En Core / Terra Core Prep (5035)	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PNAs (8310) or (8270)	T22 Metals (6010/747X)	Cr(VI) [7196 or 7199 or 218.6]	Air - VOCs (TO-14A) or (TO-15)	Air - TPH (g) [TO-3]
1	41911-7	4-19-11	10:00	Soil	1					X													
2	41911-8	4-19-11	10:00	"	1					X													
3	41911-9	4-15-11	10:00	"	1					X													
4	41911-10	4-15-11	12:10	"	1					X													

Relinquished by: (Signature) Ron Miller	Received by: (Signature/Affiliation) CA	Date: 041911	Time: 1423
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/01/10 Revision

DISTRIBUTION: White with final report, Green and Yellow to Client.
Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-04-1119-11

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: URS CORP

DATE: 04/19/11

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 3.9 °C + 0.5 °C (CF) = 4.4 °C ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter Initial: NC

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☑ Not Present ☐ N/A Initial: NC

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: NC

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☐	☐	☑
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☑8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☐VOA**h** ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na$_2$** ☐1AGB**s**

☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐500PB ☐500PB**na**

☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** NC

Container: **C:** Clear **A:** Amber **P:** Plastic **G:** Glass **J:** Jar **B:** Bottle **Z:** Ziploc/Resealable Bag **E:** Envelope **Reviewed by:** _____

Preservative: **h:** HCL **n:** HNO_3 **na$_2$:** $Na_2S_2O_3$ **na:** NaOH **p:** H_3PO_4 **s:** H_2SO_4 **znna:** $ZnAc_2$+NaOH **f:** Field-filtered **Scanned by:** _____

Calscience
Environmental
Laboratories, Inc.

April 11, 2011

Allen Blodgett
URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Subject: **Calscience Work Order No.: 11-04-0159**
Client Reference: CCP Oxnard / 29868843.30000

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 4/4/2011 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Vikas Patel

Calscience Environmental
Laboratories, Inc.
Vikas Patel
Project Manager

Calscience Environmental Laboratories, Inc.

Client:	URS Corporation 2020 East 1st Street, Suite 400 Santa Ana, CA 92705-4032	Work Order:	11-04-0159
		Project name:	CCP Oxnard / 29868843.30000
		Received:	04/04/11 14:36
Attn:	Allen Blodgett		

DETECTIONS SUMMARY

Client Sample ID Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
4411-1						
Arsenic	**1.92**		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	**57.3**		0.500	mg/kg	EPA 6010B	EPA 3050B
Beryllium	**0.283**		0.250	mg/kg	EPA 6010B	EPA 3050B
Cadmium	**0.653**		0.500	mg/kg	EPA 6010B	EPA 3050B
Chromium	**31.0**		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	**4.27**		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	**11.7**		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	**9.47**		0.500	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	**0.826**		0.250	mg/kg	EPA 6010B	EPA 3050B
Nickel	**19.8**		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	**15.1**		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	**455**		1.00	mg/kg	EPA 6010B	EPA 3050B
pH	**9.19**		0.01	pH units	EPA 9045D	N/A
C15-C16	**56**		10	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	**12**		10	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24	**12**		10	mg/kg	EPA 8015B (M)	EPA 3550B
C25-C28	**21**		10	mg/kg	EPA 8015B (M)	EPA 3550B
C29-C32	**47**		10	mg/kg	EPA 8015B (M)	EPA 3550B
C33-C36	**37**		10	mg/kg	EPA 8015B (M)	EPA 3550B
C37-C40	**32**		10	mg/kg	EPA 8015B (M)	EPA 3550B
C41-C44	**22**		10	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	**260**		10	mg/kg	EPA 8015B (M)	EPA 3550B
4411-2						
Benzene	**1.9**		1.1	ug/kg	EPA 8260B	EPA 5035
Ethylbenzene	**3500**		110	ug/kg	EPA 8260B	EPA 5035
Styrene	**130**		1.1	ug/kg	EPA 8260B	EPA 5035
o-Xylene	**2.4**		1.1	ug/kg	EPA 8260B	EPA 5035
p-Isopropyltoluene	**1.3**		1.1	ug/kg	EPA 8260B	EPA 5035
p/m-Xylene	**2.4**		2.1	ug/kg	EPA 8260B	EPA 5035

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Client:	URS Corporation	Work Order:	11-04-0159
	2020 East 1st Street, Suite 400	Project name:	CCP Oxnard / 29868843.30000
	Santa Ana, CA 92705-4032	Received:	04/04/11 14:36
Attn:	Allen Blodgett		

DETECTIONS SUMMARY

Client Sample ID Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
4411-3						
Barium	**15.7**		0.500	mg/kg	EPA 6010B	EPA 3050B
Chromium	**4.95**		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	**11.0**		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	**9.19**		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	**16.4**		0.500	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	**0.594**		0.250	mg/kg	EPA 6010B	EPA 3050B
Nickel	**2.53**		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	**3.29**		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	**63.5**		1.00	mg/kg	EPA 6010B	EPA 3050B
pH	**5.37**		0.01	pH units	EPA 9045D	N/A
C8	**45000**		2000	mg/kg	EPA 8015B (M)	EPA 3550B
C9-C10	**2700**		2000	mg/kg	EPA 8015B (M)	EPA 3550B
C11-C12	**20000**		2000	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14	**7300**		2000	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	**3700**		2000	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	**2200**		2000	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	**7200**		2000	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24	**2000**		2000	mg/kg	EPA 8015B (M)	EPA 3550B
C25-C28	**2400**		2000	mg/kg	EPA 8015B (M)	EPA 3550B
C29-C32	**13000**		2000	mg/kg	EPA 8015B (M)	EPA 3550B
C33-C36	**2800**		2000	mg/kg	EPA 8015B (M)	EPA 3550B
C37-C40	**2700**		2000	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	**110000**		2000	mg/kg	EPA 8015B (M)	EPA 3550B
Mercury	**0.311**		0.0835	mg/kg	EPA 7471A	EPA 7471A Total
Benzyl Alcohol	**33**		25	mg/kg	EPA 8270C	EPA 3545
Bis(2-Ethylhexyl) Phthalate	**30**		25	mg/kg	EPA 8270C	EPA 3545
Naphthalene	**31**		25	mg/kg	EPA 8270C	EPA 3545
4411-6						
C9-C10	**160**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C11-C12	**820**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14	**2200**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	**2400**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	**2500**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	**810**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	**380**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24	**120**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	**9400**		100	mg/kg	EPA 8015B (M)	EPA 3550B

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation	Date Received: 04/04/11
2020 East 1st Street, Suite 400	Work Order No: 11-04-0159
Santa Ana, CA 92705-4032	Preparation: EPA 3550B
	Method: EPA 8015B (M)
	Units: mg/kg

Project: CCP Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
4411-1	**11-04-0159-1-A**	**04/04/11 10:30**	**Solid**	**GC 45**	**04/05/11**	**04/06/11 05:09**	**110405B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	10	2		C21-C22	12	10	2	
C7	ND	10	2		C23-C24	12	10	2	
C8	ND	10	2		C25-C28	21	10	2	
C9-C10	ND	10	2		C29-C32	47	10	2	
C11-C12	ND	10	2		C33-C36	37	10	2	
C13-C14	ND	10	2		C37-C40	32	10	2	
C15-C16	56	10	2		C41-C44	22	10	2	
C17-C18	ND	10	2		C6-C44 Total	260	10	2	
C19-C20	ND	10	2						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	127	61-145	

4411-3	**11-04-0159-3-A**	**04/04/11 10:30**	**Solid**	**GC 45**	**04/05/11**	**04/06/11 04:53**	**110405B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	2000	400		C21-C22	7200	2000	400	
C7	ND	2000	400		C23-C24	2000	2000	400	
C8	45000	2000	400		C25-C28	2400	2000	400	
C9-C10	2700	2000	400		C29-C32	13000	2000	400	
C11-C12	20000	2000	400		C33-C36	2800	2000	400	
C13-C14	7300	2000	400		C37-C40	2700	2000	400	
C15-C16	3700	2000	400		C41-C44	ND	2000	400	
C17-C18	ND	2000	400		C6-C44 Total	110000	2000	400	
C19-C20	2200	2000	400						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	88	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation	Date Received: 04/04/11
2020 East 1st Street, Suite 400	Work Order No: 11-04-0159
Santa Ana, CA 92705-4032	Preparation: EPA 3550B
	Method: EPA 8015B (M)
	Units: mg/kg

Project: CCP Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
4411-4	**11-04-0159-4-A**	**04/04/11 10:30**	**Solid**	**GC 45**	**04/05/11**	**04/06/11 04:07**	**110405B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	97	61-145	

4411-5	**11-04-0159-5-A**	**04/04/11 10:30**	**Solid**	**GC 45**	**04/05/11**	**04/06/11 04:23**	**110405B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	100	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation	Date Received: 04/04/11
2020 East 1st Street, Suite 400	Work Order No: 11-04-0159
Santa Ana, CA 92705-4032	Preparation: EPA 3550B
	Method: EPA 8015B (M)
	Units: mg/kg

Project: CCP Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
4411-6	**11-04-0159-6-A**	**04/04/11 10:30**	**Solid**	**GC 45**	**04/05/11**	**04/06/11 10:03**	**110405B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	100	20		C21-C22	380	100	20	
C7	ND	100	20		C23-C24	120	100	20	
C8	ND	100	20		C25-C28	ND	100	20	
C9-C10	160	100	20		C29-C32	ND	100	20	
C11-C12	820	100	20		C33-C36	ND	100	20	
C13-C14	2200	100	20		C37-C40	ND	100	20	
C15-C16	2400	100	20		C41-C44	ND	100	20	
C17-C18	2500	100	20		C6-C44 Total	9400	100	20	
C19-C20	810	100	20						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	122	61-145	

Method Blank	099-14-085-220	N/A	Solid	GC 45	04/05/11	04/06/11 02:35	110405B05

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	91	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/04/11
Work Order No: 11-04-0159
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: CCP Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
4411-6	**11-04-0159-6-A**	**04/04/11 10:30**	**Solid**	**GC 45**	**04/05/11**	**04/06/11 10:03**	**110405B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	100	20		C21-C22	380	100	20	
C7	ND	100	20		C23-C24	120	100	20	
C8	ND	100	20		C25-C28	ND	100	20	
C9-C10	160	100	20		C29-C32	ND	100	20	
C11-C12	820	100	20		C33-C36	ND	100	20	
C13-C14	2200	100	20		C37-C40	ND	100	20	
C15-C16	2400	100	20		C41-C44	ND	100	20	
C17-C18	2500	100	20		C6-C44 Total	9400	100	20	
C19-C20	810	100	20						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	122	61-145	

Method Blank	**099-14-085-220**	**N/A**	**Solid**	**GC 45**	**04/05/11**	**04/06/11 02:35**	**110405B05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	91	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received:	04/04/11
Work Order No:	11-04-0159
Preparation:	EPA 3545
Method:	EPA 8270C
Units:	mg/kg

Project: CCP Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
4411-1	**11-04-0159-1-A**	**04/04/11 10:30**	**Solid**	**GC/MS CCC**	**04/06/11**	**04/11/11 14:22**	**110406L01**

Parameter	Result	RL	DF	Qual
Acenaphthene	ND	0.50	1	
Acenaphthylene	ND	0.50	1	
Aniline	ND	0.50	1	
Anthracene	ND	0.50	1	
Azobenzene	ND	0.50	1	
Benzidine	ND	10	1	
Benzo (a) Anthracene	ND	0.50	1	
Benzo (a) Pyrene	ND	0.50	1	
Benzo (b) Fluoranthene	ND	0.50	1	
Benzo (g,h,i) Perylene	ND	0.50	1	
Benzo (k) Fluoranthene	ND	0.50	1	
Benzoic Acid	ND	2.5	1	
Benzyl Alcohol	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1	
Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Butyl Benzyl Phthalate	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1	
4-Chloroaniline	ND	0.50	1	
2-Chloronaphthalene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1	
4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Chrysene	ND	0.50	1	
Di-n-Butyl Phthalate	ND	0.50	1	
Di-n-Octyl Phthalate	ND	0.50	1	
Dibenz (a,h) Anthracene	ND	0.50	1	
Dibenzofuran	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1	
3,3'-Dichlorobenzidine	ND	10	1	
2,4-Dichlorophenol	ND	0.50	1	
Diethyl Phthalate	ND	0.50	1	
Dimethyl Phthalate	ND	0.50	1	

Surrogates:	REC (%)	Control Limits	Qual
2-Fluorobiphenyl	99	38-134	
Nitrobenzene-d5	94	42-150	
Phenol-d6	93	46-118	

Parameter	Result	RL	DF	Qual
2,4-Dimethylphenol	ND	0.50	1	
4,6-Dinitro-2-Methylphenol	ND	2.5	1	
2,4-Dinitrophenol	ND	2.5	1	
2,4-Dinitrotoluene	ND	0.50	1	
2,6-Dinitrotoluene	ND	0.50	1	
Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1	
Hexachlorobenzene	ND	0.50	1	
Hexachlorocyclopentadiene	ND	2.5	1	
Hexachloroethane	ND	0.50	1	
Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Isophorone	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1	
2-Methylphenol	ND	0.50	1	
3/4-Methylphenol	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1	
N-Nitrosodimethylamine	ND	0.50	1	
N-Nitrosodiphenylamine	ND	0.50	1	
Naphthalene	ND	0.50	1	
4-Nitroaniline	ND	0.50	1	
3-Nitroaniline	ND	0.50	1	
2-Nitroaniline	ND	0.50	1	
Nitrobenzene	ND	2.5	1	
4-Nitrophenol	ND	0.50	1	
2-Nitrophenol	ND	0.50	1	
Pentachlorophenol	ND	2.5	1	
Phenanthrene	ND	0.50	1	
Phenol	ND	0.50	1	
Pyrene	ND	0.50	1	
Pyridine	ND	0.50	1	
1,2,4-Trichlorobenzene	ND	0.50	1	
2,4,6-Trichlorophenol	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1	

Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	94	42-120	
p-Terphenyl-d14	114	35-167	
2,4,6-Tribromophenol	111	36-132	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation	Date Received: 04/04/11
2020 East 1st Street, Suite 400	Work Order No: 11-04-0159
Santa Ana, CA 92705-4032	Preparation: EPA 3545
	Method: EPA 8270C
	Units: mg/kg

Project: CCP Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
4411-3	**11-04-0159-3-a**	**04/04/11 10:30**	**Solid**	**GC/MS CCC**	**04/06/11**	**04/11/11 14:48**	**110406L01**

Parameter	Result	RL	DF	Qual
Acenaphthene	ND	25	50	
Acenaphthylene	ND	25	50	
Aniline	ND	25	50	
Anthracene	ND	25	50	
Azobenzene	ND	25	50	
Benzidine	ND	500	50	
Benzo (a) Anthracene	ND	25	50	
Benzo (a) Pyrene	ND	25	50	
Benzo (b) Fluoranthene	ND	25	50	
Benzo (g,h,i) Perylene	ND	25	50	
Benzo (k) Fluoranthene	ND	25	50	
Benzoic Acid	ND	120	50	
Benzyl Alcohol	33	25	50	
Bis(2-Chloroethoxy) Methane	ND	25	50	
Bis(2-Chloroethyl) Ether	ND	120	50	
Bis(2-Chloroisopropyl) Ether	ND	25	50	
Bis(2-Ethylhexyl) Phthalate	30	25	50	
4-Bromophenyl-Phenyl Ether	ND	25	50	
Butyl Benzyl Phthalate	ND	25	50	
4-Chloro-3-Methylphenol	ND	25	50	
4-Chloroaniline	ND	25	50	
2-Chloronaphthalene	ND	25	50	
2-Chlorophenol	ND	25	50	
4-Chlorophenyl-Phenyl Ether	ND	25	50	
Chrysene	ND	25	50	
Di-n-Butyl Phthalate	ND	25	50	
Di-n-Octyl Phthalate	ND	25	50	
Dibenz (a,h) Anthracene	ND	25	50	
Dibenzofuran	ND	25	50	
1,2-Dichlorobenzene	ND	25	50	
1,3-Dichlorobenzene	ND	25	50	
1,4-Dichlorobenzene	ND	25	50	
3,3'-Dichlorobenzidine	ND	500	50	
2,4-Dichlorophenol	ND	25	50	
Diethyl Phthalate	ND	25	50	
Dimethyl Phthalate	ND	25	50	

Surrogates:	REC (%)	Control Limits	Qual
2-Fluorobiphenyl	81	38-134	
Nitrobenzene-d5	78	42-150	
Phenol-d6	67	46-118	

Parameter	Result	RL	DF	Qual
2,4-Dimethylphenol	ND	25	50	
4,6-Dinitro-2-Methylphenol	ND	120	50	
2,4-Dinitrophenol	ND	120	50	
2,4-Dinitrotoluene	ND	25	50	
2,6-Dinitrotoluene	ND	25	50	
Fluoranthene	ND	25	50	
Fluorene	ND	25	50	
Hexachloro-1,3-Butadiene	ND	25	50	
Hexachlorobenzene	ND	25	50	
Hexachlorocyclopentadiene	ND	120	50	
Hexachloroethane	ND	25	50	
Indeno (1,2,3-c,d) Pyrene	ND	25	50	
Isophorone	ND	25	50	
2-Methylnaphthalene	ND	25	50	
1-Methylnaphthalene	ND	25	50	
2-Methylphenol	ND	25	50	
3/4-Methylphenol	ND	25	50	
N-Nitroso-di-n-propylamine	ND	25	50	
N-Nitrosodimethylamine	ND	25	50	
N-Nitrosodiphenylamine	ND	25	50	
Naphthalene	31	25	50	
4-Nitroaniline	ND	25	50	
3-Nitroaniline	ND	25	50	
2-Nitroaniline	ND	25	50	
Nitrobenzene	ND	120	50	
4-Nitrophenol	ND	25	50	
2-Nitrophenol	ND	25	50	
Pentachlorophenol	ND	120	50	
Phenanthrene	ND	25	50	
Phenol	ND	25	50	
Pyrene	ND	25	50	
Pyridine	ND	25	50	
1,2,4-Trichlorobenzene	ND	25	50	
2,4,6-Trichlorophenol	ND	25	50	
2,4,5-Trichlorophenol	ND	25	50	

Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	81	42-120	
p-Terphenyl-d14	133	35-167	
2,4,6-Tribromophenol	90	36-132	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received:	04/04/11
Work Order No:	11-04-0159
Preparation:	EPA 3545
Method:	EPA 8270C
Units:	mg/kg

Project: CCP Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-549-1,877**	**N/A**	**Solid**	**GC/MS CCC**	**04/06/11**	**04/11/11 11:26**	**110406L01**

Parameter	Result	RL	DF	Qual
Acenaphthene	ND	0.50	1	
Acenaphthylene	ND	0.50	1	
Aniline	ND	0.50	1	
Anthracene	ND	0.50	1	
Azobenzene	ND	0.50	1	
Benzidine	ND	10	1	
Benzo (a) Anthracene	ND	0.50	1	
Benzo (a) Pyrene	ND	0.50	1	
Benzo (b) Fluoranthene	ND	0.50	1	
Benzo (g,h,i) Perylene	ND	0.50	1	
Benzo (k) Fluoranthene	ND	0.50	1	
Benzoic Acid	ND	2.5	1	
Benzyl Alcohol	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1	
Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Butyl Benzyl Phthalate	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1	
4-Chloroaniline	ND	0.50	1	
2-Chloronaphthalene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1	
4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Chrysene	ND	0.50	1	
Di-n-Butyl Phthalate	ND	0.50	1	
Di-n-Octyl Phthalate	ND	0.50	1	
Dibenz (a,h) Anthracene	ND	0.50	1	
Dibenzofuran	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1	
3,3'-Dichlorobenzidine	ND	10	1	
2,4-Dichlorophenol	ND	0.50	1	
Diethyl Phthalate	ND	0.50	1	
Dimethyl Phthalate	ND	0.50	1	

Surrogates:	REC (%)	Control Limits	Qual
2-Fluorobiphenyl	100	38-134	
Nitrobenzene-d5	93	42-150	
Phenol-d6	95	46-118	

Parameter	Result	RL	DF	Qual
2,4-Dimethylphenol	ND	0.50	1	
4,6-Dinitro-2-Methylphenol	ND	2.5	1	
2,4-Dinitrophenol	ND	2.5	1	
2,4-Dinitrotoluene	ND	0.50	1	
2,6-Dinitrotoluene	ND	0.50	1	
Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1	
Hexachlorobenzene	ND	0.50	1	
Hexachlorocyclopentadiene	ND	2.5	1	
Hexachloroethane	ND	0.50	1	
Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Isophorone	ND	0.50	1	
2-Methylnaphthalene	ND	0.50	1	
1-Methylnaphthalene	ND	0.50	1	
2-Methylphenol	ND	0.50	1	
3/4-Methylphenol	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1	
N-Nitrosodimethylamine	ND	0.50	1	
N-Nitrosodiphenylamine	ND	0.50	1	
Naphthalene	ND	0.50	1	
4-Nitroaniline	ND	0.50	1	
3-Nitroaniline	ND	0.50	1	
2-Nitroaniline	ND	0.50	1	
Nitrobenzene	ND	2.5	1	
4-Nitrophenol	ND	0.50	1	
2-Nitrophenol	ND	0.50	1	
Pentachlorophenol	ND	2.5	1	
Phenanthrene	ND	0.50	1	
Phenol	ND	0.50	1	
Pyrene	ND	0.50	1	
Pyridine	ND	0.50	1	
1,2,4-Trichlorobenzene	ND	0.50	1	
2,4,6-Trichlorophenol	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1	

Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	102	42-120	
p-Terphenyl-d14	110	35-167	
2,4,6-Tribromophenol	121	36-132	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation	Date Received: 04/04/11
2020 East 1st Street, Suite 400	Work Order No: 11-04-0159
Santa Ana, CA 92705-4032	Preparation: EPA 5035
	Method: EPA 8260B
	Units: ug/kg
	Page 1 of 3

Project: CCP Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
4411-2	**11-04-0159-2-B**	**04/04/11 10:30**	**Solid**	**GC/MS UU**	**04/04/11**	**04/07/11 19:30**	**110407L01**

Parameter	Result	RL	DF	Qual
Acetone	ND	54	1.07	
Benzene	1.9	1.1	1.07	
Bromobenzene	ND	1.1	1.07	
Bromochloromethane	ND	2.1	1.07	
Bromodichloromethane	ND	1.1	1.07	
Bromoform	ND	5.4	1.07	
Bromomethane	ND	21	1.07	
2-Butanone	ND	21	1.07	
n-Butylbenzene	ND	1.1	1.07	
sec-Butylbenzene	ND	1.1	1.07	
tert-Butylbenzene	ND	1.1	1.07	
Carbon Disulfide	ND	11	1.07	
Carbon Tetrachloride	ND	1.1	1.07	
Chlorobenzene	ND	1.1	1.07	
Chloroethane	ND	2.1	1.07	
Chloroform	ND	1.1	1.07	
Chloromethane	ND	21	1.07	
2-Chlorotoluene	ND	1.1	1.07	
4-Chlorotoluene	ND	1.1	1.07	
Dibromochloromethane	ND	2.1	1.07	
1,2-Dibromo-3-Chloropropane	ND	5.4	1.07	
1,2-Dibromoethane	ND	1.1	1.07	
Dibromomethane	ND	1.1	1.07	
1,2-Dichlorobenzene	ND	1.1	1.07	
1,3-Dichlorobenzene	ND	1.1	1.07	
1,4-Dichlorobenzene	ND	1.1	1.07	
Dichlorodifluoromethane	ND	2.1	1.07	
1,1-Dichloroethane	ND	1.1	1.07	
1,2-Dichloroethane	ND	1.1	1.07	
1,1-Dichloroethene	ND	1.1	1.07	
c-1,2-Dichloroethene	ND	1.1	1.07	
t-1,2-Dichloroethene	ND	1.1	1.07	
1,2-Dichloropropane	ND	1.1	1.07	
1,3-Dichloropropane	ND	1.1	1.07	
2,2-Dichloropropane	ND	5.4	1.07	
1,1-Dichloropropene	ND	2.1	1.07	
c-1,3-Dichloropropene	ND	1.1	1.07	
t-1,3-Dichloropropene	ND	2.1	1.07	
Ethylbenzene	3500	110	107	
2-Hexanone	ND	21	1.07	
Isopropylbenzene	ND	1.1	1.07	
p-Isopropyltoluene	1.3	1.1	1.07	
Methylene Chloride	ND	11	1.07	
4-Methyl-2-Pentanone	ND	21	1.07	
Naphthalene	ND	11	1.07	
n-Propylbenzene	ND	2.1	1.07	
Styrene	130	1.1	1.07	
1,1,1,2-Tetrachloroethane	ND	1.1	1.07	
1,1,2,2-Tetrachloroethane	ND	2.1	1.07	
Tetrachloroethene	ND	1.1	1.07	
Toluene	ND	1.1	1.07	
1,2,3-Trichlorobenzene	ND	2.1	1.07	
1,2,4-Trichlorobenzene	ND	2.1	1.07	
1,1,1-Trichloroethane	ND	1.1	1.07	
1,1,2-Trichloroethane	ND	1.1	1.07	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	11	1.07	
Trichloroethene	ND	2.1	1.07	
Trichlorofluoromethane	ND	11	1.07	
1,2,3-Trichloropropane	ND	2.1	1.07	
1,2,4-Trimethylbenzene	ND	2.1	1.07	
1,3,5-Trimethylbenzene	ND	2.1	1.07	
Vinyl Acetate	ND	11	1.07	
Vinyl Chloride	ND	1.1	1.07	
p/m-Xylene	2.4	2.1	1.07	
o-Xylene	2.4	1.1	1.07	
Methyl-t-Butyl Ether (MTBE)	ND	2.1	1.07	

Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	97	79-133	
1,4-Bromofluorobenzene	93	80-120	
1,2-Dichloroethane-d4	96	71-155	
Toluene-d8	99	80-120	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation	Date Received: 04/04/11
2020 East 1st Street, Suite 400	Work Order No: 11-04-0159
Santa Ana, CA 92705-4032	Preparation: EPA 5035
	Method: EPA 8260B
	Units: ug/kg

Project: CCP Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-025-21,473**	**N/A**	**Solid**	**GC/MS UU**	**04/07/11**	**04/07/11 12:12**	**110407L01**

Parameter	Result	RL	DF	Qual
Acetone	ND	50	1	
Benzene	ND	1.0	1	
Bromobenzene	ND	1.0	1	
Bromochloromethane	ND	2.0	1	
Bromodichloromethane	ND	1.0	1	
Bromoform	ND	5.0	1	
Bromomethane	ND	20	1	
2-Butanone	ND	20	1	
n-Butylbenzene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1	
tert-Butylbenzene	ND	1.0	1	
Carbon Disulfide	ND	10	1	
Carbon Tetrachloride	ND	1.0	1	
Chlorobenzene	ND	1.0	1	
Chloroethane	ND	2.0	1	
Chloroform	ND	1.0	1	
Chloromethane	ND	20	1	
2-Chlorotoluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1	
Dibromochloromethane	ND	2.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1	
1,2-Dibromoethane	ND	1.0	1	
Dibromomethane	ND	1.0	1	
1,2-Dichlorobenzene	ND	1.0	1	
1,3-Dichlorobenzene	ND	1.0	1	
1,4-Dichlorobenzene	ND	1.0	1	
Dichlorodifluoromethane	ND	2.0	1	
1,1-Dichloroethane	ND	1.0	1	
1,2-Dichloroethane	ND	1.0	1	
1,1-Dichloroethene	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1	
1,3-Dichloropropane	ND	1.0	1	
2,2-Dichloropropane	ND	5.0	1	
1,1-Dichloropropene	ND	2.0	1	
c-1,3-Dichloropropene	ND	1.0	1	
t-1,3-Dichloropropene	ND	2.0	1	
Ethylbenzene	ND	1.0	1	
2-Hexanone	ND	20	1	
Isopropylbenzene	ND	1.0	1	
p-Isopropyltoluene	ND	1.0	1	
Methylene Chloride	ND	10	1	
4-Methyl-2-Pentanone	ND	20	1	
Naphthalene	ND	10	1	
n-Propylbenzene	ND	2.0	1	
Styrene	ND	1.0	1	
1,1,1,2-Tetrachloroethane	ND	1.0	1	
1,1,2,2-Tetrachloroethane	ND	2.0	1	
Tetrachloroethene	ND	1.0	1	
Toluene	ND	1.0	1	
1,2,3-Trichlorobenzene	ND	2.0	1	
1,2,4-Trichlorobenzene	ND	2.0	1	
1,1,1-Trichloroethane	ND	1.0	1	
1,1,2-Trichloroethane	ND	1.0	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
Trichloroethene	ND	2.0	1	
Trichlorofluoromethane	ND	10	1	
1,2,3-Trichloropropane	ND	2.0	1	
1,2,4-Trimethylbenzene	ND	2.0	1	
1,3,5-Trimethylbenzene	ND	2.0	1	
Vinyl Acetate	ND	10	1	
Vinyl Chloride	ND	1.0	1	
p/m-Xylene	ND	2.0	1	
o-Xylene	ND	1.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1	

Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	93	79-133	
1,4-Bromofluorobenzene	95	80-120	
1,2-Dichloroethane-d4	92	71-155	
Toluene-d8	98	80-120	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received:	04/04/11
Work Order No:	11-04-0159
Preparation:	EPA 5035
Method:	EPA 8260B
Units:	ug/kg

Project: CCP Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-025-21,487**	**N/A**	**Solid**	**GC/MS Q**	**04/08/11**	**04/08/11 13:57**	**110408L02**

Parameter	Result	RL	DF	Qual
Acetone	ND	5000	100	
Benzene	ND	100	100	
Bromobenzene	ND	100	100	
Bromochloromethane	ND	200	100	
Bromodichloromethane	ND	100	100	
Bromoform	ND	500	100	
Bromomethane	ND	2000	100	
2-Butanone	ND	2000	100	
n-Butylbenzene	ND	100	100	
sec-Butylbenzene	ND	100	100	
tert-Butylbenzene	ND	100	100	
Carbon Disulfide	ND	1000	100	
Carbon Tetrachloride	ND	100	100	
Chlorobenzene	ND	100	100	
Chloroethane	ND	200	100	
Chloroform	ND	100	100	
Chloromethane	ND	2000	100	
2-Chlorotoluene	ND	100	100	
4-Chlorotoluene	ND	100	100	
Dibromochloromethane	ND	200	100	
1,2-Dibromo-3-Chloropropane	ND	500	100	
1,2-Dibromoethane	ND	100	100	
Dibromomethane	ND	100	100	
1,2-Dichlorobenzene	ND	100	100	
1,3-Dichlorobenzene	ND	100	100	
1,4-Dichlorobenzene	ND	100	100	
Dichlorodifluoromethane	ND	200	100	
1,1-Dichloroethane	ND	100	100	
1,2-Dichloroethane	ND	100	100	
1,1-Dichloroethene	ND	100	100	
c-1,2-Dichloroethene	ND	100	100	
t-1,2-Dichloroethene	ND	100	100	
1,2-Dichloropropane	ND	100	100	
1,3-Dichloropropane	ND	100	100	
2,2-Dichloropropane	ND	500	100	
1,1-Dichloropropene	ND	200	100	
c-1,3-Dichloropropene	ND	100	100	
t-1,3-Dichloropropene	ND	200	100	
Ethylbenzene	ND	100	100	
2-Hexanone	ND	2000	100	
Isopropylbenzene	ND	100	100	
p-Isopropyltoluene	ND	100	100	
Methylene Chloride	ND	1000	100	
4-Methyl-2-Pentanone	ND	2000	100	
Naphthalene	ND	1000	100	
n-Propylbenzene	ND	200	100	
Styrene	ND	100	100	
1,1,1,2-Tetrachloroethane	ND	100	100	
1,1,2,2-Tetrachloroethane	ND	200	100	
Tetrachloroethene	ND	100	100	
Toluene	ND	100	100	
1,2,3-Trichlorobenzene	ND	200	100	
1,2,4-Trichlorobenzene	ND	200	100	
1,1,1-Trichloroethane	ND	100	100	
1,1,2-Trichloroethane	ND	100	100	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1000	100	
Trichloroethene	ND	200	100	
Trichlorofluoromethane	ND	1000	100	
1,2,3-Trichloropropane	ND	200	100	
1,2,4-Trimethylbenzene	ND	200	100	
1,3,5-Trimethylbenzene	ND	200	100	
Vinyl Acetate	ND	1000	100	
Vinyl Chloride	ND	100	100	
p/m-Xylene	ND	200	100	
o-Xylene	ND	100	100	
Methyl-t-Butyl Ether (MTBE)	ND	200	100	

Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	98	79-133	
1,4-Bromofluorobenzene	95	80-120	
1,2-Dichloroethane-d4	104	71-155	
Toluene-d8	100	80-120	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/04/11
Work Order No: 11-04-0159
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: CCP Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
4411-1	**11-04-0159-1-A**	**04/04/11 10:30**	**Solid**	**ICP 5300**	**04/05/11**	**04/07/11 14:31**	**110405L04**

Comment(s): -Mercury analysis was performed on 04/06/11 11:08 with batch 110406L01.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	1.92	0.750	1		Molybdenum	0.826	0.250	1	
Barium	57.3	0.500	1		Nickel	19.8	0.250	1	
Beryllium	0.283	0.250	1		Selenium	ND	0.750	1	
Cadmium	0.653	0.500	1		Silver	ND	0.250	1	
Chromium	31.0	0.250	1		Thallium	ND	0.750	1	
Cobalt	4.27	0.250	1		Vanadium	15.1	0.250	1	
Copper	11.7	0.500	1		Zinc	455	1.00	1	
Lead	9.47	0.500	1						

4411-3	**11-04-0159-3-A**	**04/04/11 10:30**	**Solid**	**ICP 5300**	**04/05/11**	**04/07/11 14:33**	**110405L04**

Comment(s): -Mercury analysis was performed on 04/06/11 11:10 with batch 110406L01.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	0.311	0.0835	1	
Arsenic	ND	0.750	1		Molybdenum	0.594	0.250	1	
Barium	15.7	0.500	1		Nickel	2.53	0.250	1	
Beryllium	ND	0.250	1		Selenium	ND	0.750	1	
Cadmium	ND	0.500	1		Silver	ND	0.250	1	
Chromium	4.95	0.250	1		Thallium	ND	0.750	1	
Cobalt	11.0	0.250	1		Vanadium	3.29	0.250	1	
Copper	9.19	0.500	1		Zinc	63.5	1.00	1	
Lead	16.4	0.500	1						

Method Blank	**099-04-007-7,968**	**N/A**	**Solid**	**Mercury**	**04/06/11**	**04/06/11 10:39**	**110406L01**

Comment(s): -Preparation/analysis for Mercury was performed by EPA 7471A.

Parameter	Result	RL	DF	Qual
Mercury	ND	0.0835	1	

Method Blank	**097-01-002-14,819**	**N/A**	**Solid**	**ICP 5300**	**04/05/11**	**04/05/11 20:57**	**110405L04**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Lead	ND	0.500	1	
Arsenic	ND	0.750	1		Molybdenum	ND	0.250	1	
Barium	ND	0.500	1		Nickel	ND	0.250	1	
Beryllium	ND	0.250	1		Selenium	ND	0.750	1	
Cadmium	ND	0.500	1		Silver	ND	0.250	1	
Chromium	ND	0.250	1		Thallium	ND	0.750	1	
Cobalt	ND	0.250	1		Vanadium	ND	0.250	1	
Copper	ND	0.500	1		Zinc	ND	1.00	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/04/11
Work Order No: 11-04-0159

Project: CCP Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date Collected	Matrix
4411-1	11-04-0159-1	04/04/11	Solid

Parameter	Results	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	9.19	0.01	1		pH units	04/04/11	04/04/11	EPA 9045D

Client Sample Number	Lab Sample Number	Date Collected	Matrix
4411-3	11-04-0159-3	04/04/11	Solid

Parameter	Results	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	5.37	0.01	1		pH units	04/04/11	04/04/11	EPA 9045D

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/04/11
Work Order No: 11-04-0159
Preparation: EPA 3050B
Method: EPA 6010B

Project CCP Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-04-0022-2	**Solid**	**ICP 5300**	**04/05/11**	**04/05/11**	**110405S04**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	39	39	50-115	0	0-20	3
Arsenic	111	108	75-125	2	0-20	
Barium	89	86	75-125	1	0-20	
Beryllium	104	100	75-125	4	0-20	
Cadmium	94	90	75-125	5	0-20	
Chromium	92	83	75-125	4	0-20	
Cobalt	91	85	75-125	5	0-20	
Copper	107	103	75-125	3	0-20	
Lead	93	88	75-125	6	0-20	
Molybdenum	90	84	75-125	6	0-20	
Nickel	89	79	75-125	6	0-20	
Selenium	106	103	75-125	3	0-20	
Silver	110	105	75-125	5	0-20	
Thallium	83	79	75-125	6	0-20	
Vanadium	97	91	75-125	3	0-20	
Zinc	90	84	75-125	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - PDS / PDSD

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/04/11
Work Order No: 11-04-0159
Preparation: EPA 3050B
Method: EPA 6010B

Project: CCP Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	PDS / PDSD Batch Number
11-04-0022-2	Solid	ICP 5300	04/05/11	04/05/11	110405S04

Parameter	PDS %REC	PDSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	108	101	75-125	6	0-20	
Arsenic	109	102	75-125	5	0-20	
Barium	92	76	75-125	5	0-20	
Beryllium	101	95	75-125	6	0-20	
Cadmium	91	85	75-125	7	0-20	
Chromium	95	82	75-125	6	0-20	
Cobalt	88	82	75-125	6	0-20	
Copper	104	96	75-125	6	0-20	
Lead	91	86	75-125	5	0-20	
Molybdenum	97	92	75-125	6	0-20	
Nickel	89	79	75-125	6	0-20	
Selenium	103	99	75-125	4	0-20	
Silver	93	89	75-125	4	0-20	
Thallium	82	76	75-125	7	0-20	
Vanadium	100	88	75-125	6	0-20	
Zinc	89	78	75-125	6	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/04/11
Work Order No: 11-04-0159
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project CCP Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-04-0233-1	**Solid**	**GC 45**	**04/05/11**	**04/06/11**	**110405S05**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	91	103	64-130	12	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/04/11
Work Order No: 11-04-0159
Preparation: EPA 7471A Total
Method: EPA 7471A

Project CCP Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-04-0263-1	**Solid**	**Mercury**	**04/06/11**	**04/06/11**	**110406S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	111	106	71-137	5	0-14	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 04/04/11
Work Order No: 11-04-0159
Preparation: EPA 3545
Method: EPA 8270C

Project CCP Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-04-0256-6	**Solid**	**GC/MS CCC**	**04/06/11**	**04/08/11**	**110406S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Acenaphthene	116	110	49-133	5	0-18	
Acenaphthylene	120	113	50-150	6	0-20	
Butyl Benzyl Phthalate	133	112	50-150	17	0-20	
4-Chloro-3-Methylphenol	109	96	50-128	13	0-17	
2-Chlorophenol	113	102	57-111	10	0-17	3
1,4-Dichlorobenzene	102	97	49-127	5	0-20	
Dimethyl Phthalate	129	119	50-150	8	0-20	
2,4-Dinitrotoluene	124	118	50-128	6	0-18	
Fluorene	119	112	50-150	6	0-20	
N-Nitroso-di-n-propylamine	113	104	54-144	9	0-17	
Naphthalene	108	99	50-150	9	0-20	
4-Nitrophenol	41	34	30-144	19	0-21	
Pentachlorophenol	20	47	29-113	81	0-22	3,4
Phenol	99	90	57-123	9	0-16	
Pyrene	108	104	47-149	4	0-20	
1,2,4-Trichlorobenzene	110	103	42-132	6	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-04-0159

Project: CCP Oxnard / 29868843.30000

Matrix: Aqueous or Solid

Parameter	Method	QC Sample ID	Date Analyzed	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
pH	EPA 9045D	4411-1	04/04/11	9.19	9.22	0	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-04-0159
Preparation: EPA 3050B
Method: EPA 6010B

Project: CCP Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-14,819	Solid	ICP 5300	04/05/11	04/05/11	110405L04

Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Antimony	105	102	80-120	73-127	4	0-20	
Arsenic	101	99	80-120	73-127	2	0-20	
Barium	101	99	80-120	73-127	1	0-20	
Beryllium	97	95	80-120	73-127	3	0-20	
Cadmium	102	101	80-120	73-127	1	0-20	
Chromium	101	99	80-120	73-127	2	0-20	
Cobalt	106	104	80-120	73-127	2	0-20	
Copper	101	100	80-120	73-127	1	0-20	
Lead	105	102	80-120	73-127	2	0-20	
Molybdenum	100	98	80-120	73-127	2	0-20	
Nickel	106	105	80-120	73-127	1	0-20	
Selenium	96	94	80-120	73-127	2	0-20	
Silver	100	99	80-120	73-127	1	0-20	
Thallium	103	100	80-120	73-127	3	0-20	
Vanadium	98	96	80-120	73-127	2	0-20	
Zinc	108	105	80-120	73-127	3	0-20	

Total number of LCS compounds : 16
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-04-0159
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project: CCP Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-085-220	Solid	GC 45	04/05/11	04/06/11	110405B05

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	103	97	75-123	6	0-12	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-04-0159
Preparation: EPA 7471A Total
Method: EPA 7471A

Project: CCP Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-04-007-7,968	**Solid**	**Mercury**	**04/06/11**	**04/06/11**	**110406L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	96	96	85-121	0	0-10	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

URS Corporation	Date Received: N/A
2020 East 1st Street, Suite 400	Work Order No: 11-04-0159
Santa Ana, CA 92705-4032	Preparation: EPA 3545
	Method: EPA 8270C

Project: CCP Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-549-1,877	**Solid**	**GC/MS CCC**	**04/06/11**	**04/11/11**	**110406L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Acenaphthene	82	94	59-125	48-136	13	0-15	
Acenaphthylene	84	96	33-145	14-164	12	0-20	
Butyl Benzyl Phthalate	81	92	0-152	0-177	13	0-20	
4-Chloro-3-Methylphenol	83	94	61-121	51-131	13	0-14	
2-Chlorophenol	84	94	60-114	51-123	11	0-15	
1,4-Dichlorobenzene	82	90	61-121	51-131	10	0-21	
Dimethyl Phthalate	83	95	0-112	0-131	14	0-20	
2,4-Dinitrotoluene	93	106	51-141	36-156	13	0-16	
Fluorene	85	98	59-121	49-131	14	0-20	
N-Nitroso-di-n-propylamine	75	83	64-136	52-148	11	0-15	
Naphthalene	81	92	21-133	2-152	13	0-20	
4-Nitrophenol	49	59	38-152	19-171	19	0-31	
Pentachlorophenol	30	35	38-116	25-129	16	0-20	ME
Phenol	73	83	59-125	48-136	13	0-15	
Pyrene	80	91	51-141	36-156	13	0-14	
1,2,4-Trichlorobenzene	88	98	58-118	48-128	11	0-18	

Total number of LCS compounds : 16

Total number of ME compounds : 1

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-04-0159
Preparation: EPA 5035
Method: EPA 8260B

Project: CCP Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-025-21,473	**Solid**	**GC/MS UU**	**04/07/11**	**04/07/11**	**110407L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	90	91	80-120	73-127	1	0-20	
Carbon Tetrachloride	80	81	65-137	53-149	1	0-20	
Chlorobenzene	97	96	80-120	73-127	0	0-20	
1,2-Dibromoethane	91	91	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	96	97	80-120	73-127	0	0-20	
1,2-Dichloroethane	87	87	80-120	73-127	0	0-20	
1,1-Dichloroethene	95	97	68-128	58-138	2	0-20	
Ethylbenzene	93	93	80-120	73-127	0	0-20	
Toluene	95	95	80-120	73-127	1	0-20	
Trichloroethene	97	96	80-120	73-127	1	0-20	
Vinyl Chloride	114	115	67-127	57-137	1	0-20	
Methyl-t-Butyl Ether (MTBE)	81	83	70-124	61-133	2	0-20	

Total number of LCS compounds : 12
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received:	N/A
Work Order No:	11-04-0159
Preparation:	EPA 5035
Method:	EPA 8260B

Project: CCP Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-025-21,487	**Solid**	**GC/MS Q**	**04/08/11**	**04/08/11**	**110408L02**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	103	102	80-120	73-127	1	0-20	
Carbon Tetrachloride	112	111	65-137	53-149	1	0-20	
Chlorobenzene	105	101	80-120	73-127	3	0-20	
1,2-Dibromoethane	107	106	80-120	73-127	2	0-20	
1,2-Dichlorobenzene	101	100	80-120	73-127	2	0-20	
1,2-Dichloroethane	98	99	80-120	73-127	1	0-20	
1,1-Dichloroethene	105	103	68-128	58-138	2	0-20	
Ethylbenzene	105	104	80-120	73-127	1	0-20	
Toluene	103	103	80-120	73-127	0	0-20	
Trichloroethene	104	103	80-120	73-127	1	0-20	
Vinyl Chloride	103	101	67-127	57-137	1	0-20	
Methyl-t-Butyl Ether (MTBE)	96	96	70-124	61-133	0	0-20	

Total number of LCS compounds : 12
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 11-04-0159

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Calscience Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Date 4-4-11

Page 1 of 1

☒ SoCal Laboratory
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

☐ NorCal Service Center
5063 Commercial Circle, Suite H
Concord, CA 94520-8577
(925) 689-9022

WO # / LAB USE ONLY: 04-0159

LABORATORY CLIENT: URS Corp

ADDRESS: 2020 E First ST Suite 400

CITY: Santa Ana STATE: Ca ZIP: 92705

TEL: 7148355686

E-MAIL: Allen_Bladgett@URScorp.com

CLIENT PROJECT NAME / NUMBER: Oxnard

P.O. NO.: 29662643.70000

PROJECT CONTACT: Allen Bladgett

SAMPLER(S): (PRINT) RAMIREZ

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ STANDARD

☐ COELT EDF

GLOBAL ID:

LOG CODE:

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH (g) or GRO	TPH (d) or DRO or (C6-C36) or (C6-C44)	TPH (8015B)	BTEX / MTBE (8260) or ( )	VOCs (8260) 6	Oxygenates (8260)	En Core / Terra Core Prep (5035)	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PNAs (8310) or (8270)	T22 Metals (6010/747X)	Cr(VI) [7196 or 7199 or 218.6]	Air - VOCs (TO-14A) or (TO-15)	Air - TPH (g) [TO-3]	PH (9045)		
1	4411-1	4-4-11	10:30	Soil	2	✓					X		X						X	X				X		
2	4411-2	4-4-11	10:30	Soil	3	✓													X	X				X		
3	4411-3	4-4-11	10:30	Soil	1	✓					X															
4	4411-4	4-4-11	10:30	Soil	1	✓					X															
5	4411-5	4-4-11	10:30	Soil	1	✓					X															
6	4411-6	4-4-11	10:30	Soil	1	✓					X															

Relinquished by: (Signature)	Received by: (Signature/Affiliation) Bannigle CEL	Date: 4/4/11	Time: 14:36
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

DISTRIBUTION: White with final report, Green and Yellow to Client.
Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

06/01/10 Revision

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-04-0159

SAMPLE RECEIPT FORM

Cooler 0 of 0

CLIENT: URS

DATE: 04/04/11

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 5.2 °C + 0.5 °C (CF) = 5.7 °C ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter **Initial:** DL

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☑ N/A **Initial:** DL

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present **Initial:** RS

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☑	☐	☐
Proper preservation noted on COC or sample container	☐	☐	☑
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☑8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☑(2)EnCores® 3 ☐TerraCores® ☐_____

Water: ☐VOA ☐VOA**h** ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na$_2$** ☐1AGB**s**

☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐500PB ☐500PB**na**

☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** BC

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope **Reviewed by:** KWB

Preservative: h: HCL n: HNO_3 na$_2$: $Na_2S_2O_3$ na: NaOH p: H_3PO_4 s: H_2SO_4 znna: $ZnAc_2$+NaOH f: Field-filtered **Scanned by:** KWB

Vikas Patel

From: Allen_Blodgett@URSCorp.com
Sent: Monday, April 04, 2011 4:25 PM
To: Vikas Patel
Subject: Re: Oxnard

Vik,

For the TPH it should be with carbon chain breakdown as before.

The PNAs were marked incorrectly. Instead of PNAs please run SVOCs by 8270.

Thanks,
Allen

Allen E. Blodgett, P.E.
URS Corporation
2020 East First Street, Suite 400
Santa Ana, CA 92705
(714) 648-2795
Cell Phone (714) 227-6485
Fax (714) 667-7147
allen_blodgett@urscorp.com

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"Vikas Patel" <ViPatel@calscience.com>

04/04/2011 04:20 PM

To <Allen_Blodgett@URSCorp.com>
cc "Vikas Patel" <ViPatel@calscience.com>
Subject Oxnard

Allen - What analysis did you want for TPH (Gas, Diesel or Carbon chain?) and PNAs (EPA 8270C or EPA 8310?). Last time we did TPH Carbon chain (c6-c44) and SVOCs (EPA 8270C).

<<11040159.pdf>>

Vik Patel
Project Manager
Calscience Environmental Laboratories, Inc.
7440 Lincoln Way
Garden Grove, CA 92841-1427
Phone: 714-895-5494 x211
Fax: 714-894-7501
ViPatel@calscience.com

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CCP OXNARD
SAMPLES COLLECTED
ON APRIL 4, 2011

4411-1 Bulk soil sample collected from the dark soil located at the eastern end of building 3 (boiler building). Two glass jars, both labeled 4411-1

4411-2 Three EnCore samples collected from the dark soil located at the eastern end of building 3. EnCore samples 4411-2a, b and c.

4411-3 Bulk sample of the styrene material discovered on the ground by the concrete debris pile. The material was cleaned up and placed in two 33-gallon drums.

4411-4 Bulk soil sample collected from the dark soil located seen beneath the concrete pads between building 17 and the railroad tracks.

4411-5 Bulk soil sample collected from the dark soil seen at approximately the 2-foot depth near the corner of building 15.

4411-6 Bulk sample collected from the dark soil seen at approximately 2-feet depth 25-feet south of sample HA-2 near building 17.

Asbestos bulk sample

040411-1 Bulk sample of the black water proof paper located on the concrete tank footing removed from under building 7.

came back negative.

URS

Allen Blodgett /SantaAna /URSCorp
04/04/2011 08:54 AM

To Ronald Miller/SantaAna/URSCorp@URSCORP
cc Conan Fitzgerald/Morrisville/URSCorp@URSCORP, Allen Blodgett/SantaAna/URSCorp@URSCorp
bcc
Subject CCP Oxnard Sampling and Testing

Ron,

Please take the following samples and send them in to Calscience for the indicated analyses.

- Go 25 feet south of HA-2 (see attached site plan); have Aman remove a section of the concrete pavement and excavate a test pit. If the stained soil layer is present take a jar sample and have it analyzed for total petroleum hydrocarbons with carbon chain breakdown by EPA Method 8015B (M).
- Take a jar sample of the stained soil seen beneath the concrete pad between Building 17 and the railroad tracks and have it analyzed for total petroleum hydrocarbons with carbon chain breakdown by EPA Method 8015B (M).
- Take a jar sample of the stained soil seen beneath the southeast corner of Building 15 and have it analyzed for total petroleum hydrocarbons with carbon chain breakdown by EPA Method 8015B (M).
- Take a jar and encore samples of the stained soil seen beneath the concrete pad east of Building 3 (the boiler house). Have the jar sample analyzed for total petroleum hydrocarbons with carbon chain breakdown by EPA Method 8015B (M); CAM 17 metals by 6010/7470; SVOCs by 8270; and pH by 9045. Have the encore samples analyzed for VOCs by 8260B.

All analyses done on standard turn around time

Thanks,
Allen

Hand Auger Locations.pdf

Allen E. Blodgett, P.E.
URS Corporation
2020 East First Street, Suite 400
Santa Ana, CA 92705
(714) 648-2795
Cell Phone (714) 227-6485
Fax (714) 667-7147
allen_blodgett@urscorp.com

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Calscience Environmental Laboratories, Inc.

March 24, 2011

Allen Blodgett
URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Subject: **Calscience Work Order No.: 11-03-1280**
Client Reference: Oxnard / 29868843.30000

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 3/17/2011 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Vikas Patel

Calscience Environmental
Laboratories, Inc.
Vikas Patel
Project Manager

Calscience Environmental Laboratories, Inc.

Client: URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032
Attn: Allen Blodgett

Work Order: 11-03-1280
Project name: Oxnard / 29868843.30000
Received: 03/17/11 19:20

DETECTIONS SUMMARY

SSL's commercial/ind.

Client Sample ID / Analyte		Result	Qualifiers	Reporting Limit	Units	Method	Extraction
HA-1-2							
n-Butylbenzene		**220**		85	ug/kg	EPA 8260B	EPA 5035
sec-Butylbenzene		**200**		85	ug/kg	EPA 8260B	EPA 5035
p-Isopropyltoluene		**190**		85	ug/kg	EPA 8260B	EPA 5035
1,2,4-Trimethylbenzene		**350**		170	ug/kg	EPA 8260B	EPA 5035
HA-1-2.5							
Arsenic	0.07	**3.39**		0.750	mg/kg	EPA 6010B	EPA 3050B
Barium	5,200	**101**		0.500	mg/kg	EPA 6010B	EPA 3050B
Beryllium	16	**0.480**		0.250	mg/kg	EPA 6010B	EPA 3050B
Cadmium	1.7	**0.516**		0.500	mg/kg	EPA 6010B	EPA 3050B
Chromium	100,000	**12.4**		0.250	mg/kg	EPA 6010B	EPA 3050B
Cobalt	660	**6.42**		0.250	mg/kg	EPA 6010B	EPA 3050B
Copper	3,000	**10.9**		0.500	mg/kg	EPA 6010B	EPA 3050B
Lead	80	**4.39**		0.500	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	380	**0.996**		0.250	mg/kg	EPA 6010B	EPA 3050B
Nickel	1,600	**15.4**		0.250	mg/kg	EPA 6010B	EPA 3050B
Vanadium	5,200	**23.8**		0.250	mg/kg	EPA 6010B	EPA 3050B
Zinc	310,000	**39.5**		1.00	mg/kg	EPA 6010B	EPA 3050B
pH		**7.98**		0.01	pH units	EPA 9045D	N/A
C9-C10		**11**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C11-C12		**92**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14		**280**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16		**340**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18		**420**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20		**140**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22		**37**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24		**6.9**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total		**1300**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
2-Methylnaphthalene	99	**0.58**		0.50	mg/kg	EPA 8270C	EPA 3545
1-Methylnaphthalene	4,100	**0.58**		0.50	mg/kg	EPA 8270C	EPA 3545
HA-1-5							
C13-C14		**11**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16		**25**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18		**29**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20		**7.0**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total		**77**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Client: URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032
Attn: Allen Blodgett

Work Order: 11-03-1280
Project name: Oxnard / 29868843.30000
Received: 03/17/11 19:20

DETECTIONS SUMMARY

Client Sample ID / Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
HA-2-2						
C11-C12	**420**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14	**1100**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	**1400**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	**1300**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	**470**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	**210**		100	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	**4900**		100	mg/kg	EPA 8015B (M)	EPA 3550B
HA-2-5						
C13-C14	**18**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	**19**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	**22**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	**5.4**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	**71**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
HA-5-2						
C13-C14	**14**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C15-C16	**27**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	**29**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	**11**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	**91**		5.0	mg/kg	EPA 8015B (M)	EPA 3550B

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Client: URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032
Attn: Allen Blodgett

Work Order: 11-03-1280
Project name: Oxnard / 29868843.30000
Received: 03/17/11 19:20

DETECTIONS SUMMARY

Client Sample ID / Analyte	MCL	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
	mg/L		ug/L				
Water Sample							
Antimony	0.006	**0.0276**	6	0.0150	mg/L	EPA 6010B	EPA 3010A Total
Arsenic	0.01	**0.502**	10	0.0100	mg/L	EPA 6010B	EPA 3010A Total
Barium	2.0	**0.996**	2,000	0.0100	mg/L	EPA 6010B	EPA 3010A Total
Cadmium	0.005	**0.0142**	5	0.0100	mg/L	EPA 6010B	EPA 3010A Total
Chromium	0.1	**0.419**	100	0.0100	mg/L	EPA 6010B	EPA 3010A Total
Cobalt	—	**0.0679**		0.0100	mg/L	EPA 6010B	EPA 3010A Total
Copper	1.3	**1.16**		0.0100	mg/L	EPA 6010B	EPA 3010A Total
Lead	0.015	**0.0886**		0.0100	mg/L	EPA 6010B	EPA 3010A Total
Molybdenum	—	**0.364**		0.0100	mg/L	EPA 6010B	EPA 3010A Total
Nickel	—	**0.295**		0.0100	mg/L	EPA 6010B	EPA 3010A Total
Selenium	0.050	**0.0553**		0.0150	mg/L	EPA 6010B	EPA 3010A Total
Vanadium	—	**1.65**		0.0100	mg/L	EPA 6010B	EPA 3010A Total
Zinc	—	**1.52**		0.0100	mg/L	EPA 6010B	EPA 3010A Total
pH		**11.05**		0.01	pH units	SM 4500 H+ B	N/A
C11-C12		**720**		500	ug/L	EPA 8015B (M)	EPA 3510C
C29-C32		**520**		500	ug/L	EPA 8015B (M)	EPA 3510C
C6-C44 Total		**3000**		500	ug/L	EPA 8015B (M)	EPA 3510C
Mercury	0.0002	**0.00282**		0.000500	mg/L	EPA 7470A	EPA 7470A Total
Bis(2-Ethylhexyl) Phthalate	~~0.006~~	**10**	6	10	ug/L	EPA 8270C	EPA 3510C
Benzene	~~0.005~~	**0.55**	5	0.50	ug/L	EPA 8260B	EPA 5030C

Subcontracted analyses, if any, are not included in this summary.

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation	Date Received:	03/17/11
2020 East 1st Street, Suite 400	Work Order No:	11-03-1280
Santa Ana, CA 92705-4032	Preparation:	EPA 3510C
	Method:	EPA 8015B (M)
	Units:	ug/L
Project: Oxnard / 29868843.30000		Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Water Sample	**11-03-1280-16-C**	**03/17/11 13:20**	**Aqueous**	**GC 46**	**03/18/11**	**03/18/11 17:20**	**110318B04**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	500	1		C21-C22	ND	500	1	
C7	ND	500	1		C23-C24	ND	500	1	
C8	ND	500	1		C25-C28	ND	500	1	
C9-C10	ND	500	1		C29-C32	520	500	1	
C11-C12	720	500	1		C33-C36	ND	500	1	
C13-C14	ND	500	1		C37-C40	ND	500	1	
C15-C16	ND	500	1		C41-C44	ND	500	1	
C17-C18	ND	500	1		C6-C44 Total	3000	500	1	
C19-C20	ND	500	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	81	68-140	

Method Blank	099-14-067-73	N/A	Aqueous	GC 46	03/18/11	03/18/11 13:44	110318B04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	500	1		C21-C22	ND	500	1	
C7	ND	500	1		C23-C24	ND	500	1	
C8	ND	500	1		C25-C28	ND	500	1	
C9-C10	ND	500	1		C29-C32	ND	500	1	
C11-C12	ND	500	1		C33-C36	ND	500	1	
C13-C14	ND	500	1		C37-C40	ND	500	1	
C15-C16	ND	500	1		C41-C44	ND	500	1	
C17-C18	ND	500	1		C6-C44 Total	ND	500	1	
C19-C20	ND	500	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	95	68-140	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA-1-2.5	**11-03-1280-2-A**	**03/17/11 09:42**	**Solid**	**GC 45**	**03/18/11**	**03/18/11 18:52**	**110318B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	37	5.0	1	
C7	ND	5.0	1		C23-C24	6.9	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	11	5.0	1		C29-C32	ND	5.0	1	
C11-C12	92	5.0	1		C33-C36	ND	5.0	1	
C13-C14	280	5.0	1		C37-C40	ND	5.0	1	
C15-C16	340	5.0	1		C41-C44	ND	5.0	1	
C17-C18	420	5.0	1		C6-C44 Total	1300	5.0	1	
C19-C20	140	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	99	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA-1-5	**11-03-1280-3-A**	**03/17/11 09:50**	**Solid**	**GC 45**	**03/18/11**	**03/18/11 19:08**	**110318B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	11	5.0	1		C37-C40	ND	5.0	1	
C15-C16	25	5.0	1		C41-C44	ND	5.0	1	
C17-C18	29	5.0	1		C6-C44 Total	77	5.0	1	
C19-C20	7.0	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	99	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation	Date Received:	03/17/11
2020 East 1st Street, Suite 400	Work Order No:	11-03-1280
Santa Ana, CA 92705-4032	Preparation:	EPA 3550B
	Method:	EPA 8015B (M)
	Units:	mg/kg
Project: Oxnard / 29868843.30000		Page 2 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA-2-2	**11-03-1280-4-A**	**03/17/11 10:15**	**Solid**	**GC 45**	**03/18/11**	**03/21/11 09:58**	**110318B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	100	20		C21-C22	210	100	20	
C7	ND	100	20		C23-C24	ND	100	20	
C8	ND	100	20		C25-C28	ND	100	20	
C9-C10	ND	100	20		C29-C32	ND	100	20	
C11-C12	420	100	20		C33-C36	ND	100	20	
C13-C14	1100	100	20		C37-C40	ND	100	20	
C15-C16	1400	100	20		C41-C44	ND	100	20	
C17-C18	1300	100	20		C6-C44 Total	4900	100	20	
C19-C20	470	100	20						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	114	61-145	

HA-2-5	**11-03-1280-5-A**	**03/17/11 10:30**	**Solid**	**GC 45**	**03/18/11**	**03/18/11 19:39**	**110318B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	18	5.0	1		C37-C40	ND	5.0	1	
C15-C16	19	5.0	1		C41-C44	ND	5.0	1	
C17-C18	22	5.0	1		C6-C44 Total	71	5.0	1	
C19-C20	5.4	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	101	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA-3-2	**11-03-1280-6-A**	**03/17/11 10:35**	**Solid**	**GC 45**	**03/18/11**	**03/18/11 19:54**	**110318B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	94	61-145	

HA-3-5	**11-03-1280-7-A**	**03/17/11 10:40**	**Solid**	**GC 45**	**03/18/11**	**03/18/11 20:09**	**110318B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	101	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA-4-2	**11-03-1280-8-A**	**03/17/11 11:25**	**Solid**	**GC 45**	**03/18/11**	**03/18/11 20:25**	**110318B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	106	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA-4-5	**11-03-1280-9-A**	**03/17/11 11:35**	**Solid**	**GC 45**	**03/18/11**	**03/18/11 20:40**	**110318B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	99	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA-5-2	**11-03-1280-10-A**	**03/17/11 11:48**	**Solid**	**GC 45**	**03/18/11**	**03/18/11 20:55**	**110318B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	14	5.0	1		C37-C40	ND	5.0	1	
C15-C16	27	5.0	1		C41-C44	ND	5.0	1	
C17-C18	29	5.0	1		C6-C44 Total	91	5.0	1	
C19-C20	11	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	107	61-145	

HA-5-5	**11-03-1280-11-A**	**03/17/11 11:55**	**Solid**	**GC 45**	**03/18/11**	**03/18/11 21:11**	**110318B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	106	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA-6-2	**11-03-1280-12-A**	**03/17/11 14:10**	**Solid**	**GC 45**	**03/18/11**	**03/18/11 21:41**	**110318B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	100	61-145	

HA-6-5	**11-03-1280-13-A**	**03/17/11 14:20**	**Solid**	**GC 45**	**03/18/11**	**03/18/11 21:57**	**110318B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	102	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA-7-2	**11-03-1280-14-A**	**03/17/11 14:10**	**Solid**	**GC 45**	**03/18/11**	**03/18/11 22:13**	**110318B05**

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	107	61-145	

HA-7-5	11-03-1280-15-A	03/17/11 14:20	Solid	GC 45	03/18/11	03/18/11 22:27	110318B05

Comment(s): -The Total concentration includes individual carbon range concentrations (estimated), if any, below the RL reported as ND.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	89	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation		Date Received:	03/17/11
2020 East 1st Street, Suite 400		Work Order No:	11-03-1280
Santa Ana, CA 92705-4032		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: Oxnard / 29868843.30000			Page 8 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-085-201**	**N/A**	**Solid**	**GC 45**	**03/18/11**	**03/18/11 17:36**	**110318B05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND	5.0	1		C21-C22	ND	5.0	1	
C7	ND	5.0	1		C23-C24	ND	5.0	1	
C8	ND	5.0	1		C25-C28	ND	5.0	1	
C9-C10	ND	5.0	1		C29-C32	ND	5.0	1	
C11-C12	ND	5.0	1		C33-C36	ND	5.0	1	
C13-C14	ND	5.0	1		C37-C40	ND	5.0	1	
C15-C16	ND	5.0	1		C41-C44	ND	5.0	1	
C17-C18	ND	5.0	1		C6-C44 Total	ND	5.0	1	
C19-C20	ND	5.0	1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	95	61-145	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3510C
Method: EPA 8270C
Units: ug/L

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Water Sample	**11-03-1280-16-E**	**03/17/11 13:20**	**Aqueous**	**GC/MS TT**	**03/18/11**	**03/23/11 18:39**	**110318L03**

Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	10	1	
Aniline	ND	10	1	
Phenol	ND	10	1	
Bis(2-Chloroethyl) Ether	ND	25	1	
2-Chlorophenol	ND	10	1	
1,3-Dichlorobenzene	ND	10	1	
1,4-Dichlorobenzene	ND	10	1	
Benzyl Alcohol	ND	10	1	
1,2-Dichlorobenzene	ND	10	1	
2-Methylphenol	ND	10	1	
Bis(2-Chloroisopropyl) Ether	ND	10	1	
3/4-Methylphenol	ND	10	1	
N-Nitroso-di-n-propylamine	ND	10	1	
Hexachloroethane	ND	10	1	
Nitrobenzene	ND	25	1	
Isophorone	ND	10	1	
2-Nitrophenol	ND	10	1	
2,4-Dimethylphenol	ND	10	1	
Benzoic Acid	ND	50	1	
Bis(2-Chloroethoxy) Methane	ND	10	1	
2,4-Dichlorophenol	ND	10	1	
Naphthalene	ND	10	1	
4-Chloroaniline	ND	10	1	
Hexachloro-1,3-Butadiene	ND	10	1	
4-Chloro-3-Methylphenol	ND	10	1	
2-Methylnaphthalene	ND	10	1	
Hexachlorocyclopentadiene	ND	25	1	
2,4,6-Trichlorophenol	ND	10	1	
2,4,5-Trichlorophenol	ND	10	1	
2-Chloronaphthalene	ND	10	1	
2-Nitroaniline	ND	10	1	
Dimethyl Phthalate	ND	10	1	
Acenaphthylene	ND	10	1	
3-Nitroaniline	ND	10	1	
Acenaphthene	ND	10	1	
2,4-Dinitrophenol	ND	50	1	
4-Nitrophenol	ND	10	1	
Dibenzofuran	ND	10	1	
2,4-Dinitrotoluene	ND	10	1	
2,6-Dinitrotoluene	ND	10	1	
Diethyl Phthalate	ND	10	1	
4-Chlorophenyl-Phenyl Ether	ND	10	1	
Fluorene	ND	10	1	
4-Nitroaniline	ND	10	1	
Azobenzene	ND	10	1	
4,6-Dinitro-2-Methylphenol	ND	50	1	
N-Nitrosodiphenylamine	ND	10	1	
4-Bromophenyl-Phenyl Ether	ND	10	1	
Hexachlorobenzene	ND	10	1	
Pentachlorophenol	ND	10	1	
Phenanthrene	ND	10	1	
Anthracene	ND	10	1	
Di-n-Butyl Phthalate	ND	10	1	
Fluoranthene	ND	10	1	
Benzidine	ND	50	1	
Pyrene	ND	10	1	
Pyridine	ND	10	1	
Butyl Benzyl Phthalate	ND	10	1	
3,3'-Dichlorobenzidine	ND	25	1	
Benzo (a) Anthracene	ND	10	1	
Bis(2-Ethylhexyl) Phthalate	10	10	1	
Chrysene	ND	10	1	
Di-n-Octyl Phthalate	ND	10	1	
Benzo (k) Fluoranthene	ND	10	1	
Benzo (b) Fluoranthene	ND	10	1	
Benzo (a) Pyrene	ND	10	1	
Benzo (g,h,i) Perylene	ND	10	1	
Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Dibenz (a,h) Anthracene	ND	10	1	
1-Methylnaphthalene	ND	10	1	
1,2,4-Trichlorobenzene	ND	10	1	

Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	26	7-121	
Nitrobenzene-d5	96	50-146	
2,4,6-Tribromophenol	59	41-137	
Phenol-d6	17	1-127	
2-Fluorobiphenyl	78	42-138	
p-Terphenyl-d14	107	47-173	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3510C
Method: EPA 8270C
Units: ug/L

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-003-3,113**	**N/A**	**Aqueous**	**GC/MS TT**	**03/18/11**	**03/21/11 12:16**	**110318L03**

Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	10	1	
Aniline	ND	10	1	
Phenol	ND	10	1	
Bis(2-Chloroethyl) Ether	ND	25	1	
2-Chlorophenol	ND	10	1	
1,3-Dichlorobenzene	ND	10	1	
1,4-Dichlorobenzene	ND	10	1	
Benzyl Alcohol	ND	10	1	
1,2-Dichlorobenzene	ND	10	1	
2-Methylphenol	ND	10	1	
Bis(2-Chloroisopropyl) Ether	ND	10	1	
3/4-Methylphenol	ND	10	1	
N-Nitroso-di-n-propylamine	ND	10	1	
Hexachloroethane	ND	10	1	
Nitrobenzene	ND	25	1	
Isophorone	ND	10	1	
2-Nitrophenol	ND	10	1	
2,4-Dimethylphenol	ND	10	1	
Benzoic Acid	ND	50	1	
Bis(2-Chloroethoxy) Methane	ND	10	1	
2,4-Dichlorophenol	ND	10	1	
Naphthalene	ND	10	1	
4-Chloroaniline	ND	10	1	
Hexachloro-1,3-Butadiene	ND	10	1	
4-Chloro-3-Methylphenol	ND	10	1	
2-Methylnaphthalene	ND	10	1	
Hexachlorocyclopentadiene	ND	25	1	
2,4,6-Trichlorophenol	ND	10	1	
2,4,5-Trichlorophenol	ND	10	1	
2-Chloronaphthalene	ND	10	1	
2-Nitroaniline	ND	10	1	
Dimethyl Phthalate	ND	10	1	
Acenaphthylene	ND	10	1	
3-Nitroaniline	ND	10	1	
Acenaphthene	ND	10	1	
2,4-Dinitrophenol	ND	50	1	

Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	64	7-121	
Nitrobenzene-d5	91	50-146	
2,4,6-Tribromophenol	79	41-137	

Parameter	Result	RL	DF	Qual
4-Nitrophenol	ND	10	1	
Dibenzofuran	ND	10	1	
2,4-Dinitrotoluene	ND	10	1	
2,6-Dinitrotoluene	ND	10	1	
Diethyl Phthalate	ND	10	1	
4-Chlorophenyl-Phenyl Ether	ND	10	1	
Fluorene	ND	10	1	
4-Nitroaniline	ND	10	1	
Azobenzene	ND	10	1	
4,6-Dinitro-2-Methylphenol	ND	50	1	
N-Nitrosodiphenylamine	ND	10	1	
4-Bromophenyl-Phenyl Ether	ND	10	1	
Hexachlorobenzene	ND	10	1	
Pentachlorophenol	ND	10	1	
Phenanthrene	ND	10	1	
Anthracene	ND	10	1	
Di-n-Butyl Phthalate	ND	10	1	
Fluoranthene	ND	10	1	
Benzidine	ND	50	1	
Pyrene	ND	10	1	
Pyridine	ND	10	1	
Butyl Benzyl Phthalate	ND	10	1	
3,3'-Dichlorobenzidine	ND	25	1	
Benzo (a) Anthracene	ND	10	1	
Bis(2-Ethylhexyl) Phthalate	ND	10	1	
Chrysene	ND	10	1	
Di-n-Octyl Phthalate	ND	10	1	
Benzo (k) Fluoranthene	ND	10	1	
Benzo (b) Fluoranthene	ND	10	1	
Benzo (a) Pyrene	ND	10	1	
Benzo (g,h,i) Perylene	ND	10	1	
Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Dibenz (a,h) Anthracene	ND	10	1	
1-Methylnaphthalene	ND	10	1	
1,2,4-Trichlorobenzene	ND	10	1	

Surrogates:	REC (%)	Control Limits	Qual
Phenol-d6	44	1-127	
2-Fluorobiphenyl	77	42-138	
p-Terphenyl-d14	84	47-173	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3545
Method: EPA 8270C
Units: mg/kg

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA-1-2.5	**11-03-1280-2-A**	**03/17/11 09:42**	**Solid**	**GC/MS TT**	**03/18/11**	**03/18/11 20:03**	**110318L01**

Parameter	Result	RL	DF	Qual
Acenaphthene	ND	0.50	1	
Acenaphthylene	ND	0.50	1	
Aniline	ND	0.50	1	
Anthracene	ND	0.50	1	
Azobenzene	ND	0.50	1	
Benzidine	ND	10	1	
Benzo (a) Anthracene	ND	0.50	1	
Benzo (a) Pyrene	ND	0.50	1	
Benzo (b) Fluoranthene	ND	0.50	1	
Benzo (g,h,i) Perylene	ND	0.50	1	
Benzo (k) Fluoranthene	ND	0.50	1	
Benzoic Acid	ND	2.5	1	
Benzyl Alcohol	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1	
Bis(2-Ethylhexyl) Phthalate	ND	0.50	1	
4-Bromophenyl-Phenyl Ether	ND	0.50	1	
Butyl Benzyl Phthalate	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1	
4-Chloroaniline	ND	0.50	1	
2-Chloronaphthalene	ND	0.50	1	
2-Chlorophenol	ND	0.50	1	
4-Chlorophenyl-Phenyl Ether	ND	0.50	1	
Chrysene	ND	0.50	1	
Di-n-Butyl Phthalate	ND	0.50	1	
Di-n-Octyl Phthalate	ND	0.50	1	
Dibenz (a,h) Anthracene	ND	0.50	1	
Dibenzofuran	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1	
3,3'-Dichlorobenzidine	ND	10	1	
2,4-Dichlorophenol	ND	0.50	1	
Diethyl Phthalate	ND	0.50	1	
Dimethyl Phthalate	ND	0.50	1	

Surrogates:	REC (%)	Control Limits	Qual
2-Fluorobiphenyl	71	38-134	
Nitrobenzene-d5	79	42-150	
Phenol-d6	79	46-118	

Parameter	Result	RL	DF	Qual
2,4-Dimethylphenol	ND	0.50	1	
4,6-Dinitro-2-Methylphenol	ND	2.5	1	
2,4-Dinitrophenol	ND	2.5	1	
2,4-Dinitrotoluene	ND	0.50	1	
2,6-Dinitrotoluene	ND	0.50	1	
Fluoranthene	ND	0.50	1	
Fluorene	ND	0.50	1	
Hexachloro-1,3-Butadiene	ND	0.50	1	
Hexachlorobenzene	ND	0.50	1	
Hexachlorocyclopentadiene	ND	2.5	1	
Hexachloroethane	ND	0.50	1	
Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Isophorone	ND	0.50	1	
2-Methylnaphthalene	0.58	0.50	1	
1-Methylnaphthalene	0.58	0.50	1	
2-Methylphenol	ND	0.50	1	
3/4-Methylphenol	ND	0.50	1	
N-Nitroso-di-n-propylamine	ND	0.50	1	
N-Nitrosodimethylamine	ND	0.50	1	
N-Nitrosodiphenylamine	ND	0.50	1	
Naphthalene	ND	0.50	1	
4-Nitroaniline	ND	0.50	1	
3-Nitroaniline	ND	0.50	1	
2-Nitroaniline	ND	0.50	1	
Nitrobenzene	ND	2.5	1	
4-Nitrophenol	ND	0.50	1	
2-Nitrophenol	ND	0.50	1	
Pentachlorophenol	ND	2.5	1	
Phenanthrene	ND	0.50	1	
Phenol	ND	0.50	1	
Pyrene	ND	0.50	1	
Pyridine	ND	0.50	1	
1,2,4-Trichlorobenzene	ND	0.50	1	
2,4,6-Trichlorophenol	ND	0.50	1	
2,4,5-Trichlorophenol	ND	0.50	1	

Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	79	42-120	
p-Terphenyl-d14	75	35-167	
2,4,6-Tribromophenol	69	36-132	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation	Date Received:	03/17/11
2020 East 1st Street, Suite 400	Work Order No:	11-03-1280
Santa Ana, CA 92705-4032	Preparation:	EPA 3545
	Method:	EPA 8270C
	Units:	mg/kg
Project: Oxnard / 29868843.30000		Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-548-1,852	N/A	Solid	GC/MS TT	03/18/11	03/18/11 19:11	110318L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acenaphthene	ND	0.50	1		2,4-Dimethylphenol	ND	0.50	1	
Acenaphthylene	ND	0.50	1		4,6-Dinitro-2-Methylphenol	ND	2.5	1	
Aniline	ND	0.50	1		2,4-Dinitrophenol	ND	2.5	1	
Anthracene	ND	0.50	1		2,4-Dinitrotoluene	ND	0.50	1	
Azobenzene	ND	0.50	1		2,6-Dinitrotoluene	ND	0.50	1	
Benzidine	ND	10	1		Fluoranthene	ND	0.50	1	
Benzo (a) Anthracene	ND	0.50	1		Fluorene	ND	0.50	1	
Benzo (a) Pyrene	ND	0.50	1		Hexachloro-1,3-Butadiene	ND	0.50	1	
Benzo (b) Fluoranthene	ND	0.50	1		Hexachlorobenzene	ND	0.50	1	
Benzo (g,h,i) Perylene	ND	0.50	1		Hexachlorocyclopentadiene	ND	2.5	1	
Benzo (k) Fluoranthene	ND	0.50	1		Hexachloroethane	ND	0.50	1	
Benzoic Acid	ND	2.5	1		Indeno (1,2,3-c,d) Pyrene	ND	0.50	1	
Benzyl Alcohol	ND	0.50	1		Isophorone	ND	0.50	1	
Bis(2-Chloroethoxy) Methane	ND	0.50	1		2-Methylnaphthalene	ND	0.50	1	
Bis(2-Chloroethyl) Ether	ND	2.5	1		1-Methylnaphthalene	ND	0.50	1	
Bis(2-Chloroisopropyl) Ether	ND	0.50	1		2-Methylphenol	ND	0.50	1	
Bis(2-Ethylhexyl) Phthalate	ND	0.50	1		3/4-Methylphenol	ND	0.50	1	
4-Bromophenyl-Phenyl Ether	ND	0.50	1		N-Nitroso-di-n-propylamine	ND	0.50	1	
Butyl Benzyl Phthalate	ND	0.50	1		N-Nitrosodimethylamine	ND	0.50	1	
4-Chloro-3-Methylphenol	ND	0.50	1		N-Nitrosodiphenylamine	ND	0.50	1	
4-Chloroaniline	ND	0.50	1		Naphthalene	ND	0.50	1	
2-Chloronaphthalene	ND	0.50	1		4-Nitroaniline	ND	0.50	1	
2-Chlorophenol	ND	0.50	1		3-Nitroaniline	ND	0.50	1	
4-Chlorophenyl-Phenyl Ether	ND	0.50	1		2-Nitroaniline	ND	0.50	1	
Chrysene	ND	0.50	1		Nitrobenzene	ND	2.5	1	
Di-n-Butyl Phthalate	ND	0.50	1		4-Nitrophenol	ND	0.50	1	
Di-n-Octyl Phthalate	ND	0.50	1		2-Nitrophenol	ND	0.50	1	
Dibenz (a,h) Anthracene	ND	0.50	1		Pentachlorophenol	ND	2.5	1	
Dibenzofuran	ND	0.50	1		Phenanthrene	ND	0.50	1	
1,2-Dichlorobenzene	ND	0.50	1		Phenol	ND	0.50	1	
1,3-Dichlorobenzene	ND	0.50	1		Pyrene	ND	0.50	1	
1,4-Dichlorobenzene	ND	0.50	1		Pyridine	ND	0.50	1	
3,3'-Dichlorobenzidine	ND	10	1		1,2,4-Trichlorobenzene	ND	0.50	1	
2,4-Dichlorophenol	ND	0.50	1		2,4,6-Trichlorophenol	ND	0.50	1	
Diethyl Phthalate	ND	0.50	1		2,4,5-Trichlorophenol	ND	0.50	1	
Dimethyl Phthalate	ND	0.50	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorobiphenyl	108	38-134		2-Fluorophenol	112	42-120	
Nitrobenzene-d5	119	42-150		p-Terphenyl-d14	121	35-167	
Phenol-d6	112	46-118		2,4,6-Tribromophenol	92	36-132	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation	Date Received:	03/17/11
2020 East 1st Street, Suite 400	Work Order No:	11-03-1280
Santa Ana, CA 92705-4032	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L
Project: Oxnard / 29668843.30000		Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Water Sample	**11-03-1280-16-B**	**03/17/11 13:20**	**Aqueous**	**GC/MS LL**	**03/22/11**	**03/22/11 22:58**	**110322L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1		1,3-Dichloropropane	ND	1.0	1	
Benzene	0.55	0.50	1		2,2-Dichloropropane	ND	1.0	1	
Bromobenzene	ND	1.0	1		1,1-Dichloropropene	ND	1.0	1	
Bromochloromethane	ND	1.0	1		c-1,3-Dichloropropene	ND	0.50	1	
Bromodichloromethane	ND	1.0	1		t-1,3-Dichloropropene	ND	0.50	1	
Bromoform	ND	1.0	1		Ethylbenzene	ND	1.0	1	
Bromomethane	ND	10	1		2-Hexanone	ND	10	1	
2-Butanone	ND	10	1		Isopropylbenzene	ND	1.0	1	
n-Butylbenzene	ND	1.0	1		p-Isopropyltoluene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1		Methylene Chloride	ND	10	1	
tert-Butylbenzene	ND	1.0	1		4-Methyl-2-Pentanone	ND	10	1	
Carbon Disulfide	ND	10	1		Naphthalene	ND	10	1	
Carbon Tetrachloride	ND	0.50	1		n-Propylbenzene	ND	1.0	1	
Chlorobenzene	ND	1.0	1		Styrene	ND	1.0	1	
Chloroethane	ND	5.0	1		1,1,1,2-Tetrachloroethane	ND	1.0	1	
Chloroform	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	1.0	1	
Chloromethane	ND	10	1		Tetrachloroethene	ND	1.0	1	
2-Chlorotoluene	ND	1.0	1		Toluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1		1,2,3-Trichlorobenzene	ND	1.0	1	
Dibromochloromethane	ND	1.0	1		1,2,4-Trichlorobenzene	ND	1.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		1,1,1-Trichloroethane	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
Dibromomethane	ND	1.0	1		1,1,2-Trichloroethane	ND	1.0	1	
1,2-Dichlorobenzene	ND	1.0	1		Trichloroethene	ND	1.0	1	
1,3-Dichlorobenzene	ND	1.0	1		Trichlorofluoromethane	ND	10	1	
1,4-Dichlorobenzene	ND	1.0	1		1,2,3-Trichloropropane	ND	5.0	1	
Dichlorodifluoromethane	ND	1.0	1		1,2,4-Trimethylbenzene	ND	1.0	1	
1,1-Dichloroethane	ND	1.0	1		1,3,5-Trimethylbenzene	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1		Vinyl Acetate	ND	10	1	
1,1-Dichloroethene	ND	1.0	1		Vinyl Chloride	ND	0.50	1	
c-1,2-Dichloroethene	ND	1.0	1		p/m-Xylene	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1		o-Xylene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Dibromofluoromethane	109	80-126			1,2-Dichloroethane-d4	115	80-134		
Toluene-d8	101	80-120			1,4-Bromofluorobenzene	94	80-120		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation	Date Received: 03/17/11
2020 East 1st Street, Suite 400	Work Order No: 11-03-1280
Santa Ana, CA 92705-4032	Preparation: EPA 5030C
	Method: EPA 8260B
	Units: ug/L
Project: Oxnard / 29868843.30000	Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-001-4,043**	**N/A**	**Aqueous**	**GC/MS LL**	**03/22/11**	**03/22/11 13:51**	**110322L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1		1,3-Dichloropropane	ND	1.0	1	
Benzene	ND	0.50	1		2,2-Dichloropropane	ND	1.0	1	
Bromobenzene	ND	1.0	1		1,1-Dichloropropene	ND	1.0	1	
Bromochloromethane	ND	1.0	1		c-1,3-Dichloropropene	ND	0.50	1	
Bromodichloromethane	ND	1.0	1		t-1,3-Dichloropropene	ND	0.50	1	
Bromoform	ND	1.0	1		Ethylbenzene	ND	1.0	1	
Bromomethane	ND	10	1		2-Hexanone	ND	10	1	
2-Butanone	ND	10	1		Isopropylbenzene	ND	1.0	1	
n-Butylbenzene	ND	1.0	1		p-Isopropyltoluene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1		Methylene Chloride	ND	10	1	
tert-Butylbenzene	ND	1.0	1		4-Methyl-2-Pentanone	ND	10	1	
Carbon Disulfide	ND	10	1		Naphthalene	ND	10	1	
Carbon Tetrachloride	ND	0.50	1		n-Propylbenzene	ND	1.0	1	
Chlorobenzene	ND	1.0	1		Styrene	ND	1.0	1	
Chloroethane	ND	5.0	1		1,1,1,2-Tetrachloroethane	ND	1.0	1	
Chloroform	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	1.0	1	
Chloromethane	ND	10	1		Tetrachloroethene	ND	1.0	1	
2-Chlorotoluene	ND	1.0	1		Toluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1		1,2,3-Trichlorobenzene	ND	1.0	1	
Dibromochloromethane	ND	1.0	1		1,2,4-Trichlorobenzene	ND	1.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		1,1,1-Trichloroethane	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
Dibromomethane	ND	1.0	1		1,1,2-Trichloroethane	ND	1.0	1	
1,2-Dichlorobenzene	ND	1.0	1		Trichloroethene	ND	1.0	1	
1,3-Dichlorobenzene	ND	1.0	1		Trichlorofluoromethane	ND	10	1	
1,4-Dichlorobenzene	ND	1.0	1		1,2,3-Trichloropropane	ND	5.0	1	
Dichlorodifluoromethane	ND	1.0	1		1,2,4-Trimethylbenzene	ND	1.0	1	
1,1-Dichloroethane	ND	1.0	1		1,3,5-Trimethylbenzene	ND	1.0	1	
1,2-Dichloroethane	ND	0.50	1		Vinyl Acetate	ND	10	1	
1,1-Dichloroethene	ND	1.0	1		Vinyl Chloride	ND	0.50	1	
c-1,2-Dichloroethene	ND	1.0	1		p/m-Xylene	ND	1.0	1	
t-1,2-Dichloroethene	ND	1.0	1		o-Xylene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	1	
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual	
Dibromofluoromethane	101	80-126			1,2-Dichloroethane-d4	104	80-134		
Toluene-d8	99	80-120			1,4-Bromofluorobenzene	98	80-120		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA-1-2	**11-03-1280-1-D**	**03/17/11 09:42**	**Solid**	**GC/MS Q**	**03/17/11**	**03/18/11 15:11**	**110318L02**

Parameter	Result	RL	DF	Qual
Acetone	ND	4300	85.2	
Benzene	ND	85	85.2	
Bromobenzene	ND	85	85.2	
Bromochloromethane	ND	170	85.2	
Bromodichloromethane	ND	85	85.2	
Bromoform	ND	430	85.2	
Bromomethane	ND	1700	85.2	
2-Butanone	ND	1700	85.2	
n-Butylbenzene	220	85	85.2	
sec-Butylbenzene	200	85	85.2	
tert-Butylbenzene	ND	85	85.2	
Carbon Disulfide	ND	850	85.2	
Carbon Tetrachloride	ND	85	85.2	
Chlorobenzene	ND	85	85.2	
Chloroethane	ND	170	85.2	
Chloroform	ND	85	85.2	
Chloromethane	ND	1700	85.2	
2-Chlorotoluene	ND	85	85.2	
4-Chlorotoluene	ND	85	85.2	
Dibromochloromethane	ND	170	85.2	
1,2-Dibromo-3-Chloropropane	ND	430	85.2	
1,2-Dibromoethane	ND	85	85.2	
Dibromomethane	ND	85	85.2	
1,2-Dichlorobenzene	ND	85	85.2	
1,3-Dichlorobenzene	ND	85	85.2	
1,4-Dichlorobenzene	ND	85	85.2	
Dichlorodifluoromethane	ND	170	85.2	
1,1-Dichloroethane	ND	85	85.2	
1,2-Dichloroethane	ND	85	85.2	
1,1-Dichloroethene	ND	85	85.2	
c-1,2-Dichloroethene	ND	85	85.2	
t-1,2-Dichloroethene	ND	85	85.2	
1,2-Dichloropropane	ND	85	85.2	
Surrogates:	REC (%)	Control Limits	Qual	
Dibromofluoromethane	97	79-133		
1,4-Bromofluorobenzene	107	80-120		

Parameter	Result	RL	DF	Qual
1,3-Dichloropropane	ND	85	85.2	
2,2-Dichloropropane	ND	430	85.2	
1,1-Dichloropropene	ND	170	85.2	
c-1,3-Dichloropropene	ND	85	85.2	
t-1,3-Dichloropropene	ND	170	85.2	
Ethylbenzene	ND	85	85.2	
2-Hexanone	ND	1700	85.2	
Isopropylbenzene	ND	85	85.2	
p-Isopropyltoluene	190	85	85.2	
Methylene Chloride	ND	850	85.2	
4-Methyl-2-Pentanone	ND	1700	85.2	
Naphthalene	ND	850	85.2	
n-Propylbenzene	ND	170	85.2	
Styrene	ND	85	85.2	
1,1,1,2-Tetrachloroethane	ND	85	85.2	
1,1,2,2-Tetrachloroethane	ND	170	85.2	
Tetrachloroethene	ND	85	85.2	
Toluene	ND	85	85.2	
1,2,3-Trichlorobenzene	ND	170	85.2	
1,2,4-Trichlorobenzene	ND	170	85.2	
1,1,1-Trichloroethane	ND	85	85.2	
1,1,2-Trichloroethane	ND	85	85.2	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	850	85.2	
Trichloroethene	ND	170	85.2	
Trichlorofluoromethane	ND	850	85.2	
1,2,3-Trichloropropane	ND	170	85.2	
1,2,4-Trimethylbenzene	350	170	85.2	
1,3,5-Trimethylbenzene	ND	170	85.2	
Vinyl Acetate	ND	850	85.2	
Vinyl Chloride	ND	85	85.2	
p/m-Xylene	ND	170	85.2	
o-Xylene	ND	85	85.2	
Methyl-t-Butyl Ether (MTBE)	ND	170	85.2	
Surrogates:	REC (%)	Control Limits	Qual	
1,2-Dichloroethane-d4	96	71-155		
Toluene-d8	103	80-120		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation	Date Received: 03/17/11
2020 East 1st Street, Suite 400	Work Order No: 11-03-1280
Santa Ana, CA 92705-4032	Preparation: EPA 5035
	Method: EPA 8260B
	Units: ug/kg

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-025-21,389**	**N/A**	**Solid**	**GC/MS Q**	**03/18/11**	**03/18/11 13:47**	**110318L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	5000	100		1,3-Dichloropropane	ND	100	100	
Benzene	ND	100	100		2,2-Dichloropropane	ND	500	100	
Bromobenzene	ND	100	100		1,1-Dichloropropene	ND	200	100	
Bromochloromethane	ND	200	100		c-1,3-Dichloropropene	ND	100	100	
Bromodichloromethane	ND	100	100		t-1,3-Dichloropropene	ND	200	100	
Bromoform	ND	500	100		Ethylbenzene	ND	100	100	
Bromomethane	ND	2000	100		2-Hexanone	ND	2000	100	
2-Butanone	ND	2000	100		Isopropylbenzene	ND	100	100	
n-Butylbenzene	ND	100	100		p-Isopropyltoluene	ND	100	100	
sec-Butylbenzene	ND	100	100		Methylene Chloride	ND	1000	100	
tert-Butylbenzene	ND	100	100		4-Methyl-2-Pentanone	ND	2000	100	
Carbon Disulfide	ND	1000	100		Naphthalene	ND	1000	100	
Carbon Tetrachloride	ND	100	100		n-Propylbenzene	ND	200	100	
Chlorobenzene	ND	100	100		Styrene	ND	100	100	
Chloroethane	ND	200	100		1,1,1,2-Tetrachloroethane	ND	100	100	
Chloroform	ND	100	100		1,1,2,2-Tetrachloroethane	ND	200	100	
Chloromethane	ND	2000	100		Tetrachloroethene	ND	100	100	
2-Chlorotoluene	ND	100	100		Toluene	ND	100	100	
4-Chlorotoluene	ND	100	100		1,2,3-Trichlorobenzene	ND	200	100	
Dibromochloromethane	ND	200	100		1,2,4-Trichlorobenzene	ND	200	100	
1,2-Dibromo-3-Chloropropane	ND	500	100		1,1,1-Trichloroethane	ND	100	100	
1,2-Dibromoethane	ND	100	100		1,1,2-Trichloroethane	ND	100	100	
Dibromomethane	ND	100	100		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1000	100	
1,2-Dichlorobenzene	ND	100	100		Trichloroethene	ND	200	100	
1,3-Dichlorobenzene	ND	100	100		Trichlorofluoromethane	ND	1000	100	
1,4-Dichlorobenzene	ND	100	100		1,2,3-Trichloropropane	ND	200	100	
Dichlorodifluoromethane	ND	200	100		1,2,4-Trimethylbenzene	ND	200	100	
1,1-Dichloroethane	ND	100	100		1,3,5-Trimethylbenzene	ND	200	100	
1,2-Dichloroethane	ND	100	100		Vinyl Acetate	ND	1000	100	
1,1-Dichloroethene	ND	100	100		Vinyl Chloride	ND	100	100	
c-1,2-Dichloroethene	ND	100	100		p/m-Xylene	ND	200	100	
t-1,2-Dichloroethene	ND	100	100		o-Xylene	ND	100	100	
1,2-Dichloropropane	ND	100	100		Methyl-t-Butyl Ether (MTBE)	ND	200	100	
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual	
Dibromofluoromethane	97	79-133			1,2-Dichloroethane-d4	97	71-155		
1,4-Bromofluorobenzene	96	80-120			Toluene-d8	101	80-120		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
HA-1-2.5	**11-03-1280-2-A**	**03/17/11 09:42**	**Solid**	**ICP 5300**	**03/18/11**	**03/19/11 15:56**	**110318L01**

Comment(s): -Mercury analysis was performed on 03/18/11 16:46 with batch 110318L04.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	3.39	0.750	1		Molybdenum	0.996	0.250	1	
Barium	101	0.500	1		Nickel	15.4	0.250	1	
Beryllium	0.480	0.250	1		Selenium	ND	0.750	1	
Cadmium	0.516	0.500	1		Silver	ND	0.250	1	
Chromium	12.4	0.250	1		Thallium	ND	0.750	1	
Cobalt	6.42	0.250	1		Vanadium	23.8	0.250	1	
Copper	10.9	0.500	1		Zinc	39.5	1.00	1	
Lead	4.39	0.500	1						

Method Blank	**099-04-007-7,940**	**N/A**	**Solid**	**Mercury**	**03/18/11**	**03/18/11 15:48**	**110318L04**

Comment(s): -Preparation/analysis for Mercury was performed by EPA 7471A.

Parameter	Result	RL	DF	Qual
Mercury	ND	0.0835	1	

Method Blank	**097-01-002-14,761**	**N/A**	**Solid**	**ICP 5300**	**03/18/11**	**03/19/11 15:37**	**110318L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Lead	ND	0.500	1	
Arsenic	ND	0.750	1		Molybdenum	ND	0.250	1	
Barium	ND	0.500	1		Nickel	ND	0.250	1	
Beryllium	ND	0.250	1		Selenium	ND	0.750	1	
Cadmium	ND	0.500	1		Silver	ND	0.250	1	
Chromium	ND	0.250	1		Thallium	ND	0.750	1	
Cobalt	ND	0.250	1		Vanadium	ND	0.250	1	
Copper	ND	0.500	1		Zinc	ND	1.00	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3010A Total / EPA 7470A Total
Method: EPA 6010B / EPA 7470A
Units: mg/L

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Water Sample	**11-03-1280-16-D**	**03/17/11 13:20**	**Aqueous**	**ICP 5300**	**03/21/11**	**03/22/11 11:11**	**110321LA7**

Comment(s): -Mercury analysis was performed on 03/21/11 15:48 with batch 110321L05.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	0.0276	0.0150	1		Molybdenum	0.364	0.0100	1	
Arsenic	0.502	0.0100	1		Nickel	0.295	0.0100	1	
Barium	0.996	0.0100	1		Selenium	0.0553	0.0150	1	
Beryllium	ND	0.0100	1		Silver	ND	0.00500	1	
Cadmium	0.0142	0.0100	1		Thallium	ND	0.0150	1	
Chromium	0.419	0.0100	1		Vanadium	1.65	0.0100	1	
Cobalt	0.0679	0.0100	1		Mercury	0.00282	0.000500	1	
Copper	1.16	0.0100	1		Zinc	1.52	0.0100	1	
Lead	0.0886	0.0100	1						

Method Blank	**099-04-008-5,269**	**N/A**	**Aqueous**	**Mercury**	**03/21/11**	**03/21/11 15:28**	**110321L05**

Comment(s): -Preparation/analysis for Mercury was performed by EPA 7470A.

Parameter	Result	RL	DF	Qual
Mercury	ND	0.000500	1	

Method Blank	**097-01-003-11,499**	**N/A**	**Aqueous**	**ICP 5300**	**03/21/11**	**03/21/11 22:44**	**110321LA7**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.0150	1		Lead	ND	0.0100	1	
Arsenic	ND	0.0100	1		Molybdenum	ND	0.0100	1	
Barium	ND	0.0100	1		Nickel	ND	0.0100	1	
Beryllium	ND	0.0100	1		Selenium	ND	0.0150	1	
Cadmium	ND	0.0100	1		Silver	ND	0.00500	1	
Chromium	ND	0.0100	1		Thallium	ND	0.0150	1	
Cobalt	ND	0.0100	1		Vanadium	ND	0.0100	1	
Copper	ND	0.0100	1		Zinc	ND	0.0100	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280

Project: Oxnard / 29868843.30000

Client Sample Number	Lab Sample Number	Date Collected	Matrix
HA-1-2.5	**11-03-1280-2**	**03/17/11**	**Solid**

Parameter	Results	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	7.98	0.01	1		pH units	03/17/11	03/17/11	EPA 9045D

Water Sample	**11-03-1280-16**	**03/17/11**	**Aqueous**	

Parameter	Results	RL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
pH	11.05	0.01	1		pH units	N/A	03/17/11	SM 4500 H+ B

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3050B
Method: EPA 6010B

Project Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-03-1170-4	**Solid**	**ICP 5300**	**03/18/11**	**03/19/11**	**110318S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	20	24	50-115	19	0-20	3
Arsenic	104	99	75-125	4	0-20	
Barium	4X	4X	75-125	4X	0-20	Q
Beryllium	104	100	75-125	3	0-20	
Cadmium	104	100	75-125	3	0-20	
Chromium	114	100	75-125	7	0-20	
Cobalt	108	100	75-125	5	0-20	
Copper	113	104	75-125	5	0-20	
Lead	104	99	75-125	5	0-20	
Molybdenum	86	86	75-125	1	0-20	
Nickel	109	98	75-125	6	0-20	
Selenium	93	89	75-125	4	0-20	
Silver	95	90	75-125	5	0-20	
Thallium	91	90	75-125	2	0-20	
Vanadium	118	95	75-125	8	0-20	
Zinc	127	107	75-125	5	0-20	3

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3005A Filt.
Method: EPA 6010B

Project Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-03-1387-1	**Aqueous**	**ICP 5300**	**03/21/11**	**03/21/11**	**110321SA7**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	91	93	72-132	2	0-10	
Arsenic	100	99	80-140	0	0-11	
Barium	100	99	87-123	1	0-6	
Beryllium	99	97	89-119	1	0-8	
Cadmium	102	101	82-124	1	0-7	
Chromium	97	96	86-122	1	0-8	
Cobalt	105	104	83-125	0	0-7	
Copper	101	100	78-126	1	0-7	
Lead	103	103	84-120	0	0-7	
Molybdenum	99	99	78-126	1	0-7	
Nickel	104	103	84-120	1	0-7	
Selenium	97	98	79-127	1	0-9	
Silver	90	87	86-128	4	0-7	
Thallium	99	99	79-121	0	0-8	
Vanadium	98	97	88-118	1	0-7	
Zinc	107	105	89-131	2	0-8	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-03-1275-2	**Solid**	**GC 45**	**03/18/11**	**03/18/11**	**110318S05**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	83	82	64-130	1	0-15	

RPD - Relative Percent Difference , CL - Control Limit

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Quality Control - Spike/Spike Duplicate

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 7471A Total
Method: EPA 7471A

Project Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-03-1253-2	**Solid**	**Mercury**	**03/18/11**	**03/18/11**	**110318S04**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	99	99	71-137	1	0-14	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 7470A Total
Method: EPA 7470A

Project Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-03-1401-1	**Aqueous**	**Mercury**	**03/21/11**	**03/21/11**	**110321S05**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	101	100	66-126	2	0-7	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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URS Corporation
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Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 3545
Method: EPA 8270C

Project Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
HA-1-2.5	**Solid**	**GC/MS TT**	**03/18/11**	**03/18/11**	**110318S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Acenaphthene	84	84	49-133	1	0-18	
Acenaphthylene	85	84	50-150	1	0-20	
Butyl Benzyl Phthalate	96	94	50-150	1	0-20	
4-Chloro-3-Methylphenol	94	94	50-128	0	0-17	
2-Chlorophenol	94	94	57-111	0	0-17	
1,4-Dichlorobenzene	88	88	49-127	0	0-20	
Dimethyl Phthalate	84	85	50-150	0	0-20	
2,4-Dinitrotoluene	82	84	50-128	2	0-18	
Fluorene	88	88	50-150	0	0-20	
N-Nitroso-di-n-propylamine	95	96	54-144	1	0-17	
Naphthalene	91	90	50-150	1	0-20	
4-Nitrophenol	83	85	30-144	3	0-21	
Pentachlorophenol	78	77	29-113	2	0-22	
Phenol	91	92	57-123	1	0-16	
Pyrene	89	88	47-149	1	0-20	
1,2,4-Trichlorobenzene	89	88	42-132	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

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Quality Control - Spike/Spike Duplicate

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Santa Ana, CA 92705-4032

Date Received: 03/17/11
Work Order No: 11-03-1280
Preparation: EPA 5030C
Method: EPA 8260B

Project Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-03-1462-12	**Aqueous**	**GC/MS LL**	**03/22/11**	**03/22/11**	**110322S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	95	101	72-120	6	0-20	
Carbon Tetrachloride	104	109	63-135	5	0-20	
Chlorobenzene	90	93	80-120	3	0-20	
1,2-Dibromoethane	93	95	80-120	3	0-20	
1,2-Dichlorobenzene	89	94	80-120	5	0-20	
1,2-Dichloroethane	95	102	10-150	7	0-20	
1,1-Dichloroethene	97	101	60-132	4	0-25	
Ethylbenzene	93	96	78-120	3	0-20	
Toluene	94	100	74-122	6	0-20	
Trichloroethene	95	100	69-120	5	0-20	
Vinyl Chloride	91	97	58-130	6	0-20	
Methyl-t-Butyl Ether (MTBE)	100	104	72-126	4	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

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URS Corporation
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Date Received: N/A
Work Order No: 11-03-1280

Project: Oxnard / 29868843.30000

Matrix: Aqueous or Solid

Parameter	Method	QC Sample ID	Date Analyzed	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
pH	SM 4500 H+ B	11-03-1210-1	03/17/11	6.53	6.55	0	0-25	
pH	EPA 9045D	11-03-1194-1	03/17/11	7.50	7.52	0	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-03-1280
Preparation: EPA 3050B
Method: EPA 6010B

Project: Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-14,761	**Solid**	**ICP 5300**	**03/18/11**	**03/19/11**	**110318L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Antimony	92	95	80-120	73-127	3	0-20	
Arsenic	95	96	80-120	73-127	1	0-20	
Barium	104	104	80-120	73-127	0	0-20	
Beryllium	98	99	80-120	73-127	0	0-20	
Cadmium	106	107	80-120	73-127	1	0-20	
Chromium	103	103	80-120	73-127	1	0-20	
Cobalt	111	111	80-120	73-127	0	0-20	
Copper	102	103	80-120	73-127	1	0-20	
Lead	111	112	80-120	73-127	0	0-20	
Molybdenum	104	105	80-120	73-127	1	0-20	
Nickel	109	110	80-120	73-127	0	0-20	
Selenium	102	101	80-120	73-127	0	0-20	
Silver	95	95	80-120	73-127	0	0-20	
Thallium	109	109	80-120	73-127	0	0-20	
Vanadium	98	99	80-120	73-127	0	0-20	
Zinc	117	118	80-120	73-127	0	0-20	

Total number of LCS compounds : 16
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-03-1280
Preparation: EPA 3010A Total
Method: EPA 6010B

Project: Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number	
097-01-003-11,499	**Aqueous**	**ICP 5300**	**03/21/11**	**03/21/11**	**110321LA7**	
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Antimony	91	92	80-120	73-127	0	0-20	
Arsenic	94	94	80-120	73-127	0	0-20	
Barium	101	101	80-120	73-127	1	0-20	
Beryllium	95	95	80-120	73-127	0	0-20	
Cadmium	100	100	80-120	73-127	0	0-20	
Chromium	98	98	80-120	73-127	1	0-20	
Cobalt	103	103	80-120	73-127	0	0-20	
Copper	98	98	80-120	73-127	1	0-20	
Lead	104	103	80-120	73-127	1	0-20	
Molybdenum	97	97	80-120	73-127	0	0-20	
Nickel	104	103	80-120	73-127	1	0-20	
Selenium	95	94	80-120	73-127	0	0-20	
Silver	92	91	80-120	73-127	1	0-20	
Thallium	102	101	80-120	73-127	0	0-20	
Vanadium	95	94	80-120	73-127	1	0-20	
Zinc	103	101	80-120	73-127	1	0-20	

Total number of LCS compounds : 16
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-03-1280
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-067-73	**Aqueous**	**GC 46**	**03/18/11**	**03/18/11**	**110318B04**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	93	90	75-117	3	0-13	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-03-1280
Preparation: EPA 3550B
Method: EPA 8015B (M)

Project: Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-085-201	**Solid**	**GC 45**	**03/18/11**	**03/18/11**	**110318B05**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	103	101	75-123	2	0-12	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-03-1280
Preparation: EPA 7471A Total
Method: EPA 7471A

Project: Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-04-007-7,940	**Solid**	**Mercury**	**03/18/11**	**03/18/11**	**110318L04**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	105	107	85-121	2	0-10	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-03-1280
Preparation: EPA 7470A Total
Method: EPA 7470A

Project: Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-04-008-5,269	**Aqueous**	**Mercury**	**03/21/11**	**03/21/11**	**110321L05**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	98	97	85-121	1	0-10	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-03-1280
Preparation: EPA 3510C
Method: EPA 8270C

Project: Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number	
095-01-003-3,113	**Aqueous**	**GC/MS TT**	**03/18/11**	**03/21/11**	**110318L03**	
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Phenol	45	45	4-142	0-165	1	0-24	
2-Chlorophenol	91	91	53-113	43-123	1	0-17	
1,4-Dichlorobenzene	78	79	50-122	38-134	1	0-19	
N-Nitroso-di-n-propylamine	100	98	56-146	41-161	2	0-22	
Naphthalene	84	84	21-133	2-152	0	0-20	
4-Chloro-3-Methylphenol	96	96	55-121	44-132	0	0-18	
Dimethyl Phthalate	87	88	0-112	0-131	1	0-20	
Acenaphthylene	83	83	33-145	14-164	1	0-20	
Acenaphthene	83	84	55-139	41-153	1	0-17	
4-Nitrophenol	48	48	1-145	0-169	0	0-29	
2,4-Dinitrotoluene	87	87	41-161	21-181	0	0-22	
Fluorene	85	86	59-121	49-131	2	0-20	
Pentachlorophenol	87	86	34-130	18-146	1	0-23	
Pyrene	78	76	38-170	16-192	3	0-27	
Butyl Benzyl Phthalate	86	84	0-152	0-177	2	0-20	
1,2,4-Trichlorobenzene	80	82	49-121	37-133	2	0-19	

Total number of LCS compounds : 16
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-03-1280
Preparation: EPA 3545
Method: EPA 8270C

Project: Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number	
099-12-549-1,852	**Solid**	**GC/MS TT**	**03/18/11**	**03/18/11**	**110318L01**	
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Acenaphthene	102	100	59-125	48-136	2	0-15	
Acenaphthylene	102	99	33-145	14-164	3	0-20	
Butyl Benzyl Phthalate	113	112	0-152	0-177	1	0-20	
4-Chloro-3-Methylphenol	105	104	61-121	51-131	1	0-14	
2-Chlorophenol	104	107	60-114	51-123	3	0-15	
1,4-Dichlorobenzene	100	102	61-121	51-131	1	0-21	
Dimethyl Phthalate	101	99	0-112	0-131	2	0-20	
2,4-Dinitrotoluene	95	94	51-141	36-156	1	0-16	
Fluorene	101	99	59-121	49-131	2	0-20	
N-Nitroso-di-n-propylamine	103	107	64-136	52-148	3	0-15	
Naphthalene	103	103	21-133	2-152	0	0-20	
4-Nitrophenol	101	100	38-152	19-171	1	0-31	
Pentachlorophenol	88	88	38-116	25-129	0	0-20	
Phenol	101	104	59-125	48-136	3	0-15	
Pyrene	110	110	51-141	36-156	0	0-14	
1,2,4-Trichlorobenzene	102	101	58-118	48-128	1	0-18	

Total number of LCS compounds : 16
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-03-1280
Preparation: EPA 5030C
Method: EPA 8260B

Project: Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number	
099-14-001-4,043	**Aqueous**	**GC/MS LL**	**03/22/11**	**03/22/11**	**110322L02**	
Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	97	98	80-120	73-127	1	0-20	
Carbon Tetrachloride	108	107	66-138	54-150	1	0-20	
Chlorobenzene	91	94	80-120	73-127	4	0-20	
1,2-Dibromoethane	93	96	80-120	73-127	4	0-20	
1,2-Dichlorobenzene	89	93	80-120	73-127	4	0-20	
1,2-Dichloroethane	95	96	80-129	72-137	1	0-20	
1,1-Dichloroethene	99	99	71-131	61-141	0	0-20	
Ethylbenzene	94	96	80-123	73-130	3	0-20	
Toluene	95	97	79-121	72-128	2	0-20	
Trichloroethene	97	98	80-120	73-127	2	0-20	
Vinyl Chloride	101	99	70-136	59-147	2	0-20	
Methyl-t-Butyl Ether (MTBE)	101	101	72-126	63-135	1	0-22	

Total number of LCS compounds : 12
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

URS Corporation
2020 East 1st Street, Suite 400
Santa Ana, CA 92705-4032

Date Received: N/A
Work Order No: 11-03-1280
Preparation: EPA 5035
Method: EPA 8260B

Project: Oxnard / 29868843.30000

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-025-21,389	**Solid**	**GC/MS Q**	**03/18/11**	**03/18/11**	**110318L02**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	110	109	80-120	73-127	1	0-20	
Carbon Tetrachloride	112	112	65-137	53-149	0	0-20	
Chlorobenzene	100	100	80-120	73-127	0	0-20	
1,2-Dibromoethane	108	106	80-120	73-127	3	0-20	
1,2-Dichlorobenzene	96	91	80-120	73-127	5	0-20	
1,2-Dichloroethane	108	102	80-120	73-127	6	0-20	
1,1-Dichloroethene	100	99	68-128	58-138	0	0-20	
Ethylbenzene	101	101	80-120	73-127	1	0-20	
Toluene	112	111	80-120	73-127	1	0-20	
Trichloroethene	109	111	80-120	73-127	2	0-20	
Vinyl Chloride	108	110	67-127	57-137	2	0-20	
Methyl-t-Butyl Ether (MTBE)	105	96	70-124	61-133	8	0-20	

Total number of LCS compounds : 12
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 11-03-1280

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Calscience Environmental Laboratories, Inc.

☒ SoCal Laboratory
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

☐ NorCal Service Center
5063 Commercial Circle, Suite H
Concord, CA 94520-8577
(925) 689-9022

CHAIN OF CUSTODY RECORD

Date 3/17/11

Page 1 of 2

LABORATORY CLIENT: URS Corp

ADDRESS: 2020 E 1ST ST Ste 400

CITY: Santa Ana STATE: CA ZIP: 92705

TEL: 714 835 6886 E-MAIL:

CLIENT PROJECT NAME / NUMBER: Oxnard 29868843.30000

P.O. NO.:

PROJECT CONTACT: Allen Blodgat

LAB USE ONLY: 03-1780

SAMPLER(S): (PRINT) Lawrence Fong/Allen Blodgat

COELT LOG CODE

COOLER RECEIPT TEMP= °C

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ STANDARD

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐ _____

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (g)	TPH (d) or (C6-C36) or (C6-C44)	TPH ( )	BTEX / MTBE (8260B) or ( )	VOCs (8260B)	Oxygenates (8260B)	Encore Prep (5035)	SVOCs (8270C)	Pesticides (8081A)	PCBs (8082)	PNAs (8310) or (8270C)	T22 Metals (6010B/747X)	Cr(VI) [7196A or 7199 or 218.6]	VOCs (TO-14A) or (TO-15)	TPH (g) [TO-3]+	pH		
1	HA-1-2		3/17/11	9:42	S	3					X												
2	HA-1-2.5			942		1			X					X				X				X	
3	HA-1-5			9:50					X														
4	HA-2-2			10:15					X														
5	HA-2-5			10:30					X														
6	HA-3-2			10:35					X														
7	HA-3-5			10:40					X														
8	HA-4-2			11:25					X														
9	HA-4-5			11:35					X														
10	HA-5-2			1148					X														

Relinquished by: (Signature) Lawrence Fong 3/17/11	Received by: (Signature/Affiliation) CEL	Date: 3/17/11 Time: 1930
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: Time:

05/01/07 Revision

DISTRIBUTION: White with final report, Green and Yellow to Client.
Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

Graphics 714-898-9702

Calscience Environmental Laboratories, Inc.

☐ SoCal Laboratory
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

☐ NorCal Service Center
5063 Commercial Circle, Suite H
Concord, CA 94520-8577
(925) 689-9022

CHAIN OF CUSTODY RECORD

Date 3/17/11

Page 2 of 2

LABORATORY CLIENT: URS

ADDRESS: 2020 E 1st ST ste 400

CITY: Santa Ana STATE: CA ZIP: 92705

TEL: 714 8356886 E-MAIL:

CLIENT PROJECT NAME / NUMBER: Oxdnard 29868843.30000

P.O. NO.:

PROJECT CONTACT: Allen Blodget

LAB USE ONLY: 03-1378

SAMPLER(S): (PRINT) Lawrence Fang/Allen Blodget

COELT LOG CODE

COOLER RECEIPT TEMP= °C

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ STANDARD

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (g)	TPH (d) or (C6-C36) or (C6-C44)	TPH (Carbon Chain)	BTEX / MTBE (8260B) or ( )	VOCs (8260B)	Oxygenates (8260B)	Encore Prep (5035)	SVOCs (8270C)	Pesticides (8081A)	PCBs (8082)	PNAs (8310) or (8270C)	T22 Metals (6010B/747X)	Cr(VI) [7196A or 7199 or 218.6]	VOCs (TO-14A) or (TO-15)	TPH (g) [TO-3]+	pH		
11	HA-5-5		3/17/11	11:55	S	1			X															
12	HA-6-2		"	1410	"	1			X															
13	HA-6-5			1420		1			X															
14	HA-7-2			14:10		1			X															
15	HA-7-5		↓	1420	↓	1			X															
16	Water Sample		3/17/11	13:20	L	6			X	X		X			X				X					

Relinquished by: (Signature) Lawrence Fang 3/17/11	Received by: (Signature/Affiliation) CEL	Date: 3/17/11	Time: 1920
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

05/01/07 Revision

DISTRIBUTION: White with final report, Green and Yellow to Client.
Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

CalScience Environmental Laboratories, Inc.

WORK ORDER #: 11-03-1280

SAMPLE RECEIPT FORM

Cooler 1 of 2

CLIENT: URS

DATE: 03/17/11

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 2.5 °C + 0.5 °C (CF) = 3.0 °C ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter Initial: YC

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☑ Not Present ☐ N/A Initial: YC

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: TN

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☐	☑	☐
Analyses received within holding time	☑	☐	☐
pH / Residual Chlorine / Dissolved Sulfide received within 24 hours	☑	☐	☐
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☑	☐	☐
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☑16ozCGJ ☐Sleeve (_____) ☑EnCores® (4) ☐TerraCores® ☐_____

Water: ☐VOA ☑VOAh ☐VOA**na₂** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☑1AGB**na₂** ☐1AGB**s** ☐500AGB ☑500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐500PB ☐500PB**na** ☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na₂** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** PT/TN

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope **Reviewed by:** WK/

Preservative: h: HCL n: HNO_3 **na₂**: $Na_2S_2O_3$ **na**: NaOH p: H_3PO_4 s: H_2SO_4 **znna**: $ZnAc_2$+NaOH f: Field-filtered **Scanned by:**

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-03-1280

SAMPLE RECEIPT FORM

Cooler 2 of 2

CLIENT: URS

DATE: 03/17/11

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 2.4 °C + 0.5 °C (CF) = 2.9 °C ☐ Blank ☑ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter Initial: YC

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☑ Not Present ☐ N/A Initial: YC

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: TN

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Residual Chlorine / Dissolved Sulfide received within 24 hours	☑	☐	☐
Proper preservation noted on COC or sample container	☐	☐	☑
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☑16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☐VOA**h** ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na$_2$** ☐1AGB**s** ☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐500PB ☐500PB**na** ☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** TN

Container: **C:** Clear **A:** Amber **P:** Plastic **G:** Glass **J:** Jar **B:** Bottle **Z:** Ziploc/Resealable Bag **E:** Envelope **Reviewed by:** DL

Preservative: **h:** HCL **n:** HNO_3 **na$_2$:** $Na_2S_2O_3$ **na:** NaOH **p:** H_3PO_4 **s:** H_2SO_4 **znna:** $ZnAc_2$+NaOH **f:** Field-filtered **Scanned by:** _____

Oxnard Fire/CUPA · 360 West Second St., Oxnard, CA, 93030 · Phone: (805) 385-7722 · Fax: (805) 385-8009

Facility Name: COOK COMPOSITE & POLYMERS	Inspection Date: 3-29-11
Facility Address: 5980 ARCTURUS AVE	
Program Elements Inspected: X HM X HW ☐ UST ☐ AST/SPCC ☐ CalARP ☐ Fire Code ☐ Plan Check	

NOTICE TO COMPLY INSPECTION SHEET (CONTINUED)

Description of Violations/Corrections:

- 3-1-11 received an updated B.P from CCP corporate. Stated that operations at this location had permanately ceased.
- Site visit conducted this date to verify that HM/HW reported on B.P. had been removed from site. B.P. information confirmed.
- Current activities at this site are demolition and clearing. A demolition permit was issued by City & CCP contractor
- Facility will be inactivated when demolition permit is signed by CUPA

Inspector: Ines V. Gonzales DS	Received By (signature): Copy to File
Phone: 805 385-7057	Print Name:

DISTRIBUTION: WHITE—FIRE/CUPA CANARY—Facility

Version 5/10

CCP

February 24, 2009

Mr. Clint Seiter
U.S. Environmental Protection Agency
RCRA Enforcement Office
75 Hawthorne Street, Mailcode: WST-3
San Francisco, CA 94105

VIA E-MAIL AND EXPRESS DELIVERY

RE: **2008 Hazardous Waste Compliance Inspection**
Cook Composites and Polymers Co.
Oxnard, CA 93033
EPA ID No.: CAD087163267

Dear Mr. Seiter:

United States Environmental Protection Agency (US EPA) Region IX conducted a routine hazardous waste compliance evaluation on April 23, 2008 of the Cook Composites and Polymers Co. (CCP) facility located at 5980 Arcturus Avenue in Oxnard, California. The compliance evaluation included a review of records, site walk through, and observation of satellite accumulation areas and waste units.

CCP subsequently received a warning letter identifying areas of alleged noncompliance from US EPA Region IX. The warning letter requires submittal of a written description of all actions taken and/or a schedule for completion of all necessary actions to correct the alleged noncompliance along with supporting documentation within thirty (30) days of receipt of the notification of alleged noncompliance.

As discussed on January 21, 2009, the CCP Oxnard facility temporarily idled its UPR production process as part of a corporate restructuring strategy effective November 17, 2007. Subsequently, CCP personnel performed thorough cleaning of all UPR-related process equipment to prepare the process equipment for restart when the production capacity is again required.

Again in November 2008, the CCP Oxnard facility temporarily idled its gel coat production process in response to a contracting market place. Subsequently, CCP personnel performed thorough cleaning of all gel coat-related process equipment to prepare the process equipment for restart when the production capacity is again required. As a result, the entire CCP Oxnard facility is temporarily idled.

A summary of the alleged noncompliance and the respective status of the alleged noncompliance are as follows:

1. *Label the six 55-gallon drums of glycol reflux, two containers of resin samples and three containers of styrene gelcoat located in the Hazardous Waste Storage Area per the labeling requirements specified under the California Code of Regulations (CCR) Title*

PO Box 419389 • Kansas City, MO • 64141-6389
Ph: 816-391-6324 • Fax: 816-391-6093 • E-mail: schuckman@ccponline.com

22 section 66262.34(e)(1)(E), and (f)(3), that is:

-the initial date of waste accumulation is clearly marked and visible for inspection on each container used for accumulation of hazardous waste;
-composition and physical state of the waste;
-the particular hazardous properties of the waste;
-the name and address of the person producing the waste.

Provide photographic documentation that this has been done. If these waste drums have since been manifested offsite, provide EPA with a copy of the manifest(s).

Pursuant to California Code of Regulation (CCR) Title 22 section 66262.34(e)(1)(E), and (f)(3), CCP labeled the eleven (11) waste containers accordingly. Subsequently, CCP shipped the material for disposal on May 8, 2008. Uniform Hazardous Waste Manifest Tracking Number 003735346 JJK documents that the eleven (11) waste containers were shipped to Pollution Control Industries for disposal (refer to Attachment 1).

2. *Provide a secure lid for the 5-gallon bucket of spent acetone debris in the Sample Spray Booth Area. Provide photographic documentation that this has been done.*

Effective November 2008, the CCP Oxnard facility temporarily idled its gel coat production process in response to a contracting market place. Subsequently, CCP personnel performed thorough cleaning of all gel coat-related process equipment to prepare the process equipment for restart when the production capacity is again required (refer to Attachment 2). As a result, the entire CCP Oxnard facility is temporarily idled.

3. *Make a waste determination for the unlabeled 55-gallon drum in the facility "bone yard".*

Effective November 2008, the CCP Oxnard facility temporarily idled its gel coat production process in response to a contracting market place. Subsequently, CCP personnel performed thorough cleaning of all gel coat-related process equipment to prepare the process equipment for restart when the production capacity is again required. As a result, the entire CCP Oxnard facility is temporarily idled.

In addition, CCP determined that the unlabeled drum was placed in the facility "bone yard" empty with the lid not secure. As a result, rain water accumulated in the drum while temporarily stored in the facility "bone yard".

4. *Label and close the spent fluorescent container per Universal Waste requirements in CCR Title 22 section 66723. Provide photographic documentation that this has been done.*

CCP contracted Veolia Environmental Services to provide a Universal Waste RecyclePak program for our CCP Oxnard facility. As a result, Veolia Environmental Services provides DOT approved containers that include all necessary labeling (refer to Attachment 3). However, CCP employees date the container once accumulation of Universal Waste begins.

In addition, Universal Waste (i.e., alkaline batteries and four foot fluorescent lamps) was shipped by CCP Oxnard and received by Veolia Environmental Services on September 24, 2008 and November 5, 2008 (refer to Attachment 4).

5. *Update the emergency coordinator data in the facility's contingency plan. Provide a copy of the revised emergency coordinator information to EPA.*

Effective November 2008, the CCP Oxnard facility temporarily idled its gel coat production process in response to a contracting market place. Subsequently, CCP personnel performed thorough cleaning of all gel coat-related process equipment to prepare the process equipment for restart when the production capacity is again required. As a result, the entire CCP Oxnard facility is temporarily idled.

In addition, CCP updated the emergency coordinator data in the contingency plan in accordance with facility restructuring (refer to Attachment 5).

6. *Submit training records in accordance with CCR Title 22 section 66265.16(d)(1)-(3). specifically:*
   (1) the job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;
   (2) a written job description for each position listed;
   (3) a written description of the type and amount of both introductory and continuing training that will be given to each person listed above.

Effective November 2008, the CCP Oxnard facility temporarily idled its gel coat production process in response to a contracting market place. Subsequently, CCP personnel performed thorough cleaning of all gel coat-related process equipment to prepare the process equipment for restart when the production capacity is again required. As a result, the entire CCP Oxnard facility is temporarily idled.

In accordance with facility restructuring, please find attached:

- Updated organization chart (refer to Attachment 6)
- Written job descriptions (refer to Attachment 7)
- CCP Training Needs (refer to Attachment 8)
- CCP Training Needs Personnel Training Report (refer to Attachment 9)

Mr. Clint Seiter - U.S. Environmental Protection Agency
RE: 2008 Hazardous Waste Compliance Inspection
February 24, 2009

If you have any questions or require additional information, please contact me at (816) 391-6324.

Sincerely,
COOK COMPOSITES AND POLYMERS CO. (CCP)

Jon Schuckman
Director, HSE Compliance Assurance

Attachments: As Stated

Cc: Pauli McClanahan – CCP Oxnard
Greg Geary – CCP

Form Approved. OMB No. 2050-0039

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	CAD087163267	2	800-424-9300	003735346 JJK

5. Generator's Name and Mailing Address
COOK COMPOSITES AND POLYMERS
5080 ARCTURUS AVENUE OXNARD, CA 93033
Generator's Phone: 805 986-3635

Generator's Site Address (if different than mailing address)

U.S. EPA ID Number

6. Transporter 1 Company Name
WEST CENTRAL ENVIRONMENTAL CORP.
U.S. EPA ID Number
NYD066708271

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
POLLUTION CONTROL INDUSTRIES
5485 VICTORY LANE MILLINGTON, TN 38053
U.S. EPA ID Number
TND000772188

Facility's Phone: 888-774-8388

	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
							D001	CA:352	
X		1. RQ WASTE SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. (STYRENE) 4.1 UN3175 PGII (D001) ERG133	8	DM	03200	P			
							D001	CA:214	
X		2. RQ WASTE RESIN SOLUTION 3 UN1866 PGII (D001) ERG127	14	DM	05600	P			
							D001	CA:331	
X		3. RQ WASTE FLAMMABLE LIQUID, N.O.S. (PETROLEUM DISTILLATES) 3 UN1993 PGII (D001) ERG128	1	DM	00400	P			
							D001	F003	CA:331
X		4. RQ WASTE FLAMMABLE LIQUID, N.O.S. (ACETONE) 3 UN1993 PGII (F003, D001) ERG128	4	DM	01600	P			

14. Special Handling Instructions and Additional Information
9b.1. PCI Approval: 212889 Filter Bags / Debris
9b.2. PCI Approval: 212885 Polyester Resin Waste
9b.3. PCI Approval: 212888 Styrene Rinses
9b.4. PCI Approval: 212887 Acetone Rinses
WCE Job # 39579.5.08 Del Confirm # 81054

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: JUAN ZAVALA FOR CCP. Signature: Juan Zavala Month 05 Day 08 Year 08

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:
Transporter signature (for exports only):

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JOHN M PIRONI Signature: John M Pironi Month 05 Day 08 Year 08
Transporter 2 Printed/Typed Name: Signature: Month Day Year

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number: U.S. EPA ID Number
18b. Alternate Facility (or Generator)
Facility's Phone: Month Day Year
18c. Signature of Alternate Facility (or Generator)

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Tamara Streeter Signature: Tamara Streeter Month 05 Day 13 Year 08

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. TRANSPORTER'S COPY

Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: CAD087183287

22. Page: 2

23. Manifest Tracking Number: 003735346JJK

24. Generator's Name: COOK COMPOSITES AND POLYMERS
5980 ARCTURUS AVENUE OXNARD, CA 93033

U.S. EPA ID Number

25. Transporter _____ Company Name

U.S. EPA ID Number

26. Transporter _____ Company Name

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
X	RQ WASTE RESIN SOLUTION 3 UN1866 PGII (D001) ERG127	--2	DM	00800	P	D001 CA331
X	RQ WASTE FLAMMABLE LIQUID, N.O.S. (NAPHTHA, STYRENE) 3 UN1993 PGIII (D001) ERG128	--55	DM	22000	P	D001 CA331
	USDOT NON-REGULATED NON-HAZARDOUS GLYCOL WASTE	44	DM	01600	P	None

GENERATOR

32. Special Handling Instructions and Additional Information
27b.5. 212985 Off-Spec Gel Coat
27b.6. 212985 Retain Samples
27b.7. 223162 Glycol Wash

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

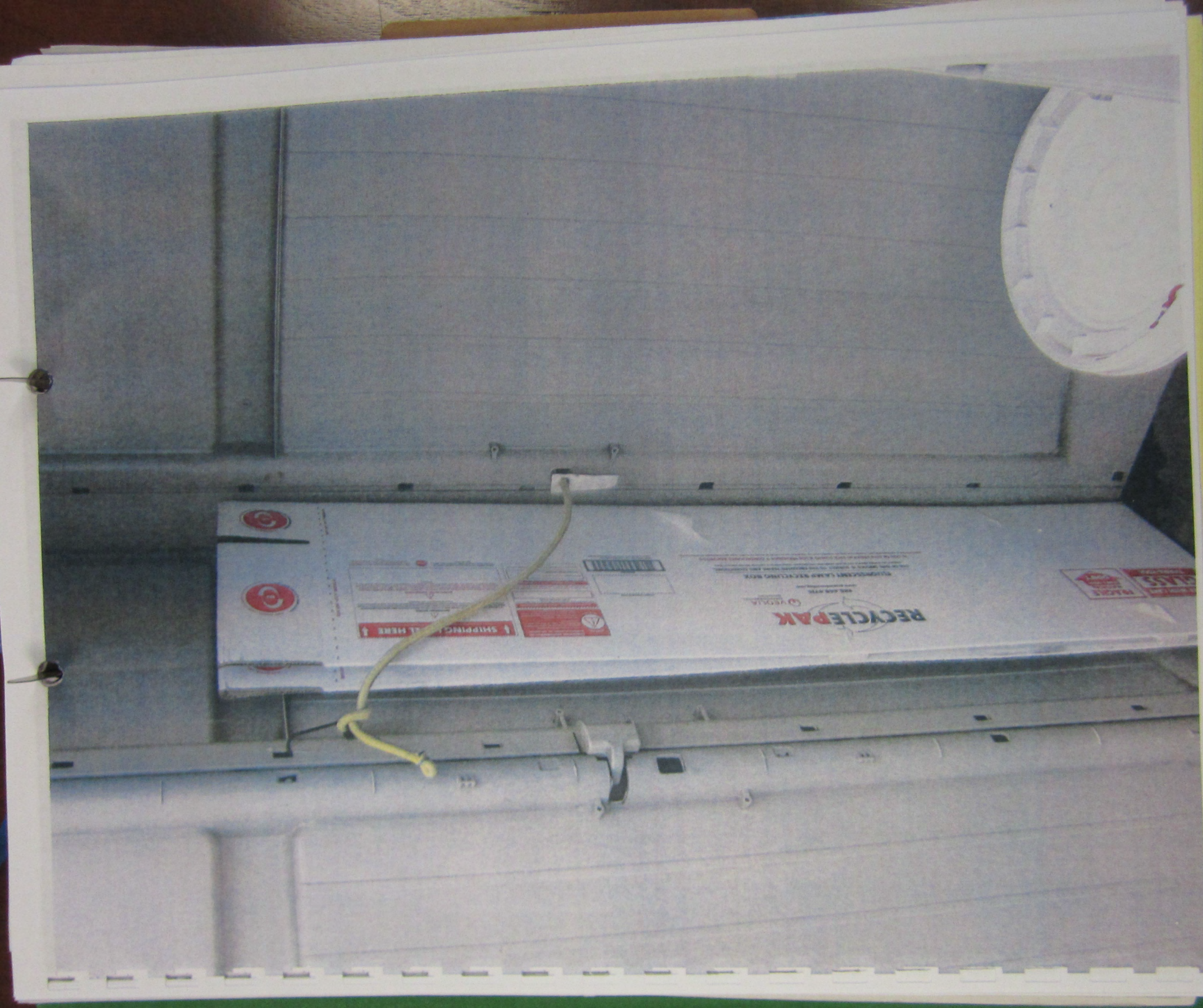
35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

TRANSPORTER'S COPY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.




RECYCLEPAK


LABEL HERE
GENERATOR RESPONSIBILITIES
09-18-08

G2

FIRE/CUPA

360 West Second St., Oxnard, CA 93030
TELEPHONE: (805) 385-7722 FAX: (805) 385-8009

HAZARDOUS MATERIAL & HAZARDOUS WASTE NOTICE TO COMPLY

Facility Name: Cook Composites + Polymers Co.	Permit #: 03-0012	Inspection Date: 2-12-09
Facility Address: 5930 Arecibo Ave.	Inspection Authorized by: PAULINE McCLANAHAN	
Inspection Type: ☑ Routine ☐ FU ☐ Enforcement ☐ New Permit ☐ Complaint	Phone: 986-3035 x13	
Inspection Category Type: ☑ Combined ☐ Integrated & Multi-Media	Returned to compliance within Est. Std? ☐ Yes ☐ No	
Program Elements Inspected: ☑ HM ☑ HW ☐ UST ☐ AST/SPCC ☐ CalARP *100 kg = 27 gals = 220 lbs 1000kg = 270 gals = 2200lbs*		

✓		City Ordinance 11-303 CFC 105.1.1	Permit to Operate Current Permit Posted	POSTED
Y	**N**	**Business Plan:** ☐ Range I ☐ Range II ☐ Range III ☑ Range IV		Comments
✓		HSC 25503.5	Business Plan established	
✓		HSC 25504(b)	Emergency Response Plan established	
		HSC 25504(c)	Employee Training documented and implemented	
	✓	HSC 25505(d)	Annual Certification or annual Business Plan submitted	(1) BP SUBMITTED APRIL 2008
	✓	HSC 25509(a)(7)	Emergency Contacts current	(1)
	✓	HSC 25510	Reported Inventory current with established annual Plan	(1)
M	**II**	**Hazardous Waste:** ☑ HW Generator ☐ CESQG ☐ SQG ☑ LQG ☐ Tiered Permit		Range I ☐ Range II ☐ Range III ☑
		HSC 25201(a)	Authorized HW storage/treatment	
		CCR 66262.11	HW determination made	
		CCR 66262.12	EPA ID Number **(except silver-only CESQGs)**	CAD087163267
		CCR 66265.51(a)	Contingency Plan **(LQG only)**	
		CCR 66265.16	All personnel training & annual review completed **(LQG only)**	
		CCR 66265.16(d)&(e)	Training records maintained on-site **(LQG only)**	
		CCR 66262.34(d)(2)	Personnel trained for familiarity with HW **(CESQG & SQG only)**	
		CCR 66262.40(c)	HW analysis retained for 3 years	
		CCR 66262.34(f)	HW container(s) properly labeled	
		CCR 66262.34	HW container accumulation time(s)exceeded	
		CCR 66265.173(a)	All HW containers closed*	CLOSED
		CCR 66265.171	All HW containers in good condition/not leaking*	GOOD CONDITION
		CCR 66265.172	All HW containers compatible with HW*	COMPATIBLE
		CCR 66265.174	All HW containers inspected weekly*	CLEAN
		CCR 66265.177	Incompatible HW segregated*	
		CCR 66265.176	Ignitable/reactive HW containers 50' from property line **(LQG)***	
		CCR 66265.35	Required aisle space for HW containers provided*	EASILY ACCESSIBLE
		CCR 66268.7	Land Disposal Restriction Notification Statement	
		CCR 66265.31	Management to prevent HW release*	SPILL KIT AVAILABLE
		CCR 66262.40	Manifests/Receipts retained for 3 years	CHEMICAL TRACK
		H&SC 25160	HW transported with properly completed manifests and/or receipts.	

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION (2005) DISTRIBUTION: WHITE-- CUPA CANARY-- Facility

received
BNM 3-17-09

Facility Name: Cook Composites & Polymers Co. Inspection Date: 2.12.09

	M	II		
			Hazardous Waste: (cont'd)	
			CCR 66262.23(a)(4)	Manifests: copy sent to DTSC
Used Oil & Used Filters [Oil & Gas and/or Diesel Filters from Dispensers] (Chapter 6.5, H&SC & Title 22, CCR)				
			HSC 25250.7(a)	Used oil not contaminated with other HW
			CCR 66266.130	Used oil filters properly managed (e.g., labeled container)
			CCR 66266.130(c)(5)	Bill of lading for used oil filters retained for 3 years
			HSC 25160.2(c)	Used gas and/or diesel filters from dispensers properly managed
Hazardous Waste Tanks (Title 22, CCR)				
			66262.34(f)	Tank(s) marked "Hazardous Waste" & accumulation date. HW tank accumulation time(s) not exceeded.
			66265.193	HW tank(s) provided with secondary containment*
			66265.195	All HW tanks inspected daily*
Spent Lead Acid Batteries (Title 22, CCR; also Chapter 6.5, H&SC)				
			66266.81	Lead acid batteries properly managed/transferred
Contaminated Rags (Chapter 6.5, H&SC)				
			H&SC 25144.6	Contaminated rags managed properly

Spill Prevention Control & Countermeasure (SPCC) Plan (Chapter 6.67, H&SC)			
		HSC 25270.3	SPCC Plan Established
		66265.193	HW tank(s) provided with secondary containment*
		66265.195	All HW tanks inspected daily*

Description of Violations/Corrections:

1) FACILITY IS CURRENTLY ON STAND-BY. NO PRODUCTION OPERATIONS ARE BEING DONE ONSITE. MOST OF THE CHEMICALS HAVE BEEN REMOVED. PROVIDE OXNARD FIRE/CUPA DOCUMENTATION REGARDING FACILITY'S CURRENT STATUS AND FUTURE STATUS OF SITE WHICH INCLUDE BUSINESS OWNER/OPERATOR PAGE (OES 2730) AND CHEMICAL DESCRIPTION SHEETS (OES 2731) FOR ANY/ALL CHANGES. CORRECT WITHIN 30 DAYS. SIGN, DATE, AND RETURN REPORT TO CERTIFY CORRECTIONS

The marked items represent violations of the California Health and Safety Code and California Code of Regulations. **A re-inspection may occur at any time on or after the compliance deadline to verify correction of violations. All violations are to be corrected and a copy of this form signed and returned within 35 days, certifying the correction of these violations.** Failure to correct violations by the compliance deadline will result in further enforcement action, including, but not limited to, a reinspection fee, fines and/or suspension or revocation of your Unified Program Facility Permit.

I CERTIFY THAT THE ABOVE NOTED VIOLATIONS HAVE BEEN CORRECTED:

Signature/Title: DIRECTOR - HSE COMPLIANCE ASSURANCE Date: 03/13/2009

☐ (If checked): Illegal disposal/abandonment of HW (H&SC 25189.5(a)) ☐ Knox box installation required

☐ (If checked): Illegal transportation of HW (H&SC 25163(a)) ☐ NFPA 704-placard installation required

SEE REVERSE

Inspector: Bo Medina	Received By (signature):
Phone: 385-8316	Print Name: Pauline C. McGraken

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION DISTRIBUTION: WHITE-- CUPA CANARY-- Facility

FIRE/CUPA

~~360 West~~ Second St., Oxnard, CA 93030
TELEPHONE: (805) 385-7722 FAX: (805) 385-8009

HAZARDOUS MATERIAL & HAZARDOUS WASTE NOTICE TO COMPLY

Facility Name: Cook Composites + Polymers Co.	Permit #: 03-0012	Inspection Date: 2-12-09
Facility Address: 5980 Arcturus Ave.	Inspection Authorized by: Pauline McClanahan	
Inspection Type: ☐ Routine ☐ FU ☐ Enforcement ☐ New Permit ☐ Complaint	Phone: 986-3635 x18	
Inspection Category Type: ☑ Combined ☐ Integrated & Multi-Media	Returned to compliance within Est. Std? ☐ Yes ☐ No	

Program Elements Inspected: ☑ HM ☑ HW ☐ UST ☐ AST/SPCC ☐ CalARP *100 kg = 27 gals = 220 lbs 1000kg = 270 gals = 2200lbs*

✓		City Ordinance 11-303 CFC 105.1.1	Permit to Operate Current Permit Posted	POSTED
Y	**N**	**Business Plan:** ☐ Range I ☐ Range II ☐ Range III ☑ Range IV		Comments
✓		HSC 25503.5	Business Plan established	
✓		HSC 25504(b)	Emergency Response Plan established	
		HSC 25504(c)	Employee Training documented and implemented	
	✓	HSC 25505(d)	Annual Certification or annual Business Plan submitted	(1) BP SUBMITTED APRIL 2008
	✓	HSC 25509(a)(7)	Emergency Contacts current	(1)
	✓	HSC 25510	Reported Inventory current with established annual Plan	(1)

M	**H**	**Hazardous Waste:** ☑ HW Generator ☐ CESQG ☐ SQG ☑ LQG ☐ Tiered Permit		Range I ☐ Range II ☐ Range III ✓
		HSC 25201(a)	Authorized HW storage/treatment	
		CCR 66262.11	HW determination made	
		CCR 66262.12	EPA ID Number **(except silver-only CESQGs)**	CAD087163267
		CCR 66265.51(a)	Contingency Plan **(LQG only)**	
		CCR 66265.16	All personnel training & annual review completed **(LQG only)**	
		CCR 66265.16(d)&(e)	Training records maintained on-site **(LQG only)**	
		CCR 66262.34(d)(2)	Personnel trained for familiarity with HW **(CESQG & SQG only)**	
		CCR 66262.40(c)	HW analysis retained for 3 years	
		CCR 66262.34(f)	HW container(s) properly labeled	
		CCR 66262.34	HW container accumulation time(s)exceeded	
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		CCR 66265.171	All HW containers in good condition/not leaking*	GOOD CONDITION
		CCR 66265.172	All HW containers compatible with HW*	COMPATIBLE
		CCR 66265.174	All HW containers inspected weekly*	CLEAN
		CCR 66265.177	Incompatible HW segregated*	
		CCR 66265.176	Ignitable/reactive HW containers 50' from property line **(LQG)***	
		CCR 66265.35	Required aisle space for HW containers provided*	EASILY ACCESSIBLE
		CCR 66268.7	Land Disposal Restriction Notification Statement	
		CCR 66265.31	Management to prevent HW release*	SPILL KIT AVAILABLE
		CCR 66262.40	Manifests/Receipts retained for 3 years	CHEMICAL TRANS.
		H&SC 25160	HW transported with properly completed manifests and/or receipts.	

2007 ENTERED 2/11/09 MO

Facility Name: Cook Composites & Pol... Inspection Date: 2-12-09

M	II	Hazardous Waste: (cont'd)	
		CCR 66262.23(a)(4)	Manifests: copy sent to DTSC
Used Oil & Used Filters [Oil & Gas and/or Diesel Filters from Dispensers] (Chapter 6.5, H&SC & Title 22, CCR)			
		HSC 25250.7(a)	Used oil not contaminated with other HW
		CCR 66266.130	Used oil filters properly managed (e.g., labeled container)
		CCR 66266.130(c)(5)	Bill of lading for used oil filters retained for 3 years
		HSC 25160.2(c)	Used gas and/or diesel filters from dispensers properly managed
Hazardous Waste Tanks (Title 22, CCR)			
		66262.34(f)	Tank(s) marked "Hazardous Waste" & accumulation date. HW tank accumulation time(s) not exceeded.
		66265.193	HW tank(s) provided with secondary containment*
		66265.195	All HW tanks inspected daily*
Spent Lead Acid Batteries (Title 22, CCR; also Chapter 6.5, H&SC)			
		66266.81	Lead acid batteries properly managed/transferred
Contaminated Rags (Chapter 6.5, H&SC)			
		H&SC 25144.6	Contaminated rags managed properly

Spill Prevention Control & Countermeasure (SPCC) Plan (Chapter 6.67, H&SC)			
		HSC 25270.3	SPCC Plan Established
		66265.193	HW tank(s) provided with secondary containment*
		66265.195	All HW tanks inspected daily*

Description of Violations/Corrections:

(1) FACILITY IS CURRENTLY ON STAND-BY. NO PRODUCTION OPERATIONS ARE BEING DONE ONSITE. MOST OF THE ~~OTHER~~ BUT CHEMICALS HAVE BEEN REMOVED. PROVIDE OXNARD FIRE/CUPA DOCUMENTATION REGARDING FACILITIES CURRENT STATUS AND FUTURE STATUS OF SITE WHICH INCLUDE BUSINESS OWNER/OPERATOR PAGE (OES 2730) AND CHEMICAL DESCRIPTION SHEETS (OES 2731) FOR INVENTORY CHANGES. CORRECT WITHIN 30 DAYS. SIGN, DATE, AND RETURN REPORT TO CERTIFY CORRECTIONS.

The marked items represent violations of the California Health and Safety Code and California Code of Regulations. **A re-inspection may occur at any time on or after the compliance deadline to verify correction of violations. All violations are to be corrected and a copy of this form signed and returned within 35 days, certifying the correction of these violations.** Failure to correct violations by the compliance deadline will result in further enforcement action, including, but not limited to, a reinspection fee, fines and/or suspension or revocation of your Unified Program Facility Permit.

I CERTIFY THAT THE ABOVE NOTED VIOLATIONS HAVE BEEN CORRECTED:

Signature/Title: _____ Date: _____

☐ (If checked): Illegal disposal/abandonment of HW (H&SC 25189.5(a)) ☐ Knox box installation required

☐ (If checked): Illegal transportation of HW (H&SC 25163(a)) ☐ NFPA 704-placard installation required

Inspector: Bo MEDINA	Received By (signature): Pauline C. M. Chanahan
Phone: 385-8316	Print Name: Pauline C. M. Chanahan

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION DISTRIBUTION: WHITE-- CUPA CANARY-- Facility Page 2 of 2

2007

Outside Drum Storage



4. REQUIREMENTS FOR HAZARDOUS WASTE TANKS

Generators who accumulate hazardous waste in tanks must: 1) label the tank with the words "Hazardous Waste" and the accumulation start date; 2) provide

...) use controls

Source Reduction

Eliminate hazardous waste before it is produced.

- Prevent spills & leaks
- Substitute raw products
- Control and rotate inventories
- ...equipment and/or processes

Everyone benefits when facilities generating hazardous waste reduce the amount of hazardous waste they produce. Reducing hazardous waste lowers costs, liability, and work place hazards. The priorities for reducing hazardous waste are Source Reduction, Recycling, and Treatment.

December 27, 2007

Jon Schuckman
Cook Composites & Polymers Co.
P.O. Box 419389
Kansas City, MO 64141-6389

HAZARDOUS MATERIALS FIRE PERMIT ISSUANCE AND BILLING INVOICE FOR COOK COMPOSITES & POLYMERS CO., 5980 ARCTURUS AVENUE, OXNARD

The Oxnard Fire Certified Unified Program Agency (CUPA) has completed the permit review process and finds that the applicant, Cook Composites & Polymers Co., has met the requirements of the California Fire Code.

In order to issue the permit for the tank demolition, a fee of $166.00 shall be paid to reimburse the CUPA for administrative costs. Enclosed you will find a permit applicant for the commencement of the demolition work. Please sign the document and remit to this office. The permit will be mailed to you upon the completion of the permit application process.

Thank you for your cooperation and timely submittals. If you have any questions, or to schedule an inspection, please contact me at 805-385-7718.

Kandace Peaslee
Fire Environmental Specialist 1
Oxnard Fire Department/CUPA

Enclosures: Permit application
Invoice

CC: Facility file

OXNARD FIRE DEPARTMENT
HAZARDOUS MATERIALS
SPECIAL USE PERMIT

PERMIT #:_____
INSPECTOR: _____
PAGE_____OF _____

W.J. Milligan, Fire Chief

SITE INFORMATION

DOING BUSINESS AS: Cook Composites & Polymers PHONE: (805) 986-3635

OWNER/AGENT: Jon Schuckman TITLE: Director, HSE Compliance Assurance

ADDRESS: 5980 Arcturus Avenue

BLDG/SUITE:_____ CITY: Oxnard ZIP: 93033

Introduction:

This document is intended to detail specific conditions and limitations regarding permits required by the California Fire Code (CFC). While every attempt has been made to ensure this document is as complete and accurate as possible, an error or omission should not be considered permission to violate any specific provision of the CFC or any other legally enforceable regulation or code. This permit issued does not take the place of any license required by law and is not transferable. Any deviation from these conditions or an increase in the quantity of the materials allowed will result in the revocation of this permit.

PERMIT DESCRIPTION: (Operations, Process, or Activity)

Cleaning and demolishing of (1) 25,000 gallon Phthalic Anhydride (Raw material) aboveground storage tank.

CONDITIONS OF PERMIT: (Attach additional sheet(s) if necessary)

See letter dated 12/27/07.

STATEMENT: I hereby acknowledge that I have read this application; that the information given is correct and that I am the owner or duly authorized agent of the owner. All permits or certificates issued shall be presumed to contain the provision that the applicant his agent and employees shall carry out the proposed activity in compliance with all laws and regulations applicable thereto.	By virtue of the provisions of the California Fire Code Regulations and ordinances of the City of Oxnard, having made application in due form, and as the conditions, surroundings, and arrangements are in my opinion, such that the intent of the regulations can be observed, authority is hereby given and this permit is granted for:
Signature (Owner or Agent): Date Signed:	Issued by: Date Approve:

Check #:_____ Check Amount:_____ Date:_____
Received By:_____ Paid By:_____

FIRE/CUPA ‹ 360 West Second St., Oxnard, CA 93030
TELEPHONE: (805) 385-7722 FAX: (805) 385-8009

Certified Unified Program Agency (CUPA)
INVOICE

INVOICE NO: 2007-1220
DATE: 12/27/2007

Facility: Cook Composites & Polymers
Address: 5980 Arcturus Avenue, Oxnard, CA 93033
Facility Contact: Jon Schuckman, (816) 391-6324

Invoice for the following activity:

☒ Inspection ☐ Re-inspection ☐ Other: _____

Type of activity:

Cleaning and demolishing of (1) 25,000 gallon Aboveground Storage Tank

Activity dates:

To be determined.

Fire/CUPA Inspector time:

☒ 2 hour (minimum) @ $83.00/hour ☐ Other: Permit Processing and Process Report Review

TOTAL AMOUNT DUE: $166.00

PAYMENT DUE DATE: January 27, 2008

Please send payment to:

City of Oxnard Fire/CUPA
Attn: Kandace Peaslee
360 W. Second Street
Oxnard, CA 93030

If you have any questions concerning this invoice, please contact Kandace Peaslee (805) 385-7718.

FIRE/CUPA

251 South C St., Oxnard, CA 9[illegible]30
TELEPHONE: (805) 385-7722 FAX: (805) 385-8009

HAZARDOUS MATERIAL/HAZARDOUS WASTE/SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN INSPECTION REPORT & NOTICE TO COMPLY

Facility Name: Cook Composites & Polymers Co.	Permit #: 30012 Inspection Date: 2/1/07
Facility Address: 5980 Arcturus Ave.	Inspection Authorized by: Ron Kramer
Inspection Type: ~~Routine~~ FU Enforcement New Permit Complaint	Phone: 986-3605 ext 22
Inspection Category Type: ~~Combined~~ Integrated & Multi-Media	Returned to compliance within Est. Std? Yes No
Program Elements Inspected: ~~HM~~ ~~HW~~ UST AST/SPCC CalARP	

Y	N	Business Plan: Range I Range II Range III ~~Range IV~~		Comments
✓		CFC Admin.	Permit to Operate	
✓		HSC 25503.5	Business Plan established	
✓		HSC 25504(b)	Emergency Response Plan established	
✓		HSC 25504(c)	Employee Training documented and implemented	
—		HSC 25505(d)	Annual Certification or annual Business Plan submitted	n/a
✓		HSC 25509(a)(7)	Emergency Contacts current	
✓		HSC 25510	Reported Inventory current with established annual Plan	

M	H	Hazardous Waste: ~~HW~~ Generator CESQG SQG ~~LQG~~ Tiered Permit		Range 1 Range II ~~Range III~~
		HSC 25201(a)	Authorized HW storage/treatment	
		CCR 66262.11	HW determination made	
		CCR 66262.12	EPA ID Number **(except silver-only CESQGs)**	CAD 087163267
		CCR 66265.51(a)	Contingency Plan **(LQG only)**	
		CCR 66265.16	All personnel training & annual review completed **(LQG only)**	
		CCR 66265.16(d)&(e)	Training records maintained on-site **(LQG only)**	
		CCR 66262.34(d)(2)	Personnel trained for familiarity with HW **(CESQG & SQG only)**	
		CCR 66262.40(c)	HW analysis retained for 3 years	
		CCR 66262.34(f)	HW container(s) properly labeled	
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		CCR 66265.173(a)	All HW containers closed*	
		CCR 66265.171	All HW containers in good condition/not leaking*	
		CCR 66265.172	All HW containers compatible with HW*	
		CCR 66265.174	All HW containers inspected weekly*	
		CCR 66265.177	Incompatible HW segregated*	
		CCR 66265.176	Ignitable/reactive HW containers 50' from property line **(LQG)***	
		CCR 66265.35	Required aisle space for HW containers provided*	
		CCR 66268.7	Land Disposal Restriction Notification Statement	
		CCR 66265.31	Management to prevent HW release*	
		CCR 66262.40	Manifests/Receipts retained for 3 years	
		H&SC 25160	HW transported with properly completed manifests and/or receipts.	

**Generator subject to requirement pursuant to 22 CCR 66262.34(a)(1)(A)*

100 kg = 27 gals = 220 lbs 1000kg = 270 gals = 2200lbs

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION (2005) DISTRIBUTION: WHITE-- CUPA CANARY-- Facility Page 1 of _____

		CCR 66262.23(a)(4)	Manifests: copy sent to DTSC	
Used Oil & Used Filters [Oil & Gas and/or Diesel Filters from Dispensers] (Chapter 6.5, H&SC & Title 22, CCR)				
		HSC 25250.7(a)	Used oil not contaminated with other HW	
		CCR 66266.130	Used oil filters properly managed (e.g., labeled container)	
		CCR 66266.130(c)(5)	Bill of lading for used oil filters retained for 3 years	
		HSC 25160.2(c)	Used gas and/or diesel filters from dispensers properly managed	
Hazardous Waste Tanks (Title 22, CCR)				
		66262.34(f)	Tank(s) marked "Hazardous Waste" & accumulation date. HW tank accumulation time(s) not exceeded.	
		66265.193	HW tank(s) provided with secondary containment*	
		66265.195	All HW tanks inspected daily*	
Spent Lead Acid Batteries (Title 22, CCR; also Chapter 6.5, H&SC)				
		66266.81	Lead acid batteries properly managed/transferred	
Contaminated Rags (Chapter 6.5, H&SC)				
		H&SC 25144.6	Contaminated rags managed properly	

			Y	N	
Spill Prevention Control & Countermeasure (SPCC) Plan (Chapter 6.67, H&SC)					
32	H&SC 25270.5(c)	SPCC Plan (tank capacity or cumulative capacity > 1,320 gals.)			If "Y" or "N", send referral to SWRCB/RWQCB

Description of Violations/Corrections:

① Flammable liquids cabinet storing 25 gal. of multiple liquids (Xylene, Toluene, Methanol). It is not manufactured per the Fire Code (Article 80). Flammable liquid storage cabinets need to be self-closing, self-latching, and have a built-in ~~sprinkler~~ FRP containment.

02/25/07
NEW CABINETS HAVE BEEN ORDERED, RECIVED & INSTALLED AND MEET CALIFORNIA REGULATIONS
RPK

The marked items represent violations of the California Health and Safety Code and California Code of Regulations. **A re-inspection may occur at any time on or after the compliance deadline to verify correction of violations. All violations are to be corrected and a copy of this form signed and returned within 35 days, certifying the correction of these violations.** Failure to correct violations by the compliance deadline will result in further enforcement action, including, but not limited to, a reinspection fee, fines and/or suspension or revocation of your Unified Program Facility Permit.

I CERTIFY THAT THE ABOVE NOTED VIOLATIONS HAVE BEEN CORRECTED:

Signature/Title: Ronald P. Kramer PLANT MANAGER Date: 2/27/07

(If checked): Illegal disposal/abandonment of HW (H&SC 25189.5(a))
(If checked): Illegal transportation of HW (H&SC 25163(a))

Knox box installation required
NFPA 704-placard installation required

Inspector: Kandace Teaslee	Received By (signature): Ronald P. Kramer
Phone: 385-7718	Print Name: RONALD P. KRAMER

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

DISTRIBUTION: WHITE-- CUPA CANARY-- Facility Page 2 of ____

Outside Drum Storage

4. REQUIREMENTS FOR HAZARDOUS WASTE TANKS

Source Reduction
Eliminate hazardous waste before it is produced.
• Prevent spills & leaks

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7722 FAX: (805) 385-8009

HAZARDOUS MATERIAL/HAZARDOUS WASTE/SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN INSPECTION REPORT & NOTICE TO COMPLY

Facility Name: Cook Composites & Polymers Co.	Permit #: 30012 Inspection Date: 2/1/07
Facility Address: 5980 Arcturus Ave.	Inspection Authorized by: Ron Kramer
Inspection Type: ✓Routine FU Enforcement New Permit Complaint	Phone: 986-3635 ext. 22
Inspection Category Type: ✓Combined Integrated & Multi-Media	Returned to compliance within Est. Std? Yes No
Program Elements Inspected: ~~HMM~~ ~~HW~~ UST AST/SPCC CalARP	

Y	N	**Business Plan:** Range I Range II Range III ✓Range IV	Comments
✓		CFC Admin.	Permit to Operate	
✓		HSC 25503.5	Business Plan established	
✓		HSC 25504(b)	Emergency Response Plan established	
✓		HSC 25504(c)	Employee Training documented and implemented	
—		HSC 25505(d)	Annual Certification or annual Business Plan submitted	n/a
✓		HSC 25509(a)(7)	Emergency Contacts current	
✓		HSC 25510	Reported Inventory current with established annual Plan	

M	II	**Hazardous Waste:** ~~HW~~ Generator CESQG SQG ✓~~LQG~~ Tiered Permit	Range I Range II ✓~~Range III~~
		HSC 25201(a)	Authorized HW storage/treatment	
		CCR 66262.11	HW determination made	
		CCR 66262.12	EPA ID Number **(except silver-only CESQGs)**	CAD 087163267
		CCR 66265.51(a)	Contingency Plan **(LQG only)**	
		CCR 66265.16	All personnel training & annual review completed **(LQG only)**	
		CCR 66265.16(d)&(e)	Training records maintained on-site **(LQG only)**	
		CCR 66262.34(d)(2)	Personnel trained for familiarity with HW **(CESQG & SQG only)**	
		CCR 66262.40(c)	HW analysis retained for 3 years	
		CCR 66262.34(f)	HW container(s) properly labeled	
		CCR 66262.34	HW container accumulation time(s) not exceeded	
		CCR 66265.173(a)	All HW containers closed*	
		CCR 66265.171	All HW containers in good condition/not leaking*	
		CCR 66265.172	All HW containers compatible with HW*	
		CCR 66265.174	All HW containers inspected weekly*	
		CCR 66265.177	Incompatible HW segregated*	
		CCR 66265.176	Ignitable/reactive HW containers 50' from property line **(LQG)***	
		CCR 66265.35	Required aisle space for HW containers provided*	
		CCR 66268.7	Land Disposal Restriction Notification Statement	
		CCR 66265.31	Management to prevent HW release*	
		CCR 66262.40	Manifests/Receipts retained for 3 years	
		H&SC 25160	HW transported with properly completed manifests and/or receipts.	

**Generator subject to requirement pursuant to 22 CCR 66262.34(a)(1)(A)*

100 kg = 27 gals = 220 lbs *1000kg = 270 gals = 2200lbs*

***SEE REVERSE SIDE FOR ADDITIONAL INFORMATION** (2005)* DISTRIBUTION: WHITE-- CUPA CANARY-- Facility Page 1 of _____

Inspection Date: 12/19/2019

Everyone benefits when facilities generating hazardous waste reduce the amount of hazardous waste they produce. Reducing hazardous waste lowers costs, liability, and work place hazards. The priorities for reducing hazardous waste are Source Reduction, Recycling, and Treatment.

Source Reduction

Eliminate hazardous waste before it is produced.

- Prevent spills & leaks
- Substitute raw products
- Control and rotate inventories
- Modify equipment and/or processes
- Conserve water

Recycling

[illegible] off-site means of reusing, recovering, or [illegible] waste.

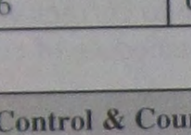
4. REQUIREMENTS FOR HAZARDOUS WASTE TANKS

Generators who accumulate hazardous waste in tanks must: 1) label the tank with the words "Hazardous Waste" and the accumulation start date; 2) provide secondary containment; 3) assure the tank is compatible with the waste; 4) use controls to prevent spillage; and 5) perform daily inspections.

REQUIREMENTS FOR USED OIL FILTERS

[illegible] may be managed as a non-

Outside Drum Storage



Hazardous waste [illegible] closed at all times except when waste is added or removed and managed to prevent releases to the environment.

M	H	Hazardous Waste: (cont'd)	
		CCR 66262.23(a)(4)	Manifests: copy sent to DTSC
Used Oil & Used Filters [Oil & Gas and/or Diesel Filters from Dispensers] (Chapter 6.5, H&SC & Title 22, CCR)			
		HSC 25250.7(a)	Used oil not contaminated with other HW
		CCR 66266.130	Used oil filters properly managed (e.g., labeled container)
		CCR 66266.130(c)(5)	Bill of lading for used oil filters retained for 3 years
		HSC 25160.2(c)	Used gas and/or diesel filters from dispensers properly managed
Hazardous Waste Tanks (Title 22, CCR)			
		66262.34(f)	Tank(s) marked "Hazardous Waste" & accumulation date. HW tank accumulation time(s) not exceeded.
		66265.193	HW tank(s) provided with secondary containment*
		66265.195	All HW tanks inspected daily*
Spent Lead Acid Batteries (Title 22, CCR; also Chapter 6.5, H&SC)			
		66266.81	Lead acid batteries properly managed/transferred
Contaminated Rags (Chapter 6.5, H&SC)			
		H&SC 25144.6	Contaminated rags managed properly

		Spill Prevention Control & Countermeasure (SPCC) Plan (Chapter 6.67, H&SC)	Y	N	
32	H&SC 25270.5(c)	SPCC Plan (tank capacity or cumulative capacity > 1,320 gals.)			If "Y" or "N", send referral to SWRCB/RWQCB

Description of Violations/Corrections:

① Flammable liquids cabinet storing 25 gal. of multiple liquids (Xylene, Toluene, Methanol). It is not manufactured per the Fire Code (Article 80). Flammable liquid storage cabinets need to be self-closing, self-latching, and have a built-in ~~secondary~~ FRP containment.

The marked items represent violations of the California Health and Safety Code and California Code of Regulations. **A re-inspection may occur at any time on or after the compliance deadline to verify correction of violations. All violations are to be corrected and a copy of this form signed and returned within 35 days, certifying the correction of these violations.** Failure to correct violations by the compliance deadline will result in further enforcement action, including, but not limited to, a reinspection fee, fines and/or suspension or revocation of your Unified Program Facility Permit.

I CERTIFY THAT THE ABOVE NOTED VIOLATIONS HAVE BEEN CORRECTED:

Signature/Title: _____ Date: _____

(If checked): Illegal disposal/abandonment of HW (H&SC 25189.5(a))
(If checked): Illegal transportation of HW (H&SC 25163(a))

Knox box installation required
NFPA 704-placard installation required

Inspector: Kandace Peaslee	Received By (signature): Ronald P. Kramer
Phone: 385-7718	Print Name: RONALD P. KRAMER

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

DISTRIBUTION: WHITE-- CUPA CANARY-- Facility

FIRE/CUPA 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7722 FAX: (805) 385-8009

HAZARDOUS MATERIAL/HAZARDOUS WASTE/SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN INSPECTION REPORT & NOTICE TO COMPLY

Facility Name: Cook Composites & Polymers Co.	Permit #: 30012	Inspection Date: 12/14/04
Facility Address: 5980 Arcturus Ave	Inspection Authorized by: Ron Kramer	
Inspection Type: ☐ Routine ☒ FU ☐ Enforcement ☐ New Permit ☐ Complaint	Phone: 986-3635	
Inspection Category Type: ☐ Combined ☐ Integrated & Multi-Media	Returned to compliance within Est. Std? ☒ Yes ☐ No	

Program Elements Inspected: ☒ HM ☒ HW ☐ UST ☐ AST/SPCC ☐ CalARP

Y	N	Business Plan: ☐ Range I ☐ Range II ☐ Range III ☑ Range IV	Comments
		HSC 25503.5 Business Plan established	
		HSC 25504(b) Emergency Response Plan established	
		HSC 25504(c) Employee Training documented and implemented	
		HSC 25505(d) Annual Certification or annual Business Plan submitted	
		HSC 25509(a)(7) Emergency Contacts current	

M	II	Hazardous Waste: 3 HW Generator ☐ CESQG ☐ SQG ☑ LQG ☐ Tiered Permit	
		CFC Admin. Permit to Operate	
		HSC 25201(a) Authorized HW storage/treatment	
		CCR 66262.11 HW determination made	
		CCR 66262.12 EPA ID Number **(except silver-only CESQGs)**	
		CCR 66265.51(a) Contingency Plan **(LQG only)**	
		CCR 66265.16 All personnel training & annual review completed **(LQG only)**	
		CCR 66265.16(d)&(e) Training records maintained on-site **(LQG only)**	
		CCR 66262.34(d)(2) Personnel trained for familiarity with HW **(CESQG & SQG only)**	
		CCR 66262.40(c) HW analysis retained for 3 years	
		CCR 66262.34(f) HW container(s) properly labeled	
		CCR 66262.34 HW container accumulation time(s) not exceeded	
		CCR 66265.173(a) All HW containers closed*	
		CCR 66265.171 All HW containers in good condition/not leaking*	
		CCR 66265.172 All HW containers compatible with HW*	
		CCR 66265.174 All HW containers inspected weekly*	
		CCR 66265.177 Incompatible HW segregated*	
		CCR 66265.176 Ignitable/reactive HW containers 50' from property line **(LQG)***	
		CCR 66265.35 Required aisle space for HW containers provided*	
		CCR 66268.7 Land Disposal Restriction Notification Statement	
		CCR 66265.31 Management to prevent HW release*	
		CCR 66262.40 Manifests/Receipts retained for 3 years	
		H&SC 25160 HW transported with properly completed manifests and/or receipts.	

100 kg = 27 gals = 220 lbs *1000kg = 270 gals = 2200lbs*

**Generator subject to requirement pursuant to 22 CCR 66262.34(a)(1)(A)*

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

DISTRIBUTION: WHITE-- CUPA CANARY-- Facility

Name: Cook Composites & Polymers Co. Inspection Date: 12/14/04

	II	**Hazardous Waste: (cont'd)**	
		CCR 66262.23(a)(4)	Manifests: copy sent to DTSC
Used Oil & Used Filters [Oil & Gas and/or Diesel Filters from Dispensers] (Chapter 6.5, H&SC & Title 22, CCR)			
		HSC 25250.7(a)	Used oil not contaminated with other HW
		CCR 66266.130	Used oil filters properly managed (e.g., labeled container)
		CCR 66266.130(c)(5)	Bill of lading for used oil filters retained for 3 years
		HSC 25160.2(c)	Used gas and/or diesel filters from dispensers properly managed
Hazardous Waste Tanks (Title 22, CCR)			
		66262.34(f)	Tank(s) marked "Hazardous Waste" & accumulation date. HW tank accumulation time(s) not exceeded.
		66265.193	HW tank(s) provided with secondary containment*
		66265.195	All HW tanks inspected daily*
Spent Lead Acid Batteries (Title 22, CCR; also Chapter 6.5, H&SC)			
		66266.81	Lead acid batteries properly managed/transferred
Contaminated Rags (Chapter 6.5, H&SC)			
		H&SC 25144.6	Contaminated rags managed properly

Spill Prevention Control & Countermeasure (SPCC) Plan (Chapter 6.67, H&SC)			Y	N	
32	H&SC 25270.5(c)	SPCC Plan (tank capacity or cumulative capacity > 1,320 gals.)			If "Y" or "N", send referral to SWRCB/RWQCB

Description of Violations/Corrections:

*need to add Nitrogen (liquid) to chemical inventory.

• corrected on-site.

*all previous violations corrected

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I CERTIFY THAT THE ABOVE NOTED VIOLATIONS HAVE BEEN CORRECTED:

Signature/Title: _____ Date: _____

☐ (If checked): Illegal disposal/abandonment of HW (H&SC 25189.5(a))
☐ (If checked): Illegal transportation of HW (H&SC 25163(a))

☐ Knox box installation required
☐ NFPA 704-placard installation required

Inspector: Kandace Peaslee	Received By (signature): Ronald P. Kramer
Phone: 385-7718	Print Name: RONALD P. KRAMER

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7722 FAX: (805) 385-8009

HAZARDOUS MATERIAL/HAZARDOUS WASTE/SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN INSPECTION REPORT & NOTICE TO COMPLY

Facility Name: Cook Composites & Polymers Co.	Permit #: 30012	Inspection Date: 10/26/04
Facility Address: 5980 Arcturus Ave.	Inspection Authorized by:	
Inspection Type: ☑ Routine ☐ FU ☐ Enforcement ☐ New Permit ☐ Complaint	Phone:	
Inspection Category Type: ☑ Combined ☐ Integrated & Multi-Media	Returned to compliance within Est. Std? ☐ Yes ☐ No	
Program Elements Inspected: ☑ HM ☑ HW ☐ UST ☐ AST/SPCC ☐ CalARP		

Y	N	Business Plan: ☐ Range I ☐ Range II ☐ Range III ☑ Range IV		Comments
✓		HSC 25503.5	Business Plan established	site map needs to be updated
✓		HSC 25504(b)	Emergency Response Plan established	
✓		HSC 25504(c)	Employee Training documented and implemented	
✓		HSC 25505(d)	Annual Certification or annual Business Plan submitted	
✓		HSC 25509(a)(7)	Emergency Contacts current	

M	II	Hazardous Waste: ☑ HW Generator ☐ CESQG ☐ SQG ☑ LQG ☐ Tiered Permit		
		CFC Admin.	Permit to Operate	
		HSC 25201(a)	Authorized HW storage/treatment	
		CCR 66262.11	HW determination made	
		CCR 66262.12	EPA ID Number **(except silver-only CESQGs)**	
		CCR 66265.51(a)	Contingency Plan **(LQG only)**	
		CCR 66265.16	All personnel training & annual review completed **(LQG only)**	
		CCR 66265.16(d)&(e)	Training records maintained on-site **(LQG only)**	
		CCR 66262.34(d)(2)	Personnel trained for familiarity with HW **(CESQG & SQG only)**	
		CCR 66262.40(c)	HW analysis retained for 3 years	
✓		CCR 66262.34(f)	HW container(s) properly labeled	
		CCR 66262.34	HW container accumulation time(s) not exceeded	
✓		CCR 66265.173(a)	All HW containers closed*	
		CCR 66265.171	All HW containers in good condition/not leaking*	
		CCR 66265.172	All HW containers compatible with HW*	
		CCR 66265.174	All HW containers inspected weekly*	
		CCR 66265.177	Incompatible HW segregated*	
		CCR 66265.176	Ignitable/reactive HW containers 50' from property line **(LQG)***	
		CCR 66265.35	Required aisle space for HW containers provided*	
		CCR 66268.7	Land Disposal Restriction Notification Statement	
		CCR 66265.31	Management to prevent HW release*	
		CCR 66262.40	Manifests/Receipts retained for 3 years	
		H&SC 25160	HW transported with properly completed manifests and/or receipts.	

100 kg = 27 gals = 220 lbs *1000kg = 270 gals = 2200lbs*

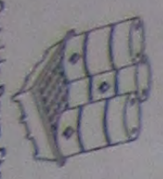
**Generator subject to requirement pursuant to 22 CCR 66262.34(a)(1)(A)*

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

DISTRIBUTION: WHITE-- CUPA CANARY-- Facility

3. PROPER CONTAINER STORAGE

Hazardous waste storage containers shall b
closed at all times except when hazardous w
is added or removed and managed to prevent
releases to the environment.



Outside Drum Storage

4. REQUIREMENTS FOR HAZARDOUS WASTE TANKS

Generators who accumulate hazardous waste in

e: Cook Composites & Polymers Co. ction Date: 10/26/04

		Hazardous Waste: (cont'd)	
		CCR 66262.23(a)(4)	Manifests: copy sent to DTSC
		Used Oil & Used Filters [Oil & Gas and/or Diesel Filters from Dispensers] (Chapter 6.5, H&SC & Title 22, CCR)	
		HSC 25250.7(a)	Used oil not contaminated with other HW
		CCR 66266.130	Used oil filters properly managed (e.g., labeled container)
		CCR 66266.130(c)(5)	Bill of lading for used oil filters retained for 3 years
		HSC 25160.2(c)	Used gas and/or diesel filters from dispensers properly managed
		Hazardous Waste Tanks (Title 22, CCR)	
		66262.34(f).	Tank(s) marked "Hazardous Waste" & accumulation date. HW tank accumulation time(s) not exceeded.
		66265.193	HW tank(s) provided with secondary containment*
		66265.195	All HW tanks inspected daily*
		Spent Lead Acid Batteries (Title 22, CCR, also Chapter 6.5, H&SC)	
		66266.81	Lead acid batteries properly managed/transferred
		Contaminated Rags (Chapter 6.5, H&SC)	
		H&SC 25144.6	Contaminated rags managed properly

			Y	N	
		Spill Prevention Control & Countermeasure (SPCC) Plan (Chapter 6.67, H&SC)			
32	H&SC 25270.5(c)	SPCC Plan (tank capacity or cumulative capacity > 1,320 gals.)			If "Y" or "N", send referral to SWRCB/RWQCB

Description of Violations/Corrections:

① Site map on file does not reflect the current location of hazardous waste area. You must update site map to include all areas that contain hazardous waste.

② In both satellite accumulation areas, there were drum and/or containers (5-gal. bucket) open. You must keep drums and containers closed and secure unless you are adding or removing produc

③ In the 90-day waste area, you have several drums (3) with no labels. You need to clearly mark all drums/containers with the words "Hazardous Waste" and the name of the product, as well as its physical state (solid, liquid, gas) and the accumulation date.

* (continuation page attached) *

The marked items represent violations of the California Health and Safety Code and California Code of Regulations. **A re-inspection may occur at any time on or after the compliance deadline to verify correction of violations. All violations are to be corrected and a copy of this form signed and returned within 35 days, certifying the correction of these violations.** Failure to correct violations by the compliance deadline will result in further enforcement action, including, but not limited to, a reinspection fee, fines and/or suspension or revocation of your Unified Program Facility Permit.

I CERTIFY THAT THE ABOVE NOTED VIOLATIONS HAVE BEEN CORRECTED:

Signature/Title: Ronald P. Kramer Date: Nov. 16, 2004

☐ (If checked): Illegal disposal/abandonment of HW (H&SC 25189.5(a))
☐ (If checked): Illegal transportation of HW (H&SC 25163(a))

☐ Knox box installation required
☐ NFPA 704-placard installation required

Inspector: Kandace Peaslee	Received By (signature): Ronald P. Kramer
Phone: 385-7718	Print Name: RONALD P. KRAMER

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

DISTRIBUTION: WHITE-- CUPA CANARY-- Facility

Oxnard Fire/CUPA · 25[illegible]uth C St., Oxnard, CA, 93030 · Phone: (805) 3[illegible]7722 · Fax: (805) 385-8009

Facility Name: Cook Composites & Polymers Co.	Inspection Date: 10/26/04
Program Elements Inspected: ☑ HM ☑ HW ☐ UST ☐ AST/SPCC ☐ CalARP ☐ Fire Code ☐ Plan Check	

NOTICE TO COMPLY CONTINUATION INSPECTION SHEET

Description of Violations/Corrections (cont'd):

④ Secondary containment area in 90 day waste area is full of water. This area needs to be free of liquid. You need to call a contractor (licensed) to come out and clean that area.

⑤ Inside the containment area; there were several 5-gal. containers that were unlabeled. All containers must be labeled to adequately show their contents.

Inspector: Kandace Peaslee	Received By (signature): Ronald P. Kramer
Phone: 385-7718	Print Name: RONALD P. KRAMER

DISTRIBUTION: WHITE-- CUPA CANARY-- Facility

(continued)

ative hazardousness of the waste, or
ly of the population at risk.

tion must be significant enough that it
sult in releases of hazardous waste or
sults to the environment, hazardous waste
to be delivered to an authorized hazardous
e facility, failure to detect releases of
hazardous waste or constituents, inadequate

FIRE/CUPA

251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7722 FAX: (805) 385-8009

HAZARDOUS MATERIAL/HAZARDOUS WASTE/SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN INSPECTION REPORT & NOTICE TO COMPLY

Facility Name: Cook Composites & Polymers Co.	Permit #: 30012	Inspection Date: 10/26/04
Facility Address: 5980 Arcturus Ave.	Inspection Authorized by:	
Inspection Type: ☑ Routine ☐ FU ☐ Enforcement ☐ New Permit ☐ Complaint	Phone:	
Inspection Category Type: ☑ Combined ☐ Integrated & Multi-Media	Returned to compliance within Est. Std? ☐ Yes ☐ No	
Program Elements Inspected: ☑ HM ☑ HW ☐ UST ☐ AST/SPCC ☐ CalARP		

Y	N	Business Plan: ☐ Range I ☐ Range II ☐ Range III ☑ Range IV		Comments
✓		HSC 25503.5	Business Plan established	sitemap needs to be updated
✓		HSC 25504(b)	Emergency Response Plan established	
✓		HSC 25504(c)	Employee Training documented and implemented	
✓		HSC 25505(d)	Annual Certification or annual Business Plan submitted	
✓		HSC 25509(a)(7)	Emergency Contacts current	

M	II	Hazardous Waste: 3 HW Generator ☐ CESQG ☐ SQG ☑ LQG ☐ Tiered Permit		
		CFC Admin.	Permit to Operate	
		HSC 25201(a)	Authorized HW storage/treatment	
		CCR 66262.11	HW determination made	
		CCR 66262.12	EPA ID Number **(except silver-only CESQGs)**	
		CCR 66265.51(a)	Contingency Plan **(LQG only)**	
		CCR 66265.16	All personnel training & annual review completed **(LQG only)**	
		CCR 66265.16(d)&(e)	Training records maintained on-site **(LQG only)**	
		CCR 66262.34(d)(2)	Personnel trained for familiarity with HW **(CESQG & SQG only)**	
		CCR 66262.40(c)	HW analysis retained for 3 years	
✓		CCR 66262.34(f)	HW container(s) properly labeled	
		CCR 66262.34	HW container accumulation time(s) not exceeded	
✓		CCR 66265.173(a)	All HW containers closed*	
		CCR 66265.171	All HW containers in good condition/not leaking*	
		CCR 66265.172	All HW containers compatible with HW*	
		CCR 66265.174	All HW containers inspected weekly*	
		CCR 66265.177	Incompatible HW segregated*	
		CCR 66265.176	Ignitable/reactive HW containers 50' from property line **(LQG)***	
		CCR 66265.35	Required aisle space for HW containers provided*	
		CCR 66268.7	Land Disposal Restriction Notification Statement	
		CCR 66265.31	Management to prevent HW release*	
		CCR 66262.40	Manifests/Receipts retained for 3 years	
		H&SC 25160	HW transported with properly completed manifests and/or receipts.	

**Generator subject to requirement pursuant to 22 CCR 66262.34(a)(1)(A)*

100 kg = 27 gals = 220 lbs *1000kg = 270 gals = 2200lbs*

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

DISTRIBUTION: WHITE-- CUPA CANARY-- Facility

Facility Name: Cook Composites & Polymers Co. Inspection Date: 10/26/04

M	II		
		Hazardous Waste: (cont'd)	
		CCR 66262.23(a)(4)	Manifests: copy sent to DTSC
		Used Oil & Used Filters [Oil & Gas and/or Diesel Filters from Dispensers] (Chapter 6.5, H&SC & Title 22, CCR)	
		HSC 25250.7(a)	Used oil not contaminated with other HW
		CCR 66266.130	Used oil filters properly managed (e.g., labeled container)
		CCR 66266.130(c)(5)	Bill of lading for used oil filters retained for 3 years
		HSC 25160.2(c)	Used gas and/or diesel filters from dispensers properly managed
		Hazardous Waste Tanks (Title 22, CCR)	
		66262.34(f)	Tank(s) marked "Hazardous Waste" & accumulation date. HW tank accumulation time(s) not exceeded.
		66265.193	HW tank(s) provided with secondary containment*
		66265.195	All HW tanks inspected daily*
		Spent Lead Acid Batteries (Title 22, CCR; also Chapter 6.5, H&SC)	
		66266.81	Lead acid batteries properly managed/transferred
		Contaminated Rags (Chapter 6.5, H&SC)	
		H&SC 25144.6	Contaminated rags managed properly

			Y	N	
		Spill Prevention Control & Countermeasure (SPCC) Plan (Chapter 6.67, H&SC)			
32	H&SC 25270.5(c)	SPCC Plan (tank capacity or cumulative capacity > 1,320 gals.)			If "Y" or "N", send referral to SWRCB/RWQCB

Description of Violations/Corrections:

① Site map on file does not reflect the current location of hazardous wate area. You must update site map to include all areas that contain hazardous waste.

② In both satellite accumulation areas, there were drum and/or containers (5-gal. bucket) open. You must keep drums and containers closed and secure unless you are adding or removing product.

③ In the 90-day waste area, you have several drums (3) with no labels. You need to clearly mark all drums/containers with the words "Hazardous Waste" and the name of the product, as well as its physical state (solid, liquid, gas) and the accumulation date.

(continuation page attached)

The marked items represent violations of the California Health and Safety Code and California Code of Regulations. **A re-inspection may occur at any time on or after the compliance deadline to verify correction of violations. All violations are to be corrected and a copy of this form signed and returned within 35 days, certifying the correction of these violations.** Failure to correct violations by the compliance deadline will result in further enforcement action, including, but not limited to, a reinspection fee, fines and/or suspension or revocation of your Unified Program Facility Permit.

I CERTIFY THAT THE ABOVE NOTED VIOLATIONS HAVE BEEN CORRECTED:

Signature/Title: _____ Date: _____

☐ (If checked): Illegal disposal/abandonment of HW (H&SC 25189.5(a))
☐ (If checked): Illegal transportation of HW (H&SC 25163(a))

☐ Knox box installation required
☐ NFPA 704-placard installation required

Inspector: Kandace Peaslee	Received By (signature): Ronald P Kramer
Phone: 385-7718	Print Name: RONALD P. KRAMER

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

DISTRIBUTION: WHITE-- CUPA CANARY-- Facility

Oxnard Fire/CUPA · 251 South C St., Oxnard, CA, 93030 · Phone: (805) 385-7722 · Fax: (805) 385-8009

Facility Name: Cook Composites & Polymers Co.	Inspection Date: 10/26/04
Program Elements Inspected: ☑ HM ☑ HW ☐ UST ☐ AST/SPCC ☐ CalARP ☐ Fire Code ☐ Plan Check	

NOTICE TO COMPLY CONTINUATION INSPECTION SHEET

Description of Violations/Corrections (cont'd):

④ Secondary containment area in 90 day waste area is full of water. This area needs to be free of liquid. You need to call a contractor (licensed) to come out and clean that area.

⑤ Inside the containment area; there were several 5-gal. containers that were unlabeled. All containers must be labeled to adequately show their contents.

Inspector: Kandace Peaslee	Received By (signature): Ronald P. Kramer
Phone: 385-7718	Print Name: RONALD P. KRAMER

DISTRIBUTION: WHITE– CUPA CANARY– Facility

City of

Monrovia

COMPLAINT INVESTIGATION REPORT

DATE AND TIME RECEIVED: 6 May 2002 11:00 A.M. _____ P.M.

COMPLAINANT'S NAME: Joanne Underwood, BMW **PHONE #:** 271-7318

LOCATION/ ADDRESS: Arcturus / McWane

ALLEGED RESPONSIBLE PARTY: Cook Composites

NATURE OF COMPLAINT:

odor.

FINDINGS OF INVESTIGATION:

Resin type odor evident on Arcturus from BMW to Cook Composites (cc) The odor was No longer present at McWane, instead a strong odor of celery was evident. The likely source was Cook Composites, based on upwind conditions Not presenting the resin odor. Discussed the matter with Tom Leary (cc) he stated nothing out of the ordinary had occurred. Wind Direction North

☐ See attached sheets for additional findings.

TOTAL INVESTIGATION TIME: 1.0 hour

SOURCE:

☐ Commercial ☐ Construction ☑ Industrial ☐ Residential ☐ Unknown

TYPE OF MATERIAL:

☐ Hazardous ☐ Domestic wastewater ☐ Industrial wastewater ☑ Other (specify) Nuisance odor

ACTION TAKEN:

☑ None (no violation noted) ☐ Warning Notice ☐ Administrative Action ☐ Education Material Provided

☐ Verbal Warning ☐ Notice of Violation ☐ Investigation File Opened ☐ Referred to:

☐ **FOLLOW-UP REQUIRED**

Greg Abille

INVESTIGATOR

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City of Oxnard

COMPLAINT INVESTIGATION REPORT

DATE AND TIME RECEIVED: 11/19/01 A.M. 1:45 P.M.

COMPLAINANT'S NAME: Bob Peterson, Kaiser Alum. **PHONE #:** 488-4401

LOCATION/ ADDRESS: 5980 Arcturus Ave **ALLEGED RESPONSIBLE PARTY:** Cook Composites

NATURE OF COMPLAINT: Odor complaint.

FINDINGS OF INVESTIGATION: Visited Cooks Composites - Tom Leary, Mgr., stated no upset conditions. Visited Kaiser Alum - noticed resin-type odor (intermittenly). Wind was blowing to the east, southeast. Requested Kaiser to notify APCD. Kaiser personnel stated odor was worst prior to my arrival. Returned to Cooks Composites and conducted walk-through. A tanks wagon was being loaded. Could not determine a point source. Tom Leary requested no photographs.

☐ See attached sheets for additional findings.

TOTAL INVESTIGATION TIME: 2 hrs

SOURCE:

☐ Commercial ☐ Construction ☒ Industrial ☐ Residential ☐ Unknown

TYPE OF MATERIAL:

☐ Hazardous ☐ Domestic wastewater ☐ Industrial wastewater ☐ Other (specify)_____

ACTION TAKEN: ☐ None (no violation noted) ☐ Warning Notice ☐ Administrative Action ☐ Education Material Provided ☐ Verbal Warning ☐ Notice of Violation ☐ Investigation File Opened ☐ Referred to:

☐ **FOLLOW-UP REQUIRED**

Joe Zarnoch
INVESTIGATOR

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City of Oxnard

COMPLAINT INVESTIGATION REPORT

DATE AND TIME RECEIVED: 11/01/01 _____ A.M. 12:30 P.M.

COMPLAINANT'S NAME: Marilyn, BMW **PHONE #:** 271-7301

LOCATION/ ADDRESS: BMW 5900 Arcturus

ALLEGED RESPONSIBLE PARTY: Cook Composites

NATURE OF COMPLAINT: Odor complaint - resin type odor.

FINDINGS OF INVESTIGATION: Met Eng. # 2 at BMW. Wind blowing to the north. Proceeded to Cooks Composites as likely source. Odor no longer present north of facility but Eng # 2 personnel stated they smelled odor earlier in the day at their station. Toured Cooks Composites w/ Ron Bergkamp (Tom Leary on business trip).

See attached sheets for additional findings.

TOTAL INVESTIGATION TIME: 2 hrs.

SOURCE:

☐ Commercial ☐ Construction ☒ Industrial ☐ Residential ☐ Unknown

TYPE OF MATERIAL:

☐ Hazardous ☐ Domestic wastewater ☐ Industrial wastewater ☐ Other (specify)_____

ACTION TAKEN: ☐ None (no violation noted) ☐ Warning Notice ☐ Administrative Action ☐ Education Material Provided ☐ Verbal Warning ☐ Notice of Violation ☐ Investigation File Opened ☐ Referred to:

☐ **FOLLOW-UP REQUIRED**

Joe Zarnoch

INVESTIGATOR

11/01/01 cont'd

City of Oxnard

COMPLAINT INVESTIGATION REPORT

DATE AND TIME RECEIVED: _____ _____A.M. _____P.M.

COMPLAINANT'S NAME: _____ **PHONE #:**_____

LOCATION/ ADDRESS: _____ ***ALLEGED RESPONSIBLE PARTY:*** _____

NATURE OF COMPLAINT:

FINDINGS OF INVESTIGATION: (cont'd) Thermal oxidizer on-line all day, no spills/releases, no upset conditions. Tank wagon being loaded since early morning - loading thru partially open hatch. Reactor run began in am. Returned to BMW and met w/ Joanne Kelly - told her we would follow-up w/ APCD.

☐ See attached sheets for additional findings.

TOTAL INVESTIGATION TIME: _____

SOURCE:

☐ Commercial ☐ Construction ☐ Industrial ☐ Residential ☐ Unknown

TYPE OF MATERIAL:

☐ Hazardous ☐ Domestic wastewater ☐ Industrial wastewater ☐ Other (specify)_____

ACTION TAKEN:

☐ None (no violation noted) ☐ Warning Notice ☐ Administrative Action ☐ Education Material Provided

☐ Verbal Warning ☐ Notice of Violation ☐ Investigation File Opened ☐ Referred to:

☐ **FOLLOW-UP REQUIRED**

Joe Zarnoch

INVESTIGATOR

City of Oxnard

COMPLAINT INVESTIGATION REPORT

DATE AND TIME RECEIVED: 10/10/00 ~ 10 (A.M.) P.M.

COMPLAINANT'S NAME: Rec'd via Dispatch **PHONE #:**

LOCATION/ ADDRESS: 5980 Arcturus

ALLEGED RESPONSIBLE PARTY: Cook Composites

NATURE OF COMPLAINT: Odor

FINDINGS OF INVESTIGATION: See Letter to Cook Composites dated Oct. 12, 2000.

Complaint by Borla Industries thru Dispatch - complained employees became nauseated & developed headaches due to release from Cook Composites.

☐ See attached sheets for additional findings.

TOTAL INVESTIGATION TIME: 5

SOURCE:

☐ Commercial ☐ Construction ☒ Industrial ☐ Residential ☐ Unknown

TYPE OF MATERIAL:

☒ Hazardous ☐ Domestic wastewater ☐ Industrial wastewater ☐ Other (specify)

ACTION TAKEN:

☐ None (no violation noted) ☒ Warning Notice ☒ Administrative Action ☐ Education Material Provided

☐ Verbal Warning ☐ Notice of Violation ☐ Investigation File Opened ☐ Referred to:

☒ **FOLLOW-UP REQUIRED**

Joe Zamora

INVESTIGATOR

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City of Oxnard

COMPLAINT INVESTIGATION REPORT

DATE AND TIME RECEIVED: 11/16/00 _____ A.M. ~~✓~~ 2:00 P.M.

COMPLAINANT'S NAME: Joann, BMW PHONE #: 271-7318

LOCATION/ ADDRESS: Arcturus

ALLEGED RESPONSIBLE PARTY: Cook Composites?

NATURE OF COMPLAINT: Odor

FINDINGS OF INVESTIGATION: Visited Cooks Composites - claimed nothing unusual. Walked downwind fenceline - no significant odors. Wind was out of south and in direction of BMW. Talked to Joann at BMW - asked her to contact VC APCD; also requested she contact me for future odor complaints.

☐ See attached sheets for additional findings.

TOTAL INVESTIGATION TIME: 1.5

SOURCE:

☐ Commercial ☐ Construction ☐ Industrial ☐ Residential ☐ Unknown

TYPE OF MATERIAL:

☐ Hazardous ☐ Domestic wastewater ☐ Industrial wastewater ☐ Other (specify)_____

ACTION TAKEN:

☐ None (no violation noted) ☐ Warning Notice ☐ Administrative Action ☐ Education Material Provided

☐ Verbal Warning ☐ Notice of Violation ☐ Investigation File Opened ☐ Referred to:

☐ FOLLOW-UP REQUIRED

Joe Zarnoch

INVESTIGATOR

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City of Oxnard

COMPLAINT INVESTIGATION REPORT

DATE AND TIME RECEIVED: 02/21/01 8 (A.M.) _____ P.M.

COMPLAINANT'S NAME: Rosa Alvarez, BMW **PHONE #:** 271-7301

LOCATION/ ADDRESS: Arcturus

ALLEGED RESPONSIBLE PARTY: Cook Composites

NATURE OF COMPLAINT: Odor on Fri. 02/16/01 at ~1100 and on 2/21/01 just after midnight.

FINDINGS OF INVESTIGATION:

City of Oxnard

COMPLAINT INVESTIGATION REPORT

DATE AND TIME RECEIVED: Wed 3/7/01 _____ A.M. _____ P.M.

COMPLAINANT'S NAME: Travis Casper **PHONE #:** _____

LOCATION/ ADDRESS: Mr. Casper is security person at BMW on Arcturus

ALLEGED RESPONSIBLE PARTY: Cook Composites

NATURE OF COMPLAINT: Odor complaint - Tues 3/6/01 at ~ 6:15pm (wind from the south according to Mr. Casper)

FINDINGS OF INVESTIGATION: Contacted Mohammed Dehiouby, Plant Mgr.; he stated no upset conditions, TO did not go off-line. Facility was transferring an aromatic solvent at that time.

☐ See attached sheets for additional findings.

TOTAL INVESTIGATION TIME: ½ hr.

SOURCE:

☐ Commercial ☐ Construction ☒ Industrial ☐ Residential ☐ Unknown

TYPE OF MATERIAL:

☐ Hazardous ☐ Domestic wastewater ☐ Industrial wastewater ☒ Other (specify) Odor

ACTION TAKEN:

☐ None (no violation noted) ☐ Warning Notice ☐ Administrative Action ☐ Education Material Provided

☐ Verbal Warning ☐ Notice of Violation ☐ Investigation File Opened ☐ Referred to:

☐ **FOLLOW-UP REQUIRED**

Joe Zarnoch

INVESTIGATOR

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City of Oxnard

COMPLAINT INVESTIGATION REPORT

DATE AND TIME RECEIVED: 10/25/01 _____ A.M. _____ P.M.

COMPLAINANT'S NAME: Ed Chojnicki **PHONE #:** 488-4401 x 216

LOCATION/ ADDRESS: 5980 Arcturus Ave **ALLEGED RESPONSIBLE PARTY:** Cook Composites

NATURE OF COMPLAINT: Resin odor apparently coming from Cook Composites.

FINDINGS OF INVESTIGATION: Returned to office from field late in afternoon; returned call, left message.

☐ See attached sheets for additional findings.

TOTAL INVESTIGATION TIME: _____

SOURCE:

☐ Commercial ☐ Construction ☐ Industrial ☐ Residential ☒ Unknown

TYPE OF MATERIAL:

☐ Hazardous ☐ Domestic wastewater ☐ Industrial wastewater ☐ Other (specify)_____

ACTION TAKEN:

☐ None (no violation noted) ☐ Warning Notice ☐ Administrative Action ☐ Education Material Provided

☐ Verbal Warning ☐ Notice of Violation ☐ Investigation File Opened ☐ Referred to:

☐ **FOLLOW-UP REQUIRED**

Joe Zarnoch

INVESTIGATOR

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City of Oxnard **FIRE/CUPA** • 251 South [illegible] St., Oxnard, CA 93030
TELEPHONE: (805) 385-7722 FAX: (805) [illegible]5-8009

HAZARDOUS MATERIAL/HAZARDOUS WASTE/SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN INSPECTION REPORT & NOTICE TO COMPLY

Facility Name: Cook Composites	Permit#: 30012 Inspection Date: 11/07/00
Facility Address: 5980 Arcturus Ave	Facility Contact: Mohammed Delsouky
Primary Inspection Type: ☒ Routine ☐ Other:	Phone: 986-3635 x16
Secondary Inspection Type: ☒ Combined Routine ☐ Integrated & Multi-Media	Returned to compliance within Est. Std? ☐ Yes ☐ No

Program Elements Inspected: ☒ HM ☒ HW Generator ☐ UST ☐ AST/SPCC ☐ PBR ☐ CA ☐ CE ☐ CalARP ☐ LQG

		Law/Regulatory Requirements	Y	N	Comments/Observations
Business Plan (Title 19, CCR)					
1	2729(a)&(d), 2731 & 2732	Form 2730 & 2731(updated annually) Site Map, Contingency (Emergency) Plan & Training Plan submitted		X	Emergency Response Plan update not submitted when changes occurred

TOTAL "OTHER" VIOLATIONS (from 1 above): 1

		Hazardous Waste (Chapter 6.5, California H&SC & Title 22, CCR)			
2	H&SC 25201(a)	Authorized HW storage/treatment	X		
3	66262.11	HW determination made	X		
4	66262.12	EPA ID Number	X		
5	66265.51(a)	Contingency Plan **(LQG only)**			DTSC does not show LQG
6	66265.77(a) & 66265.56 (j)	Written report submitted within 15 days for all releases, fires & explosions **(LQG only)**			
7	66265.16	All personnel training & annual review completed **(LQG only)**			
8	66265.16(d)&(e)	Training records maintained on-site **(LQG only)**			
9	66262.34(d)(2)	Personnel trained for familiarity with HW **(CESQG & SQG only)**	X		
10	66265.32-66265.34	Communication/safety devices provided/maintained	X		
11	66262.34(d)(2)	Emergency info posted next to telephone **(CESQG & SQG only)**	X		
12	66262.34(f)	HW container(s) properly labeled*		X	
13	66262.34	HW container accumulation time(s) not exceeded	X		
14	66265.173(a)	All HW containers closed*	X		
15	66265.171	All HW containers in good condition/not leaking*	X		
16	66265.172	All HW containers compatible with HW*	X		
17	66265.174	All HW containers inspected weekly*	X		
18	66265.177	Incompatible materials segregated*	X		
19	66265.176	Ignitable/reactive HW containers 50' from property line	X		
20	66265.35	Required aisle space for HW containers provided*	X		
21	66265.31	Management to prevent HW release*	X		
22	66262.20(a)	Transported HW with properly completed manifest	X		
23	66262.23(a)(4)	Manifest(s) sent to DTSC	X		

if not noted, CESQG and SQG subject to requirement pursuant to 22 CCR 66262.34(d)(2)

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

DISTRIBUTION: WHITE– CUPA CANARY– Facility

Inspection Date: 11/07/00

			Y	N	Comments/Observations
Law/Regulatory Requirements					
24	66262.40(a) & 66263.42(e)	Manifest(s) and/or receipts retained for 3 years (including receipts for used oil pursuant to H&SC 25250.8)	X		
25	66268.7(a)(1)	LDR notification made			
26	66268.7(a)	LDR records retained for 5 years			
Used Oil & Used Oil Filters (Chapter 6.5, California H&SC & Title 22, CCR)					
27	H&SC 25250.7(a)	Used oil not contaminated with other HW			
28	H&SC 25250.5(a)	Used oil disposed of properly (also see 24 above)			N/A
29	66266.130	Used oil filters properly managed (e.g., labeled container)			
30	66266.130(c)(5)	Bill of lading for used oil filters retained for 3 years			
Hazardous Waste Tanks (Title 22, CCR)					
31	66262.34(f) & 66262.34	Tank(s) marked "Hazardous Waste" & accumulation date. HW tank accumulation time(s) not exceeded.			N/A
32	66265.193	HW tank(s) provided with secondary containment			
33	66265.195	All HW tanks inspected daily			
Spent Lead Acid Batteries (Title 22, CCR; also Chapter 6.5, California H&SC)					
34	66266.81	Lead acid batteries properly managed/transferred			N/A
Contaminated Rags (Chapter 6.5, California H&SC)					
35	H&SC 25144.6	Contaminated rags managed properly			

TOTAL HW PROGRAM VIOLATIONS (from 2 thru 35 above): | **Class I:** | **Class II:** | **Minor:** 1 | **None**

Spill Prevention Control & Countermeasure (SPCC) Plan (Chapter 6.67, California H&SC)				
36	H&SC 25270.5(c) 2	SPCC Plan (tank vol. > 660 gals. or cumulative cap. > 1,320 gals.)	N/A	If "Y" or "N", send referral to SWRCB/RWQCB

Description of Violations/Corrections:

1 Other violation: did not submit updated Emergency Response Plan when changes occurred - facility correcting violation - will submit updated plan. {Corrected 11/13

1 Minor violation: HW containers not properly labeled. Facility notified us that HW labels were corrected. JZ

☐ (if checked): Illegal disposal/abandonment of HW (H&SC 25189.5(a))
☐ (if checked): Illegal transportation of HW (H&SC 25163(a))

☐ Knox box installation required
☐ NFPA 704 placard installation required

Unless otherwise noted, all violations must be corrected within thirty (30) calendar days.
You must provide a self-certificate of compliance for correction of these violations by the compliance deadline and/or a reinspection may occur at any time on or after the compliance deadline to verify correction of these violations. Failure to correct the violations by the compliance deadline will result in further enforcement action, including, but not limited to, a reinspection fee, fines and/or suspension or revocation of your Unified Program Facility Permit which could affect your ability to operate your business.

Inspector: Joe Zarnoch	Received By (signature):
Phone: 385-7657	Print Name: copies mailed to facility

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

DISTRIBUTION: WHITE– CUPA CANARY– Facility

City of
Oxnard

February 1, 2001

Cook Composites and Polymers Co.
5980 Arcturus Ave.
Oxnard, CA 93033
Attn: Mr. Mohammed Dekiouk

SUBJECT: FLAMMABLE STORAGE REQUIREMENTS

Dear Mr. Dekiouk:

It has been determined that Cook Composites and Polymers Co. flammable liquid storage facility is a flammable liquids storage room. Based on Section 7902.5.11.2.1 and Table 7902.5-D of the California Fire Code (CFC), the maximum stacking of 55-gallon drums containing flammable liquids in a liquid storage room is one-drum-high. The maximum storage height for 55-gallon drums, and portable tanks containing flammable liquids in a liquid storage room is 6.5 and 7 feet, respectively. Pursuant to our prior Notice to Comply dated December 18, 2000, and our recent discussions concerning this matter, the Oxnard Fire Department requires that you develop a plan to comply with the flammable liquid storage stacking height by February 16, 2001. Cook Composite and Polymers Co. flammable liquid storage plan will be subject to Oxnard Fire Department review and approval.

Liquid storage rooms must have liquid-tight secondary containment. Your facility must submit a secondary containment proposal for plan check at the City of Oxnard Permits Center by March 31, 2001; you can contact them at (805) 385-7925 for more information.

If you have any questions concerning this matter, please contact me at (805) 385-7720.

Sincerely,

Tom Waller
Fire Marshall
City of Oxnard Fire Department

Fire Department
251 South C Street • Oxnard, CA 93030 • (805) 385-7722 Fax (805) 385-8009

City of

Oxnard

December 18, 2000

Mr. Mohammed Dekiouk
Plant Manager
Cook Composites and Polymers
5980 Arcturus Ave.
Oxnard, CA 93033

SUBJECT: NOTICE TO COMPLY, COOK COMPO
5980 ARCTURUS AVE., OXNARD, CAL

Dear Mr. Dekiouk:

Representatives of the Fire Prevention Unit of the Oxnard Fi
Certified Unified Program Agency (CUPA) conducted an ins
November 7, 2000. Follow-up visits to obtain additional inf
November 30, 2000 and December 1, 2000. Our findings ar
grouped below based on the compliance date.

The following violations must be corrected by January 3

1) **Outdoor storage of flammable liquids in containe maximum allowable quantity per pile and has in: Code (UFC), 7902.3.3.1 & Table 7902.3-A)**

Liquids with a NFPA flammability rating of 3 includ
The maximum allowable quantities for outdoor stor
tanks are:

Class	Container Storage— Maximum per Pile (ga	
I-B	2,200	
I-C	4,400	8,800

Outdoor container and portable tank flammable liquid storage quantities exceed the maximum allowable quantities per pile. The minimum distance between piles was less than the required five (5) feet.

Thank you for using Return Receipt Service.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

4a. Article Number Z 407 091 128

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery 12-19-00

8. Addressee's Address *(Only if requested and fee is paid)*

102595-99-B-0223 Domestic Return Receipt

SENDER:
- ☐ Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- ☐ Print your name and address on the reverse of this form so that we can return this card to you.
- ☐ Attach this form to the front of the mailpiece, or on the back if space does not permit.
- ☐ Write *"Return Receipt Requested"* on the mailpiece below the article number.
- ☐ The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:
MR MOHAMMED DEKIOUK
COOK COMPOSITES & POLYMERS
5980 ARCTURUS AVENUE
OXNARD CA 93033

5. Received By: *(Print Name)*

6. Signature *(Addressee or Agent)*

PS Form 3811, December 1994

- Is your RETURN ADDRESS completed on the reverse side?

Fire Department
251 South C Street • Oxnard, CA 93030 • (805) 385-7722 Fax (805) 385-8009

City of
Oxnard

December 18, 2000

Mr. Mohammed Dekiouk
Plant Manager
Cook Composites and Polymers
5980 Arcturus Ave.
Oxnard, CA 93033

SUBJECT: NOTICE TO COMPLY, COOK COMPOSITES AND POLYMERS, 5980 ARCTURUS AVE., OXNARD, CALIFORNIA

Dear Mr. Dekiouk:

Representatives of the Fire Prevention Unit of the Oxnard Fire Department and the Oxnard Fire/ Certified Unified Program Agency (CUPA) conducted an inspection of your facility on November 7, 2000. Follow-up visits to obtain additional information were conducted on November 30, 2000 and December 1, 2000. Our findings and required corrective actions are grouped below based on the compliance date.

The following violations must be corrected by January 31, 2001:

1) **Outdoor storage of flammable liquids in containers and portable tanks exceeds maximum allowable quantity per pile and has inadequate aisle width (Uniform Fire Code (UFC), 7902.3.3.1 & Table 7902.3-A)**

Liquids with a NFPA flammability rating of 3 include Class I-B and I-C flammable liquids. The maximum allowable quantities for outdoor storage per pile in containers and portable tanks are:

Class	Container Storage— Maximum per Pile (gals)	Portable Tank Storage— Maximum per Pile (gals)
I-B	2,200	4,400
I-C	4,400	8,800

Outdoor container and portable tank flammable liquid storage quantities exceed the maximum allowable quantities per pile. The minimum distance between piles was less than the required five (5) feet.

Fire Department
251 South C Street • Oxnard, CA 93030 • (805) 385-7722 Fax (805) 385-8009

ATTN: JOE
251 SOUTH "C" STREET
OXNARD CA 93030

The quantity of flammable liquids in containers and portable tanks stored outside must be reduced and/or re-configured to comply with UFC requirements.

2) Storage quantity of flammable liquids in containers inside storage rooms (e.g., gel-coat and finished product storage rooms) exceeds maximum allowable quantity per pile and maximum allowable storage height, and has inadequate aisle width (UFC, 7902.5.11.2.1 & Table 7902.5-D)

The maximum allowable quantities for flammable liquids in containers and portable tanks per pile and room are:

Class	Container Storage—Maximum per Pile (gals)	Portable Tank Storage—Maximum per Pile (gals)	Container Storage—Maximum per Room (gals)	Portable Tank Storage—Maximum per Room (gals)	Maximum Storage Height—Containers (feet)	Maximum Storage Height—Portable Tanks (feet)
I-B & I-C	5,000	20,000	15,000	40,000	6½	7

Flammable liquid container storage quantities exceed the maximum allowable quantities per pile (inadequate aisle width) and double-stacked Class I-B and/or Class I-C drums and portable tanks exceed the maximum storage height.

The quantity of flammable liquids in containers and portable tanks inside storage rooms must be reduced and/or re-configured to comply with UFC requirements, including maximum allowable storage quantities per pile (and not to exceed maximum quantities per room), maximum allowable storage heights and an aisle separation of at least four (4) feet between piles.

3) Inadequate separation of flammable and combustible liquids from incompatible materials (UFC, 7902.1.6)

Stacks of wooden pallets must be stored by a distance of not less than 20 feet from flammable and combustible liquids (outdoor storage area).

4) Release of hazardous materials (UFC, 8001.5.1)

Hazardous materials shall not be released onto the ground. At least two separate spills of powders were observed in the chemical storage warehouse. Spill cleanup was not initiated until the problem was pointed out during our inspection. In a response dated

November 7, 2000 to a Notice to Comply in which another chemical spill was cited, you indicated that your employees would be retrained on spill response. Your employees should be instructed to promptly cleanup hazardous material spills using the proper protective clothing and equipment; this matter should also be addressed in your annual OSHA Hazardous Waste Operations and Emergency Response refresher training.

5) **Hazardous material identification signs (UFC, 8001.7)**

a) Incorrect placards were observed on the chemical storage warehouse; these placards should be removed. New NFPA 704 placards (2' x 2') must be installed on the southwest corner (facing McWane Blvd.) and northwest corner (facing north) of the chemical storage warehouse and on both west corners (facing west) of the product storage building.

b) The liquid nitrogen tank is not properly identified. A NFPA placard (2' x 2') and the words "Liquid Nitrogen" (clearly visible) must be displayed on the tank.

6) **Bonding of vessels used for the dispensing of flammable and combustible liquids (UFC, 7903.2.1.3)**

Vessels containing Class I liquids (flash point less than 100 °F) or liquids handled at or above their flash points shall be electrically connected by bond wires, ground cables, piping or similar means to a static grounding system to prevent sparking.

7) **Transfer of Class I and II liquids (UFC, 7903.1.3.5)**

Class I and II liquids (flash point less than 140 °F) shall be transferred using safety cans or approved closed piping system.

8) **Maintenance (UFC, 8001.4.7)**

Equipment associated with hazardous materials shall be maintained in an operable condition. Defective equipment shall be removed from service and repaired or replaced.

a) Hatch on tank T-303 does not close properly; tank must be removed from service or hatch must be repaired or replaced; and

b) Roll-up door on west side of chemical storage building is off-track; must be repaired or replaced.

9) Protection of propane tank from vehicles (UFC, 8001.11.3)

Guard posts shall be provided to protect the propane storage tank. The posts shall be:

- constructed of steel not less than 4" in diameter and concrete filled;
- spaced not more than 4' between posts on center;
- set not less than 3' deep in a concrete footing of not less than a 15" diameter;
- set with the top of the posts not less than 3' above ground; and
- located not less than 5' from the tank.

10) Other issues:

a) Provide information on the terminus for the drain located in the sump for the railroad car off-loading area; and

a) Provide new and complete 2731 forms for your Business Plan.

<u>The following violations must be corrected by February 28, 2001</u>:

11) Lack of secondary containment for containers and portable tanks stored inside storage rooms (UFC, 7902.5.11.3)

At least one of the liquid storage rooms lacks secondary containment. All liquid storage rooms must have liquid-tight secondary containment. Please note that a building permit may be required to correct this violation.

12) Maintenance (UFC, 8001.4.7)

Equipment associated with hazardous materials shall be maintained in an operable condition. Defective equipment shall be removed from service and repaired or replaced. Railroad track drip panels for off-loading area are degraded; panels must be replaced or the degraded sections must be repaired.

13) High level limit controls (UFC, 8004.1.5.2.1)

Evidence of overfilling blending tanks was visible during inspection. The blending tanks shall be equipped with a liquid level limit control or other means to prevent overfilling the tanks.

If you feel that your company will have a problem complying with the aforementioned requirements and/or compliance due dates, please request a meeting as soon as possible. If you have any questions concerning this matter, please contact me at (805) 385-7657.

Sincerely,

Joe Zarnoch
Environmental Specialist
City of Oxnard Fire/CUPA

CERTIFIED MAIL
Return Receipt Requested
Z 407 091 128

CCP
Cook Composites and Polymers Co.

Administrative Offices
5980 Arcturus Avenue
Oxnard, CA 93033
805/986-3635

City of Oxnard, Fire / C.U.P.A.
NOTICE TO COMPLY
Dated December 18, 2000

Revision Date: 01/26/01

Actions and Responses

	Item	Owner	Target Date	Status
1	Outdoor storage of flammables liquids exceeds allowable quantity	MD	1/31/01	In Progress. Additional outside space has been allocated for drum storage on the south side of the facility. Inventory management is progressing
2	Storage quantity of flammable liquids inside storage	MD	6/31/01	In-Progress. Aisles marked with the 4' clearance. Moved 1400 drums (~70,000 gals). Inventory Management is in Progress.
3	Inadequate separation of incompatible materials	MD	12/31/00	Completed
4	Release of hazardous materials	MD	1/05/01	**Completed**. Retraining
5	Hazardous material ID signs	MD	1/30/01	**Completed**. Material signs purchased and mounted on both warehouses. Forklift warning sign template purchased and signs painted on warehouse ramps, loading docks and warehouse corridors.
6	Bonding vessels during liquid transfer	RLB	2/15/01	In Progress. Materials ordered. An S.O.P. will be issued
7	Transfer of Class I and II liquids	MD	2/15/01	In Progress
8	Maintenance; T-303 Manway & Oxy door	RLB	1/12/01	**Completed**. T-303 Cleaned and Secure. Door on west side of Oxy warehouse is repair and operable.

CCP
Cook Composites and Polymers Co.

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5980 Arcturus Avenue
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805/986-3635

City of Oxnard, Fire / C.U.P.A.
NOTICE TO COMPLY
Dated December 18, 2000

Actions and Responses

Revision Date: 01/26/01

9	Protection of propane tank	RLB	2/15/01	In Progress. Permanent location according to site map is being evaluated. Construction contractor has been selected
10	Other Issues; Drain & Form 2731	MD	2/20/01	**Completed**. Referenced drain is pumped to neutralization basin. Form 2731 has been filed
11	Lack of secondary containment for inside storage area	RLB	3/31/01	In Progress. Concept design developed. Waiting for bid from 2 contractors.
12	Repair railroad drip panels	RLB	3/31/01	In Progress. Equipment assessed and replacement is planned. Vendor has not yet been located.
13	Blend Tank LAH	RLB	3/31/01	In Progress. Test Level Switch's Ordered. Switch signal will be added to the new DCS system in the control room.

CCP
Cook Composites and Polymers Co.

Plant Administration
5980 Arcturus Avenue
Oxnard, CA 93033
805/986-3635 ext. 16
FAX 805/985-4645

TO: Joe Zarnoch **DATE:** 11/07/2000

CC: Steve Dare; Mike Gromacki **FROM:** Mohammed Dekiouk

SUBJECT: Notice Of Violation dated on 10/12/2000

Joe,

Please find below the corrective actions for item 3 and 5.

Item 3: Improper Storage of Maleic Anhydride

The holes were repaired. We believe the storage of Maleic Anhydride in this warehouse is adequate based on the Material Safety Data Sheet. The MSDS is recommending to store in a cool, dry place and keep tightly closed.

Item 5: Chemical Release onto Ground

The product involved is NUODEX Cobalt 254 Fine Grind. This chemical is an additive for polyester. In a process of transferring the additive, one of our employee spilled some through the gratings. As a corrective action, we retrain all of the affected employees on spill response.

If you have any question, please feel free to contact me.

Regards

M. Dekiouk

SIGMA CHEMICAL -- M0625 MALEIC ANHYDRIDE
MATERIAL SAFETY DATA SHEET
NSN: 655000F054025
Manufacturer's CAGE: 21076
Part No. Indicator: A
Part Number/Trade Name: M0625 MALEIC ANHYDRIDE

General Information

Company's Name: SIGMA CHEMICAL COMPANY
Company's Street: 3050 SPRUCE ST
Company's P. O. Box: 14508
Company's City: SAINT LOUIS
Company's State: MO
Company's Country: US
Company's Zip Code: 63178-5000
Company's Emerg Ph #: 314-771-5765/800-325-3010
Company's Info Ph #: 314-771-5765/800-325-3010
Record No. For Safety Entry: 001
Tot Safety Entries This Stk#: 001
Status: SE
Date MSDS Prepared: 19MAY97
Safety Data Review Date: 02JUL97
Preparer's Company: SIGMA CHEMICAL COMPANY
Preparer's St Or P. O. Box: 3050 SPRUCE ST
Preparer's City: SAINT LOUIS
Preparer's State: MO
Preparer's Zip Code: 63178-5000
MSDS Serial Number: CFGHK

Ingredients/Identity Information

Proprietary: NO
Ingredient: MALEIC ANHYDBIDE
Ingredient Sequence Number: 01
NIOSH (RTECS) Number: ON3675000
CAS Number: 108-31-6
OSHA PEL: 1 MG/CUM
ACGIH TLV: 1.0 MG/CUM
Other Recommended Limit: 0.25 PPM

Physical/Chemical Characteristics

Appearance And Odor: WHITE CRYSTALLINE BRIQUETTES
Boiling Point: 392F
Melting Point: 129-132.8F
Vapor Pressure (MM Hg/70 F): 0.16
Vapor Density (Air=1): 3.4
Decomposition Temperature: >302F

Fire and Explosion Hazard Data

Flash Point: 218F
Lower Explosive Limit: 7.1
Upper Explosive Limit: 1.4
Extinguishing Media: WATER SPRAY, CO2
Special Fire Fighting Proc: WEAR SELF CONTAINED BREATHING APPARATUS & PROTECTIVE CLOTHING TO PREVENT CONTACT W/SKIN & EYES. DON'T USE DRY CHEMICAL POWDER EXTINGUISHER ON THIS MATERIAL.
Unusual Fire And Expl Hazrds: THIS MATERIAL, LIKE MOST MATERIAL IN POWDER FORM, IS CAPABLE OF CREATING A DUST EXPLOSION. AUTOIGNITION TEMP: 870F.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): MAY DECOMPOSE ON EXPOSURE TO MOIST AIR/WATER.
Materials To Avoid: STRONG OXIDIZING AGENTS, STRONG ACIDS, STRONG BASES, STRONG REDUCING AGENTS, ALKALI METALS, AMINES
Hazardous Decomp Products: CO, CO2
Hazardous Poly Occur: NO

Health Hazard Data

LD50-LC50 Mixture: ORAL LD50(RAT): 400 MG/KG
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: HARMFUL IF SWALLOWED, INHALED/ABSORBED THROUGH THE SKIN. DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES & UPPER RESPIRATORY TRACT, EYES/SKIN. INHALATION: MAY RESULT IN SPASM, INFLAMMATION & EDEMA OF THE LARYNX & BRONCHI, CHEMICAL PNEUMONITIS & PULMONARY EDEMA. MAY CAUSE ALLERGIC REACTIONS IN SENSITIVE INDIVIDUALS. (SUPP
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: NONE
Signs/Symptoms Of Overexp: INFLAMMATION, BURNING, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA, VOMITING, SNEEZING
Emergency/First Aid Proc: EYES/SKIN: IMMEDIATELY FLUSH W/COPIOUS AMOUNTS OF WATER FOR 15 MINS. INHALATION: REMOVE TO FRESH AIR. GIVE CPR/ OXYGEN IF NECESSARY. INGESTION: WASH OUT MOUTH W/WATER IF CONSCIOUS. OBTAIN MEDICAL ATTENTION IN ALL CASES.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: EVACUATE AREA. WEAR SELF CONTAINED BREATHING APPARATUS, RUBBER BOOTS & HEAVY RUBBER GLOVES. SWEEP UP, PLACE IN A BAG & HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST. VENTILATE AREA & WASH SITE AFTER MATERIAL PICKUP IS COMPLETE.
Waste Disposal Method: DISSOLVE/MIX MATERIAL W/COMBUSTIBLE SOLVENT & BURN IN A CHEMICAL INCINERATOR EQUIPPED W/AN AFTERBURNER & SCRUBBER. DISPOSE OF IAW/LOCAL, STATE & FEDERAL REGULATIONS. RCRA WASTE NUMBER U147. UN2215.
Precautions-Handling/Storing: STORE IN A COOL, DRY PLACE. KEEP TIGHTLY CLOSED.
Other Precautions: DON'T BREATHE DUST. AVOID CONTACT W/EYES, SKIN & CLOTHING. AVOID PROLONGED/REPEATED EXPOSURE.

Control Measures

Respiratory Protection: WEAR APPROPRIATE NIOSH/MSHA APPROVED RESPIRATOR
Ventilation: USE ONLY IN A CHEMICAL FUME HOOD.
Protective Gloves: CHEMICAL RESISTANT
Eye Protection: SAFETY GOGGLES
Other Protective Equipment: SAFETY SHOWER & EYE BATH, SUITABLE PROTECTIVE CLOTHING.
Work Hygienic Practices: REMOVE/Llaunder CONTAMINATED CLOTHING & SHOES BEFORE REUSE. WASH THOROUGHLY AFTER HANDLING.
Suppl. Safety & Health Data: HEALTH HAZ CONT'D: CORROSIVE, CAUSES BURNS. SENSITIZER. STERNUTATOR. CHRONIC EFFECTS: ASTHMA/DERMATITIS. MALEIC ANHYDRIDE DECOMPOSES (DECARBOXYLATION/POLYMERIZATION) IN THE PRESENCE OF ALKALI METALS/AMINES AT TEMPS >302F. EXOTHERMIC REACTION WILL TAKE PLACE RAPIDLY & THE GAS EVOLVED CAN CAUSE EQUIPMENT TO RUPTURE.

Transportation Data

Disposal Data

5-minutes Safety Training

Spills Prevention and Management

All spills need to be handled in the next 15 minutes.
Report and fill out spill and incident report.

Failure to comply will result on possible fine from local agency and progressive discipline action.

Date	Trainer	Trainee
10/16/00	K.M. Hurley	Fred Lowe
10/16/00		Pete Ruth
10/16/00		David Dale
10/16/00		[illegible]
10-16-00	[illegible]	[illegible]
10-16-00	[illegible]	Steve Bunn
10/17/00	David M Erickson	Victor Jemmett

SPILLS

PREVENTION

Has SPCC plan

Install spill basins on dikes

Install splash guards and drip boards

Use overflow control devices

Use welded joints to join pipes

Train regularly

Use seal-less pumps

NOTIFICATION

Greater than RQ - notify Corporate Enviromental/Safety Manager

Greater than 1 gal - notify supervisor

Less than 1 gal - notify supervisor, if potential threat to human health and/or the environment

CLEAN - UP

Remove source of discharge

Dispose of spilled materials appropriately

Document quantity, cause and cleanup procedures

Identify spilled material

Check MSDS for protective equipment

Check MSDS for spill procedures

Dike spill

Pump or scrape up free liquids

Absorb remaining liquid

Decontaminate area

Clean emergency response equipment

City of

Oxnard

October 12, 2000

Mr. Mohammed Dekiouk
Plant Manager
Cook Composites and Polymers
5980 Arcturus Ave.
Oxnard, CA 93033

SUBJECT: SECOND NOTICE TO COMPLY--COOK
POLYMERS, 5980 ARCTURUS AVE., OX

Dear Mr. Dekiouk:

The City of Oxnard Fire/Certified Unified Program Agency (
October 10, 2000, following another air release of the chemi
beyond the fence lines of your facility. Our findings and cor
incident and from other observations at your facility are as fo

1) Backup emission control device (i.e., backup to th
goes offline)

Findings:

The air release on October 10, 2000 further demons
TO (i.e., the scrubber) is not adequate to properly c
a TO failure. In your company's response, dated A
Comply, Mr. Michael Gromacki indicated that a va
technology would be installed and operated by Nov

Corrective Action:

We are hereby requiring that a backup unit capable
installed. ***Failure to comply with this requiremen***
which includes review and approval by the Venti
District (Ventura County APCD), will result in the City of Oxnard Fire/CUPA
enforcing a shut down of your process using DCPD and a prohibition on new
deliveries of DCPD if your company has a DCPD release after the expiration of the
reasonable time frame and the release impacts off-site receptors, e.g., employees at an
adjacent business(es).

Thank you for using Return Receipt Service.

I also wish to receive the following services (for an extra fee):

Z 407 091 119

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to: Cook Composites
Street & Number: 5980 Arcturus
Post Office, State, & ZIP Code:

Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

PS Form **3800**, April 1995

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:
COOK COMPOSITES
ATTN:
5980 ARCTURUS
OXNARD

5. Received By:

6. Signature:
X

PS Form 3800

Is your RETURN ADDRESS completed on the reverse side?

Oxnard

October 12, 2000

Mr. Mohammed Dekiouk
Plant Manager
Cook Composites and Polymers
5980 Arcturus Ave.
Oxnard, CA 93033

SUBJECT: SECOND NOTICE TO COMPLY--COOK COMPOSITES AND POLYMERS, 5980 ARCTURUS AVE., OXNARD, CALIFORNIA

Dear Mr. Dekiouk:

The City of Oxnard Fire/Certified Unified Program Agency (CUPA) visited your facility on October 10, 2000, following another air release of the chemical dicyclopentadiene (DCPD) beyond the fence lines of your facility. Our findings and corrective actions concerning this latest incident and from other observations at your facility are as follows:

1) **Backup emission control device (i.e., backup to the thermal oxidizer (TO) when it goes offline)**

Findings:

The air release on October 10, 2000 further demonstrated that the present backup to the TO (i.e., the scrubber) is not adequate to properly control DCPD emissions when there is a TO failure. In your company's response, dated August 29, 2000, to our prior Notice to Comply, Mr. Michael Gromacki indicated that a vapor phase carbon unit or other technology would be installed and operated by November 30, 2000.

Corrective Action:

We are hereby requiring that a backup unit capable of controlling DCPD emissions be installed. ***Failure to comply with this requirement within a reasonable time frame, which includes review and approval by the Ventura County Air Pollution Control District (Ventura County APCD), will result in the City of Oxnard Fire/CUPA enforcing a shut down of your process using DCPD and a prohibition on new deliveries of DCPD if your company has a DCPD release after the expiration of the reasonable time frame and the release impacts off-site receptors, e.g., employees at an adjacent business(es).***

Fire Department
251 South C Street • Oxnard, CA 93030 • (805) 385-7722 Fax (805) 385-8009

Your company's August 29, 2000 response indicates that a review of proposed modifications (i.e., the vapor phase carbon unit) would be completed by October 31, 2000. However, based on communications with you and Ventura County APCD, plans to construct such a backup unit have not been submitted. ***We strongly urge you to initiate and complete the review and approval process for the backup unit with Ventura County APCD as soon as possible.***

During the interim until a new backup unit is in operation, if a TO failure occurs during a reactor run of DCPD and the TO cannot be promptly restarted, the reactor must be cooled down as quickly and as safely as possible to minimize the release of DCPD in accordance with the procedures specified in our prior Notice to Comply dated August 14, 2000.

2) Release Notification

Findings:

Although we did not request notification of a DCPD release in our prior Notice to Comply, we did request a 911 call for future releases in a letter dated August 20, 1997; the letter addressed issues concerning an earlier DCPD release. It is our understanding that no such notification by Cook Composites was made for the release on October 10, 2000.

Moreover, the letter dated August 20, 1997 also requested notification to the State Office of Emergency Services (OES)[1-800-852-7550] for releases of hazardous materials, including DCPD. Again, it is our understanding that no such notification by Cook Composites was made for the release on October 10, 2000.

Please note that the City of Oxnard Fire/CUPA hereby determines that the release of DCPD has the potential to cause harm to off-site receptors and therefore releases of this hazardous material must be reported to OES (see the following). In at least two recent DCPD release incidents, off-site receptors reported symptoms, including headaches and nausea. These symptoms are consistent which those reported in references reviewed during preparation of this Notice to Comply. DCPD has a National Institute for Occupational Safety and Health (NISOH) exposure limit of 5 parts per million and a National Fire Protection Association (NFPA) rating of 1 for health (slightly hazardous).

Federal and state laws provide for penalties of up to $25,000 per day for each violation of hazardous material notification requirements. Criminal penalties may also apply. Please be advised that the City of Oxnard Fire/CUPA will enforce the notification requirements

and refer violations to the Ventura County District Attorney's Office and/or OES.

Corrective Action:

Please ensure that a 911 call is made when the TO goes offline during a DCPD run or whenever a DCPD releases occurs. In addition, please ensure that OES is notified for releases that have the potential to cause harm, including releases of DCPD that have the potential to impact off-site receptors. Please note that our prior Notice to Comply, dated August 14, 2000, required your facility to maintain air monitoring equipment on-site capable of detecting DCPD.

3) Improper storage of maleic anhydride

Findings:

A large number of bags of maleic anhydride, which forms an acid from contact with water, is being stored just inside a structure which has a significant hole in the wall. On the day of our visit, October 10, 2000, rain was forecast for our area.

Corrective Action:

As indicated during our visit, the hole in the wall must be repaired. We requested at least a temporary repair for the night because of the chance of rain, however, the wall must be permanently repaired. Water, including rain and rain runoff, must be precluded from coming in contact with the bags of maleic anhydride.

4) Failure to obtain permits (building, plumbing, etc.)

Findings:

During our visit, excavation was being conducted for the footings for new aboveground storage tanks. We have determined that a permit application for the tanks from the City of Oxnard has not been obtained. Moreover, we have discovered that permits were not obtained for the recently installed condensate knock-out at the TO inlet. In fact, city records indicate that no permits have been obtained for your site since July, 1996.

Corrective Action:

Obtain the necessary permits for the aboveground storage tanks from the City of Oxnard Permits Center located at 305 W. Third Street; their telephone number is (805) 385-7925.

Obtain a permit for the condensate knock-out at the TO inlet and complete the inspection process for this unit. Obtain all necessary permits for future construction, installations, alterations/modifications, repairs, etc.

5) Chemical release onto ground (e.g., in containment unit and on containment unit wall)

Findings:

During our visit, a purple chemical was observed in a containment unit and on the containment unit wall. We requested and received a Material Safety Data Sheet (MSDS) for the chemical, i.e., NUODEX® Cobalt 254 Fine Grind.

Corrective Action:

Please provide a written explanation for the release of the chemical and procedures to prevent future releases; submit the written explanation to our office (Attn: Joe Zarnoch) within thirty (30) days from receipt of this letter.

We would also like to arrange a complete inspection of your facility. If you have any questions concerning this matter or to arrange the inspection, please contact me at (805) 385-7657.

Sincerely,

Joe Zarnoch
City of Oxnard Fire/CUPA

CERTIFIED MAIL
Return Receipt Requested
Z 407 091 119

cc: Mr. Michael Gromacki
Cook Composites and Polymers
PO Box 419389
Kansas City, MO 64141-6389

cc: Mr. Jay Nicholas
Ventura County Air Pollution Control District
669 County Square Dr.
Ventura, CA 93003

Mr. Bob Peterson
Kaiser Aluminum
1001 McWane Blvd.
Oxnard, CA 93033

Ms. Debbie Juszak
Borla Performance Industries
5901 Edison Dr.
Oxnard, CA 93033

CCP
Cook Composites and Polymers Co.

Quality/Safety/ Environment
P. O. Box 419389
Kansas City, MO 64141-6389
816/391-6011

August 29, 2000

Mr. Joe Zarnoch
City of Oxnard Fire Department/CUPA
251 South C Street
Oxnard, CA 93030

Via Facsimile (805) 385-8009 - Hard Copy to Follow By Maii

Re: Notice to Comply – Cook Composites and Polymers Co. (August 14, 2000)
5980 Arcturus Avenue, Oxnard, California

Dear Mr. Zarnoch:

Cook Composites and Polymers Co. (CCP) received and reviewed the Notice to Comply, dated August 14, 2000, related to odors attributed to emissions of Dicyclopentadiene (DCPD) at our Oxnard facility. The Notice to Comply outlines three (3) primary findings and stipulates several corrective actions. The Notice to Comply also includes a requirement for CCP to respond with a Schedule of Compliance to address the corrective actions within fourteen (14) days of receipt.

CCP has worked aggressively on this matter since your initial visit to our facility and references below the specific findings, the stipulated corrective actions, and the status of each corrective action.

Finding #1
The backup to the thermal oxidizer (TO), namely a scrubber, is inadequate to properly control DCPD emissions when there is a TO failure.

Corrective Actions #1:

a) If a TO failure occurs during a reactor run of DCPD and the TO cannot be promptly restarted, the reactor must be cooled down as quickly and safely as possible to minimize the release of DCPD. Please note that according to our file notes in July 1997, CCP agreed to shutdown the affected process if the TO went off line for any reason.
b) The TO must be properly repaired before any additional reactor runs are initiated. Please note that the non-availability of repair parts is not an exemption from this requirement.
c) A description of TO repairs including the date and time must be documented in the reactor operator's log.
d) After a TO failure and if necessary, a subsequent repair proper operation of the TO must be observed before additional reactor runs of DCPD are initiated
e) Within fourteen days from receipt of this notice to comply CCP must submit a Schedule for Compliance outlining the tasks and dates for the upgrade/replacement of the TO and the scrubber.

CCP Response:

a) CCP agrees that in the event of a TO failure, all measures to safely shut down the reactor will be taken. Since 1997, CCP has learned that the best procedure to safely complete this is by first shutting down the raw material feed of maleic anhydride, and then to slowly cool the reactor to prevent the accumulation of un-reacted raw material. Note that the cooling system is normally applied during much of the DCPD polyester reaction in normal operation.

b) The TO has been properly repaired, and a DCPD polyester production batch was manufactured under your observation on Thursday August 17th, 2000.

c) CCP maintenance and operation personnel will record the nature of repairs as well as the date and time in the operator's log.

d) After a TO failure, CCP will verify proper operation of the thermal oxidizer (e.g. proper temperature) before additional reactor runs of DCPD are initiated.

e) CCP believes the DCPD odor issues are mainly due to the unexpected shutdown of the thermal oxidizer. In order to eliminate this problem, CCP will implement the following actions or modifications according to the proposed Schedule of Compliance to address the operational improvement of the thermal oxidizer and scrubber systems:

Schedule of Compliance

Procedure Change: No Glycol Recovery During DCPD Production	August 17, 2000
Engineering Review of TO Condensate Control/System Reliability	August 18, 2000
Install Condensate Knock-out at TO Intake	September 4, 2000

The main improvements to TO reliability are expected through implementation of the first three actions. CCP will review the TO reliability after the installation of the condensation knock-out to determine if further TO modifications are warranted.

Feasibility Review to Upgrade Scrubber (e.g. Vapor Phase Carbon)	September 15, 2000
Preliminary Design of Vapor Phase Carbon or other technology	October 13, 2000
Review of Proposed Modifications Complete by Ventura APCD	October 31, 2000
Construction or Implementation of Modifications	November 30, 2000

Finding # 2
Air monitoring equipment at CCP for the detection of DCPD is inadequate.

Corrective Action # 2:

Within fourteen (14) days from receipt of this Notice to Comply, CCP must obtain and maintain on site air monitoring equipment (e.g. a photo ionization detector (PID) or other volatile organic compound (VOC) monitoring device) that is capable of monitoring for DCPD.

CCP Response:

At the time of your visit, CCP did not maintain organic vapor monitoring (OVM) equipment on site. That monitoring has been completed routinely at our facility by the outside engineering firm Metcalf & Eddy. CCP has since obtained by lease, and maintains on site, an OVM equipped with a photo ionization detector (PID). CCP will purchase a similar unit to replace the leased OVM as soon as possible.

Finding # 3
Procedures for off-loading DCPD must be improved to prevent a release.

Corrective Action # 3:

CCP's standard procedures shall be strictly followed in off-loading DCPD, including capping the unloading line immediately after it is disconnected from the tanker truck and purging operations are completed. Our (CUPA) understanding, based on conversations with Mr. Dekiouk, is that CCP will implement additional measures to control emissions resulting from the off-loading of DCPD, e.g. constructing a structure designed for offloading DCPD.

CCP Response:

CCP will improve and enforce the use of proper procedures for off loading DCPD to minimize emissions and odors. Employees that fail to follow the proper procedures will be subject to disciplinary action. A small enclosure around piping connections is also planned.

In closing, CCP regrets any odors or inconvenience caused to our industrial neighbors or the CUPA program as a result of the shut down of our thermal oxidizer and the off-loading operations for DCPD at our facility. CCP will work hard to prevent future occurrences.

If you have any questions related to the CCP response in this matter, please contact me at (816) 391-6011.

Sincerely,
COOK COMPOSITES AND POLYMERS CO.

Michael Gromacki
Director – Quality/Safety/Environment

CC:
Mohammed Dekiouk – CCP Oxnard
Jean Roussennac – CCP
Steve Dare – CCP
John Bauer – CCP

Ventura County
Air Pollution
Control District

669 County Square Drive
Ventura, California 93003

tel 805/645-1400
fax 805/645-1444

Richard H. Baldwin
Air Pollution Control Officer

August 28, 2000

Mohammed Dekiouk
Plant Manager
Cook Composites and Polymers
5980 Arcturus Ave.
Oxnard, CA 93033

RE: Breakdown(s) of Thermal Oxidizer

Dear Mr. Dekiouk:

We are in receipt of the Oxnard Fire Department's letter, dated August 14, 2000, regarding several incidents involving the release of dicyclopentadiene (DCPD) from the Cook Composites and Polymers' Oxnard facility. The purpose of this letter is to advise you of the requirements of the Ventura County Air Pollution Control District regarding replacement or upgrades to the thermal oxidizer and reporting breakdowns of the thermal oxidizer.

Replacement or Upgrade of the Thermal Oxidizer:
We note that the Oxnard Fire Department has requested a schedule for replacing or upgrading the thermal oxidizer, which controls emissions of DCPD. Please be advised that prior to replacing the thermal oxidizer, Cook Composites and Polymers must obtain an Authority to Construct from the Ventura County APCD. Modification of the thermal oxidizer may also trigger the requirement to obtain an Authority to Construct. Questions regarding the APCD's permit requirements should be directed to Kerby Zozula, Permits Supervisor, at 805/645-1421.

Breakdowns of the Thermal Oxidizer:
Condition 24 of Cook Composites and Polymers APCD Permit to Operate states: *"All breakdowns shall be reported per APCD Rule 32 (Breakdown Conditions)"*. A copy of Rule 32 is attached for your reference. In light of this permit condition, we hereby request that you report all breakdowns of the thermal oxidizer to the APCD as required in Rule 32. Breakdowns must be reported within 4 hours, and should be called in to our 24-hour voice mail system at 805/654-2797. A written follow-up report must be submitted to us within seven working days of the breakdown. Refer to Rule 32 for additional information.

As the City of Oxnard's letter states, impacting neighboring businesses by the release of DCPD is unacceptable. Future releases of DCPD, or any other substance that impacts neighboring businesses, may result in enforcement action by the Ventura County APCD.

If you have any questions regarding this matter, please contact me at 805/645-1410.

Sincerely,

Keith Duval, Manager
Compliance and Employer Transportation Program Division

C: Craig Bostwick
Cook Composites and Polymers
P.O. Box 419389
Kansas City, MO 64141-6389

Joe Zarnoch, City of Oxnard Fire/CUPA

Kerby Zozula, APCD

Rule 32. Breakdown Conditions; Emergency Variances (Adopted 5/23/72, Revised 11/22/77, 11/21/78, 2/20/79)

A. Definition

For the purposes of this Rule, a breakdown condition means an unforeseeable failure or malfunction of 1) any air pollution control equipment which causes a violation of any emission limitation or restriction prescribed by these Rules and Regulations, or by State law, or 2) any in-stack continuous monitoring equipment, provided such failure or malfunction:

1. Is not the result of neglect or disregard of any air pollution control law or rule or regulation;

2. Is not the result of an intentional or negligent act or omission on the part of the owner or operator;

3. Is not the result of improper maintenance;

4. Does not constitute a nuisance as defined in these Regulations.

In the case of an Electric Public Utility, a breakdown condition shall exist only if, in addition to the foregoing, the breakdown results from:

5. Operational problems, limited to: unit startups, shutdowns, system frequency upsets and boiler fuel/air ratio upsets due to rapid load changes.

6. Fuel problems, limited to: fuel changes and unanticipated fuel oil or natural gas quality variations.

B. Breakdown Procedures

1. The owner or operator shall notify the Air Pollution Control District of any occurrence which constitutes a breakdown condition; such notification shall identify the time, specific location, equipment involved, and (to the extent known) the cause(s) of the occurrence, and shall be given as soon as reasonably possible, but no later than four (4) hours after its detection by such owner or operator, or his (their) agents or employees.

2. The District shall establish written procedures and guidelines, including appropriate forms for logging of initial reports, investigation, and enforcement follow-up, to ensure that all reported breakdown occurrences are handled uniformly to final disposition.

3. Upon receipt of notification pursuant to subparagraph B.1 the Air Pollution Control District shall promptly investigate and determine whether the occurrence

constitutes a breakdown condition. If the Air Pollution Control District determines that the occurrence does not consitute a breakdown condition, the Air Pollution Control District may take appropriate enforcement action, including, but not limited to seeking fines, an abatement order, or an injunction against further operation.

C. Disposition of Breakdown Conditions

1. An occurrence which constitutes a breakdown condition, and which persists only until the end of the production run or 24 hours, whichever is sooner (except for continuous monitoring equipment, for which the period shall be ninety-six (96) hours), shall constitute a violation of any applicable emission limitation or restriction prescribed by these Rules and Regulations; however, the Air Pollution Control Officer may elect to take no enforcement action if the owner or operator demonstrates to the satisfaction of the Air Pollution Control District that a breakdown condition exists and the following requirements are met:

   a. The owner or operator submits the notification required by subparagraph B.1; and

   b. The owner or operator immediately undertakes appropriate corrective measures and comes into compliance, or elects to shut down for corrective measures before commencement of the next production run or within 24 hours, whichever is sooner (except for continuous monitoring equipment for which the period shall be ninety-six (96) hours).

2. An occurence which constitutes a breakdown condition shall not persist longer than the end of the production run or 24 hours, whichever is sooner (except for continuous monitoring equipment, for which the period shall be ninety-six (96) hours), unless the owner or operator has requested an emergency variance.

3. If the breakdown condition will either require more than 24 hours to correct or persist longer than the end of the production run (except for continuous monitoring equipment, for which the period shall be ninety-six (96) hours), the owner or operator may, in lieu of shutdown, request the Air Pollution Control Hearing Board to grant an emergency variance as provided for in Regulation VII.

D. Reporting Requirements

Within one week after a breakdown occurrence has been corrected, the owner or operator shall submit a written report to the Air Pollution Control District which includes:

1. A statement that the occurrence has been corrected, together with the date of correction and proof of compliance;

2. A specific statement of the reason(s) or cause(s) for the occurrence sufficient to enable the Air Pollution Control District to determine whether the occurrence was a breakdown condition;

3. A description of the corrective measures undertaken and/or to be undertaken to avoid such an occurrence in the future (the Air Pollution Control District may, at the request of the owner or operator, for good cause, extend up to 30 days the deadline for submitting the description required by this subparagraph);

4. An estimate of the emissions caused by the occurrence; and

5. Pictures of the equipment or controls which failed, if available.

E. Burden of Proof

The burden shall be on the owner or operator of the source to provide sufficient information to demonstrate that a breakdown did occur. If the owner or operator fails to provide sufficient information, the Air Pollution Control District shall undertake appropriate enforcement action.

F. Failure to Comply with Reporting Requirements

Any failure to comply, or comply in a timely manner, with the reporting requirements established in subparagraphs B.1 and D.1 through D.5 of this Rule shall constitute a separate violation of this Rule.

G. False Claiming of Breakdown Occurrence

It shall constitute a separate violation of this Rule for any person to file with the Air Pollution Control District a report which is willfully false, or claims without probable cause, that an occurrence is a breakdown occurrence.

H. Hearing Board Standards and Guidelines

The Hearing Board shall adopt standards and guidelines consistent with this Rule to assist the chairperson or other designated member(s) of the Hearing Board in determining whether to grant or deny an emergency variance, and to assist the Air Pollution Control District in the enforcement of this Rule.

City of

Oxnard

August 14, 2000

Mr. Mohammed Dekiouk
Plant Manager
Cook Composites and Polymers
5980 Arcturus Ave.
Oxnard, CA 93033

SUBJECT: NOTICE TO COMPLY--COOK COMPO
5980 ARCTURUS AVE., OXNARD, CAL

Dear Mr. Dekiouk:

The City of Oxnard Fire/Certified Unified Program Agency (of incidents involving the release of the chemical dicyclopent during the week of August 7th, 2000. Our assessment is con company response to a neighboring business on Monday, Au during follow-up visits on Wednesday, August 9th and Friday representative from the Ventura County Air Pollution Contr our findings and includes required corrective actions to prev Please note that releases of DCPD occurring during the wee incident nor was it the first that a neighboring downwind bus from Cook Composites and Polymers (CCP). A copy of this businesses neighboring CCP.

Our findings and corrective actions are:

1) **The backup to the thermal oxidizer (TO), namely properly control DCPD emissions when there is a**

On Sunday, August 6, 2000, a reactor run with DCP the early morning hours of August 7th. The TO shut attempts to restart it were not successful. Later that business complained of a pungent odor causing headaches, their description of the smell was consistent with that of DCPD.

In addition, numerous TO shutdowns occurred surrounding this incident. Apparently, due to its age, the TO has become somewhat unreliable. Our understanding is that CCP is intending to either upgrade or replace the existing TO and scrubber.

Is your RETURN ADDRESS completed on the reverse side?

6. Signature: (Addressee or Agent)
X

PS Form 3811, December 1994

Domestic Return Receipt

P 666 128 120

Certified Mail Receipt
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to Mohamad Dekiouk	
Street & No. Cook Composites	
P.O., State & ZIP Code 5980 Arcturus Ave	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	$
Postmark or Date	

PS Form 3800, June 1990

...equested
] COD
] Insured
] Certified
...delivery
...for fee.
...s Address
...e the
...or an

Thank you for using Return Receipt Service.

Fire Department
251 South C Street • Oxnard, CA 93030 • (805) 385-7722 Fax (805) 385-8009

City of
Oxnard

August 14, 2000

Mr. Mohammed Dekiouk
Plant Manager
Cook Composites and Polymers
5980 Arcturus Ave.
Oxnard, CA 93033

SUBJECT: NOTICE TO COMPLY--COOK COMPOSITES AND POLYMERS, 5980 ARCTURUS AVE., OXNARD, CALIFORNIA

Dear Mr. Dekiouk:

The City of Oxnard Fire/Certified Unified Program Agency (CUPA) has completed an assessment of incidents involving the release of the chemical dicyclopentadiene (DCPD) from your facility during the week of August 7th, 2000. Our assessment is comprised of results from an engine company response to a neighboring business on Monday, August 7th and discussions conducted during follow-up visits on Wednesday, August 9th and Friday, August 11th; the latter included a representative from the Ventura County Air Pollution Control District. The following outlines our findings and includes required corrective actions to prevent such occurrences in the future. Please note that releases of DCPD occurring during the week of August 7th were not the first such incident nor was it the first that a neighboring downwind business(es) was impacted by a release from Cook Composites and Polymers (CCP). A copy of this Notice to Comply is being sent to businesses neighboring CCP.

Our findings and corrective actions are:

1) **The backup to the thermal oxidizer (TO), namely, a scrubber, is inadequate to properly control DCPD emissions when there is a TO failure.**

On Sunday, August 6, 2000, a reactor run with DCPD was initiated; the run concluded in the early morning hours of August 7th. The TO shutdown during the reactor run and attempts to restart it were not successful. Later that morning, employees at a downwind business complained of a pungent odor causing headaches; their description of the smell was consistent with that of DCPD.

In addition, numerous TO shutdowns occurred surrounding this incident. Apparently, due to its age, the TO has become somewhat unreliable. Our understanding is that CCP is intending to either upgrade or replace the existing TO and scrubber.

Fire Department
251 South C Street • Oxnard, CA 93030 • (805) 385-7722 Fax (805) 385-8009

UNITED STATES POSTAL SERVICE
• Print your name, address, and ZIP Code in this box •
FIRE DEPARTMENT
ZARNOCH
JOE
STREET

Corrective Actions:

a) **If a TO failure occurs during a reactor run of DCPD and the TO cannot be promptly restarted, the reactor must be cooled down as quickly and as safely as possible to minimize the release of DCPD**. Please note that according to our file notes, following a similar release incident in July, 1997, CCP agreed to shut-down the affected process if the TO went off-line for any reason;

b) the TO must be properly repaired before any additional reactor runs are initiated (please note that non-availability of repair parts is not an exemption from this requirement);

c) a description of TO repairs, including the date and time, must be documented in the reactor operator's log;

d) after a TO failure and if necessary, a subsequent repair, proper operation of the TO must be observed before additional reactor runs of DCPD are initiated; and

e) within fourteen (14) days from receipt of this Notice to Comply, CCP must submit a Schedule of Compliance outlining the tasks and dates for the upgrade/replacement of the TO and the scrubber.

2) Air monitoring equipment at CCP for the detection of DCPD is inadequate.

During a follow-up visit on Wednesday, August 9, 2000, when again a release of DCPD was detected, it became apparent that air monitoring equipment at CCP was either non-existent or non-functional.

Corrective Action:

Within fourteen (14) days from receipt of this Notice to Comply, CCP must obtain and maintain (on-site) air monitoring equipment (e.g., a photo ionization detector (PID) or other volatile organic compound (VOC) monitoring device) that is capable of monitoring for DCPD.

3) Procedures for off-loading DCPD must be improved to prevent a release.

On August 9, 2000, strong odors of DCPD were detected downwind and outside of the fence line of CCP at approximately 1100 hours. During the subsequent follow-up visit at CCP, Mr. Dekiouk explained that no reactor runs of DCPD had occurred that day. However, a delivery of DCPD had been received at approximately 0900 hours that morning. I observed a strong odor of DCPD from the off-loading area. The DCPD unloading line was left uncapped. The City of Oxnard Fire/CUPA requested and reviewed CCP's standard procedures for off-loading DCPD.

Corrective Action:

CCP's standard procedures shall be strictly followed in off-loading DCPD, including capping the unloading line immediately after it is disconnected from the tanker truck and purging operations are completed. Our understanding, based on conversations with Mr. Dekiouk, is that CCP will implement additional measures to control emissions resulting from the off-loading of DCPD, e.g., constructing a structure designed for off-loading DCPD.

In conclusion, impacting neighboring businesses by the release of DCPD is unacceptable. Please note that failure to comply with the aforementioned requirements and failure to implement procedures to prevent the release of DCPD will result in further enforcement action.

If you have any questions concerning this matter or would like to request a meeting to discuss this matter further, please contact me at (805) 385-7657.

Sincerely,

Joe Zarnoch

Joe Zarnoch
City of Oxnard Fire/CUPA

CERTIFIED MAIL
Return Receipt Requested
P 666 128 120

cc: Mr. Allan Kull
Cook Composite and Polymers
5980 Arcturus Ave.
Oxnard, CA 93033

Mr. Michael Gromacki
Cook Composites and Polymers
PO Box 419389
Kansas City, MO 64141-6389

cc: Mr. Jay Nicholas
Ventura County Air Pollution Control District
669 County Square Dr.
Ventura, CA 93003

Mr. Bob Peterson
Kaiser Aluminum
1001 McWane Blvd.
Oxnard, CA 93033

Borla Performance Industries
5901 Edison Dr.
Oxnard, CA 93033

CCP
Cook Composites and Polymers Co.

FAX COMMUNICATION

5930 Arcturus Avenue
Oxnard, CA 93033
805/986-3635 ext. 16

TO: Joe Zarnoch
COMPANY: CUPA
FAX NBR: 385-8009
DATE: 8/9/00

FROM: Mohammed Dekiouk
DEPARTMENT: Plant Administration
FAX NBR: 805/986-4645
NBR PAGES: 1

To follow-up on your visit, we can reassure you we are very sorry for any inconvenience that Kaiser Aluminum or any business neighborhood experienced in the last few hours. To summarize the incident, on 8/9 at 9:30 am, a tang wagon of DCPD (Dicyclopentadiene) was off-loaded. As you checked, the thermal oxidizer was running properly during the transfer. We experienced repetitive Thermal Oxidizer shutdown from 8/4 to 8/7. A thermocouple wire was faulty and was replaced on 8/7. From the change, no more shutdown was recorded. As a normal procedure, the reactor is put under blanket and any material flow is suspended until the Thermal Oxidizer resumed operation. The reactor is isolated from the process. As a secondary safeguard, a scrubber will automatically start to take over any vapors.

As a precautionary step, we will notify immediately our immediate neighborhood when an abnormal situation occurs as TO Failure, spills, and/or vapor releases. As we indicated, Cook Composites and Polymers is committed to address any issue you and our business neighborhood will have. We are in process to evaluate the replacement of the thermal oxidizer. We will acquire a weather station to record speed and direction of the wind so we can relate to any incident. We will notify you for the next few batches and have you monitor at your convenience.

This letter is to reassure you that we are committed for the health and safety of our neighborhood and our employees.

If you have any question, please feel free to contact me or Mike Gromacki at 816-391-6011.

Thank you for your insight.

Regards

M. Dekiouk

City of Oxnard

COMPLAINT INVESTIGATION REPORT

DATE AND TIME RECEIVED: 08/07/00 & 08/09/00 _____ A.M. _____ P.M.

COMPLAINANT'S NAME: Bola Perf. Ind. & Kaiser Alum **PHONE #:** _____

LOCATION/ ADDRESS: 5980 Arcturus Ave **ALLEGED RESPONSIBLE PARTY:** Coob Composites

NATURE OF COMPLAINT: Odor causing headaches, discomfort to employess

FINDINGS OF INVESTIGATION: See attachment.

☐ See attached sheets for additional findings.

TOTAL INVESTIGATION TIME: _____

SOURCE:

☐ Commercial ☐ Construction ☒ Industrial ☐ Residential ☐ Unknown

TYPE OF MATERIAL:

☒ Hazardous ☐ Domestic wastewater ☐ Industrial wastewater ☐ Other (specify)_____

ACTION TAKEN:

☐ None (no violation noted) ☐ Warning Notice ☐ Administrative Action ☐ Education Material Provided

☒ Verbal Warning ☐ Notice of Violation ☒ Investigation File Opened ☐ Referred to:

☐ **FOLLOW-UP REQUIRED**

Joe Zamora

INVESTIGATOR

a:\cupaforms\complaintform

Attachment— Complaint Investigation Report 08/09/00

Cook Composites
5980 Arcturus Ave.
Onxard, CA 93033

On 08/09/00, visited Borla Performance Industries, complainant of odor on morning of 08/07/00-- Oxnard Fire engine company responded. Talked to Debbie in office and security-- stated odor was like carburetor cleaner, entered office A/C system. Then proceeded to Kaiser Aluminum, talked to Bob Peterson, detected odor on side of property facing Cook Composites-- due to past experience, odor appeared to be dicyclopentadiene (DCPD). Proceeded to Cook Composites, talked to Plant Administrator, Mohammed Dekiouk. He stated plant was not using DCPD in a process at the time. I examined reactor operator's logs— found thermal oxidizer (TO) used to control DCPD emissions was off-line numerous times this week; back-up is scrubber— apparently not efficient in removing DCPD. Traced smell back to off-loading area— DCPD was off-loaded at approx. 0900 earlier today. Liquid in sump near off-loading area. Facility did not have adequate means to monitor or detect DCPD. Requested liquid be removed from sump in the event it contained DCPD.

Requested to be contacted next batch using DCPD. Discussed use of a back-up TO with facility— facility claims not feasible. Will determine corrective measures once revisits are completed. Downwind monitors may be an option.

Joe Zarnoch

City of Oxnard
FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7722 FAX: (805) 385-8009

HAZARDOUS MATERIAL/HAZARDOUS WASTE/SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN INSPECTION REPORT & NOTICE TO COMPLY

Facility Name: Cook Composites	Permit#: 30012	Inspection Date: 11/4/99
Facility Address: 5980 Arcturus Ave	Facility Contact: Mohammed Dekiouk	
Facility Mailing Address:	Phone: 986-3635	

Inspection Type: ☒ Routine ☐ Follow-up ☐ Enforcement ☐ Complaint ☐ Other:

Inspection Type: ☒ Combined Routine ☐ Joint ☐ Integrated & Multi-Media — Returned to compliance within Est. Std? ☐ Yes ☐ No

Program Elements Inspected: ☒ HM ☒ HW Generator ☐ UST ☐ SPCC ☐ PBR ☐ CA ☐ CE ☐ RMP

	Law/Regulatory Requirements		Y	N	Comments/Observations
	Business Plan (Title 19, CCR; also Chapter 6.95, California H&SC)				
1	2729(a)&(d)	Form 2730 (including emergency contacts) updated	✓		
2	2729(a)&(d)	Form 2731 (chemical inventory) updated	✓		
3	2729(a)(4)	Site Map	✓		
4	2731	Contingency Plan/Emergency Procedures & Equipment	✓		
	Permit (Title 27, CCR)				
5	15190	Unified Program Facility Application & Permit	✓		
	Hazardous Waste (Chapter 6.5, California H&SC & Title 22, CCR)				
6	H&SC 25201(a)	Authorized HW storage/treatment	✓		
7	66262.11	HW determination made	✓		
8	66262.12	EPA ID Number	✓		
9	66262.41(b)	Biennial Report(s) submitted (for LQGs of RCRA HW)	✓		
10	66265.77(a) & 66265.56 (j)	All releases, fires and explosions reported within 15 days	✓		
11	66265.51(a)	Contingency Plan	✓		
12	66265.32	Communication/safety devices provided/maintained	✓		
13	66265.16(a)&(c)	All personnel training & annual review completed	✓		
14	66265.16(d)	Training records maintained on-site	✓		
15	66262.34(f)(3)	HW containers properly labeled	✓		
16	66262.34	HW accumulation time(s) not exceeded	✓		
17	66265.173(a)	All HW containers closed	✓		
18	66265.171	All HW containers in good condition/not leaking	✓		
19	66265.172	All HW containers compatible with HW	✓		
20	66265.35	Required aisle space for HW containers provided	✓		
21	66265.176	All ignitable/reactive HW properly located	✓		
22	66265.31	Management to prevent HW release	✓		

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

DISTRIBUTION: WHITE-- CUPA CANARY-- Facility

	Law/Regulatory Requirements		Y	N	Comments/Observations
24	66262.34(f)	Tank(s) marked "Hazardous Waste" & accumulation date	✓		
25	66265.193	HW tanks provided with secondary containment	✓		
26	66262.20(a)	Transported HW with properly completed manifest	✓		
27	66262.23(a)(4)	Manifest(s) sent to DTSC	—		
	66262.40(a) & 66263.42(e)	Manifest(s) and/or shipping papers/receipts retained for 3 years	✓		
	Used Oil & Used Oil Filters (Chapter 6.5, California H&SC & Title 22, CCR)				
28	H&SC 25250.7	Used oil not contaminated with other HW	✓		
29	H&SC 25250.5(a)	Used oil removed/disposed of properly	✓		
30	H&SC 25250.8	Copies of used oil receipts retained for 3 years	✓		
31	66266.130	Used oil filters properly managed	—		None
32	66266.130(c)(5)	Bill of lading for used oil filters retained for 3 years	✓		
	Spent Lead Acid Batteries (Title 22, CCR; also Chapter 6.5, California H&SC)				
33	66266.81	Lead acid batteries (including labels) properly managed		/	
34	66266.81(a)(4)(B)	Manifest(s)/bill(s) of lading for spent lead acid batteries		/	
	Spill Prevention Control & Countermeasure Plan (Chapter 6.67, California H&SC)				
35	H&SC 25270.5(c)	SPCC Plan (tank vol. > 660 gals. or cumulative capacity >		/	

SUMMARY OF VIOLATIONS:

# of Class I Violations:	# of Class II Violations:	# of Minor Violations:	# of other violations:

Description:

None Noted

All violations noted above must be corrected by this compliance deadline: _____.

You must provide a self-certificate of compliance for correction of these violations by the compliance deadline. A reinspection may occur at any time on or after the compliance deadline to verify correction of these violations. Failure to correct the violations by the compliance deadline will result in further enforcement action, including, but not limited to, fines and/or suspension or revocation of your Unified Program Facility Permit which could affect your ability to operate your business.

Inspector: A. E. White	Received By (signature):
Phone: 385-7717	Print Name: DEKIOUK

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION DISTRIBUTION: WHITE-- CUPA CANARY-- Facility

City of Oxnard

COMPLAINT INVESTIGATION REPORT

DATE AND TIME RECEIVED: 8/22/98 10:30 A.M. _____ P.M.

COMPLAINANT'S NAME: Kaiser Aluminum **PHONE #:** _____

LOCATION/ ADDRESS: 5980 Arcturus Ave. **ALLEGED RESPONSIBLE PARTY:** Cook Composites

NATURE OF COMPLAINT:
Kaiser Aluminum Loacted at 1001 McWayne Blvd. (down Wind From Cook Composites) Evacuated their facility when a cloud of an unknown came through their facility.

FINDINGS OF INVESTIGATION:
Cook Composites had an Equip. failure which released a material (Phthalic Anhydride) into their Secondary Containment area for this equip. The material was in a Liquid State due to their heating process for this product.

TOTAL INVESTIGATION TIME: 2 hrs

☐ See attached sheets for additional findings.

SOURCE:

☐ Commercial ☐ Construction ☑ Industrial ☐ Residential ☐ Unknown

TYPE OF MATERIAL:

☑ Hazardous ☐ Domestic wastewater ☐ Industrial wastewater ☐ Other (specify) _____

ACTION TAKEN:

☐ None (no violation noted) ☐ Warning Notice ☐ Administrative Action ☐ Education Material Provided
☐ Verbal Warning ☐ Notice of Violation ☑ Investigation File Opened ☐ Referred to:

☑ **FOLLOW-UP REQUIRED**

Elkinton
INVESTIGATOR

a:\cupaforms\complaintform

MATERIAL SAFETY DATA SHEET

07A-0001

EXXON CHEMICAL

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

PHTHALIC ANHYDRIDE

DATE PREPARED: DEC 9, 1993
MSDS NO.: 91495000

SECTION 1 PRODUCT IDENTIFICATION & EMERGENCY INFORMATION

PRODUCT NAME: Phthalic Anhydride

CHEMICAL NAME:
1,3 Isobenzofurandione

CAS 85-44-9

CHEMICAL FAMILY:
Acid Anhydride

PRODUCT DESCRIPTION:
White free flowing flakes as solid. Co[illegible]rless when liquid.

AUG 1994
RECEIVED
HazCom DEPT
KC-EARS

EMERGENCY TELEPHONE NUMBERS:

EXXON CHEMICAL AMERICAS	800-726-2015
CHEMTREC	800-424-9300

SECTION 2 HAZARDOUS INGREDIENT INFORMATION

This product is hazardous as defined in 29 CFR1910.1200.

OSHA HAZARD
Corrosive if ingested
Eye corrosive
OSHA PEL; ACGIH TLV
May cause lung damage
Skin Irritant

For additional information see Section 3.

SECTION 3 HEALTH INFORMATION & PROTECTION

NATURE OF HAZARD

EYE CONTACT:
Corrosive. Will cause eye burns and permanent tissue damage.

SKIN CONTACT:
Severely irritating; may cause permanent skin damage.
Low order of toxicity.
Exposure to hot material may cause thermal burns.
May cause skin sensitization, an allergic reaction which becomes evident on reexposure to this material.

INHALATION:
Irritating to eyes and respiratory tract.
May cause blood and hemopoetic system disorder (e.g. cyanosis) and/or damage.
May cause breathing disorders and/or lung damage.

INGESTION:
Corrosive to mouth, esophagus and stomach.
Low order of toxicity.

FIRST AID

EYE CONTACT:
Immediately flush eyes with large amounts of water for at least 15 minutes. Get prompt medical attention.

07A-0001

SKIN CONTACT:
Immediately flush with large amounts of water; use soap if available. Remove contaminated clothing, including snoes, after flushing has begun. Get prompt medical attention.
If irritation persists, seek medical attention.

INHALATION:
Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

INGESTION:
DO NOT induce vomiting. If individual is conscious, give milk or water to dilute stomach contents. Keep warm and quiet. Get prompt medical attention. DO NOT attempt to give anything by mouth to an unconscious person.

WORKPLACE EXPOSURE LIMITS

OSHA REGULATION 29CFR1910.1000 REQUIRES THE FOLLOWING PERMISSIBLE EXPOSURE LIMITS:
A TWA of 1 ppm (6 mg/m3) for Phthalic Anhydride.

The recommended permissible exposure levels indicated above reflect the levels revised by OSHA in 1989 or in subsequent regulatory activity. Although the 1989 levels have since been vacated by the 11th Circuit Court of Appeals, Exxon Chemical recommends that the lower exposure levels be observed as reasonable worker protection.

THE ACGIH RECOMMENDS THE FOLLOWING THRESHOLD LIMIT VALUES:
A TWA of 1 ppm (6.1 mg/m3) for Phthalic Anhydride.

PRECAUTIONS

PERSONAL PROTECTION:
For open systems where contact is likely, wear chemically resistant gloves and jacket, chemical goggles and a face shield.
Where contact may occur, wear long sleeves, chemical resistant gloves, chemical goggles, and a face shield.
Where contact may occur with hot materials, wear thermal resistant gloves, arm protection and a face shield.
Where concentrations in air may exceed the limits given in this Section and engineering, work practice or other means of exposure reduction are not adequate, NIOSH/MSHA approved respirators may be necessary to prevent overexposure by inhalation.

VENTILATION:
Local exhaust ventilation of process equipment may be needed to control particulate exposures to below the recommended exposure limit. See personal protection recommendations.

SECTION 4 FIRE & EXPLOSION HAZARD

FLASHPOINT: 306 Deg F. METHOD: PMCC NOTE: COC: 165 C (329 F)
FLAMMABLE LIMITS: LEL: 1.7 UEL: 10.5 NOTE: Dust LEL .015 oz/ft3
AUTOIGNITION TEMPERATURE: 1,074 Deg F.

EXXON CHEMICAL

MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

GENERAL HAZARD:

Solid material, may burn at or above the flashpoint, and airborne dust may explode if ignited .
If thermally decomposed, flammable/toxic gases may be released.
Static Discharge, material can accumulate static charges which can cause an incendiary electrical discharge .

FIRE FIGHTING:

Use water spray to cool fire exposed surfaces and to protect personnel.
Isolate "fuel" supply to fire.
Extinguish the fire by cooling with water spray.
Respiratory and eye protection required for fire fighting personnel.
Avoid spraying water directly into storage containers due to danger of boilover.

HAZARDOUS COMBUSTION PRODUCTS:

No unusual

SECTION 5 SPILL CONTROL PROCEDURE

LAND SPILL:

Eliminate sources of ignition. Prevent additional discharge of material, if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (see Section 7) notify the National Response Center.
Recover spilled material and place in suitable containers for recycle or disposal.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

WATER SPILL:

Eliminate sources of ignition. Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear.
Material will sink. No immediate action required - consult an expert.
Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.

SECTION 6 NOTES

NOTES:

1. Product may be shipped and stored in either solid flake or molten form Temperature ranges quoted refer to molten state.

2. Air pressure should not be used for unloading cars and steam jacketed lines are desireable.

HAZARD RATING SYSTEMS:

This information is for people trained in:
National Paint & Coatings Association's (NPCA)
Hazardous Materials Identification System (HMIS)
National Fire Protection Association (NFPA 704)
Identification of the Fire Hazards of Materials

	NPCA-HMIS	NFPA 704
HEALTH	3	2
FLAMMABILITY	1	1
REACTIVITY	0	0

KEY
4 = Severe
3 = Serious
2 = Moderate
1 = Slight
0 = Minimal

SECTION 7 REGULATORY INFORMATION

DEPARTMENT OF TRANSPORTATION (DOT):

DOT SHIPPING DESCRIPTION:
FLAMMABLE LIQUID, ELEVATED TEMPERATURE MATERIAL, N.O.S.,
(PHTHALIC ANHYDRIDE), 3, NA 9276, III

FLASHPOINT: 306 Deg F. METHOD: PMCC NOTE: COC: 165 C (329 F)

TSCA:

This product is listed on the TSCA Inventory at CAS Registry Number 85-44-9

CERCLA:

If the reportable quantity of this product is accidentally spilled, the incident is subject to the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and must be reported to the National Response Center by calling 800-424-8802.
The reportable spill quantity of this product is 5,000 pounds.
This product contains:
Phthalic anhydride.

SARA TITLE III:

Under the provisions of Title III, Sections 311/312 of the Superfund Amendments and Reauthorization Act, this product is classified into the following hazard categories:
Immediate health, Delayed Health.
This information may be subject to the provisions of the Community Right-to-Know Reporting Requirements (40 CFR 370) if threshold quantity criteria are met.
This product contains the following Section 313 Reportable Ingredients:

COMPONENT	CAS NO.	MAXIMUM %
Phthalic anhydride	85-44-9	100.0

MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

PHTHALIC ANHYDRIDE

DATE PREPARED: DEC. 9, 1993
MSDS NO.: 91495000

SECTION 8 TYPICAL PHYSICAL & CHEMICAL PROPERTIES

SPECIFIC GRAVITY:
1.53 at 39

SOLUBILITY IN WATER, WT. % AT °F:
0.60 at 77

SP. GRAV. OF VAPOR, at 1 atm (Air=1):
5.10

EVAPORATION RATE, n-Bu Acetate=1:
Less Than 0.1

VAPOR PRESSURE, mmHg at °F:
19 at 302

VISCOSITY OF LIQUID, CST AT °F:
Not Available

FREEZING/MELTING POINT, °F:
268

BOILING POINT, °F:
545

SECTION 9 REACTIVITY DATA

STABILITY:
Stable

CONDITIONS TO AVOID INSTABILITY:
Moisture causes hydrolysis to phthalic acid which is corrosive to mild steels.

HAZARDOUS POLYMERIZATION:
Will not occur

MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY:
Strong oxidizing agents. Moisture (forms phthalic acid which is corrosive to iron and mild steel).

HAZARDOUS DECOMPOSITION PRODUCTS:
Phthalic acid produced in the presence of moisture.

SECTION 10 STORAGE AND HANDLING

ELECTROSTATIC ACCUMULATION HAZARD:
Yes, use proper grounding procedure

STORAGE TEMPERATURE, °F:
302

STORAGE/TRANSPORT PRESSURE, mmHg:
Atmospheric See Notes

LOADING/UNLOADING TEMPERATURE, °F:
302

VISC. AT LOADING/UNLOADING TEMP., cST:
Not available

REVISION SUMMARY:
Since SEPTEMBER 13, 1993 this MSDS has been revised in Section(s):
7

REFERENCE NUMBER:	DATE PREPARED:	SUPERSEDES ISSUE DATE:
HDHA-F-00026	December 9, 1993	September 13, 1993

FOR ADDITIONAL PRODUCT INFORMATION, CONTACT YOUR TECHNICAL SALES REPRESENTATIVE
FOR ADDITIONAL HEALTH/SAFETY INFORMATION, CALL 713-870-6884

THIS INFORMATION RELATES TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE COMPILED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO ITS ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY AND COMPLETENESS OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE. WE DO NOT ACCEPT LIABILITY FOR ANY LOSS OR DAMAGE THAT MAY OCCUR FROM THE USE OF THIS INFORMATION NOR DO WE OFFER WARRANTY AGAINST PATENT INFRINGEMENT.

I also wish to receive the

Section V — Reactivity D[illegible]

Stability	Unstable		Conditions to Avoid High concentrations of dust or vapor from molten material form
	Stable	X	explosive mixtures with air. Avoid exposure to sparks or open f

Incompatibility (Materials to Avoid)
Hydrolyzed by water. Keep dry. Reacts with alcohols and alkalies.

Hazardous Decomposition or Byproducts
Burning may produce irritating vapors and carbon monoxide.

Hazardous Polymerization	May Occur		Conditions to Avoid Flash point is 304°F. Regulate storage temperature of molten
	Will Not Occur	X	material to not exceed 302°F.

Section VI — Health Hazard Data

Route(s) of Entry: Inhalation? irritation Skin? irritation/thermal burn Ingestion? no systemic effects

Health Hazards (Acute and Chronic)
Dust and vapor cause irritation of eyes, nose and throat. Contact with skin causes irritation, faster if moist, and may cause burns on prolonged exposure. Contact with molten material will cause a severe thermal burn.

Carcinogenicity: NTP? Not known to be a carcinogen. IARC Monographs? OSHA Regulated?

Signs and Symptoms of Exposure Conjunctivitis and keratitis; rhinitis (inflammation of the nose); anosmia (loss of sense of smell); epistaxis (bleeding from the nose); hoarseness; & bronchiti Emphysema and asthma (difficult breathing) after many years' exposure. Anorexia (lack of apperite); weakness; urticaria; skin burn; & anomalous spots of brown pigment on skin.

Medical Conditions
Generally Aggravated by Exposure Preclude from exposure those individuals with dermal and pulmonary diseases and those who become hypersensitive.

Emergency and First Aid Procedures If inhaled, remove to fresh air. In case of contact, wash off ski immediately with soap and water; flush eyes with plenty of water for at least 15 minute For burns, from molten material, get medical attention. If swallowed, induce vomiting with warm salt water. No systemic effects have been recognized.

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled
Provide ventilation and respirator, if needed. Cover with soda ash or sodium bicarbonate. Mix and add water. Neutralize and drain into a sewer with sufficient water.

Waste Disposal Method
Dissolve in a flammable solvent and burn in the furnace with afterburner. Soak in paper or other flammable materials and burn in the furnace with afterburner.

Precautions to Be Taken in Handling and Storing
Wear rubber gloves, protective clothing and face shield. Provide also with body shield and self-contained breathing apparatus.

Other Precautions
Adequate ventilation. Enforce wearing of adequate protective clothing.

Section VIII — Control Measures

Respiratory Protection (Specify Type)
If concentration exceeds TLV use Bureau of Mines approved respirator for dust or acid vapors.

Ventilation	Local Exhaust: Required	Special: Eliminate explosion hazards
	Mechanical (General): Acceptable for small volume transfer	Other: Avoid dust accumulation

Protective Gloves: Rubber or leather gloves	Eye Protection: Safety goggles. Face shield for molten.

Other Protective Clothing or Equipment
Wash contaminated clothing before re-use.

Work/Hygienic Practices
Flush eyes with water. Wash out contaminated areas of body with soap & water. Treat burns in the usual way

TR-103

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

IDENTITY (As Used on Label and List)
PHTHALIC ANHYDRIDE

Section I

Manufacturer's Name: Sintesis Organicas	Emergency Telephone Number: 713/759-0333
Address (Number, Street, City, State, and ZIP Code): Golfo San Jorge No. 58	Telephone Number for Information: 713/759-0333
11320 Mexico, D.F.	Date Prepared: 7/3/86
	Signature of Preparer (optional):

Section II — Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Not applicable				

Section III — Physical/Chemical Characteristics

Boiling Point	Subl. 544°F	Specific Gravity (H_2O = 1)	at 39°/39°F 1.527 at 320°F 1.181
Vapor Pressure (mm Hg.)	at 77°F Negligible at 320°F 20.5 mm	Melting Point	268°F
Vapor Density (AIR = 1)	5.1	Evaporation Rate (Butyl Acetate = 1)	Not Volatile

Solubility in Water: Negligible (0.6% at 77°F)

Appearance and Odor: Solid white, free flowing flakes; slight aromatic odor

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used)	304°F closed cup 329°F open cup	Flammable Limits	LEL 1.7%	UEL 10.4%

Extinguishing Media: Water spray, carbon dioxide or dry chemical.

Special Fire Fighting Procedures: Water spray for large fires or phthalic dust. Steam is effective with molten phthalic in tanks.

Unusual Fire and Explosion Hazards: Vapor from molten phthalic may form explosive mixture with air. Phthalic Anhydride dust may form explosive mixture with air.

OSA-0603.

City of
Oxnard

CERTIFIED MAIL
P 498 717 883

Mr. Jim P. Hallock
Plant Manager
COOK COMPOSITES AND POLYMERS
5980 Arcturus Avenue
Oxnard, CA 93033

Subject: Request for Office Meeting

Dear Mr. Hallock:

In response to your letter dated August 25, 1997, we would
role of the City of Oxnard CUPA Program and release nc
please be prepared to discuss the results of your evaluati
measures you have implemented, if any, to prevent future

Please contact me at (805) 271-2206 to arrange a meeting.

Robert B
CUPA/E

RBM:JZ:js
wp/letters/cook.rom

Sep

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "*Return Receipt Requested*" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

Is your **RETURN ADDRESS** completed on the reverse side?

3. Article Addressed to:
Mr Jim P. Hallock
Cook Composites & Polymers
5980 Arcturus Avenue
Oxnard, CA 93033

4a. Article Number P 498 - 717- 883
4b. Service Type ■ Certified ☐ Registered ☐ Insured ☐ Express Mail ☐ Return Receipt for Merchandise ☐ COD

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery
Consult postmaster for fee.

5. Received By: *(Print Name)*

6. Signature: *(Addressee or Agent)*
X

7. Date of Delivery 8-29-97

8. Addressee's Address *(Only if requested and fee is paid)*

PS Form **3811**, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

CUPA Program
6001 S. Perkins Road • Oxnard, CA 93033 • (805) 488-3517 Fax (805) 488-2036

City of
Oxnard

September 4, 1997

CERTIFIED MAIL
P 498 717 883

Mr. Jim P. Hallock
Plant Manager
COOK COMPOSITES AND POLYMERS
5980 Arcturus Avenue
Oxnard, CA 93033

Subject: Request for Office Meeting

Dear Mr. Hallock:

In response to your letter dated August 25, 1997, we would like to meet with you to discuss the role of the City of Oxnard CUPA Program and release notification requirements. In addition, please be prepared to discuss the results of your evaluation of the thermal oxidizer unit and measures you have implemented, if any, to prevent future releases.

Please contact me at (805) 271-2206 to arrange a meeting.

Robert B. Montgomery, R.E.H.S.
CUPA/Environmental/Safety Manager

RBM:JZ:js
wp/letters/cook.rom

CUPA Program
6001 S. Perkins Road • Oxnard, CA 93033 • (805) 488-3517 Fax (805) 488-2036

RECEIVED
SEP 10 AM 11:15
CITY OF OXNARD
WASTEWATER
City of Oxnard
Wastewater Division
6001 So. Perkins Rd
Oxnard, CA 93033
UNITED STATES POSTAL SERVICE
• Print your name, address, and ZIP Code in the box •

08-27-1997 04:42PM FROM PENNSAUKEN TO 18054882036 P.01

FAX

Date 8-27-97

Number of pages including cover sheet 27

TO: Robert Montgomery
City of Oxnard
CUPA Program

Phone
Fax Phone (805) 488-2036

FROM: COOK COMPOSITES & POLYMERS
~~820 SHERMAN AVE.~~
~~PENNSAUKEN, NJ~~
~~08110~~
MICHAEL GROMACKI
(816) 391-6011

Phone 609-662-0128
Fax Phone 609-488-4668

CC: Jim Hallock CCP-Oxnard

REMARKS: ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please Comment

Attached is the description of the thermal oxidizer incident and a response to your letter dated August 20, 1997. I will be traveling until Friday. A hard copy will follow this fax by mail

Sincerely,
Michael Gromacki

CCP
Cook Composites and Polymers Co.

Environmental Regulatory and Safety
PO Box 419389
Kansas City, MO 64141-6389
816/391-6025

August 25, 1997

Mr. Robert Montgomery
CUPA/Environmental/Safety Manager
City of Oxnard CUPA Program
6001 S. Perkins Road
Oxnard, CA 93033

Dear Mr. Montgomery:

Cook Composites and Polymers Co. (CCP) received an August 20th, 1997 letter regarding the request for an MSDS for the compound Dicyclopentadiene (DCPD) by the City of Oxnard. The request was related to the reported observation of an odor at the Kaiser Aluminum facility. The odor observed may have been associated with CCP plant emissions which resulted from an unexpected shutdown of the thermal oxidizer control equipment.

The City of Oxnard letter asserts that CCP has not complied with federal and state laws regarding providing MSDS information upon request, and has not fulfilled its commitments regarding emergency planning notification specified in the CCP Hazardous Material Business Plan.

CCP is aware of its responsibilities under community-right-to-know and emergency planning regulations, and provides the following comments in response:

MSDS Request

- The MSDS request had originally been directed to the CCP-Oxnard plant, and that request was forwarded by plant management to the CCP Kansas City corporate headquarters. This procedure is followed by CCP to centralize distribution of MSDS information, and to protect trade secrets and confidential formulation information. The MSDS will be provided to CUPA program.

- Because this MSDS information is already on file with the local LEPC (Fire Dept.), and CCP believed that the LEPC was integrated with the CUPA program, CCP believed the MSDS was already available to the CUPA program.

- The MSDS information for DCPD would not be representative of the emission that occurred since DCPD was one of nearly forty compounds present in trace amounts in the aqueous stream.

- Since the water vapor stream is not a raw material or a finished product, a specific MSDS for this in-process stream is not available.

Non-Hazardous Composition of Emission

- DCPD was not "released" as implied in the August 20, 1997 letter. Water vapor produced from a polyester production process was emitted due to the unexpected shutdown of the facility thermal oxidizer.

- The water stream was analyzed by a third party laboratory as well as the CCP internal research laboratory. The third party laboratory analysis did not detect DCPD, and the internal CCP analysis found DCPD only in a trace amount. The laboratory reports are attached.

Notification Responsibilities

- The incident related to the thermal oxidizer shutdown was not a release of a hazardous material, and therefore was not reported under the CCP business plan.

- The emission is viewed by CCP as primarily an aesthetic issue based on the non-hazardous composition of the process emission stream. Notification of local authorities via 911, or the State Office of Emergency Services would not be appropriate.

- CCP notified the Ventura County Air Pollution Control District (VCAPCD) of the shutdown of the thermal oxidizer which typically controls the emission, fulfilling CCP requirements under the facility air permit.

In addition, the following issues should be noted in reference to the thermal oxidizer shutdown and observed odors:

Odor Observation

- The odor observed by the Kaiser facility was attributed to DCPD by the CCP plant manager based on a brief visit to the Kaiser facility and the limited information available at that time.

- Subsequent analysis of the emission stream determined that DCPD was present only in trace amounts.

- DCPD has a very low odor threshold concentration (0.011 ppmv), and will be observed at concentrations well below established health risk exposure thresholds.

Kaiser Facility Evacuation

- The Kaiser facility evacuated their employees and shut-down operations based on the judgment of the Kaiser plant management.
- Facts related to the incident indicate there was no risk to Kaiser employees associated with the emission.
- CCP did not find it necessary to evacuate the CCP plant. CCP demonstrated a proactive and cooperative effort to communicate with Kaiser regarding this incident.

Summary

Since CCP desires to work constructively with the City of Oxnard on this and other issues, an additional copy of the MSDS for DCPD is attached. We hope that the CUPA Program will find this information to be satisfactory and useful. Please reference it with the understanding of the issues described in this letter.

CCP would appreciate information on the specific role the City of Oxnard CUPA Program will have in emergency planning and other pertinent environmental issues regarding the CCP - Oxnard facility. A better understanding of your organization and key contacts will lead to more efficient communication from CCP.

If you have any questions or comments, please call Craig Bostwick at (816) 391-6025.

Sincerely,

Cook Composites and Polymers Co.

Michael Gromacki
Environmental Engineer

Craig R. Bostwick
Director - Environmental Regulatory and Safety

cc:
Mr. Richard Hayes - Kaiser Aluminum
Jim Hallock - CCP (Oxnard)

10A0038

DOW

Material Safety Data Sheet

The Dow Chemical Company
Midland, Michigan 48674
Emergency 517-636-4400

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

24-Hour Emergency Phone Number: 517-636-4400

Product DICYCLOPENTADIENE

Product Code: 21060

Effective Date: 06/03/96 Date Printed: 06/20/96 MSD: 001058

The Dow Chemical Company, Midland MI 48674

Customer Information Center: 800-258-2436

2. COMPOSITION/INFORMATION ON INGREDIENTS

Dicyclopentadiene	CAS# 000077-73-6	75-85%
Codimers including:		15-25%
Butadiene/cyclopentadiene codimer	RNO	
Isoprene/cyclopentadiene codimer		
Methyl cyclopentadiene dimer		1-3%
Lights (C6 and lighter hydrocarbons)	CAS# 000071-43-2	0.0-0.09%
Benzene	CAS# 000098-29-3	80-130 ppm
Inhibitor (P-Tert-Butyl Catechol)		

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

****
* Color: White. Appearance: Liquid. Odor: Camphor-like. Harmful *
* if inhaled. Flammable liquid and vapor. Vapors are heavier than *
* air and may travel a long distance and accumulate in low lying *
* areas. Ignition and/or flash back may occur. *
****

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause slight transient (temporary) eye irritation.

SKIN: Prolonged or repeated exposure may cause skin irritation, even a burn. A single prolonged exposure is not likely to

(Continued on page 2)
(R) Indicates a Trademark of The Dow Chemical Company

Printed on Recycled and Recyclable Paper

Product DICYCLOPENTADIENE
Product Code: 21060

Effective Date: 06/03/96 Data Printed: 06/20/96 MSD: 001058

result in the material being absorbed through skin in harmful amounts.

INGESTION: If aspirated (liquid enters the lung), may be rapidly absorbed through the lungs and result in injury to other body systems. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing amounts larger than that may cause serious injury, even death.

INHALATION: Excessive vapor concentrations are attainable and a single exposure may cause death. Signs and symptoms of excessive exposure may be anesthetic or narcotic effects.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Excessive exposure may cause lung, central nervous system, liver and kidney effects.

CANCER INFORMATION: This mixture contains a component which is listed as a carcinogen for hazard communication purposes under OSHA Standard 29 CFR Part 1910.1200. The component(s) is/are benzene, which is listed by NTP and IARC.

TERATOLOGY (BIRTH DEFECTS): Birth defects are unlikely. Dicyclopentadiene exposures having no adverse effects on the mother should have no effect on the fetus.

REPRODUCTIVE EFFECTS: In animal studies, dicyclopentadiene has been shown not to interfere with reproduction.

4. FIRST AID

EYE: Flush eyes with plenty of water.

SKIN: Wash off in flowing water or shower.

INGESTION: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be adminstered by qualifed personnel. Call a physician or transport to a medical facility.

(Continued on page 3)
(R) Indicates a Trademark of The Dow Chemical Company

Product: DICYCLOPENTADIENE
Product Code: 21060

Effective Date: 06/03/96 Date Printed: 06/20/96 MSD: 001058

NOTE TO PHYSICIAN: Because rapid absorption may occur through lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES
FLASH POINT: 40F, 4C (approx)
METHOD USED: TCC
AUTOIGNITION TEMPERATURE: Not determined

FLAMMABILITY LIMITS
LFL: 1% approximate
UFL: 7% approximate

HAZARDOUS COMBUSTION PRODUCTS: During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to: carbon monoxide, carbon dioxide.

OTHER FLAMMABILITY INFORMATION: Container may rupture from polymerization. Violent steam generation or eruption may occur upon application of direct water stream. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Flammable mixtures may exist within the vapor space of containers at room temperature. Flammable concentration of vapor can accumulate at temperatures above 40.0 deg. F. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

EXTINGUISHING MEDIA: Water fog or fine spray, carbon dioxide, dry chemical, foam. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams

(Continued on page 4)
(R) Indicates a Trademark of The Dow Chemical Company

(including AFFF) or protein foams may function, but much less effectively. Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire.

MEDIA TO BE AVOIDED: Do not use direct water stream.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. Fight fire from protected location or safe distance. Consider use of unmanned hose holder or monitor nozzles. Contain fire water run-off if possible. Fire water run-off, if not contained may cause environmental damage. Review the "Protect the Environment" section under "Accidental Release Measures" of this MSDS to determine if material should be allowed to burn out or be extinguished. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Burning liquids may be extinguished by dilution with water. Use spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Avoid accumulation of water. Product may be carried across water surface spreading fire or contacting an ignition source. Eliminate ignition sources. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Do not use direct water stream. May spread fire. Water may not be effective in extinguishing fire. Move container from fire area if this is possible without hazard.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

PROTECT PEOPLE: See MSDS Section 10 for information on stability and reactivity. Keep unnecessary people away. In case of large spills, warn public of downwind explosion hazard. Remove all possible ignition sources; like cigarettes, flames, pilot lights, electrical sources, etc.

(Continued on page 5)
(R) Indicates a Trademark of The Dow Chemical Company

Product DICYCLOPENTADIENE
Product Code: 21060

Effective Date: 06/03/96 Date Printed: 06/20/96 MSD: 001058

PROTECT THE ENVIRONMENT: Material has limited solubility in water and will float on the surface. To minimize risk of fire or explosion, eliminate ignition sources. Vapor explosion hazard indoors, outdoors or in sewers. Pump up with appropriate explosion proof equipment or soak up with sand or other absorbent. Application of vapor suppressing foams may be appropriate. Remove all possible ignition sources, like cigarettes, flames, pilot lights, electrical sources, etc. In case of large spills, warn public of downwind explosion hazard. Check area with approved explosion meter before re-entering area. Ground and bond all containers and handling equipment.

CLEANUP: Pump up (with appropriate explosion proof equipment) or soak up with sand or other absorbent. Application of vapor suppression foams may be appropriate. Check area with approved explosion meter before re-entering area. Ground and bond all containers and handling equipment. Under some conditions of use, application of clay or cellulose based absorbents on spills of this material may result in the generation of flammable vapours since there is a heat of absorption and a high surface area. If temperature is above flash point, cover with vapor suppression foam until it can be cleaned up. Product has limited solubility in water and will float on the surface.

7. HANDLING AND STORAGE

HANDLING: Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. No smoking, open flames or sources of ignition in handling and storage area. Never use air pressure for transferring product. Electrically ground all equipment.

STORAGE: See Reactivity & Stability, Section 10, of the MSDS. Vapors may polymerize to cause plugs in vents. Maintain inhibitor level. Use of non-sparking or explosion proof equipment may be necessary, depending upon the type of operation. Minimize sources of ignition, such as static buildup, heat, spark or flame. Keep containers tightly closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

(Continued on page 6)
(R) Indicates a Trademark of The Dow Chemical Company

Product: DICYCLOPENTADIENE
Product Code: 21060

Effective Date: 06/03/96 Date Printed: 06/20/96 MSD: 001058

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Lethal concentrations may exist in areas with poor ventilation.

PERSONAL PROTECTIVE EQUIPMENT
EYE/FACE PROTECTION: Use safety glasses.

SKIN PROTECTION: When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material. Selection of specific items such as faceshield, gloves, boots, apron or full-body suit will depend on operation.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved positive-pressure supplied-air respirator.
For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved positive-pressure supplied-air respirator.

EXPOSURE GUIDELINE(S): PELs are in accord with those recommended by OSHA, as in the 1989 revision of PELs.
Dicyclopentadiene: OSHA PEL and ACGIH TLV are 5 ppm.
Benzene: OSHA PEL is 1 ppm TWA and 5 ppm STEL; Dow IHG is 10 ppm, Ceiling; ACGIH TLV is 10 ppm TWA, A2.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE: Water white liquid.
ODOR: Camphor-like.
VAPOR PRESSURE: 36.5 mmHg @ 20C
VAPOR DENSITY: 4.6
BOILING POINT: 338F, 170C
SOLUBILITY IN WATER/MISCIBILITY: <.01%
SPECIFIC GRAVITY OR DENSITY: 0.9640

10. STABILITY AND REACTIVITY

(Continued on page 7)
(R) Indicates a Trademark of The Dow Chemical Company

Product: DICYCLOPENTADIENE
Product Code: 21060

Effective Date: 06/03/96 Date Printed: 06/20/96 MSD: 001058

CHEMICAL STABILITY: Stable under recommended storage conditions. See storage section.

CONDITIONS TO AVOID: Avoid temperatures above 302F, 150C. Generation of gas can cause pressure in closed systems. Pressure build-up can be rapid. See Hazardous Polymerization section. Active ingredient decomposes at elevated temperatures. Product can decompose at elevated temperatures. Avoid static discharge.

INCOMPATIBILITY WITH OTHER MATERIALS: See Hazardous Polymerization Section. Avoid contact with absorbent materials such as clay base absorbents, sawdust. Avoid contact with oxidizing materials. Avoid contact with acids, aluminum trichloride, polymerization catalysts.

HAZARDOUS DECOMPOSITION PRODUCTS: Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. A mole of dicyclopentadiene can decompose into two moles of cyclopentadiene creating a rapid increase in pressure.

HAZARDOUS POLYMERIZATION: Can occur. Elevated temperatures can cause hazardous polymerization. Polymerization can be catalyzed by aluminum trichlorides, boron. Monomer vapors can polymerize and plug relief devices. Maintain inhibitor level.

11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

SKIN: The LD50 for skin absorption in rabbits is 4,371-6,586 mg/kg.

INGESTION: Single dose oral toxicity is low. The oral LD50 for rats is 380-1000 mg/kg.

INHALATION: The LC50 for rats was 360-385 for a four hour exposure.

(Continued on page 8)
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Product DICYCLOPENTADIENE
Product Code: 21060

Effective Date: 06/03/96 Date Printed: 06/20/96 MSD: 001058

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL): Results of dicyclopentadiene in-vitro ("test tube") mutagenicity tests have been negative.

12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Bioconcentration potential is low (BCF less than 100 or Log Kow less than 3). Log soil organic carbon partition coefficient (log Koc) is estimated to be 3.488. Log octanol/water partition coefficient (log Kow) is estimated using the Pomona-MedChem structural fragment method to be 2.894. Potential for mobility in soil is slight (Koc between 2000 and 5000). Bioconcentration factor (BCF) is 53 in bluegill. Henry's Law Constant (H) is 4.36E-04 atm.m3/mole.

DEGRADATION & PERSISTENCE: Biodegradation under aerobic static laboratory conditions is below detectable limits (i.e. BOD less than 2.5% of theoretical) in 20 days. Theoretical oxygen demand (ThOD) is calculated to be 3.15 g/g. Degradation is expected in the atmospheric environment within days to weeks.

ECOTOXICITY: Material is slightly toxic to aquatic organisms on an acute basis (LC50 between 10 and 100 mg/L in most sensitive species). Acute LC50 for water flea (Daphnia magna) is 11 mg/L. Acute LC50 for fathead minnow (Pimephales promelas) is 12-100 mg/L. Acute LC50 for rainbow trout (Oncorhynchus mykiss) is 16 mg/L. Acute LC50 for channel catfish (Ictalurus punctatus) is 16 mg/L. Acute LC50 for scud Gammarus fasciatus is 21 mg/L. Acute LC50 for Japanese medaka or rice fish (Oryzias latipes) is 25 mg/L. Acute LC50 for bluegill (Lepomis macrochirus) is 223 mg/L. Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg). Acute oral LD50 for bobwhite (Colinus virginianus) is 1010 mg/kg. Acute LD50 for mallard (Anas platyrhynchos) is greater than 40000 mg/kg. Material is practically non-toxic to birds on a dietary basis (LC50 greater than 5000 ppm). Dietary LC50 for birds is greater than 10000 ppm. Growth inhibition EC50 for blue-green alga Anabaena flos-aquae is 22 mg/L. Algal growth inhibition

(Continued on page 9)
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Product DICYCLOPENTADIENE
Product Code: 21060

Effective Date: 06/03/96 Date Printed: 06/20/96 MSD: 001058

EC50 is 31 in Microcystis aeruginosa. Growth Inhibition EC50 for green alga Selenastrum capricornutum is > 100 mg/L. Growth inhibition EC50 for diatom Navicula sp. is 53 mg/L.

13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. THE DOW CHEMICAL COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device.

As a service to its customers, Dow can provide lists of companies which recycle, reprocess or manage chemicals or plastics, and companies that manage used drums. Telephone Dow's Customer Information Center at 800-258-2436 or 517-832-1556 for further details.

14. TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (D.O.T.):

For DOT regulatory information, if required, consult transportation regulations, product shipping papers or contact your Dow representative.

15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another;

(Continued on page 10)
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MATERIAL SAFETY DATA SHEET

Product DICYCLOPENTADIENE
Product Code: 21060

Effective Date: 06/03/96 Date Printed: 06/20/96 MSD: 001058

It is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
DICYCLOPENTADIENE	000077-73-6	75 -85 %

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard
A fire hazard

CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986:

WARNING:
This product contains a chemical(s) known to the State of California to cause cancer.

(Continued on page 11)
(R) Indicates a Trademark of The Dow Chemical Company

Product: DICYCLOPENTADIENE
Product Code: 21060

Effective Date: 06/03/96 Date Printed: 06/20/96 MSDS: 001058

REGULATORY INFORMATION (CONTINUED)

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
BENZENE	000071-43-2	PA2
DICYCLOPENTADIENE	000077-73-6	NJ1 PA1 NJ3

NJ1=New Jersey Special Health Hazard Substance (present at greater than or equal to 0.1%).
NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).
PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).
PA2=Pennsylvania Special Hazardous Substance (present at greater than or equal to 0.01%).

OSHA HAZARD COMMUNICATION STANDARD:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND):

This product contains the following substance(s) listed as "Hazardous

(Continued on page 12)
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Product: DICYCLOPENTADIENE
Product Code: 21060

Effective Date: 06/03/96 Date Printed: 06/20/96 MSD: 001058

REGULATORY INFORMATION (CONTINUED)

Substances" under CERCLA which may require reporting of releases:

Category: Chemical Name	CAS#	RQ	% in Product
Benzene	000071-43-2	10 lbs	.09

16. OTHER INFORMATION

HAZARD RATING SYSTEMS:
NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS

Category	Rating
Health	1
Flammability	3
Reactivity	1

MSDS STATUS: Revised 3, 5, 6, 7, 8, 13 & Regulations.

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The Information Herein Is Given In Good Faith, But No Warranty,
Express Or Implied, Is Made. Consult The Dow Chemical Company
For Further Information.

Quanterra Incorporated
1721 South Grand Avenue
Santa Ana, California 92705

714 258-8610 Telephone
714 258-0921 Fax

July 27, 1997

COOK COMPOSITES AND POLYMERS
5980 ARTUROS AVE.
OXNARD, CA 93033
ATTN: MR. JIM HALLOCK

LIMS NO.: 126989-0001/0001
DATE SAMPLED: 18-JUL-1997
DATE SAMPLE REC'D: 19-JUL-1997
PROJECT: DISTILLATE WATER

Enclosed with this letter is the report containing the analytical results for the project specified above.

The Narrative section included in the following attachment provides a detailed description of all events that occurred during sample processing, analysis, and data review as applicable to the samples and analytical methods requested.

Report data sheets contain a list of the requested constituents measured in each test, the analytical results, and the standard reporting limits (RLs). Reporting limits are adjusted to reflect any dilution, when applicable. Also provided in this report are the LIMS Report Key and the terms and abbreviations commonly used in our reports.

Preliminary data were provided via fax to Jim Hallock on July 21, 1997 at 11:36.

The report shall not be reproduced except in full, without the written approval of the laboratory.

If you have any questions regarding the data provided in this report, please call Keith Aleckson at (714) 258-8610. Release of this report has been authorized by the Lab Director or the designee as demonstrated by the following signature.

Sincerely,

Keith A. Aleckson
Project Manager

cc: Project File

Quanterra Environmental Services - Santa Ana

Quanterra Environmental Services

LIMS REPORT KEY

Section	Description
Cover letter	Signature page, report narrative as applicable.
Sample Description Information	Tabulated cross-reference between the Lab ID and Client ID, including matrix, date and time sampled and the date received for all samples in the project.
Sample Analysis Results Sheets	Lists sample results, test components, reporting limits, dates prepared and analyzed and any data qualifiers. Pages are organized by test.
QC Lot Assignment Report	Cross-reference between lab IDs and applicable QC batches (DCS, LCS, SCS, Blank, MS/SD, DU)
Duplicate Control Sample Report	Percent recovery and RPD results, with acceptance limits, for the laboratory Duplicate Control Samples for each test are tabulated in this report. These are measures of accuracy and precision for each test.
Laboratory Control Sample Report	Percent recovery results for a single Laboratory Control Sample (if applicable) are tabulated in this report, with the applicable acceptance limits for each test.
Matrix Spike/Matrix Spike Duplicate Report	Percent recovery and RPD results for matrix-specific QC samples and acceptance limits, where applicable. This report can be used to assess matrix effects on an analysis.
Single Control Sample Report	A tabulation of the surrogate recoveries for the blank for organic analyses.
Method Blank Report	A summary of the results of the analysis of the method blank for each test.

List of Abbreviations and Terms

DCS	Duplicate Control Sample	MSD	Matrix Spike Duplicate
DU	Sample Duplicate	QC Run	Preparation batch
EB	Equipment Blank	QC Category	LIMS QC Category
FB	Field Blank	QC Lot	DCS batch
FD	Field Duplicate	ND	Not Detected at the reporting limit expressed
IDL	Instrument Detection Limit	QC Matrix	Matrix of the laboratory control sample (s)
LCS	Laboratory Control Sample	RL	Reporting Limit
MB	Method Blank	QC	Quality Control
MDL	Method Detection Limit	SA	Sample
MS	Matrix Spike	SD	See MSD
RPD	Relative Percent Difference	TB	Trip Blank
ppm (parts-per-million)	mg/L or mg/kg	ppb (parts-per-billion)	µg/L or µg/kg
QUAL	Qualifier flag	DIL	Dilution Factor

Refer to the Quanterra Incorporated Quality Assurance Management Plan for detailed explanations of terms summarized above.

Quanterra Environmental Services

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A. LIMS Datasheets
B. QC Summaries

Quanterra Environmental Services - Santa Ana

Quanterra Environmental Services

CASE NARRATIVE

LIMS # 126989

I. CONDITION UPON RECEIPT

The sample containers were received intact and at ambient temperature. All VOA vials were received with no headspace. Sample container labels agreed with the COC as to sample ID, collection date/time, requested tests and/or preservatives.

Samples were received in time to meet the method holding time specifications.

II. ORGANIC ANALYSES (SW8260A + Dicyclopentadiene)

All applicable internal quality control analyses including calibrations and calibration verifications, calibration (instrument) and method blanks, laboratory control samples (LCS), matrix spikes (MS) and matrix spike duplicates (MSD), and other instrument QC met method- and/or project-specified acceptance criteria. There are no anomalies associated with this report.

After fax transmittal of the results, the client requested a reporting limit for dicyclopentadiene and a verification of the detected value for styrene. We have not performed a detection limit study for dicyclopentadiene, but a reporting limit of approximately 1200 ug/L could be used for estimation purposes. A copy of the sample chromatogram and a copy of the mass spectra confirming the detected result for styrene are provided for information purposes.

Chain of Custody Record

QUA-4184-1

Quanterra Environmental Services

Client: Cook Composites & Polymers	Project Manager: Jim Hallock	Date: 7/18/97	Chain of Custody Number: 61847
Address: 5980 Arcturus Ave	Telephone Number (Area Code)/Fax Number: 805.986.3635 / 805.986.4645	Lab Number:	Page 1 of 1
City: Oxnard; State: CA; Zip Code: 93033	Site Contact: Jim Hallock; Lab Contact: Keith Aleckson		
Project Name: Distillate Water	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: $500.00 FOR 1 DAY RUSH			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Aqueous	Matrix: Sed.	Matrix: Soil	Containers & Preservatives	Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt
Reaction Water	7/18/97	11:30 AM	X				X	RUSH PER DATE BY 1200 MON

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

	Date	Time		Date	Time
1. Received By	7/18/97	3:25 Pm	1. Received By	7/19/97	1100
2. Received By			2. Received By		
3. Received By			3. Received By		

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

1997 04:52PM PENNSAUKEN TO 18054882036 P.21

SAMPLE DESCRIPTION INFORMATION
for
Cook Composites and Polymers

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
126989-0001-SA	REACTION WATER	WATER	18 JUL 97	11:30	19 JUL 97

Volatile Organic Compounds
Method SW8260A

Client Name: Cook Composites and Polymers
Client ID: REACTION WATER
LAB ID: 126989-0001-SA
Matrix: WATER
Authorized: 19 JUL 97
Instrument: GC/MS-MS

Sampled: 18 JUL 97
Prepared: 19 JUL 97
Dilution: 250

Received: 19 JUL 97
Analyzed: 19 JUL 97

Parameter	Result	Qualifier	RL	Units
Benzene	ND		250	ug/L
Bromobenzene	ND		250	ug/L
Bromochloromethane	ND		250	ug/L
Bromodichloromethane	ND		250	ug/L
Bromoform	ND		250	ug/L
Bromomethane	ND		500	ug/L
n-Butylbenzene	ND		250	ug/L
sec-Butylbenzene	ND		250	ug/L
tert-Butylbenzene	ND		250	ug/L
Carbon tetrachloride	ND		250	ug/L
Chlorobenzene	ND		250	ug/L
Chloroethane	ND		500	ug/L
Chloroform	ND		250	ug/L
Chloromethane	ND		500	ug/L
2-Chlorotoluene	ND		250	ug/L
4-Chlorotoluene	ND		250	ug/L
Dibromochloromethane	ND		250	ug/L
1,2-Dibromo-3-chloro-propane (DBCP)	ND		500	ug/L
1,2-Dibromoethane (EDB)	ND		250	ug/L
Dibromomethane	ND		250	ug/L
1,2-Dichlorobenzene	ND		250	ug/L
1,3-Dichlorobenzene	ND		250	ug/L
1,4-Dichlorobenzene	ND		250	ug/L
Dichlorodifluoromethane	ND		500	ug/L
1,1-Dichloroethane	ND		250	ug/L
1,2-Dichloroethane	ND		250	ug/L
1,1-Dichloroethene	ND		250	ug/L
cis-1,2-Dichloroethene	ND		120	ug/L
trans-1,2-Dichloroethene	ND		120	ug/L
1,2-Dichloropropane	ND		250	ug/L
1,3-Dichloropropane	ND		250	ug/L
2,2-Dichloropropane	ND		250	ug/L
1,1-Dichloropropene	ND		250	ug/L
cis-1,3-Dichloropropene	ND		250	ug/L
trans-1,3-Dichloropropene	ND		250	ug/L
Ethylbenzene	930		250	ug/L
Hexachlorobutadiene	ND		250	ug/L
Isopropylbenzene	ND		250	ug/L
Isopropyltoluene	ND		250	ug/L
Methylene chloride	ND		1200	ug/L
Naphthalene	ND		250	ug/L
n-Propylbenzene	ND		250	ug/L
Styrene	1800		250	ug/L
1,1,1,2-Tetrachloroethane	ND		250	ug/L

ND = Not Detected

Volatile Organic Compounds
Method SW8260A
(cont.)

Client Name: Cook Composites and Polymers
Client ID: REACTION WATER
LAB ID: 126989-0001-SA
Matrix: WATER
Authorized: 19 JUL 97
Instrument: GC/MS-MG

Sampled: 18 JUL 97
Prepared: 19 JUL 97
Dilution: 250

Received: 19 JUL 97
Analyzed: 19 JUL 97

Parameter	Result	Qualifier	RL	Units
1,1,2,2-Tetrachloroethane	ND		250	ug/L
Tetrachloroethene	ND		250	ug/L
Toluene	ND		250	ug/L
1,2,3-Trichlorobenzene	ND		250	ug/L
1,2,4-Trichlorobenzene	ND		250	ug/L
1,1,1-Trichloroethane	ND		250	ug/L
1,1,2-Trichloroethane	ND		250	ug/L
Trichloroethene	ND		250	ug/L
Trichlorofluoromethane	ND		500	ug/L
1,2,3-Trichloropropane	ND		250	ug/L
1,2,4-Trimethylbenzene	ND		250	ug/L
1,3,5-Trimethylbenzene	ND		250	ug/L
Vinyl chloride	ND		500	ug/L
m- & p-Xylenes	3500		120	ug/L
o-Xylene	1200		120	ug/L
Dicyclopentadiene	ND			ug/L

Surrogate	Recovery		Acceptable Range
1,2-Dichloroethane-d4	96	%	80 - 120
Toluene-d8	101	%	80 - 120
Bromofluorobenzene	100	%	80 - 120

ND = Not Detected

QC LOT ASSIGNMENT REPORT - MS QC
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK/LCS)	MS QC Run Number (SA,MS,SD,DU)
126989-0001-SA	AQUEOUS	Q8260-A		19 JUL 97-AGX	22 JUL 97-AG

LABORATORY CONTROL SAMPLE REPORT
Volatile Organics by GC/MS
Project: 126989

Category: Q8260-A Method SW8260A - Volatile Organics
Matrix: AQUEOUS Date Analyzed: 19 JUL 97
QC Run: 19 JUL 97-AGX
Concentration Units: ug/L

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) LCS	Accuracy(%) Limits
1,1-Dichloroethene	10.0	10.3	103	70-120
Trichloroethene	10.0	10.4	104	80-120
Benzene	10.0	10.1	101	80-120
Toluene	10.0	10.4	104	80-120
Chlorobenzene	10.0	10.8	108	80-120

Surrogates	Concentration Spiked	Concentration Measured	Accuracy(%) LCS	Accuracy(%) Limits
1,2-Dichloroethane-d4	10.0	10.7	107	80-120
Bromofluorobenzene	10.0	10.2	102	80-120
Toluene-d8	10.0	10.2	102	80-120

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC REPORT
Volatile Organics by GC/MS
Project: 126989

Category: Q8260-A Method SW8260A - Volatile Organics
Matrix: AQUEOUS
Sample: 126825-0002
MS Run: 22 JUL 97-AG
Units: ug/L

Analyte	Sample Result	Concentration MS Result	Concentration MSD Result	Amount Spiked MS/MSD	%Recovery MS	%Recovery MSD	%RPD	Acceptance Limit Recov.	Acceptance Limit RPD
1,1-Dichloroethene	ND	45.4	44.7	50.0	91	89	1.6	70-120	25
Trichloroethene	ND	47.7	48.3	50.0	95	97	1.2	80-120	25
Benzene	ND	45.9	46.7	50.0	92	93	1.7	80-120	25
Toluene	ND	51.3	52.0	50.0	103	104	1.4	80-120	25
Chlorobenzene	ND	54.6	54.8	50.0	109	110	0.3	80-120	25

Surrogates	Sample %Recovery	%Recovery MS	%Recovery MSD	Acceptance Limit Recovery
1,2-Dichloroethane-d4	100	102	105	80-120
Bromofluorobenzene	119	116	117	80-120
Toluene-d8	99	94	95	80-120

) = Not Detected

lculations are performed before rounding to avoid round-off errors in calculated results.

City of
Oxnard

August 20, 1997

CERTIFIED MAIL
P 498 717 853

Mr. Jim P. Hallock
Plant Manager
COOK COMPOSITES AND POLYMERS
5980 Arcturus Avenue
Oxnard, California 93033

SUBJECT: REQUEST FOR DICYCLOPENTADIENE MATERIAL SAFETY DATA SHEET

Dear Mr. Hallock:

On July 18, 1997, Mr. Joe Zarnoch of my staff met with you to discuss an air release that occurred on July 16, 1997 involving dicyclopentadiene (DCPD) and other organic acids and compounds. During his discussion with you, he requested a copy of the material safety data sheet (MSDS) for DCPD. He was subsequently informed by you that corporate authorization was required before a copy could be released. Please be advised that the submission of MSDSs (upon request) is required by various federal and state laws and regulations. In addition, Section 12.3 of your company's Business Plan (dated 4/22/96) states that chemical information needed for emergency response operations will be available; the plan further states that this information includes MSDSs. To date, the City of Oxnard CUPA Program has not received the requested information. Therefore, please submit the MSDS for DCPD by August 29, 1997 to avoid the initiation of further action against your company.

On a separate but related issue, the emergency notification procedures in Section 9 of your company's Business Plan states that "upon determining that a release has occurred, whether by visual inspection or by other means, the first responder shall immediately … call 911" to provide notification. It is our understanding that no such notification was made, despite the fact that Kaiser Aluminum had to evacuate employees and shut-down operations for a period of approximately two hours. Moreover, it is our understanding that a call to the State Office of Emergency Services was also not made even though Section 9.7 states that such a notification will occur in the event of a release. Please ensure that the appropriate notifications are made in the future.

If you have any questions or require additional information, please contact Mr. Joe Zarnoch at (805) 271-2222.

Robert B. Montgomery, R.E.H.S.
CUPA/Environmental/Safety Manager

RBM:JZ:js
wp/letters/request.ccp

CUPA Program
6001 S. Perkins Road • Oxnard, CA 93033 • (805) 488-3517 Fax (805) 488-2036

COOK COMPOSITES AND POLYMERS

• *Imagination* • *Innovation*

July 17, 1997

Mr. Richard Hayes
Plant Manager
Kaiser Aluminum
Edison Drive
Oxnard, CA 93033

Dear Mr. Hayes:

The Cook Composites and Polymers Co. (CCP) - Oxnard facility was notified on July 16, 1998 by Kaiser Aluminum that unfamiliar odors were observed at the Kaiser facility which Kaiser assumed to be from CCP. Immediate investigation determined that the thermal oxidizer at the CCP-Oxnard facility experienced a pilot light malfunction which resulted in the temporary shutdown of the unit. It should be noted that the emission stream was continuing to be treated by the scrubber system during thermal oxidizer shutdown. No batches were in process at the time of the thermal oxidizer shutdown.

Emission Characterization

The thermal oxidizer system was receiving an emission stream from the facility glycol recovery unit. The stream is typically characterized as mostly water vapor (98%) and a low percentage (1-2%) organic acid and organic compounds. Trace amounts of the compound dicyclopentadiene (DCPD) may have been present in the emission stream.

Exposure Evaluation

The odors observed at the Kaiser facility reportedly exhibited qualitative properties associated with DCPD. The odor threshold for DCPD is reported in literature as low as 0.011 parts per million, which is significantly low in relative terms to many organic compounds. The DCPD odor threshold is much lower than acute exposure thresholds so it has good warning properties. Because DCPD is typically present in trace quantities in the emission stream, and the quantity and duration of DCPD emitted from the scrubber system is likely extremely low, the exposure concentrations for Kaiser employees is believed to be minimal.

J:\GIL\OMACKI.DOC

CCP

P.O. Box 419389 Kansas City, MO 64141-6389
(816) 391-6000 Fax: (816) 391-6337

A sample of the condensate of the emission stream to the thermal oxidizer has been collected and will be analyzed to characterize the approximate emission composition. As discussed in the July 16, 1997 conference call, the determination of actual ambient air concentrations of organic compounds which exhibited odors is not possible based on variable site, process and meteorological conditions.

Numerical atmospheric dispersion models exist which, based on availability of appropriate input parameters, may provide theoretical estimates of ambient air concentrations. Potential use of these models to estimate organic compound concentrations is currently being evaluated by CCP. CCP will employ reasonable technical efforts to determine the actual emissions and potential exposure during the shutdown of the thermal oxidizer.

Incident Investigation and Resolution

CCP will investigate the root cause of the thermal oxidizer shutdown and evaluate and implement reasonable measures to prevent or manage such episodes in the future. Also, CCP would be willing to provide a plant tour to interested Kaiser personnel to describe its operation and demonstrate its commitment to safety and environmental management as a good neighbor.

CCP appreciates the strength of effective communication between Kaiser and CCP in regards to this issue. Please feel free to contact Jim Hallock at (805)986-3635 or Mike Gromacki at (816) 391-6011 if you have any additional questions.

Sincerely,

Cook Composite and Polymers Co.

Michael Gromacki

Michael A. Gromacki
Environmental Engineer

Craig R. Bostwick
Director - Environmental Regulatory and Safety

cc: Jim Hallock - CCP

G3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

February 26, 2009

CERTIFIED MAIL NO. 7007-2560-0001-7660-6276
RETURN RECEIPT REQUESTED

CERTIFICATION OF VIOLATION CORRECTION

Jon Schuckman
Director, HSE Compliance Assurance
Cook Composites and Polymers Co.
P.O. Box 419389
Kansas City, MO 64141
EPA Identification Number: CAD087163267

Dear Mr. Schuckman:

On April 23, 2008 a hazardous waste compliance inspection was conducted by representatives of the United States Environmental Protection Agency ("EPA"), accompanied by a representative of the Oxnard Fire Adminstration Office, at the Cook Composites and Polymers Co. located in Oxnard, CA, with EPA Identification Number CAD087163267. During the course of this investigation, information was gathered in accordance with Section 3007(a) of the Resource Conservation and Recovery Act ("RCRA"), as amended {42 U.S.C. §6927}.

Pursuant to Section 3008 of RCRA {42 U.S.C. § 6928}, the EPA required you to correct the identified areas of noncompliance and to submit documentation of their correction to the EPA within 30 days from the date of your receipt of the Warning Letter sent by the EPA.

Cook Composites and Polymers' submittal, dated February 24, 2009, adequately addresses the violations which were noted during the inspection, and documents Cook Composites and Polymers' return to compliance with the regulations cited in the inspection report. This letter should not be construed as a determination by the EPA of your compliance with any other applicable regulation.

Cook Composites and Polymers should continue to take the necessary steps to maintain and ensure compliance with all applicable Federal, State and local environmental requirements.

received
BNM 3·5·09

Printed on Recycled Paper

If you have questions related to the inspection report or this letter, please contact Clint Seiter of my staff at (415) 972-3298.

Sincerely,

Loren Henning

Loren Henning, Manager
RCRA Enforcement Office

cc Charles McLaughlin, DTSC
Boris Medina, Oxnard Fire Administration Office

G3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

November 17, 2008

CERTIFIED MAIL NO. 7007-2560-0001-7660-9277
RETURN RECEIPT REQUESTED

WARNING LETTER

Patricio Cueva
Plant Engineer
Cook Composites and Polymers Co.
5980 Arcturus Ave.
Oxnard, CA 93033
EPA Identification Number: CAD087163267

Dear Mr. Cueva

On April 23, 2008, a hazardous waste compliance inspection was conducted by representatives of the United States Environmental Protection Agency (AEPA@), accompanied by a representative of the Oxnard Fire Administration Office, at Cook Composites and Polymers Co., located in Oxnard, CA, with EPA Identification Number CAD087163267. During the course of this investigation, information was gathered in accordance with Section 3007(a) of the Resource Conservation and Recovery Act ("RCRA"), as amended {42 U.S.C. §6927(a)}.

A copy of the inspection report is enclosed for your information and response. The report describes conditions at the facility at the time of the investigation, and identifies areas of noncompliance with RCRA regulations and potential violations of the State of California authorized program under RCRA Subtitle C and potential non-RCRA state violations. Any omissions in the report shall not be construed as a determination of compliance with any other applicable regulation.

Pursuant to Section 3008 of RCRA {42 U.S.C. §6928}, you are required to correct the identified areas of noncompliance and to submit documentation of their correction to the EPA:

1. **Label the six 55-gallon drums of glycol reflux, two containers of resin samples and three containers of styrene gelcoat located in the Hazardous Waste Storage Area per the labeling requirements specified under the California Code of Regulations (CCR) Title 22 §66262.34(e)(1)(E), and (f)(3), that is:**
   - **the initial date of waste accumulation is clearly marked and visible for inspection on each container used for accumulation of hazardous waste;**
   - **composition and physical state of the waste;**
   - **the particular hazardous properties of the waste;**

Printed on Recycled Paper

in accordance with 40 C.F.R. §2.203(b). If the EPA determines that the information so designated meets the criteria set forth in 40 C.F.R. §2.208, the information will be disclosed only to the extent, and by means of the procedures specified in 40 C.F.R. Part 2, Subpart B. As described in 40 C.F.R §2.203(a)(2), the EPA will construe the failure to furnish a confidentiality claim within 14 calendar days from the date of your receipt of this letter as a waiver of that claim, and information may be made available to the public by the EPA without further notice.

Your certification of correction of the areas of noncompliance identified in this warning letter must be included in a response letter signed by a duly authorized official of your facility. Your response, due 30 calendar days from the date of your receipt of this letter, shall be addressed to:

Clint Seiter
Mailcode: WST-3
RCRA Enforcement Office
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

If you have questions related to the inspection report or this letter, please contact Clint Seiter of my staff at (415) 972-3298.

Sincerely,

Loren Henning, Manager
RCRA Enforcement Office

Enclosure

cc (w/o enclosure) Charles McLaughlin, DTSC
Boris Medina, Oxnard Fire Administration Office

Late Payment Administrative Fee

September 4, 2008

Pauli McClasahan
Cooks Composites and Polymers Co.
P.O. Box 419389
Kansas City, MO 64141

RE: Payment for: CUPA Permit
Permit Number: 03-0012
Business Address: 5980 Arcturus Ave.

The Oxnard Fire Certified Unified Program Agency (CUPA) records indicate that a balance of **$65.00** is outstanding on your account. Your payment was not received by the invoice due date and therefore, a $65.00 late payment administrative fee was assessed to your account.

You are directed to pay the balance within 15 days of the date of this notice to avoid additional penalties and/or referral to the City Attorney's office. To pay by check, make check payable to the 'City of Oxnard', write your permit number on the check and mail to Oxnard Fire CUPA. Payments may also be paid in person at the Fire Administrative Office, located at 360 W. Second Street.

If you have any questions regarding your account, please contact me at 805.385.7710.
Thank you for your prompt attention to this matter.

Sincerely,

Darlene Duarte

Darlene Duarte
Fire Environmental Specialist
Oxnard Fire/CUPA

5980 Arcturus Ave.

NOTICE OF VIOLATION

August 21, 2008

Jon Schuckman
Cook Composites and Polymers Co.
P.O. Box 419389
Kansas City, MO 64141

SUBJECT: OPERATING WITHOUT A VALID CERTIFIED UNIFIED PROGRAM AGENCY (CUPA) FACILITY PERMIT

The Oxnard Fire Certified Unified Program Agency (CUPA) staff enforces environmental regulations as they pertain to the generation of hazardous waste and storage of hazardous materials. The Oxnard Fire CUPA records indicate that your Annual permit fee has not been paid, and therefore, your business is operating without a valid CUPA permit.

Any business within the City limits of Oxnard whose activities involve the generation of hazardous waste and/or storage of hazardous materials must possess a valid Consolidated Hazardous Materials Permit. Therefore, you are in violation of the California Fire Code and subject to late fee charges, penalties and citations.

To avoid further enforcement action, you are directed to immediately make payment on your CUPA invoice overdue balance to the City.

If you already submitted payment for the 2008/2009 FY CUPA Permit and feel that this letter has reached you in error, or need to make a payment agreement, please contact me at (805) 385-7710.

Be advised that legal action may commence at anytime without further notice.

Darlene Duarte

Darlene Duarte
Fire Environmental Specialist
Oxnard Fire/CUPA

CCP

January 14, 2008

Ms. Kandace Peaslee
Fire Environmental Specialist 1
Oxnard Fire Department/CUPA
360 West 2nd Street
Oxnard, California 93030

SENT VIA EXPRESS DELIVERY

RE: Hazardous Materials Fire Permit Issuance and Billing Invoice
Cook Composites and Polymers Co.
5980 Arcturus Avenue
Oxnard, California 93033
Facility Permit Number: 0012

Dear Ms. Peaslee:

Effective November 17, 2007, Cook Composites and Polymers Co. (CCP) temporarily idled the unsaturated polyester resin (UPR) process at the CCP Oxnard facility. Subsequently, CCP notified CUPA of industrial tank cleaning activities and requested a permit be granted for removal of one (1) phthalic anhydride raw material tank.

Pursuant to your correspondence dated December 27, 2007, please find enclosed:

1. Signed copy of Oxnard Fire CUPA Hazardous Materials Special Use Permit
2. Check number 445197 in the amount of $166.00

If you have any questions or comments, please contact me at (816) 391-6324.

Sincerely,
COOK COMPOSITES AND POLYMERS CO. (CCP)

Jon Schuckman
Director, HSE Compliance Assurance

Enclosures: As Stated

Cc: Patricio Cueva – CCP Oxnard
Greg Geary – CCP
Michael Gromacki – CCP

PO Box 419389 • Kansas City, MO • 64141-6389
Ph: 816-391-6324 • Fax: 816-391-6093 • E-mail: schuckman@ccponline.com

HAZARDOUS MATERIALS
SPECIAL USE PERMIT

PERMIT #: _____
INSPECTOR: _____
PAGE _____ OF _____

W.J. Milligan, Fire Chief

SITE INFORMATION

DOING BUSINESS AS: Cook Composites & Polymers PHONE: (805) 986-3635

OWNER/AGENT: Jon Schuckman TITLE: Director, HSE Compliance Assurance

ADDRESS: 5980 Arcturus Avenue

BLDG/SUITE: _____ CITY: Oxnard ZIP: 93033

Introduction:
This document is intended to detail specific conditions and limitations regarding permits required by the California Fire Code (CFC). While every attempt has been made to ensure this document is as complete and accurate as possible, an error or omission should not be considered permission to violate any specific provision of the CFC or any other legally enforceable regulation or code. This permit issued does not take the place of any license required by law and is not transferable. Any deviation from these conditions or an increase in the quantity of the materials allowed will result in the revocation of this permit.

PERMIT DESCRIPTION: (Operations, Process, or Activity)

Cleaning and demolishing of (1) 25,000 gallon Phthalic Anhydride (Raw material) aboveground storage tank.

CONDITIONS OF PERMIT: (Attach additional sheet(s) if necessary)

See letter dated 12/27/07.

STATEMENT: I hereby acknowledge that I have read this application; that the information given is correct and that I am the owner or duly authorized agent of the owner. All permits or certificates issued shall be presumed to contain the provision that the applicant his agent and employees shall carry out the proposed activity in compliance with all laws and regulations applicable thereto.	By virtue of the provisions of the California Fire Code Regulations and ordinances of the City of Oxnard, having made application in due form, and as the conditions, surroundings, and arrangements are in my opinion, such that the intent of the regulations can be observed, authority is hereby given and this permit is granted for:
Signature (Owner or Agent): Jon Schuckman Date Signed: 01/14/08	Issued by: Date Approve:

Check #: _____ Check Amount: _____ Date: _____
Received By: _____ Paid By: _____

FIRE/CUPA ‹ 360 West Second St., Oxnard, CA 93030
TELEPHONE: (805) 385-7722 FAX: (805) 385-8009

Certified Unified Program Agency (CUPA)
INVOICE

INVOICE NO: 2007-1220

DATE: 12/27/2007

Facility: Cook Composites & Polymers

Address: 5980 Arcturus Avenue, Oxnard, CA 93033

Facility Contact: Jon Schuckman, (816) 391-6324

Invoice for the following activity:

☒ Inspection ☐ Re-inspection ☐ Other: _____

Type of activity:

Cleaning and demolishing of (1) 25,000 gallon Aboveground Storage Tank

Activity dates:

To be determined.

Fire/CUPA Inspector time:

☒ 2 hour (minimum) @ $83.00/hour ☐ Other: Permit Processing and Process Report Review

TOTAL AMOUNT DUE: $166.00

PAYMENT DUE DATE: January 27, 2008

Please send payment to:

City of Oxnard Fire/CUPA
Attn: Kandace Peaslee
360 W. Second Street
Oxnard, CA 93030

If you have any questions concerning this invoice, please contact Kandace Peaslee (805) 385-7718.

CHASEAP 445197

VEND: 8423 COOK COMPOSITE	GROSS AMOUNT	DISCOUNT	NET AMOUNT
	166.00	.00	166.00

INVOICE/REF#	DATE
20071220 080100069	12/27/2007

166.00	.00	166.00

THE FACE OF THIS DOCUMENT CONTAINS SECURITY PRINTING. THE BACK OF THIS DOCUMENT FEATURES SECURITY PRINTING-HOLD AT AN ANGLE TO VIEW.

CCP
COOK COMPOSITES AND POLYMERS

820 East 14th Ave.
North Kansas City Mo. 64116
(816) 391 - 6000

The Chase Manhattan Bank
Syracuse N.Y. 13206

50-937
213

CHECK DATE 1/04/2008

CHECK NUMBER 445197

PAY One Hundred Sixty-Six and 00/100 Dollars

$********166.00

TO THE ORDER OF
CITY OF OXNARD
360 W SECOND STREET
OXNARD CA 93030

Daniel E Hebble
AUTHORIZED SIGNATURE

⑈445197⑈ ⑆021309379⑆ 60184284⑈

445197

VEND:	DATE	GROSS AMOUNT	DISCOUNT	NET AMOUNT
INVOICE/REF#	12/27/2007	166.00	.00	166.00
20071220 080100069				
		166.00	.00	166.00

THE FACE OF THIS DOCUMENT CONTAINS SECURITY PRINTING. THE BACK OF THIS DOCUMENT FEATURES SECURITY PRINTING-HOLD AT AN ANGLE TO VIEW.

CCP
COOK COMPOSITES AND POLYMERS

820 East 14th Ave.
North Kansas City Mo. 64116
(816) 391 - 6000

The Chase Manhattan Bank
Syracuse N.Y. 13206

50-937
213

CHECK DATE 1/04/2008

CHECK NUMBER 445197

PAY One Hundred Sixty-Six and 00/100 Dollars

$*********166.00

TO THE ORDER OF
CITY OF OXNARD
360 W SECOND STREET
OXNARD CA 93030

Daniel E Helle
AUTHORIZED SIGNATURE

⑈445197⑈ ⑆021309379⑆60184284⑆

CCP

October 6, 2006

Ms. Kandace Peaslee
Certified Unified Program Agency
Oxnard Fire Department
251 South C Street
Oxnard, CA 93030

Subject: Updated Facility Information Form for Cook Composites and Polymers. Co., Oxnard Plant

Dear Ms. Peaslee,

Attached is a copy of the updated Business Owner/Operator Identification form for the CCP Oxnard plant as we discussed.

If you have additional needs for this please contact me at (816) 391-6232.

Sincerely,

COOK COMPOSITES AND POLYMERS CO.

Bruce Boomer
Environmental Engineer

RECEIVED
OCT 09 2006
OXNARD FIRE DEPARTMENT

cc. Ron Kramer

PO Box 419389 • Kansas City, MO • 64141-6389
Ph: 816-391-6232 • Fax: 816-391-6093 • E-mail: boomer@ccponline.com

CCP

September 28, 2006

Mr. Steve Mattern, CUPA Coordinator
Certified Unified Program Agency
Oxnard Fire Department
251 South C Street
Oxnard, CA 93030

Subject: Update of Emergency Response Contacts for Cook Composites and Polymers. Co., Oxnard Plant

Dear Mr. Mattern,

Attached is a copy of the updated Emergency Contacts List for the CCP Oxnard plant.

If you have additional needs for this please contact me at (816) 391-6232.

Sincerely,

COOK COMPOSITES AND POLYMERS CO.

Bruce Boomer
Environmental Engineer

cc. Ron Kramer

PO Box 419389 • Kansas City, MO • 64141-6389
Ph: 816-391-6232 • Fax: 816-391-6093 • E-mail: boomer@ccponline.com

CITY OF Oxnard "The City That Cares" CALIFORNIA

NOTICE OF VIOLATION

Pd. 8/23/06
owes late fee

July 28, 2006

Michael Gromacki
Cook Composites and Polymers Co.
P.O. Box 419389
Kansas City, MO 64141

SUBJECT: OPERATING WITHOUT A VALID CERTIFIED UNIFIED PROGRAM AGENCY (CUPA) FACILITY PERMIT

The Oxnard Fire Certified Unified Program Agency (CUPA) staff enforces environmental regulations as they pertain to the generation of hazardous waste and storage of hazardous materials. The Oxnard Fire CUPA has received notification from the City of Oxnard License Services that your annual Consolidated CUPA Permit fee has not been paid, and therefore, your business is operating without a valid permit.

Any business within the City limits of Oxnard whose activities involve the generation of hazardous waste and/or storage of hazardous materials must possess a valid Consolidated Hazardous Materials Permit. Therefore, you are in violation of the California Fire Code and subject to late fee charges, penalties and citations.

To avoid further enforcement action, you are directed to immediately make payment on your CUPA invoice overdue balance to the City. If you already submitted payment for the 2006/2007 FY CUPA Permit and feel that this letter has reached you in error, please contact Darlene Duarte at (805) 385-7710. Be advised that legal action may commence at anytime without further notice.

If you should you have any questions regarding the total amount due, please contact me directly at (805) 385-8364.

Sincerely,

Steve Mattern

Steve Mattern
CUPA Coordinator
Oxnard Fire/CUPA

LICENSE SERVICES
305 W. 3rd St, Oxnard, CA 93030
(805) 385-7817 ◆ Fax # (805) 385-7836

September 7, 2006

Cook Composites & Polymers Co.
5980 Arcturus Ave.
Oxnard, CA 93033

RE: Payment for CUPA Consolidated Permit
License number: 07-00012857
Business Address: 5980 Arcturus Ave.

A balance of **$65.00** is outstanding on your account. Your payment was not received by the original due date therefore, as set forth in Resolution No. 11,694 a $65 late payment administrative fee was assessed to your account.

Please pay the balance within 15 days of the date of this notice. To pay by credit card, please complete the attached authorization form and mail or fax to License Services. To pay by check, make check payable to City Of Oxnard, write your license number on the check and mail to License Services. Payments by cash, check and credit card are also accepted in person at the License Services. Failure to remit balance due will result in additional penalties and/or referral to the City Attorney's office.

If you have any questions regarding your account, please contact License Services at (805) 385-7817.
Thank you for our prompt attention to this matter.

Sincerely,

Marisela Ledezma
License Services

January 5, 2006

Ron Kramer, Plant Manager
Cook Composites and Polymer Company
5980 Arcturus Avenue
Oxnard, CA 930303

TIME EXTENSION FOR CORRECTION OF DEFICIENCIES AT COOK COMPOSITES, 5980 ARCTURUS AVE., OXNARD

The Oxnard Fire Certified Unified Program Agency (CUPA) has received your request for an extension of time to make assessments and complete modifications of your facility's aboveground storage tanks, piping and secondary containment systems.

Your request for an extension of time is conditionally approved; provided that you implement and perform manual inspections of the tanks to prevent further overfill conditions. These inspections shall be performed, at a minimum, every time the tank is filled. **The extension of time is granted till March 1, 2006. Upon this date, all necessary assessments and modifications must be completed in order to be compliant with the regulatory code requirements.**

All repairs are classified as system modifications, including minor "fixes" and must be approved in advance by Oxnard Fire/CUPA. Some repairs require a permit obtained by submitting plans for approval; all repairs identified as requiring a permit shall have a permit issued before commencement of repair work.

If you have any questions concerning this matter, please contact me at (805) 385-7730.

Sincerely,

Gregory Abille
Senior Fire Environmental Specialist
Oxnard Fire/CUPA

FILE COPY

50760.8460
Mail

POSTED

January 4, 2006

Michael Gromacki
Cook Composites and Polymers Company
5980 Arcturus Avenue
Oxnard, CA 93033

COST RECOVERY FOR FIRE DEPARTMENT RESPONSE TO FIRE IN THERMAL OXIDIZER AT 5980 ARCTURUS AVENUE, OXNARD, CA 93033

Mr. Gromacki,

On December 15, 2005, the Oxnard Fire Department responded to a fire at the Cook Composites and Polymers Company (CCP) plant located at the above referenced address. It was determined that the fire was a result of liquids transferred into the thermal oxidizer unit. The transfer of these liquids, rather than vapors as designed, occurred because the distillate tank is not equipped with a liquid level limit control device.

On September 15, 2005, CCP was notified to provide overfill prevention on all tanks with a capacity of 500 gallons or more containing hazardous substances, including the above subject distillate tank.

An investigation of the recent incident determined that the overfilling of the thermal oxidizer distillate tank is a reoccurring problem at the facility resulting in several responses from the Oxnard Fire Department staff. Therefore, as the responsible party, CCP is accountable for the costs associated with the Departments' latest response to this incident.

Enclosed, please find a cost recovery sheet for the Fire Department personnel time and equipment. Please remit a check or money order payable to "City of Oxnard" for $1,692.00.00. The check to mailed to:

Oxnard Fire Administration
251 S C Street
Oxnard, CA 93030

Please include a copy of this letter with the check. If you have any questions, you may reach me at (805) 385-7720.

Gary Sugich
Fire Marshal

Enclosure

Vendor # 8423
P.O. # 06.11237
Receipt # 06.11241
4/23 ACCOUNTING USE ONLY
A. P Ref. #

Costs related to personnel and equipment/materials used on Incident #0512150404 on 12/15/2005

Position	Name	Date	Personnel or Units	Hours	Hourly Rate	Total
SUPPRESSION						
Chief					$141	$0
Asst. Chief					$114	$0
Training Chief					$91	$0
Shift Chief	Donabedian	12/15/2005	1	1	$81	$81
Captain	53, 61, 62, 63, T61	12/15/2005	5	1	$71	$355
Engineer	53, 61, 62, 63, T61	12/15/2005	5	1	$60	$300
Firefighter	53, 61, 62, 63, T61, R66	12/15/2005	7	1	$54	$378
Sub-Total						**$1,114**
CUPA						
Senior Env. Spec.	Steve Elkinton	12/15/2005	1	1	$83	$83
CUPA Inspector					$75	$0
Env. Spec.					$75	$0
Materials Expeditor					$24	$0
Sub-Total						**$83**
PREVENTION						
Fire Marshal					$91	$0
Prev. Captain					$84	$0
Inspector					$82	$0
Office Assistant					$34	$0
Sub-Total						**$0**
DISASTER PREP.						
Dis. Prep. Captain					$75	$0
Sub-Total						**$0**
Personnel TOTAL						**$1,197**
Materials/Equipment						
Replacment of Mtls. And/of Equip .						$0
Fire Engine		12/15/2005	4	1	$90	$360
Fire Truck		12/15/2005	1	1	$135	$135
Haz. Mat. Apparatus					$75	$0
Other (e.g. disposal fees)						$0
Materials Total						**$495**
Grand Total (Personnel + Materials)						**$1,692.00**

419452

VEND: 8423 COOK COMPOS[illegible] & POLYMERS CO.	BANK: CHASE-P		
INVOICE/REF#	DATE	GROSS AMOUNT	DISCOUNT	NET AMOUNT
COST RECOVERY EXP 060101908	1/04/2006	1,692.00	.00	1,692.00

FILE COPY

1,692.00	.00	1,692.00

THE FACE OF THIS DOCUMENT CONTAINS SECURITY PRINTING. THE BACK OF THIS DOCUMENT FEATURES SECURITY PRINTING-HOLD AT AN ANGLE TO VIEW.

CCP
COOK COMPOSITES AND POLYMERS

820 East 14th Ave.
North Kansas City Mo. 64116
(816) 391 - 6000

The Chase Manhattan Bank
Syracuse N.Y. 13206

50-937
213

CHECK DATE 1/27/2006

CHECK NUMBER 419452

PAY One Thousand Six Hundred Ninety-Two and 00/100 Dollars

$******1,692.00

TO THE
ORDER OF
CITY OF OXNARD
OXNARD FIRE ADMINISTRATION
251 SOUTH C STREET
OXNARD CA 93030

Daniel E Hebbe
AUTHORIZED SIGNATURE

⑈419452⑈ ⑆021309379⑆60184284⑈

January 4, 2006

Michael Gromacki
Cook Composites and Polymers Company
5980 Arcturus Avenue
Oxnard, CA 93033

COST RECOVERY FOR FIRE DEPARTMENT RESPONSE TO FIRE IN THERMAL OXIDIZER AT 5980 ARCTURUS AVENUE, OXNARD, CA 93033

Mr. Gromacki,

On December 15, 2005, the Oxnard Fire Department responded to a fire at the Cook Composites and Polymers Company (CCP) plant located at the above referenced address. It was determined that the fire was a result of liquids transferred into the thermal oxidizer unit. The transfer of these liquids, rather than vapors as designed, occurred because the distillate tank is not equipped with a liquid level limit control device.

On September 15, 2005, CCP was notified to provide overfill prevention on all tanks with a capacity of 500 gallons or more containing hazardous substances, including the above subject distillate tank.

An investigation of the recent incident determined that the overfilling of the thermal oxidizer distillate tank is a reoccurring problem at the facility resulting in several responses from the Oxnard Fire Department staff. Therefore, as the responsible party, CCP is accountable for the costs associated with the Departments' latest response to this incident.

Enclosed, please find a cost recovery sheet for the Fire Department personnel time and equipment. Please remit a check or money order payable to "City of Oxnard" for $1,692.00.00. The check to mailed to:

Oxnard Fire Administration
251 S C Street
Oxnard, CA 93030

Please include a copy of this letter with the check. If you have any questions, you may reach me at (805) 385-7720.

Gary Sugich
Fire Marshal

Enclosure

Costs related to personnel and equipment/materials used on Incident #0512150404 on 12/15/2005

Position	Name	Date	Personnel or Units	Hours	Hourly Rate	Total
SUPPRESSION						
Chief					$141	$0
Asst. Chief					$114	$0
Training Chief					$91	$0
Shift Chief	Donabedian	12/15/2005	1	1	$81	$81
Captain	53, 61, 62, 63, T61	12/15/2005	5	1	$71	$355
Engineer	53, 61, 62, 63, T61	12/15/2005	5	1	$60	$300
Firefighter	53, 61, 62, 63, T61, R66	12/15/2005	7	1	$54	$378
Sub-Total						**$1,114**
CUPA						
Senior Env. Spec.	Steve Elkinton	12/15/2005	1	1	$83	$83
CUPA Inspector					$75	$0
Env. Spec.					$75	$0
Materials Expeditor					$24	$0
Sub-Total						**$83**
PREVENTION						
Fire Marshal					$91	$0
Prev. Captain					$84	$0
Inspector					$82	$0
Office Assistant					$34	$0
Sub-Total						**$0**
DISASTER PREP.						
Dis. Prep. Captain					$75	$0
Sub-Total						**$0**
Personnel TOTAL						**$1,197**
Materials/Equipment						
Replacment of Mtls. And/of Equip .						$0
Fire Engine		12/15/2005	4	1	$90	$360
Fire Truck		12/15/2005	1	1	$135	$135
Haz. Mat. Apparatus					$75	$0
Other (e.g. disposal fees)						$0
Materials Total						**$495**
Grand Total (Personnel + Materials)						**$1,692.00**

City of

Oxnard

November 1, 2001

Mr. Keith Duval
Enforcement Manager
Ventura County Air Pollution Control District
669 County Square Drive
Ventura, CA 93003

SUBJECT: FOLLOW-UP TO OCTOBER 23, 2001 LETTER REGARDING FUGITIVE AIR EMISSIONS FROM COOK COMPOSITES AND POLYMERS CO., 5980 ARCTURUS AVE., OXNARD, CA

Dear Keith:

Enclosed please find copies of our Complaint Investigation Reports of odor complaints concerning Cook Composites and Polymers Co. (CCP), 5980 Arcturus Ave., Oxnard, California. The reports include a complaint received today and go back to approximately one year ago when CCP discontinued reactor runs using dicyclopentadiene (DCPD). In the last few months I also responded to an additional odor complaint that was not recorded in the file. In response to the complaint, I visited CCP as the likely source of the "resin-type" odor (wind direction consistent with CCP as the source) but could not identify the point source within the facility. During my visit, I did notice a tanker truck (tank wagon) at the loading rack being loaded through a partially open hatch.

In addition to the blending tank vents being suspected as a source of fugitive emissions as described in our prior letter, other potential emission sources are:

- Tank wagon loading operations through an open hatch or partially open hatch instead of a direct hose coupling method with an emission-controlled vent. During our site visit today in response to the complaint, a tank wagon was being loaded again through a partially open hatch; due to the viscosity of the material, the loading operation continued over several hours, and
- Offloading of styrene and other chemicals from rail cars without vent emission controls (our understanding is that a plug is removed from the top of the rail car for venting purposes).

We would like to take this opportunity to request that your agency conduct a review of the operations at CCP and evaluate potential emission sources, including those mentioned above. Furthermore, to reiterate our prior letter, we request that your agency set a schedule for CCP to route the vents from all of the blending tanks to the thermal oxidizer. And finally, we request that your agency evaluate the need for perimeter VOC monitors (at least on the north and east perimeters of the facility) for emission detection purposes.

These monitoring devices could be connected to an audible/visual alarm in the facility's office or reactor control room.

If you have any questions concerning this matter, please contact me at (805) 385-7657.

Sincerely,

Joe Zarnoch

Joe Zarnoch
Senior Environmental Specialist

Ventura County
Air Pollution
Control District

669 County Square Drive
Ventura, California 93003

tel 805/645-1400
fax 805/645-1444
www.vcapcd.org

Richard H. Baldwin
Air Pollution Control Officer

October 31, 2001

Tom Waller, Fire Marshall
Fire Department
City of Oxnard
251 South C Street
Oxnard, CA 93030

RE: Cook Composites and Polymers Co.

Dear Mr. Waller:

My staff and I have discussed your letter of October 23, 2001 regarding fugitive air emissions from Cook Composites and Polymers Co. (CCP). Under the APCD's Rule 51 and the state Health and Safety Code pertaining to nuisance violations, we are required to have evidence of a nuisance to a considerable number of persons before we may pursue enforcement action. A copy of APCD Rule 51 is attached. Once a nuisance is documented, the APCD may issue a Notice of Violation or pursue an Order of Abatement from our Hearing Board. In the case of CCP, we have received one complaint in 1998 and five complaints in 1995 – none of which my enforcement staff could verify.

Keith Duval of my staff has talked with Joe Zarnoch of your staff about providing us with any odor complaints Oxnard Fire Department has documented. If your agency has been able to verify CCP as the source of odor complaints, we may have sufficient grounds to require CCP to vent their blending tank vents to the facility's emission control system.

CCP has a Permit to Operate from the District, which allows them to operate their facility. A copy of CCP's Permit to Operate is attached for your information. The permit requires CCP to keep all hatches on tanks containing reactive organic compounds closed at all times except during sampling, gauging or maintenance. To date the APCD's inspections show that CCP has been complying with this condition. The permit also requires the dicyclopentadiene storage tank to be equipped with a pressure-vacuum relief valve and vented to the facility's thermal oxidizer. I would like to ask that any time one of your staff observes CCP to be operating contrary to their permit, that the violation be documented and that we be notified. Such an observation with adequate documentation may enable us to issue a Notice of Violation.

printed on recycled paper

Valid April 1, 2001 to March 31,

ermit Has Been Issued To The Following:

If you have any questions regarding this matter, please contact me at 805/645-1440 or contact Keith Duval, Compliance Manager for the District, at 805/645-1410.

Sincerely,

Richard H. Baldwin
Air Pollution Control Officer

Enclosures (2)

C: Keith Duval, APCD Compliance Division
Karl Krause, APCD Engineering Division
Joe Zarnoch, Oxnard Fire Department

Rule 51. Nuisance (Adopted 7/2/68, Renumbered 10/22/68)

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endangers the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.

City of

Oxnard

October 23, 2001

Mr. Richard Baldwin
Air Pollution Control Officer
Ventura County Air Pollution Control District
669 County Square Drive
Ventura, CA 93003

SUBJECT: FUGITIVE AIR EMISSIONS FROM COOK COMPOSITES AND POLYMERS CO., 5980 ARCTURUS AVE., OXNARD, CA

Dear Mr. Baldwin:

Cook Composites and Polymers Co. (CCP), a resin processing facility located at 5980 Arcturus Ave., Oxnard, California, has had numerous odor complaints from adjacent businesses for the last several years. In the past, the facility was conducting reactor runs using a very odorous compound, dicyclopentadiene (DCPD), however, fugitive emissions problems resulted in at least a temporary halt of the use of this chemical. In preparation for possibly using DCPD in the future, the facility has installed a new thermal oxidizer and a carbon absorption back-up system.

However, even when DCPD has not been used, the Oxnard Fire Department has received several odor complaints. The Oxnard Fire Department has inspected the facility several times and believes that the major source of fugitive emissions is from the blending tanks. The vents for these tanks are the atmospheric-type.

We hereby request that your agency set a schedule for CCP to route the vents from all of the blending tanks to the new thermal oxidizer. We have discussed this matter with CCP and while they apparently agree to implement this project, we believe it is important, given the volume of complaints, to set a compliance schedule. In addition, we also believe that restrictions should be set for opening the hatches on these tanks since they are often found open or partially open during inspections

If you have any questions concerning this matter, please contact me at (805) 385-7720.

Sincerely,

Tom Waller
Fire Marshall

Fire Department
251 South C Street • Oxnard, CA 93030 • (805) 385-7722 Fax (805) 385-8009

City of
Oxnard

July 11, 2001

Mr. Tom Leary
Cook Composites & Polymers
5980 Arcturus Ave.
Oxnard, CA 93033

SUBJECT: BUSINESS OWNER/OPERATOR IDENTIFICATION (OES 2730) FORM

While we did receive a Business Owner/Operator Identification (OES 2730) form for your facility, it was not signed. Please sign and return the OES 2730 form to our office (Attn: Joe Zarnoch) within fifteen (15) days from receipt of this letter.

If you have any questions concerning this matter, please contact me at (805) 385-7657.

Sincerely,

Joe Zarnoch
Oxnard Fire/CUPA

Fire Department
251 South C Street • Oxnard, CA 93030 • (805) 385-7722 Fax (805) 385-8009

City of
Oxnard

July 11, 2001

Mr. Tom Leary
Plant Manager
Cook Composites & Polymers
5980 Arcturus Ave.
Oxnard, CA 93033

SUBJECT: VIOLATION OF RELEASE REPORTING REQUIREMENTS, COOK COMPOSITES & POLYMERS, 5980 ARCTURUS AVE., OXNARD, CA

Dear Mr. Leary:

During a recent site visit, the City of Oxnard Fire/Certified Unified Program Agency (CUPA) observed workers apparently mitigating a release of dicyclopentadiene (DCPD) from a former above ground storage tank. To our knowledge, the release of this hazardous material was not properly reported. Please note that state law (Health & Safety Code, Section 25507) states that a handler of hazardous materials, upon discovery, must *immediately* report any release or threatened release of a hazardous material to the local CUPA and the Office of Emergency Services Warning Center (1-800-852-7550). If the release requires immediate response, a handler must also call 911. Additional notifications may be required depending on other factors such as the type of hazardous material, quantity and release location. Federal and state laws provide for penalties of up to $25,000 per day for each violation of emergency notification requirements. Criminal penalties may also apply.

Moreover, when asked, representatives of Cook Composites & Polymers responded that the Regional Water Quality Control Board (RWQCB) was notified concerning soil contamination from the release. The Los Angeles Office of the RWQCB has tentatively denied such a notification. Please contact our office if you have additional information concerning this matter. Our office has sent the RWQCB—Los Angeles Office a referral for the release.

If you have any questions concerning this matter, please contact me at (805) 385-7657.

Sincerely,

Joe Zarnoch
Oxnard Fire/CUPA

CERTIFIED MAIL
Return Receipt Requested
7000 1670 0005 4880 6491

UNITED STATES POSTAL SERVICE
• Sender: Please print your name, address, and ZIP+4 in this box •
OXNARD FIRE DEPARTMENT
JOE "C" ZARNOCH
ATTN: SOUTH C STREET
251 SOUTH C
OXNARD CA
93030

251 South C Street • Oxnard, CA 93030 • (805) 385-7722 Fax (805) 385-8009
Fire Department

COUNTY OF VENTURA
RESOURCE MANAGEMENT AGENCY • ENVIRONMENTAL HEALTH DIVISION

PROPOSITION 65 REPORT FORM

DATE REPORT TAKEN: 7/11/01
TIME REPORT TAKEN: 1:07 pm
LOG NUMBER:

NAME OF PERSON TAKING THE REPORT: Joe Zarnoch
JOB TITLE/POSITION: Env'l Spec.

NAME OF PERSON REPORTING: Joe Zarnoch
AGENCY/COMPANY PHONE NUMBER: (805) 385-7657

AGENCY/COMPANY NAME: Oxnard Fire/CUPA

AGENCY/COMPANY ADDRESS: 251 South C St., Oxnard, CA 93030

DATE OF INCIDENT: Unknown
TIME OF INCIDENT: Unknown

NAME/DESCRIPTION OF "SUSPECTED" MATERIAL INVOLVED:
Dicyclopentadiene

AMOUNT: Unknown

PHYSICAL STATE:
- ☐ Solid
- ☒ Liquid
- ☐ Gas
- ☐ Other:

HOW DID THIS INCIDENT HAPPEN? Release of dicyclopentadiene from former above ground storage tank to soil.

ADDRESS/LOCATION OF INCIDENT (Complete 'Line 1' or 'Line 2')

LINE 1: Address: 5980 Arcturus Ave. (PLEASE SPECIFY – STREET, BOULEVARD, AVENUE ETC.) City: Oxnard

LINE 2: Location: Cook Composites & Polymers
NOTE: *Specify "Location" such as 'Brown Barranca'.*

ACTION TAKEN: Sent case referral to LA-RWQCB.

DISTRIBUTION: ☐ COMMUNITY SERVICES *(Sewage Spills)*:
☐ HAZARDOUS MATERIALS *(All Other)*:

RMA-87-000014 (Rev. 6/00)*

City of
Oxnard

July 11, 2001

Ms. Blythe Ponek
Regional Water Quality Control Board
320 W. 4th St., #200
Los Angeles, CA 90013-1105

SUBJECT: RELEASE REFERRAL, COOK COMPOSITES & POLYMERS, 5980 ARCTURUS AVE., OXNARD, CALIFORNIA, 93033

Dear Ms. Ponek:

The City of Oxnard Fire/Certified Unified Program Agency (CUPA) is hereby referring a release at Cook Composites & Polymers located at 5980 Arcturus Ave., Oxnard, CA, 93033. The release was apparently dicyclopentadiene (DCPD) from a former above ground storage tank. The release was discovered by our agency during a recent site visit when we observed contract workers apparently excavating contaminated soil. The facility claims that soil samples were collected and analyzed, however, the investigation was performed without our knowledge or oversight. Please note that I have observed at least one monitoring well (apparently down gradient) that may be useful in determining the extent of contamination. The Plant Manager is Mr. Tom Leary and his phone number is (805) 986-3635, ext. 16.

This matter is being referred to your agency since we have an agreement with Ventura County Environmental Health Division (VCEHD)[LUFT Program] for referral of releases from underground storage tanks only. While VCEHD has a voluntary cleanup program, they're not accepting new sites at this time due to staffing constraints.

If you have any questions concerning this matter, please contact me at (805) 385-7657. We would appreciate receiving copies of correspondence concerning this matter.

Sincerely,

Joe Zarnoch

Joe Zarnoch
Oxnard Fire/CUPA

CERTIFIED MAIL
Return Receipt Requested
7000 1670 0005 4880 6507

Fire Department
251 South C Street • Oxnard, CA 93030 • (805) 385-7722 Fax (805) 385-8009

MAR 07 '91 01:12PM CCS 816 391 6093

CCP
Cook Composites and Polymers Co.

Quality/Safety/Environment
P.O. Box 419389
Kansas City, MO 64141-6389
816-391-6011

March 5, 2001

Mr. Tom Waller
Fire Marshal
City of Oxnard Fire Department
251 South C Street
Oxnard, CA 93030

Via Facsimile (805) 385-8009 – Hard Copy to Follow by Mail

Re: Flammable Liquid Storage Requirements
Cook Composites and Polymers Co. (CCP)
5980 Arcturus Boulevard, Oxnard, CA

Dear Mr. Waller:

Cook Composites and Polymers Co. (CCP) has reviewed and considered your letter dated February 1, 2001 regarding the interpretation of building and fire codes by the City of Oxnard related to our Oxnard facility. CCP regrets the delay in responding to this letter, but careful review and external consultation with regards to the California Fire Code was necessary to respond.

After detailed review of the California Fire Code (CFC), CCP has concluded that the drum and tote storage at our Oxnard facility constitute a *flammable liquid storage warehouse* as defined by CFC 307.1.5, not a *flammable liquid storage room* as described in your February 1, 2001 letter.

CCP believes that its current storage precludes the use of the CFC definition for a *flammable liquid storage room* due to the quantities stored in our warehouse. The resolution of this definition is critical to establishing an action plan for our facilities to meet the appropriate CFC code. For example, the flammable liquid warehouse requires a four (4) hour fire-resistive rating wall between other areas, while the liquid storage room requires a one (1) hour fire-resistive rating wall.

Based on review of CFC Table 7902.5D, the Oxnard facility meets the maximum storage heights (6.5 feet for containers, 7 feet for portable tanks) for Class I-B and I-C flammable liquids in a liquid warehouse. There are no quantity limits under CFC 7902.5.12.2.1, for flammable liquid warehouses.

CFC Table 7902.5F defines the criteria for automatic sprinkler protection of flammable liquid warehouses. For Class I-B and I-C flammable liquids, the sprinkler density must meet 0.25 gpm/square foot for one-high storage of drums, and 0.60 gpm/sq. ft. for the two-high (6.5 foot) storage of drums. CCP believes that the Oxnard facility currently exceeds the 0.25 gpm/sq. ft.

specification, but does not currently know if the 0.60 gpm/sq. ft. density is achieved. The sprinkler density will be verified and reported to you.

CCP currently voluntarily uses nylon relieving-style bungs on the flammable liquids in its warehouse. Recently-revised standards of the National Fire Protection Association (NFPA), allow for increased stacking heights of flammable liquid drums when utilizing nylon relieving-style bungs, in accordance with the appropriate fire water or AFFF foam/water suppression systems.

Substantial and compelling research and testing was completed to support this standard revision, and CCP expects that other standards such as UFC, BOCA and the CFC will ultimately be revised in this manner. As a result, CCP believes that consideration of the NFPA standard revisions for storage of drums using relieving style bungs is important to any action plan developed for our Oxnard facility.

Secondary containment requirements for liquid and fire-protection water in flammable liquid warehouses and other operations are defined in CFC 307.2.3.2, and 307.2.3.3 respectively. The highly-viscous nature of CCP resin products present unique challenges for secondary containment and drainage. The most appropriate approach is not known at this time.

By March 31, 2001, CCP will receive proposals and retain a fire protection expert to develop a plan and technical report for the appropriate storage heights, arrangement, fire protection systems and secondary containment measures. The report will be provided to the City of Oxnard for review to address any outstanding issues. The estimated date of report completion will be defined upon receipt of the proposals.

CCP appreciates the assistance and cooperation of the City of Oxnard Fire Department in resolving these important issues. If you have any questions please contact me at (816) 391-6011.

Sincerely,
COOK COMPOSITES AND POLYMERS CO.

Michael Gromacki

Michael Gromacki
Director –Quality/Safety/Environment

CC:
Mohammed Dekiouk – CCP Oxnard
Steve Dare - CCP

CCP

RECEIVED
MAR 01 2011
BY:

February 28, 2011

Oxnard Fire Department
CUPA District 4 Inspector
360 West Second Street
Oxnard, California 93030

VIA EXPRESS DELIVERY

RE: 2010 Hazardous Materials Business Plan Annual Certification Statement
Cook Composites and Polymers Co. - Oxnard, California
Permit #: 030012

To Whom it May Concern:

Cook Composites and Polymers Co. (CCP) owns and operates a facility located at 5980 Arcturus Avenue in Oxnard, California that manufactures unsaturated polyester resins (UPR) and gel coats. CCP Oxnard has permanently ceased operations and the facility is in the process of being demolished and site cleared. As a result, the enclosed Business Plan Annual Certification Statement requests deletion of all chemicals listed in CCP Oxnard's Business Plan.

If you have any questions, please contact me at (816) 391-6330.

Sincerely,
COOK COMPOSITES AND POLYMERS CO. (CCP)

Katrin Ellefson, P.E.
HSE Management Systems Engineer

Cc: Pauli McClanahan, CCP Oxnard
Jon Schuckman, Director – HSEQ Compliance Assurance
Greg Geary, CCP VP of Manufacturing

PO Box 419389 • Kansas City, MO • 64141-6389
Ph: 816-391-6330 • Fax: 816-391-6093 • E-mail: ellefson@ccponline.com

G3

CCP

March 13, 2009

Mr. Bo Medina, CUPA Inspector
Certified Unified Program Agency
360 West 2nd Street
Oxnard, California 93030

SENT VIA EXPRESS DELIVERY

RE: 2009 Hazardous Waste / Hazardous Material Compliance Inspection and Notification of Temporary Facility Idling
Cook Composites and Polymers Co.
5980 Arcturus Avenue
Oxnard, California 93033
Facility Permit Number: 0012

Dear Mr. Medina:

CUPA conducted a routine hazardous waste / hazardous material compliance evaluation on February 12, 2009 of the Cook Composites and Polymers Co. (CCP) facility located at 5980 Arcturus Avenue in Oxnard, California. The compliance evaluation included a review of records, site walk through, and observation of satellite accumulation areas and waste units.

Subsequently, CCP Oxnard received a Notice to Comply requiring submittal of a written description of all actions taken to correct the findings along with supporting documentation within thirty (30) days of receipt of the Notice to Comply.

A summary of the alleged deficiencies and respective status of the alleged deficiencies are as follows:

1. *Provide Oxnard Fire/CUPA documentation regarding facilities current status and future status of site.*

   As discussed on February 12, 2009, the CCP Oxnard facility temporarily idled its UPR production process as part of a corporate restructuring strategy effective November 17, 2007. Subsequently, CCP personnel performed thorough cleaning of all UPR-related process equipment to prepare the process equipment for restart when the production capacity is again required.

   Again in November 2008, the CCP Oxnard facility temporarily idled its gel coat production process in response to a contracting market place. Subsequently, CCP personnel performed thorough cleaning of all gel coat-related process equipment to prepare the process equipment for restart when the production capacity is again required. As a result, the entire CCP Oxnard facility is temporarily idled.

PO Box 419389 • Kansas City, MO • 64141-6389
Ph: 816-391-6324 • Fax: 816-391-6093 • E-mail: schuckman@ccponline.com

received
BNM 3.17.09

2. *Submit Business Owner/Operator page (OES2730) and Chemical Description Sheets (OES 2731) for inventory changes.*

Enclosed please find revised:

- Business Owner/Operator page (OES2730)
- Chemical Description Sheets (OES 2731) based on 2008 inventory levels

3. *Submit Annual Business Plan and Emergency Contacts.*

Enclosed please find revised Annual Business Plan which includes updated contacts.

In support of your records, please also find enclosed our response to the United States Environmental Protection Agency (US EPA) Region IX routine hazardous waste compliance evaluation completed on April 23, 2008 of the CCP Oxnard facility.

If you have any questions or require additional information, please contact me at (816) 391-6324.

Sincerely,
COOK COMPOSITES AND POLYMERS CO. (CCP)

Jon Schuckman
Director, HSE Compliance Assurance

Enclosures: As Stated

Cc: Pauli McClanahan – CCP Oxnard
Greg Geary – CCP

RECEIVED
MAR 0 1 2011
BY:

Certification Statement
nia

a facility located at 5980 Arcturus Avenue in
s (UPR) and gel coats. CCP Oxnard has
f being demolished and site cleared. As a
requests deletion of all chemicals listed in

.com

CITY OF Oxnard CALIFORNIA

FIRE/CUPA • ~~251 South~~ 300 W. Second St., Oxnard, CA 93030
TELEPHONE: (805) 385-7722 FAX: (805) 385-8009

UNIFIED PROGRAM FACILITY PERMIT APPLICATION (BUSINESS PLAN)
BUSINESS ACTIVITIES

These forms are available electronically at *www.ci.oxnard.ca.us/fire/cupa/main.html* Page 1 of

I. FACILITY IDENTIFICATION

FACILITY ID # 5 6 0 1 3 0 3 0 0 1 2 (1.) EPA ID # (Hazardous Waste Only) (2.) CAD087163267

BUSINESS NAME (Same as Facility Name or DBA - Doing Business As) (3.)
Cook Composites & Polymers Co.

BUSINESS ADDRESS
5980 Arcturus Ave.

II. ACTIVITIES DECLARATION

NOTE: If you check YES to any part of this list, please submit the Business Owner/Operator Identification page (OES Form 2730).

Does your facility…	If Yes, please complete these forms:
A. HAZARDOUS MATERIALS Have on-site (for any purpose) hazardous materials at or above 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (include liquids in ASTs and USTs); or the applicable Federal threshold quantity for an extremely hazardous substance specified in 40 CFR Part 355, Appendix A or B; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70?	☒ YES ☐ NO 4.	✓BUSINESS OWNER/OPERATOR IDENTIFICATION (OES 2730) ✓HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731) ✓SITE MAP Emergency Response Plan and Training Plan must be maintained on-site.
B. UNDERGROUND STORAGE TANKS (USTs) 1. Own or operate underground storage tanks?	☐ YES ☒ NO 5.	✓UST FACILITY (Formerly SWRCB Form A) ✓UST TANK (one page per tank) (Formerly Form B)
2. Intend to upgrade existing or install new USTs?	☐ YES ☒ NO 6.	✓UST INSTALLATION - CERTIFICATE OF COMPLIANCE (one page per tank) (Formerly Form C) ✓UST CERTIFICATION OF FINANCIAL RESPONSIBILITY ✓UST MONITORING PROCEDURES AND RESPONSE PLAN
3. Need to report closing a UST?	☐ YES ☒ NO 7.	✓UST PLOT PLAN (can use Site Map from #A above but include location of USTs & identify all UST sensors)
C. ABOVEGROUND PETROLEUM STORAGE TANKS (ASTs) Own or operate ASTs above these thresholds: ---single petroleum AST capacity is greater than 1,320 gallons *or* ---the total petroleum AST capacity is greater than 1,320 gallons? NOTE: A propane tank is not a petroleum AST under this definition.	☐ YES ☒ NO 8.	✓PETROLEUM ABOVEGROUND STORAGE TANK (AST) FACILITY FORM (local requirement) **NOTE:** If YES, a Spill Prevention Control & Countermeasure (SPCC) Plan must be maintained on-site
D. HAZARDOUS WASTE 1. Generate hazardous waste?	☒ YES ☐ NO 9.	✓EPA ID NUMBER – provide at the top of this page (local requirement: must also submit forms required for Hazardous Materials in #A above). If large quantity generator, must also maintain Contingency & Training Plans on-site.
2. Recycle more than 100 kg/month of excluded or exempted recyclable materials (per H&SC §25143.2)?	☐ YES ☐ NO 10.	✓RECYCLABLE MATERIALS REPORT (one per recycler, submit every 2 years)
3. Treat hazardous waste on site?	☐ YES ☒ NO 11.	✓ON-SITE HAZARDOUS WASTE TREATMENT – FACILITY (Formerly DTSC Forms 1772) ✓ON-SITE HAZARDOUS WASTE TREATMENT – UNIT (one page per unit) (Formerly DTSC Forms 1772 A, B, C, D and L)
4. Treatment subject to financial assurance requirements (for Permit by Rule and Conditional Authorization)?	☐ YES ☒ NO 12.	✓CERTIFICATION OF FINANCIAL ASSURANCE (Formerly DTSC Form 1232)
5. Consolidate hazardous waste generated at a remote site?	☐ YES ☒ NO 13.	✓REMOTE WASTE / CONSOLIDATION-SITE ANNUAL NOTIFICATION (Formerly DTSC Form 1196)
6. Need to report the closure/removal of a tank that was classified as hazardous waste and cleaned on site?	☐ YES ☒ NO 14.	✓HAZARDOUS WASTE TANK CLOSURE CERTIFICATION (Formerly DTSC Form 1249)
E. OTHER LOCAL REQUIREMENTS 1. Have on-site Regulated Substances > the threshold quantities established by the California Release Prevention (CalARP) Program?	☐ YES ☒ NO 15.	✓REGULATED SUBSTANCE REGISTRATION
2. Closing or moving your business?	☐ YES ☒ NO 16.	✓SCHEDULE CLOSURE INSPECTION

5980 Arcturus Ave.
Cook Composites & Polymers Co

FIRE/CUPA • ~~251 South C~~ 360 W. Second St., Oxnard, CA 93030
TELEPHONE: (805) 385-7722 FAX: (805) 385-8009

UNIFIED PROGRAM FACILITY PERMIT APPLICATION (BUSINESS PLAN)
BUSINESS ACTIVITIES

These forms are available electronically at *www.ci.oxnard.ca.us/fire/cupa/main.html* Page 1 of ___

I. FACILITY IDENTIFICATION

FACILITY ID # 5 6 0 1 3 0 3 0 0 1 2 1.

EPA ID # (Hazardous Waste Only) CAD087163267 2.

BUSINESS NAME (Same as Facility Name or DBA - Doing Business As) 3.
Cook Composites & Polymers Co.

BUSINESS ADDRESS
5980 Arcturus Ave.

II. ACTIVITIES DECLARATION

NOTE: If you check YES to any part of this list, please submit the Business Owner/Operator Identification page (OES Form 2730).

Does your facility…		If Yes, please complete these forms:
A. HAZARDOUS MATERIALS Have on-site (for any purpose) hazardous materials at or above 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (include liquids in ASTs and USTs); or the applicable Federal threshold quantity for an extremely hazardous substance specified in 40 CFR Part 355, Appendix A or B; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70?	☒ YES ☐ NO 4.	✓BUSINESS OWNER/OPERATOR IDENTIFICATION (OES 2730) ✓HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731) ✓SITE MAP Emergency Response Plan and Training Plan must be maintained on-site.
B. UNDERGROUND STORAGE TANKS (USTs) 1. Own or operate underground storage tanks?	☐ YES ☒ NO 5.	✓UST FACILITY (Formerly SWRCB Form A) ✓UST TANK (one page per tank) (Formerly Form B)
2. Intend to upgrade existing or install new USTs?	☐ YES ☒ NO 6.	✓UST INSTALLATION - CERTIFICATE OF COMPLIANCE (one page per tank) (Formerly Form C) ✓UST CERTIFICATION OF FINANCIAL RESPONSIBILITY ✓UST MONITORING PROCEDURES AND RESPONSE PLAN
3. Need to report closing a UST?	☐ YES ☒ NO 7.	✓UST PLOT PLAN (can use Site Map from #A above but include location of USTs & identify all UST sensors)
C. ABOVEGROUND PETROLEUM STORAGE TANKS (ASTs) Own or operate ASTs above these thresholds: ---single petroleum AST capacity is greater than 1,320 gallons *or* ---the total petroleum AST capacity is greater than 1,320 gallons? NOTE: A propane tank is not a petroleum AST under this definition.	☐ YES ☒ NO 8.	✓PETROLEUM ABOVEGROUND STORAGE TANK (AST) FACILITY FORM (local requirement) **NOTE:** If YES, a Spill Prevention Control & Countermeasure (SPCC) Plan must be maintained on-site
D. HAZARDOUS WASTE 1. Generate hazardous waste?	☒ YES ☐ NO 9.	✓EPA ID NUMBER – provide at the top of this page (local requirement: must also submit forms required for Hazardous Materials in #A above). If large quantity generator, must also maintain Contingency & Training Plans on-site.
2. Recycle more than 100 kg/month of excluded or exempted recyclable materials (per H&SC §25143.2)?	☐ YES ☐ NO 10.	✓RECYCLABLE MATERIALS REPORT (one per recycler; submit every 2 years)
3. Treat hazardous waste on site?	☐ YES ☒ NO 11.	✓ON-SITE HAZARDOUS WASTE TREATMENT – FACILITY (Formerly DTSC Forms 1772) ✓ON-SITE HAZARDOUS WASTE TREATMENT – UNIT (one page per unit) (Formerly DTSC Forms 1772 A, B, C, D and L)
4. Treatment subject to financial assurance requirements (for Permit by Rule and Conditional Authorization)?	☐ YES ☒ NO 12.	✓CERTIFICATION OF FINANCIAL ASSURANCE (Formerly DTSC Form 1232)
5. Consolidate hazardous waste generated at a remote site?	☐ YES ☒ NO 13.	✓REMOTE WASTE / CONSOLIDATION-SITE ANNUAL NOTIFICATION (Formerly DTSC Form 1196)
6. Need to report the closure/removal of a tank that was classified as hazardous waste and cleaned on site?	☐ YES ☒ NO 14.	✓HAZARDOUS WASTE TANK CLOSURE CERTIFICATION (Formerly DTSC Form 1249)
E. OTHER LOCAL REQUIREMENTS 1. Have on-site Regulated Substances > the threshold quantities established by the California Release Prevention (CalARP) Program?	☐ YES ☒ NO 15.	✓REGULATED SUBSTANCE REGISTRATION
2. Closing or moving your business?	☐ YES ☒ NO 16.	✓SCHEDULE CLOSURE INSPECTION

Cook Composites & Polymers

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TELEPHONE: (805) 385-7722 FAX: (805) 385-8009

FACILITY INFORMATION

BUSINESS OWNER/OPERATOR IDENTIFICATION (OES 2730)

I. IDENTIFICATION

FACILITY ID # *(Agency Use Only)*	5	6		0	1	3		0							1.	BEGINNING DATE 01/01/10	100.	ENDING DATE 12/31/10	101.

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) Cook Composites and Polymers Co.	3.	BUSINESS PHONE (816) 391-6000 102.
BUSINESS SITE ADDRESS 5980 Arcturus		103.
CITY OXNARD	104. CA	ZIP CODE 93033 105.
DUN & BRADSTREET 001220904	106.	SIC CODE (4 digit #) 2821 107.
COUNTY VENTURA		108.
BUSINESS OPERATOR NAME Pauli McClanahan	109.	BUSINESS OPERATOR PHONE (816) 391-6243 110.

II. BUSINESS OWNER

OWNER NAME Cook Composites and Polymers Co.	111.	OWNER PHONE (816) 391-6000 112.
OWNER MAILING ADDRESS P.O. Box 419389		113.
CITY Kansas City	114. STATE MO	115. ZIP CODE 64141 116.

III. ENVIRONMENTAL CONTACT

CONTACT NAME Katrin Ellefson	117.	CONTACT PHONE (816) 391-6330 118.
CONTACT MAILING ADDRESS P.O. Box 419389		119.
CITY Kansas City	120. STATE MO	121. ZIP CODE 64141 122.

IV. EMERGENCY CONTACTS

-PRIMARY-		-SECONDARY-	
	123.		128.
	124.		129.
	125.		130.
	126.		131.
	127.		132.
			133.

ADDITIONAL LOCALLY COLLECTED INFORMATION:

Property Owner: Cook Composites And Polymers Co. Phone No.: (816) 391-6000

Billing Address: P.O. Box 419389, Kansas City, MO 64141

Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE	DATE 134. 02/25/2011	NAME OF DOCUMENT PREPARER 135. Katrin Ellefson
NAME OF SIGNER (print) 136. Jon Schuckman	TITLE OF SIGNER 137. Director HSEQ Compliance Assurance	

* See Instructions on next page.

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009

HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200 Page 2 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201.
Water Treatment Area

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202.
☐ YES ☒ NO

FACILITY ID # (Agency Use Only)	5	6		0	1	3		0						1.	MAP # 203.	GRID # 204. M4

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.
SODIUM HYDROXIDE

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
SODIUM HYDROXIDE

EHS* ☐ Yes ☒ No 208.

CAS# 209.
1310732

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:4 F:0 R:2

HAZARDOUS MATERIAL TYPE (Check one item only) ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only) ☒ a. SOLID ☐ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER DRUM 215.

FED HAZARD CATEGORIES (Check all that apply) 216.
☐ a. FIRE ☒ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only) 221.
☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds.

DAYS ON SITE 222.
0

STORAGE CONTAINER 223
☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE 224
☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225
☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226.	227.	☐ Yes ☐ No 228.	229.
2. 230.	231.	☐ Yes ☐ No 232.	233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

246.

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: __4__

If EPCRA, Please Sign Here

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

200 Page 3 of 32

☐ ADD ☒ DELETE ☐ REVISE

I. FACILITY INFORMATION

3

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As)
Cook Composites And Polymers Co. 201.

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202.
☐ YES ☒ NO

CHEMICAL LOCATION
South Warehouse

FACILITY ID # (Agency Use Only): 5 6 0 1 3 0 1.

MAP # 203.

GRID # 204.
M7

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.
PETROLEUM HYDROCARBON

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
SOLVENT NAPHTHA HEAVY AROMATIC

EHS* ☐ Yes ☒ No 208.

*If EHS is "Yes," all amounts below must be in lbs.

CAS# 209.
064742945

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:1 F:2 R:0

HAZARDOUS MATERIAL TYPE (Check one item only): ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER DRUM 215.

FED HAZARD CATEGORIES (Check all that apply): ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

DAYS ON SITE 222.
0

STORAGE CONTAINER: ☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER 223.

STORAGE PRESSURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225.

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 99.00 % 226.	SOLVENT NAPTHA HEAVY AROMATIC 227.	☐ Yes ☒ No 228.	64742945 229.
2. <10.00 230.	NAPHTHALENE 231.	☐ Yes ☒ No 232.	91203 233.
3. 2.00 234.	1,2,4-TRIMETHYLBENZENE 235.	☐ Yes ☒ No 236.	95636 237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information. 246.

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: __3__

If EPCRA, Please Sign Here.

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200. Page 4 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201. CHEMICAL LOCATION CONFIDENTIAL EPCRA 202.
Water Treatment Area ☐ YES ☒ NO

FACILITY ID # (Agency Use Only): 5 6 0 1 3 0 1. MAP # 203. GRID # 204. M4

II. CHEMICAL INFORMATION

CHEMICAL NAME 205. SULFURIC ACID
TRADE SECRET ☐ Yes ☒ No 206. If Subject to EPCRA, refer to instructions

COMMON NAME 207. SULFURIC ACID
EHS* ☐ Yes ☒ No 208.

CAS# 209. 7664939
*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210. H:3 F:0 R:2

HAZARDOUS MATERIAL TYPE (Check one item only): ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211.
RADIOACTIVE ☐ Yes ☒ No 212.
CURIES 213.

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.
LARGEST CONTAINER DRUM 215.

FED HAZARD CATEGORIES (Check all that apply): ☐ a. FIRE ☒ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.
DAYS ON SITE 222. 0

STORAGE CONTAINER: ☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER 223.

STORAGE PRESSURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224.

STORAGE TEMPERATURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225.

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226.	227.	☐ Yes ☐ No 228.	229.
2. 230.	231.	☐ Yes ☐ No 232.	233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

246.
ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: __8__

If EPCRA, Please Sign Here.

Cook Composites & Polymers

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

Page 5 of 32

☐ ADD ☒ DELETE ☐ REVISE

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As)
Cook Composites And Polymers Co.

CHEMICAL LOCATION CONFIDENTIAL EPCRA
☐ YES ☒ NO

CHEMICAL LOCATION
Raw Material Cage

MAP #

GRID #
N7

FACILITY ID # (Agency Use Only): 5 6 0 1 3 0

II. CHEMICAL INFORMATION

CHEMICAL NAME
Vinyl Toluene 99.2%

TRADE SECRET ☐ Yes ☒ No
If Subject to EPCRA, refer to instructions

COMMON NAME
Vinyl Toluene

EHS* ☐ Yes ☒ No

*If EHS is "Yes," all amounts below must be in lbs.

CAS#
25013-15-4

FIRE CODE HAZARD CLASSES (Complete if required by local agency)
H:2 F:2 R:2

HAZARDOUS MATERIAL TYPE (Check one item only): ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE

RADIOACTIVE ☐ Yes ☒ No

CURIES

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS

LARGEST CONTAINER 55 gal. Drum

FED HAZARD CATEGORIES (Check all that apply): ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT
0

MAXIMUM DAILY AMOUNT
0

ANNUAL WASTE AMOUNT

STATE WASTE CODE

DAYS ON SITE
0

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds.

STORAGE CONTAINER: ☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1.		☐ Yes ☐ No	
2.		☐ Yes ☐ No	
3.		☐ Yes ☐ No	
4.		☐ Yes ☐ No	
5.		☐ Yes ☐ No	

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: __3__

© EPCRA, Phone Sign Here

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

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☐ ADD ☒ DELETE ☐ REVISE 200

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 201.
Cook Composites And Polymers Co.

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☒ NO

CHEMICAL LOCATION
NORTH CONCRETE PAD

FACILITY ID # (Agency Use Only): 5 6 [ ] 0 1 3 [ ] 0 — 1.

MAP # 203

GRID # 204
C11

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.
1,6-HEXANEDIOL

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
1,6-HEXANEDIOL

EHS* 208
☐ Yes ☒ No

*If EHS is "Yes," all amounts below must be in lbs.

CAS# 209.
629118

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:2 F:1 R:0

HAZARDOUS MATERIAL TYPE (Check one item only): ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER DRUM 215.

FED HAZARD CATEGORIES (Check all that apply): ☐ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.
0

MAXIMUM DAILY AMOUNT 218.
0

ANNUAL WASTE AMOUNT 219.

STATE WASTE CODE 220.

DAYS ON SITE 222.
0

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

STORAGE CONTAINER:
☐ a. ABOVEGROUND TANK ☐ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☐ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☒ d. STEEL DRUM ☐ h. SILO ☐ l. CYLINDER ☐ p. TANK WAGON 223.

STORAGE PRESSURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224.

STORAGE TEMPERATURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225.

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226.	227.	☐ Yes ☐ No 228.	229.
2. 230.	231.	☐ Yes ☐ No 232.	233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information. 246.

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: __N/A__

If EPCRA, Please Sign Here.

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

200 Page 7 of 32

☐ ADD ☒ DELETE ☐ REVISE

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 201.
Cook Composites And Polymers Co.

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202.
☐ YES ☒ NO

CHEMICAL LOCATION
NORTHEAST PAD, WAREHOUSE

FACILITY ID # (Agency Use Only): 5 6 [ ] 0 1 3 [ ] 0 — 1. MAP # 203.

GRID # 204.
C10, C11, L11

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.
ISOBUTYL ALCOHOL

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
ISO-BUTANOL

EHS* ☐ Yes ☒ No 208.

*If EHS is "Yes," all amounts below must be in lbs.

CAS# 209.
78831

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:3 F:3 R:0

HAZARDOUS MATERIAL TYPE (Check one item only): ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER DRUM 215.

FED HAZARD CATEGORIES (Check all that apply): ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.
0

MAXIMUM DAILY AMOUNT 218.
0

ANNUAL WASTE AMOUNT 219.

STATE WASTE CODE 220.

DAYS ON SITE 222.
0

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

STORAGE CONTAINER 223.
☐ a. ABOVEGROUND TANK ☐ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☐ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☒ d. STEEL DRUM ☐ h. SILO ☐ l. CYLINDER ☐ p. TANK WAGON

STORAGE PRESSURE 224.
☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225.
☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226.	227.	☐ Yes ☐ No 228.	229.
2. 230.	231.	☐ Yes ☐ No 232.	233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information. 246.

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: _N/A___

If EPCRA, Please Sign Here.

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009

HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200. Page 8 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201. | CHEMICAL LOCATION CONFIDENTIAL EPCRA 202. ☐ YES ☒ NO
Warehouse

FACILITY ID # (Agency Use Only): 5 6 [ ] 0 1 3 [ ] 0 1. | MAP # 203. | GRID # 204. M9

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.
Unsaturated Polyester Resins containing Styrene

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
Unsaturated Polyester Resins containing Styrene

EHS* 208. ☐ Yes ☒ No

CAS# 209.
100-42-5

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:2 F:2 R:0

HAZARDOUS MATERIAL TYPE (Check one item only) ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER 215.

FED HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☒ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only) ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

DAYS ON SITE 222. 0

STORAGE CONTAINER 223.
☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM
☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO
☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER
☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON
☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE 224. ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225. ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226.	227.	☐ Yes ☐ No 228.	229.
2. 230.	231.	☐ Yes ☐ No 232.	233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

246.
ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: __N/A__

If EPCRA, Please Sign Here.

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TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200. Page 9 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
Cook Composites And Polymers Co. 201.

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202.
☐ YES ☒ NO

CHEMICAL LOCATION
NORTH WAREHOUSE

FACILITY ID # (Agency Use Only): 5 6 0 1 3 0 1.

MAP # 203.

GRID # 204.
J11

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.
POLYVINYLACETATE IN STYRENE

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
POLYVINYLACETATE IN STYRENE

EHS* ☐ Yes ☒ No 208.

CAS# 209.
MIXTURE

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H::2 F:3 R:2

HAZARDOUS MATERIAL TYPE (Check one item only) ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER DRUM 215.

FED HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☒ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only) ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

DAYS ON SITE 222
0

STORAGE CONTAINER 223.
☐ a. ABOVEGROUND TANK ☐ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☐ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☒ d. STEEL DRUM ☐ h. SILO ☐ l. CYLINDER ☐ p. TANK WAGON

STORAGE PRESSURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224.

STORAGE TEMPERATURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225.

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 59.00 226.	STYRENE 227.	☐ Yes ☒ No 228.	100-42-5 229.
2. 0.90% 230.	VINYL ACETATE 231.	☒ Yes ☐ No 232.	108-05-4 233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

246.

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: ____

If EPCRA, Please Sign Here.

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HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

200. Page 10 of 32

☐ ADD ☒ DELETE ☐ REVISE

I. FACILITY INFORMATION

3.

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As)
Cook Composites And Polymers Co.

201. CHEMICAL LOCATION CONFIDENTIAL EPCRA 202.
☐ YES ☒ NO

CHEMICAL LOCATION
Southeast Warehouse

FACILITY ID # (Agency Use Only)	5	6		0	1	3		0							1.

MAP # 203.

GRID # 204.
N10, L11

II. CHEMICAL INFORMATION

205. CHEMICAL NAME
Silica Gel

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

207. COMMON NAME
Silica Gel

208. EHS* ☐ Yes ☒ No

209. CAS#
1129260

*If EHS is "Yes," all amounts below must be in lbs.

210. FIRE CODE HAZARD CLASSES (Complete if required by local agency)
H:1 F:2 R:0

HAZARDOUS MATERIAL TYPE (Check one item only) ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

213. CURIES

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

215. LARGEST CONTAINER Drum

216. FED HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

221. UNITS* (Check one item only) ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds.

222. DAYS ON SITE
0

STORAGE CONTAINER (223.)
☐ a. ABOVEGROUND TANK ☐ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☐ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☒ d. STEEL DRUM ☐ h. SILO ☐ l. CYLINDER ☐ p. TANK WAGON

224. STORAGE PRESSURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

225. STORAGE TEMPERATURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226.	227.	☐ Yes ☐ No 228.	229.
2. 230.	231.	☐ Yes ☐ No 232.	233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

246.
ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: ____

If EPCRA, Please Sign Here

Cook Composites & Polymers Co.

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HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200. Page 11 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201.
Storage Tank S9117

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202.
☐ YES ☒ NO

FACILITY ID # (Agency Use Only) 5 6 0 1 3 0 1.

MAP # 203.

GRID # 204.
M4

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.
Styrene

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
Styrene

EHS* ☐ Yes ☒ No 208.

CAS# 209.
100-42-5

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:2 F:3 R:2

HAZARDOUS MATERIAL TYPE (Check one item only) ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER 15000 Gal 215.

FED HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☒ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only) ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

DAYS ON SITE 222.
0

STORAGE CONTAINER 223.
☒ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☐ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226.	227.	☐ Yes ☐ No 228.	229.
2. 230.	231.	☐ Yes ☐ No 232.	233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

246.

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: ____

If EPCRA, Please Sign Here.

Cook Composites & Polymers Co.

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HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200 Page 12 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As)
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201.
South Warehouse

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202.
☐ YES ☒ NO

FACILITY ID # (Agency Use Only): 5 6 [ ] 0 1 3 [ ] 0 — MAP # 203. — GRID # 204. N10, L11

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.
Hydrophobic Amorphous Fumed Silica

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
Hydrophobic Amorphous Fumed Silica

EHS* ☐ Yes ☒ No 208.

CAS# 209.
68909206

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:1 F:1 R:0

HAZARDOUS MATERIAL TYPE (Check one item only): ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER Drum 215.

FED HAZARD CATEGORIES (Check all that apply): ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

DAYS ON SITE 222.
0

STORAGE CONTAINER 223.
☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224.

STORAGE TEMPERATURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225.

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226.	227.	☐ Yes ☐ No 228.	229.
2. 230.	231.	☐ Yes ☐ No 232.	233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION 246.
DOT Hazard Class: ____

If EPCRA, Please Sign Here

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HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

200 Page 13 of 32

☐ ADD ☒ DELETE ☐ REVISE

I. FACILITY INFORMATION

3

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As)
Cook Composites And Polymers Co. 201

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☒ NO

CHEMICAL LOCATION
Kettle Deck

FACILITY ID # (Agency Use Only): 5 6 [ ] 0 1 3 [ ] 0 — 1

MAP # 203

GRID # 204
L10

II. CHEMICAL INFORMATION

205

CHEMICAL NAME
Butyltin Tris-2-Ethyl Hexanoate 207

TRADE SECRET ☐ Yes ☒ No 206
If Subject to EPCRA, refer to instructions

COMMON NAME
Butyltin Tris-2-Ethyl Hexanoate 209

EHS* ☐ Yes ☒ No 208

*If EHS is "Yes," all amounts below must be in lbs.

CAS#
23850-94-4 210

FIRE CODE HAZARD CLASSES (Complete if required by local agency)
H:1 F:1 R:0

HAZARDOUS MATERIAL TYPE (Check one item only): ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211

RADIOACTIVE ☐ Yes ☒ No 212

CURIES 213

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214

LARGEST CONTAINER 215

FED HAZARD CATEGORIES (Check all that apply): ☐ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217
0

MAXIMUM DAILY AMOUNT 218
0

ANNUAL WASTE AMOUNT 219

STATE WASTE CODE 220

DAYS ON SITE 222
0

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221
* If EHS, amount must be in pounds.

STORAGE CONTAINER:
☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER 223

STORAGE PRESSURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226	227	☐ Yes ☐ No 228	229
2. 230	231	☐ Yes ☐ No 232	233
3. 234	235	☐ Yes ☐ No 236	237
4. 238	239	☐ Yes ☐ No 240	241
5. 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information. 246

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: ____

If EPCRA, Please Sign Here.

Cook Composites

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TELEPHONE: (805) 385-7657 FAX: (805) 385-8009

HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

200 Page 17 of 32

☐ ADD ☒ DELETE ☐ REVISE

I. FACILITY INFORMATION

3

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As)
Cook Composites And Polymers Co.

201 CHEMICAL LOCATION
Warehouse

202 CHEMICAL LOCATION CONFIDENTIAL EPCRA ☐ YES ☒ NO

FACILITY ID # (Agency Use Only) 5 6 0 1 3 0 1

203 MAP #

204 GRID # L11

II. CHEMICAL INFORMATION

205 CHEMICAL NAME
Silicon Dioxide

206 TRADE SECRET ☐ Yes ☒ No
If Subject to EPCRA, refer to instructions

207 COMMON NAME
Untreated Fumed Silica

208 EHS* ☐ Yes ☒ No

209 CAS#
112945-52-5

*If EHS is "Yes," all amounts below must be in lbs.

210 FIRE CODE HAZARD CLASSES (Complete if required by local agency)
H:1 F:0 R:0

211 HAZARDOUS MATERIAL TYPE (Check one item only) ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE

212 RADIOACTIVE ☐ Yes ☒ No

213 CURIES

214 PHYSICAL STATE (Check one item only) ☒ a. SOLID ☐ b. LIQUID ☐ c. GAS

215 LARGEST CONTAINER

216 FED HAZARD CATEGORIES (Check all that apply) ☐ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH

217 AVERAGE DAILY AMOUNT	218 MAXIMUM DAILY AMOUNT	219 ANNUAL WASTE AMOUNT	220 STATE WASTE CODE
0	0		

221 UNITS* (Check one item only) ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds.

222 DAYS ON SITE 0

223 STORAGE CONTAINER
☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☐ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☒ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

224 STORAGE PRESSURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

225 STORAGE TEMPERATURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226	227	☐ Yes ☐ No 228	229
2. 230	231	☐ Yes ☐ No 232	233
3. 234	235	☐ Yes ☐ No 236	237
4. 238	239	☐ Yes ☐ No 240	241
5. 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

246

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: ____

If EPCRA, Please Sign Here

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

Page 15 of 32

☐ ADD ☒ DELETE ☐ REVISE 200

I. FACILITY INFORMATION

3

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As)
Cook Composites And Polymers Co. 201.

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202.
☐ YES ☒ NO

CHEMICAL LOCATION
STORAGE TANK S9120 1.

MAP # 203.

GRID # 204.
M6

FACILITY ID # (Agency Use Only): 5 6 [ ] 0 1 3 [ ] 0 [ ] [ ] [ ] [ ] [ ] [ ]

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.
DICYCLOPENTADIENE

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
DCPD

EHS* 208. ☐ Yes ☒ No

CAS# 209.
77-73-6

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:1 F:3 R:1

HAZARDOUS MATERIAL TYPE (Check one item only): ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER 215.

FED HAZARD CATEGORIES (Check all that apply): ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

DAYS ON SITE 222.
0

STORAGE CONTAINER 223.
☒ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☐ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE 224.
☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225.
☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 85.00 226.	DICYCLOPENTADIENE 227.	☐ Yes ☒ No 228.	77-73-6 229.
2. 15.0 230.	CODIMERS 231.	☐ Yes ☒ No 232.	PROPRIETARY 233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: ____

If EPCRA, Please Sign Here:

Cook Composites & Polymers Co.

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200 Page 11a of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As)
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201
North Warehouse

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☒ NO

FACILITY ID # (Agency Use Only): 5 6 0 1 3 0

MAP # 205

GRID # 206
H11

II. CHEMICAL INFORMATION

CHEMICAL NAME 207
Paratertiary Butyl Catechol

TRADE SECRET ☐ Yes ☒ No 208
If Subject to EPCRA, refer to instructions

COMMON NAME 209
P-Tert-Butyl Catechol Solution

EHS* ☐ Yes ☒ No 210

CAS# 211
Mixture

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 212
H:3 F:3 R:0

HAZARDOUS MATERIAL TYPE (Check one item only): ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 213

RADIOACTIVE ☐ Yes ☒ No 214

CURIES 215

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 216

LARGEST CONTAINER Drum 217

FED HAZARD CATEGORIES (Check all that apply): ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 218

AVERAGE DAILY AMOUNT 219	MAXIMUM DAILY AMOUNT 220	ANNUAL WASTE AMOUNT 221	STATE WASTE CODE 222
0	0		

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 223
* If EHS, amount must be in pounds.

DAYS ON SITE 224
0

STORAGE CONTAINER: ☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER 225

STORAGE PRESSURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 226

STORAGE TEMPERATURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 227

	% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1.	85.00 228	Para Tertiary Butyl Catechol 229	☐ Yes ☒ No 230	98-29-3 231
2.	15.00 232	Methanol 233	☐ Yes ☒ No 234	67-56-1 235
3.	0.07% 236	Catechol 237	☐ Yes ☒ No 238	120-80-9 239
4.	240	241	☐ Yes ☐ No 242	243
5.	244	245	☐ Yes ☐ No 246	247

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION 248
DOT Hazard Class: __3__

If EPCRA, Please Sign Here

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TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200 Page 17 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As)
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201
WAREHOUSE, SOUTH WAREHOUSE

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☒ NO

FACILITY ID # (Agency Use Only) 5 6 0 1 3 0 1

MAP # 203

GRID # 204
N10, N9

II. CHEMICAL INFORMATION

CHEMICAL NAME 205
1,4-BENZENEDICARBOXYLIC ACID

TRADE SECRET ☐ Yes ☒ No 206
If Subject to EPCRA, refer to instructions

COMMON NAME 207
TEREPHTHALIC ACID

EHS* ☐ Yes ☒ No 208

CAS# 209
100-21-0

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210
H:0 F:0 R:0

HAZARDOUS MATERIAL TYPE (Check one item only) ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211

RADIOACTIVE ☐ Yes ☒ No 212

CURIES 213

PHYSICAL STATE (Check one item only) ☒ a. SOLID ☐ b. LIQUID ☐ c. GAS 214

LARGEST CONTAINER 2200 LB SUPER SACK 215

FED HAZARD CATEGORIES (Check all that apply) ☐ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217	MAXIMUM DAILY AMOUNT 218	ANNUAL WASTE AMOUNT 219	STATE WASTE CODE 220
0	0		

UNITS* (Check one item only) ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221
* If EHS, amount must be in pounds.

DAYS ON SITE 222
0

STORAGE CONTAINER
☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☐ d. STEEL DRUM
☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO
☐ i. FIBER DRUM ☒ j. BAG ☐ k. BOX ☐ l. CYLINDER
☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON
☐ q. RAIL CAR ☐ r. OTHER
223

STORAGE PRESSURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226	227	☐ Yes ☐ No 228	229
2. 230	231	☐ Yes ☐ No 232	233
3. 234	235	☐ Yes ☐ No 236	237
4. 238	239	☐ Yes ☐ No 240	241
5. 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

246
ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: ____

If EPCRA, Please Sign Here.

Cook Composites & Polymers Co.

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200 Page 18 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201
WAREHOUSE

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☒ NO

FACILITY ID # (Agency Use Only) 5 6 0 1 3 0 1.

MAP # 203

GRID # 204
L11, M11

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.
TRIMETHYLOL ETHANE

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
TRIMETHYLOL ETHANE

EHS* ☐ Yes ☒ No 208.

CAS# 209.
000077-85-0

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:0 F:1 R:0

HAZARDOUS MATERIAL TYPE (Check one item only) ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only) ☒ a. SOLID ☐ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER 215.

FED HAZARD CATEGORIES (Check all that apply) ☐ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only) ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

DAYS ON SITE 222.
0

STORAGE CONTAINER
☐ a. ABOVEGROUND TANK ☐ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☒ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☐ d. STEEL DRUM ☐ h. SILO ☐ l. CYLINDER ☐ p. TANK WAGON 223.

STORAGE PRESSURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224.

STORAGE TEMPERATURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225.

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226.	227.	☐ Yes ☐ No 228.	229.
2. 230.	231.	☐ Yes ☐ No 232.	233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION 246.
DOT Hazard Class: ____

If EPCRA, Please Sign Here

Cook Composites & Polymers Co.

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TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

200 Page 19 of 32

☐ ADD ☒ DELETE ☐ REVISE

I. FACILITY INFORMATION

3. BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As)
Cook Composites And Polymers Co.

201. CHEMICAL LOCATION
WAREHOUSE

202. CHEMICAL LOCATION CONFIDENTIAL EPCRA ☐ YES ☒ NO

FACILITY ID # (Agency Use Only): 5 6 [ ] 0 1 3 [ ] 0 [ ] [ ] [ ] [ ] [ ] [ ] 1

203. MAP #

204. GRID # L11, M11

II. CHEMICAL INFORMATION

205. CHEMICAL NAME
Calcium Naphthenate 5%

206. TRADE SECRET ☐ Yes ☒ No
If Subject to EPCRA, refer to instructions

207. COMMON NAME
Calcium Naphthenate 5%

208. EHS* ☐ Yes ☒ No

209. CAS#
61789364

*If EHS is "Yes," all amounts below must be in lbs.

210. FIRE CODE HAZARD CLASSES (Complete if required by local agency)
H:0 F:1 R:0

211. HAZARDOUS MATERIAL TYPE (Check one item only) ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE

212. RADIOACTIVE ☐ Yes ☒ No

213. CURIES

214. PHYSICAL STATE (Check one item only) ☒ a. SOLID ☐ b. LIQUID ☐ c. GAS

215. LARGEST CONTAINER

216. FED HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH

217. AVERAGE DAILY AMOUNT
0

218. MAXIMUM DAILY AMOUNT
0

219. ANNUAL WASTE AMOUNT

220. STATE WASTE CODE

221. UNITS* (Check one item only) ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds.

222. DAYS ON SITE
0

223. STORAGE CONTAINER
☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☐ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☒ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

224. STORAGE PRESSURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

225. STORAGE TEMPERATURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226.	227.	☐ Yes ☐ No 228.	229.
2. 230.	231.	☐ Yes ☐ No 232.	233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

246. ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: ____

If EPCRA, Please Sign Here.

FIRE/CUPA • 251 South C St.. Oxnard. CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200 Page 20 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201
North Warehouse

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☒ NO

FACILITY ID # (Agency Use Only)														1.	MAP # 203	GRID # 204
	5	6		0	1	3		0								H11

II. CHEMICAL INFORMATION

CHEMICAL NAME 205
Cobalt

TRADE SECRET ☐ Yes ☒ No 206
If Subject to EPCRA, refer to instructions

COMMON NAME 207
Cobalt

EHS* ☐ Yes ☒ No 208

CAS# 209
Mixture

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210
H:1 F:2 R:0

HAZARDOUS MATERIAL TYPE (Check one item only) ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211
RADIOACTIVE ☐ Yes ☒ No 212
CURIES 213

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214
LARGEST CONTAINER 215

FED HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217	MAXIMUM DAILY AMOUNT 218	ANNUAL WASTE AMOUNT 219	STATE WASTE CODE 220
0	0		

UNITS* (Check one item only) ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221
* If EHS, amount must be in pounds.
DAYS ON SITE 222
0

STORAGE CONTAINER 223
☐ a. ABOVEGROUND TANK ☐ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☐ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☒ d. STEEL DRUM ☐ h. SILO ☐ l. CYLINDER ☐ p. TANK WAGON

STORAGE PRESSURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

	% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1.	58.00 226	Cobalt Neodecanoate 227	☐ Yes ☒ No 228	27253-31-2 229
2.	20.00 230	Cobalt Hydroxide 231	☐ Yes ☒ No 232	21041-93-0 233
3.	20.00 234	Mineral Spirits 235	☐ Yes ☒ No 236	8052-41-3 237
4.	2.00% 238	Silicon Dioxide 239	☐ Yes ☒ No 240	7631-86-9 241
5.	242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION 246
DOT Hazard Class: __3__

If EPCRA, Please Sign Here

5980 Arcturus Ave.
Cook Composites & Polymers Co.

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TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200 Page 21 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201
Storage Tank

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☒ NO

FACILITY ID # (Agency Use Only) 5 6 0 1 3 0 1.

MAP # 203

GRID # 204
L4

II. CHEMICAL INFORMATION

CHEMICAL NAME 205
Nitrogen

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
Nitrogen

EHS* ☐ Yes ☒ No 208.

CAS# 209.
007727-37-9

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:1 F:0 R:0

HAZARDOUS MATERIAL TYPE (Check one item only) ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER Storage Tank 215.

FED HAZARD CATEGORIES (Check all that apply) ☐ a. FIRE ☐ b. REACTIVE ☒ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only) ☒ a. GALLONS ☐ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

DAYS ON SITE 222.
0

STORAGE CONTAINER
☒ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☐ d. STEEL DRUM
☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO
☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER
☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON
☐ q. RAIL CAR ☐ r. OTHER 223.

STORAGE PRESSURE ☐ a. AMBIENT ☒ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224.

STORAGE TEMPERATURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225.

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226.	227.	☐ Yes ☐ No 228.	229.
2. 230.	231.	☐ Yes ☐ No 232.	233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION 246.
DOT Hazard Class: __2__

If EPCRA, Please Sign Here

5980 Arcturus Ave.
Cook Composites & Polymers Co.

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200 Page 11 of 11

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 201
Cook Composites And Polymers Co.

CHEMICAL LOCATION 202
NORTHEAST PAD, WAREHOUSE

CHEMICAL LOCATION CONFIDENTIAL EPCRA 203
☐ YES ☒ NO

FACILITY ID # (Agency Use Only): 5 6 [ ] 0 1 3 [ ] 0 [ ] [ ] [ ] [ ] [ ] [ ] 1

MAP # 204

GRID # 205
C10, C11, L11

II. CHEMICAL INFORMATION

CHEMICAL NAME 206
N-BUTYL ACETATE

TRADE SECRET ☐ Yes ☒ No 207
If Subject to EPCRA, refer to instructions

COMMON NAME 208
N-BUTYL ACETATE

EHS* ☐ Yes ☒ No 209

CAS# 210
123864

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency)
H:2 F:3 R:0

HAZARDOUS MATERIAL TYPE (Check one item only) ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211

RADIOACTIVE ☐ Yes ☒ No 212

CURIES 213

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214

LARGEST CONTAINER DRUM 215

FED HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217	MAXIMUM DAILY AMOUNT 218	ANNUAL WASTE AMOUNT 219	STATE WASTE CODE 220
0	0		

UNITS* (Check one item only) ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221
* If EHS, amount must be in pounds.

DAYS ON SITE 222
0

STORAGE CONTAINER
☐ a. ABOVEGROUND TANK ☐ c. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. VAN, CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☐ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☒ d. STEEL DRUM ☐ h. SILO ☐ l. CYLINDER ☐ p. TANK WAGON 223

STORAGE PRESSURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

% WT	HAZARDOUS COMPONENT (For mixtures or waste only)	EHS	CAS #
1. 226	227	☐ Yes ☐ No 228	229
2. 230	231	☐ Yes ☐ No 232	233
3. 234	235	☐ Yes ☐ No 236	237
4. 238	239	☐ Yes ☐ No 240	241
5. 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if cancer carcinogen, or 0.1% by weight if cancer carcinogen, attach additional sheets of paper containing the required information.

246
ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: 3WA

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009

HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☑ DELETE ☐ REVISE 200 Page 23 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 1

Cook Composites And Polymers Co.

CHEMICAL LOCATION 201 | CHEMICAL LOCATION CONFIDENTIAL EPCRA 202 ☐ YES ☑ NO

Raw Material Tank Farm - T102

FACILITY ID # (Agency Use Only) 5 6 0 1 3 0 | MAP # 203 | GRID # 204 N6

II. CHEMICAL INFORMATION

CHEMICAL NAME 206

NEOPENTYL GLYCOL 90% IN WATER

TRADE SECRET ☐ Yes ☑ No 208 (If Subject to EPCRA, refer to instructions)

COMMON NAME 207

2,2-DIMETHYL-1,3-PROPANDIOL

EHS* ☐ Yes ☑ No 209

CAS# 208

126-30-7

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210

H:1 F:1 R:0

HAZARDOUS MATERIAL TYPE (Check one item only) ☐ a. PURE ☑ b. MIXTURE ☐ c. WASTE 211

RADIOACTIVE ☐ Yes ☑ No 212 | CURIES 213

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☑ b. LIQUID ☐ c. GAS 214

LARGEST CONTAINER 6,000 GAL 215

FED HAZARD CATEGORIES (Check all that apply) ☐ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☑ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217	MAXIMUM DAILY AMOUNT 218	ANNUAL WASTE AMOUNT 219	STATE WASTE CODE 220
0	0		

UNITS* (Check one item only) 221 ☐ a. GALLONS ☐ b. CUBIC FEET ☑ c. POUNDS ☐ d. TONS * If EHS, amount must be in pounds | DAYS ON SITE 222 0

STORAGE CONTAINER
☑ a. ABOVEGROUND TANK ☐ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☑ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☐ d. STEEL DRUM ☐ h. SILO ☐ l. CYLINDER ☐ p. TANK WAGON 223

STORAGE PRESSURE ☑ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE ☑ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226	227	☐ Yes ☐ No 228	229
2. 230	231	☐ Yes ☐ No 232	233
3. 234	235	☐ Yes ☐ No 236	237
4. 238	239	☐ Yes ☐ No 240	241
5. 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

246

ADDITIONAL LOCALLY COLLECTED INFORMATION

DOT Hazard Class: __NA__

If EPCRA, Please Sign Here:

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TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

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☐ ADD ☒ DELETE ☐ REVISE

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As)
Cook Composites And Polymers Co. 201

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☒ NO

CHEMICAL LOCATION
SOUTH WAREHOUSE

FACILITY ID # (Agency Use Only): 5 6 0 1 3 0 | MAP # 203 | GRID # 204: 11

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.
PHOSPHORIC ACID

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
PHOSPHORIC ACID

EHS* 208. ☐ Yes ☒ No

CAS# 209.
7664-38-2

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:2 F:0 R:0

HAZARDOUS MATERIAL TYPE (Check one item only): ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only): ☒ a. SOLID ☐ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER SUPER SACK 215.

FED HAZARD CATEGORIES (Check all that apply): ☐ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

DAYS ON SITE 222.
0

STORAGE CONTAINER 223.
☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☐ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☒ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE 224. ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225. ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226.	227.	☐ Yes ☐ No 228.	229.
2. 230.	231.	☐ Yes ☐ No 232.	233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information. 246.

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: _8___

If EPCRA, Please Sign Here.

Cook Composites & Polymers Co.

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HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

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☐ ADD ☒ DELETE ☐ REVISE 200

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 201
Cook Composites And Polymers Co.

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☒ NO

CHEMICAL LOCATION
North East Pad

FACILITY ID # (Agency Use Only): 5 6 0 1 3 0 1

MAP # 203

GRID # 204
G11,H11

II. CHEMICAL INFORMATION

CHEMICAL NAME 205
PETROLEUM HYDROCARBON

TRADE SECRET ☐ Yes ☒ No 206
If Subject to EPCRA, refer to instructions

COMMON NAME 207
SOLVENT NAPHTHA MEDIUM ALIPHATIC

EHS* ☐ Yes ☒ No 208

CAS# 209
(64741-77-1

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210
H:1 F:2 R:0

HAZARDOUS MATERIAL TYPE (Check one item only): ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211

RADIOACTIVE ☐ Yes ☒ No 212

CURIES 213

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214

LARGEST CONTAINER DRUM 215

FED HAZARD CATEGORIES (Check all that apply): ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217
0

MAXIMUM DAILY AMOUNT 218
0

ANNUAL WASTE AMOUNT 219

STATE WASTE CODE 220

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221
* If EHS, amount must be in pounds.

DAYS ON SITE 222
0

STORAGE CONTAINER: ☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER 223

STORAGE PRESSURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226	227	☐ Yes ☐ No 228	229
2. 230	231	☐ Yes ☐ No 232	233
3. 234	235	☐ Yes ☐ No 236	237
4. 238	239	☐ Yes ☐ No 240	241
5. 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION 246
DOT Hazard Class: _3___

If EPCRA, Please Sign Here.

Cook Composites & Polymers Co.

FIRE/CUPA • 251 South C St.. Oxnard. CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200 Page 26 of 32

I. FACILITY INFORMATION

3.

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As)
Cook Composites And Polymers Co.

201. CHEMICAL LOCATION
NORTHEAST PAD

202. CHEMICAL LOCATION CONFIDENTIAL EPCRA ☐ YES ☒ NO

FACILITY ID # (Agency Use Only): 5 6 [ ] 0 1 3 [ ] 0 [ ] [ ] [ ] [ ] [ ] 1.

203. MAP #

204. GRID # G11,H11

II. CHEMICAL INFORMATION

205. CHEMICAL NAME
POLYCURE 503

206. TRADE SECRET ☐ Yes ☒ No
If Subject to EPCRA, refer to instructions

207. COMMON NAME
POLYCURE 503

208. EHS* ☐ Yes ☒ No

209. CAS#
MIXTURE

*If EHS is "Yes," all amounts below must be in lbs.

210. FIRE CODE HAZARD CLASSES (Complete if required by local agency)
H:2 F:2 R:0

HAZARDOUS MATERIAL TYPE (Check one item only) ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211.

212. RADIOACTIVE ☐ Yes ☒ No

213. CURIES

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

215. LARGEST CONTAINER DRUM

FED HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216.

217. AVERAGE DAILY AMOUNT	218. MAXIMUM DAILY AMOUNT	219. ANNUAL WASTE AMOUNT	220. STATE WASTE CODE
0	0		

221. UNITS* (Check one item only) ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds.

222. DAYS ON SITE 0

STORAGE CONTAINER (223)
☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE (224) ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE (225) ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 16.00 (226)	COBALT COMPOUNDS (227)	☐ Yes ☒ No (228)	136-52-7 (229)
2. 11.00 (230)	DIETHYLENE GLYCOL BUTYL ETHERS (231)	☐ Yes ☒ No (232)	112-34-5 (233)
3. 16.00 (234)	MINERAL SPIRITS (235)	☐ Yes ☒ No (236)	8052-41-3 (237)
4. (238)	(239)	☐ Yes ☐ No (240)	(241)
5. (242)	(243)	☐ Yes ☐ No (244)	(245)

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information. 246.

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: __3__

If EPCRA, Please Sign Here.

Cook Composites & Polymers Co.
5980 Arcturus Ave.

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009

HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(use page per material per building or area)

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☐ ADD ☒ DELETE ☐ REVISE

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 201
Cook Composites And Polymers Co.

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☒ NO

CHEMICAL LOCATION
Warehouse

FACILITY ID # (Agency Use Only): 5 6 [ ] 0 1 3 [ ] 0 [ ] [ ] [ ] [ ] [ ] [ ] 1

MAP # 203

GRID # 204
J7

II. CHEMICAL INFORMATION

CHEMICAL NAME 205

TRADE SECRET ☐ Yes ☒ No 206
If Subject to EPCRA, refer to instructions

COMMON NAME 207
White Colorant

EHS* ☐ Yes ☒ No 208

*If EHS is "Yes," all amounts below must be in lbs.

CAS# 209
Mixture

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210
H:2 F:2 R:0

HAZARDOUS MATERIAL TYPE (Check one item only): ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211

RADIOACTIVE ☐ Yes ☒ No 212

CURIES 213

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214

LARGEST CONTAINER Drum 215

FED HAZARD CATEGORIES (Check all that apply): ☒ a. FIRE ☒ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217
0

MAXIMUM DAILY AMOUNT 218
0

ANNUAL WASTE AMOUNT 219

STATE WASTE CODE 220

DAYS ON SITE 222
0

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221
* If EHS, amount must be in pounds.

STORAGE CONTAINER: ☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER 223

STORAGE PRESSURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 5.00% 226	Styrene 227	☐ Yes ☒ No 228	100-42-5 229
2. 55.00 230	Titanium Dioxide 231	☐ Yes ☒ No 232	13463-67-7 233
3. 234	235	☐ Yes ☐ No 236	237
4. 238	239	☐ Yes ☐ No 240	241
5. 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: __3__

If EPCRA Please Sign Here

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HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200 Page 28 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 201
Cook Composites And Polymers Co.

CHEMICAL LOCATION 202
North Warehouse

CHEMICAL LOCATION CONFIDENTIAL EPCRA ☐ YES ☒ NO

FACILITY ID # (Agency Use Only): 5 6 0 1 3 0 1

MAP # 203

GRID # 204: J11

II. CHEMICAL INFORMATION

CHEMICAL NAME 205
6% Cobalt Drier

TRADE SECRET ☐ Yes ☒ No 206
If Subject to EPCRA, refer to instructions

COMMON NAME 207
Cobalt

EHS* ☐ Yes ☒ No 208

CAS# 209
7440484

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210
H:1 F:2 R:0

HAZARDOUS MATERIAL TYPE (Check one item only) 211: ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE

RADIOACTIVE ☐ Yes ☒ No 212

CURIES 213

PHYSICAL STATE (Check one item only) 214: ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS

LARGEST CONTAINER 215: Drum

FED HAZARD CATEGORIES (Check all that apply) 216: ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 217	MAXIMUM DAILY AMOUNT 218	ANNUAL WASTE AMOUNT 219	STATE WASTE CODE 220
0	0		

UNITS* (Check one item only) 221: ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds.

DAYS ON SITE 222: 0

STORAGE CONTAINER 223: ☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE 224: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

	% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1.	53.00 (226)	Cobalt Carboxylate (227)	☐ Yes ☒ No (228)	61789-51-3 27253-31-2 (229)
2.	43.00 (230)	Mineral Spirits (231)	☐ Yes ☒ No (232)	8052-41-3 (233)
3.	2.00% (234)	Diethylene Glycol Monomethyl Ether (235)	☐ Yes ☒ No (236)	111-77-3 (237)
4.	(238)	(239)	☐ Yes ☐ No (240)	(241)
5.	(242)	(243)	☐ Yes ☐ No (244)	(245)

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

246

ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: ____

If EPCRA, Please Sign Here

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200 Page 29 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As)
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201
NORTHEAST FENCELINE

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☒ NO

FACILITY ID # (Agency Use Only): 5 6 [ ] 0 1 3 [ ] 0 [ ] [ ] [ ] [ ] [ ] [ ] 1

MAP # 203

GRID # 204
G11

II. CHEMICAL INFORMATION

CHEMICAL NAME 205
ISOPROPYL ALCOHOL - 99%

TRADE SECRET ☐ Yes ☒ No 206
If Subject to EPCRA, refer to instructions

COMMON NAME 207
ISOPROPANOL

EHS* ☐ Yes ☒ No 208

CAS# 209
67-63-0

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210
H:1 F:3 R:0

HAZARDOUS MATERIAL TYPE (Check one item only): ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211

RADIOACTIVE ☐ Yes ☒ No 212

CURIES 213

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214

LARGEST CONTAINER DRUM 215

FED HAZARD CATEGORIES (Check all that apply): ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217	MAXIMUM DAILY AMOUNT 218	ANNUAL WASTE AMOUNT 219	STATE WASTE CODE 220
0	0		

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221
* If EHS, amount must be in pounds.

DAYS ON SITE 222
0

STORAGE CONTAINER: ☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER 223

STORAGE PRESSURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226	227	☐ Yes ☐ No 228	229
2. 230	231	☐ Yes ☐ No 232	233
3. 234	235	☐ Yes ☐ No 236	237
4. 238	239	☐ Yes ☐ No 240	241
5. 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

246
ADDITIONAL LOCALLY COLLECTED INFORMATION
DOT Hazard Class: __3__

If EPCRA, Please Sign Here

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200 Page 30 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 1.
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201.
Warehouse

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202.
☐ YES ☒ NO

FACILITY ID # (Agency Use Only): 5 6 [ ] 0 1 3 [ ] 0 [ ] [ ] [ ] [ ] [ ] 1.

MAP # 203.

GRID # 204.
G7

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
Ferrite Yellow Colorant

EHS* ☐ Yes ☒ No 208.

CAS# 209.
Mixture

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:2 F:1 R:0

HAZARDOUS MATERIAL TYPE (Check one item only): ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER Drum 215.

FED HAZARD CATEGORIES (Check all that apply): ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

DAYS ON SITE 222.
0

STORAGE CONTAINER 223.
☐ a. ABOVEGROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE 224. ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225. ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

	% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1.	60.00 226.	Unsaturated Polyester Resin 227.	☐ Yes ☒ No 228.	229.
2.	5.00% 230.	Diethylene Glycol 231.	☐ Yes ☒ No 232.	000111-46-6 233.
3.	5.00% 234.	Benzoic Acid 235.	☐ Yes ☒ No 236.	000065-85-0 237.
4.	238.	239.	☐ Yes ☐ No 240.	241.
5.	242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION 246.
DOT Hazard Class: __Not Regulated

If EPCRA, Please Sign Here

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200. Page 31 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3.
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201.
Warehouse

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202.
☐ YES ☒ NO

FACILITY ID # (Agency Use Only)	5	6		0	1	3		0						1.	MAP # 203.	GRID # 204.
																J7

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
Yellow (Green Shade) Colorant

EHS* ☐ Yes ☒ No 208.

CAS# 209.
Mixture

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:2 F:1 R:0

HAZARDOUS MATERIAL TYPE (Check one item only) ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER Drum 215.

FED HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only) ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

DAYS ON SITE 222.
0

STORAGE CONTAINER
☐ a. ABOVEGROUND TANK ☐ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☐ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☒ d. STEEL DRUM ☐ h. SILO ☐ l. CYLINDER ☐ p. TANK WAGON 223.

STORAGE PRESSURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224.

STORAGE TEMPERATURE ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225.

	% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1.	60.00 226.	Unsaturated Polyester Resin 227.	☐ Yes ☒ No 228.	229.
2.	5.00% 230.	Diethylene Glycol 231.	☐ Yes ☒ No 232.	000111-46-6 233.
3.	5.00% 234.	Benzoic Acid 235.	☐ Yes ☒ No 236.	000065-85-0 237.
4.	238.	239.	☐ Yes ☐ No 240.	241.
5.	242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION 246.
DOT Hazard Class: __Not Regulated

If EPCRA, Please Sign Here.

Cook Composites & Polymers Co.

FIRE/CUPA • 251 South C St., Oxnard, CA 93030
TELEPHONE: (805) 385-7657 FAX: (805) 385-8009
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)

(one page per material per building or area)

☐ ADD ☒ DELETE ☐ REVISE 200. Page 32 of 32

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 1.
Cook Composites And Polymers Co.

CHEMICAL LOCATION 201.
North Warehouse

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202.
☐ YES ☒ NO

FACILITY ID # (Agency Use Only): 5 6 [ ] 0 1 3 [ ] 0 — 1.

MAP # 203.

GRID # 204.
G11

II. CHEMICAL INFORMATION

CHEMICAL NAME 205.
2-ethyl hexanote

TRADE SECRET ☐ Yes ☒ No 206.
If Subject to EPCRA, refer to instructions

COMMON NAME 207.
Tegokat 220

EHS* ☐ Yes ☒ No 208.

CAS# 209.
23850-94-4

*If EHS is "Yes," all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by local agency) 210.
H:1 F:2 R:0

HAZARDOUS MATERIAL TYPE (Check one item only): ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211.

RADIOACTIVE ☐ Yes ☒ No 212.

CURIES 213.

PHYSICAL STATE (Check one item only): ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214.

LARGEST CONTAINER 55 Gal 215.

FED HAZARD CATEGORIES (Check all that apply): ☒ a. FIRE ☒ b. REACTIVE ☐ c. PRESSURE RELEASE ☒ d. ACUTE HEALTH ☒ e. CHRONIC HEALTH 216.

AVERAGE DAILY AMOUNT 217.	MAXIMUM DAILY AMOUNT 218.	ANNUAL WASTE AMOUNT 219.	STATE WASTE CODE 220.
0	0		

UNITS* (Check one item only): ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS 221.
* If EHS, amount must be in pounds.

DAYS ON SITE 222.
0

STORAGE CONTAINER 223.
☐ a. ABOVEGROUND TANK ☒ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☒ f. CAN ☐ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☒ d. STEEL DRUM ☐ h. SILO ☐ l. CYLINDER ☐ p. TANK WAGON

STORAGE PRESSURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224.

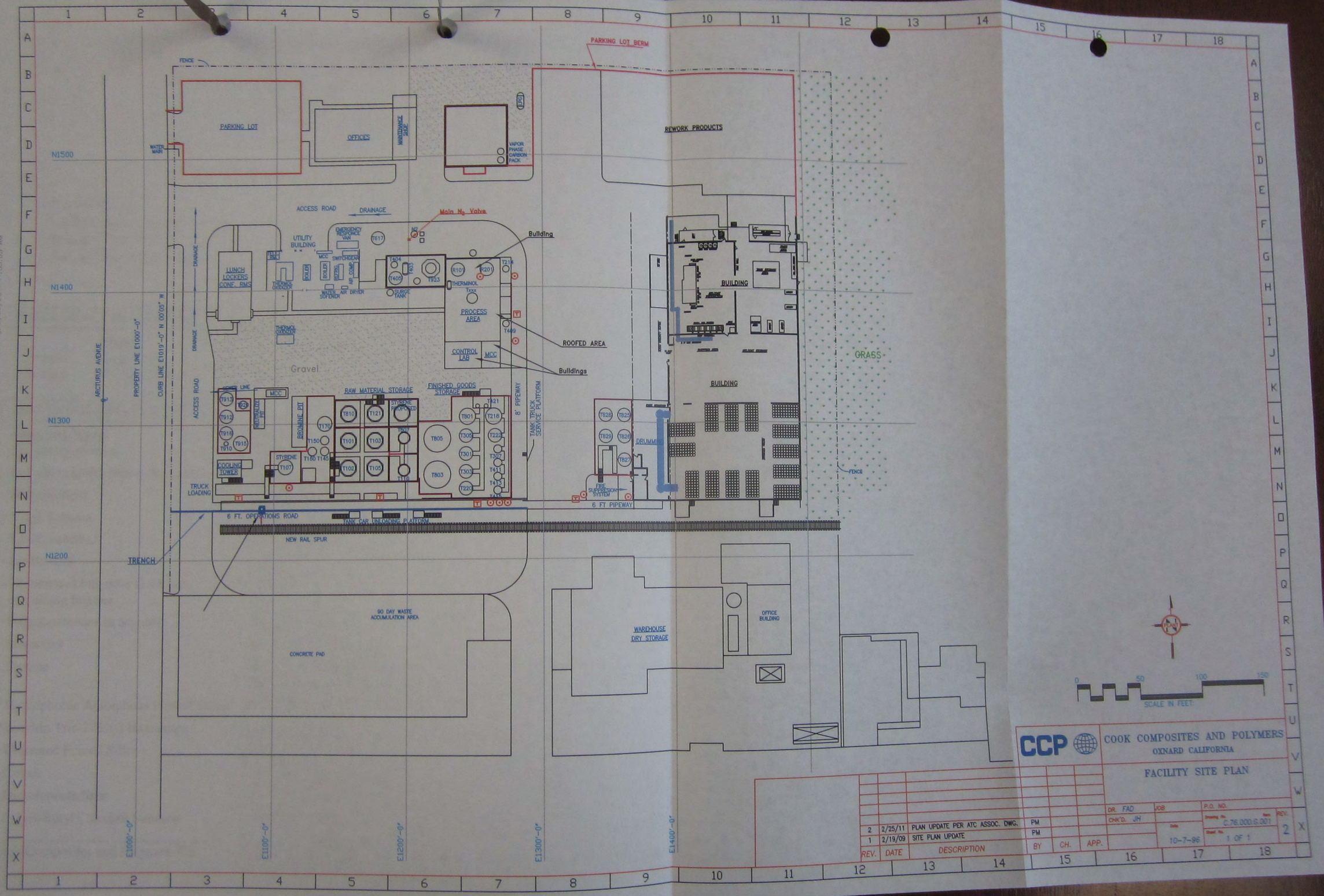
STORAGE TEMPERATURE: ☒ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225.

% WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1. 226.	227.	☐ Yes ☐ No 228.	229.
2. 230.	231.	☐ Yes ☐ No 232.	233.
3. 234.	235.	☐ Yes ☐ No 236.	237.
4. 238.	239.	☐ Yes ☐ No 240.	241.
5. 242.	243.	☐ Yes ☐ No 244.	245.

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

ADDITIONAL LOCALLY COLLECTED INFORMATION 246.
DOT Hazard Class: 3_

If EPCRA Please Sign Here


PARKING LOT BERM
FENCE
PARKING LOT
OFFICES
MAINTENANCE SHOP
VAPOR PHASE CARBON PACK
REWORK PRODUCTS
WATER MAIN
N1500
N1400
N1300
N1200
ACCESS ROAD
DRAINAGE
Main N2 Valve
Building
UTILITY BUILDING
EMERGENCY RESPONSE VAN
LUNCH LOCKERS CONF. RMS
THERMOL OXIDIZER
BOILER
WATER SOFENER
AIR DRYER
SURGE TANK
THERMINOL
PROCESS AREA
ROOFED AREA
CONTROL LAB
MCC
Buildings
Gravel
RAW MATERIAL STORAGE
FINISHED GOODS STORAGE
STYRENE PROPOSED
BROMINE PIT
NEUTRALIZE PIT
COOLING TOWER
STYRENE
TRUCK LOADING
8' PIPEWAY
TANK TRUCK SERVICE PLATFORM
DRUMMING
FIRE SUPPRESSION SYSTEM
6 FT PIPEWAY
BUILDING
GRASS
6 FT. OPERATIONS ROAD
TANK CAR UNLOADING PLATFORM
NEW RAIL SPUR
TRENCH
90 DAY WASTE ACCUMULATION AREA
CONCRETE PAD
WAREHOUSE DRY STORAGE
OFFICE BUILDING
ARCTURUS AVENUE
PROPERTY LINE E1000'-0"
CURB LINE E1019'-0" N 00°05" W
E1000'-0"
E1100'-0"
E1200'-0"
E1300'-0"
E1400'-0"
0 50 100 150
SCALE IN FEET
CCP
COOK COMPOSITES AND POLYMERS
OXNARD CALIFORNIA
FACILITY SITE PLAN
DR. FAD
CHK'D. JH
JOB
P.O. NO.
Drawing No. C.76.000.G.001
Sheet No. 1 OF 1
Date 10-7-96
REV. 2
2 2/25/11 PLAN UPDATE PER ATC ASSOC. DWG. PM
1 2/19/09 SITE PLAN UPDATE PM
REV. DATE DESCRIPTION BY CH. APP.

BUSINESS PLAN ANNUAL CERTIFICATION STATEMENT - 1/1/2011

This Certification Statement must be signed and returned by 3/1/2011 to:

Oxnard Fire Department
CUPA District 4 Inspector
360 West Second Street
Oxnard, CA 93030

RECEIVED
MAR 01 2011
BY: Maria

DO NOT MAKE ANY CHANGES ON THIS FORM

Jon Schuckman
Cook Composites and Polymers Co.
P.O. Box 419389
Kansas City, MO 64141

Permit #:
030012
Location:
5980 Arcturus Ave.

EMERGENCY CONTACTS

	Name	Business Phone	24 Hr. Phone
Primary	Greg Geary	(816) 391-6317	(816) 695-1764
Alternate	Jon Schuckman	(816) 391-6324	(816) 694-3967

HAZARDOUS MATERIALS

Common Name	Location	Max. Daily Amount
Sodium Hydroxide	Water Treatment Area	3,000 GAL
Solvent Naphtha Heavy Aromatic	South Warehouse	5,919 LBS
Sulfuric Acid	Water Treatment Area	250 GAL
Vinyl Toluene	South Warehouse	2,531 LBS
1,6-Hexanediol	North concrete pad	20,385 LBS
Iso-Butanol	Northeast Pad, Warehouse	3,650 GAL
Unsaturated Polyester Gel Coats containing Styrene	Warehouse	359,548 LBS
Polyvinylacetate in Styrene	North Warehouse	16,355 LBS
Silica Gel	South Warehouse	5,280 LBS
Styrene	Raw Material Tank Farm-T107, Tank Car Unloading	15,000 GAL
Hydrophobic Amorphous Fumed Silica	South Warehouse	550 LBS
Butyltin Tris-2-Ethyl Haxanoate	Kettle Deck	577 GAL
Untreated Fumed Silica	South Warehouse	8,084 LBS
Cobalt	North Warehouse	545 GAL
Dicyclopentadiene	Storage Tank S9120	49,549 GAL
P-Tert-Butyl Catechol Solution	North Warehouse	606 LBS

Terephthalic Acid	Warehouse, South Warehouse	7,050	LBS
Trimethylol Ethane	Warehouse	1,200	LBS
Calcium Naphthenate 5%	Warehouse	652	GAL
Cobalt	Northeast fence line, warehouse	2,078	GAL
CHDM-90	North pad	2,706	GAL
Liquid Nitrogen	Storage Tank	11,000	GAL
n-Butyl Acetate	Northeast Pad	32,800	LBS
2,2-Dimethyl-1,3-Propandiol	Raw Material Tank Farm	39,980	LBS
Phosphoric Acid	South Warehouse	1,300	LBS
Solvent Naphtha Medium Aliphatic	Northeast Pad	44,580	LBS
Polycure 503	Northeast Pad	537	LBS
White Colorant	Warehouse	9,338	LBS
White Colorant	Warehouse	14,667	LBS
951 White Colorant	Warehouse	8,921	LBS
Cobalt Drier	Warehouse	3,300	LBS
Isopropanol	Northeast Fenceline	55	GAL
Ferrite Yellow Colorant	Warehouse	55	GAL
Yellow (Green Shade) Colorant	Warehouse	995	GAL
Tegokat 220	North Warehouse	580	LBS

CERTIFICATION

Check One

K I certify that I have reviewed the Business Plan for this facility (including the Emergency Response and Employee Training Plans) and the plan is complete, accurate, and up to date. I also certify that there have been no changes in the quantity of the hazardous materials reported and that all hazardous materials handled at this site, which is subject to inventory, are listed above.

____ I have reviewed the Business Plan and revisions are necessary. I have completed and enclosed a revised Business Plan.

SIGNED: [signature] **TITLE:** ~~DIRECTOR~~ HSEQ COMPLIANCE ASSURANCE **DATE:** 04/28/2011

Failure to submit this form is a violation of State Law and may result in administrative civil penalties.

5980 Arcuri
Cook Composites & Polymers Co.

BUSINESS PLAN ANNUAL CERTIFICATION STATEMENT - 1/1/2010

This Certification Statement must be signed and returned by 3/1/2010 to:

Oxnard Fire Department
CUPA District 4 Inspector
360 West Second Street
Oxnard, CA 93030

RECEIVED
MAR 0 1 2010
BY: BNM

DO NOT MAKE ANY CHANGES ON THIS FORM

Jon Schuckman
Cook Composites and Polymers Co.
P.O. Box 419389
Kansas City, MO 64141

Permit #:
030012
Location:
5980 Arcturus Ave.

EMERGENCY CONTACTS

	Name	Business Phone	24 Hr. Phone
Primary	Greg Geary	(816) 391-6317	(816) 695-1764
Alternate	Jon Schuckman	(816) 391-6324	(816) 694-3967

HAZARDOUS MATERIALS

Common Name	Location	Max. Daily Amount
Calcined Kaolin	South Warehouse	26,596 LBS
Alumina Trihydrate	Warehouse	14,886 LBS
Limestone	Warehouse	21,295 LBS
Cobalt Drier 21%	North Warehouse	605 GAL
Sodium Hydroxide	Water Treatment Area	3,000 GAL
DCPD	Raw Material Tank Farm-S9120	8,000 GAL
Solvent Naphtha Heavy Aromatic	South Warehouse	5,919 LBS
Sulfuric Acid	Water Treatment Area	250 GAL
Vinyl Toluene	South Warehouse	2,531 LBS
Gel Coat Conatining Styrene	Gel Coat Production/Gel Coat Storage	3,300 GAL
Acetone	North Warehouse	2,916 LBS
Ethylene Glycol	Raw Material Tank Farm T101	15,000 GAL
NPG	Storage Tank S9115, South Warehouse	6,000 GAL
1,6-Hexanediol	North concrete pad	20,385 LBS
Phthalic Anhydride	South Warehouse	16,702 GAL
Talc	South Warehouse	53,661 LBS

5980 Arcturus Ave.
Cook Composites & Polymers Co.

DPGMME	Northeast Pad, Warehouse	55	GAL
Alpha-Methyl Styrene	Northeast Pad	110	GAL
Iso-Butanol	Northeast Pad, Warehouse	3,650	GAL
Diethylene Glycol	Raw Material Tank Farm-T103	15,000	GAL
Dipropylene Glycol	North Pad, Warehouse	55	GAL
Titanium Dioxide	South Warehouse	113,712	LBS
Unsaturated Polyester Gel Coats containing Styrene	Warehouse	359,548	LBS
Polyvinylacetate in Styrene	North Warehouse	16,355	LBS
Silica Gel	South Warehouse	8,682	LBS
Styrene	Raw Material Tank Farm-T107, Tank Car Unloading	15,000	GAL
Unsaturated Polyester Resins Containing Styrene	Thin Tanks/Blending/Finished Goods-Resin Storage	30,000	GAL
Hydrophobic Amorphous Fumed Silica	South Warehouse	550	LBS
Butyltin Tris-2-Ethyl Haxanoate	Kettle Deck	577	GAL
Untreated Fumed Silica	South Warehouse	8,084	LBS
Cobalt	North Warehouse	545	GAL
Dibasic Ester Mixture	North Warehouse	55	GAL
Dicyclopentadiene	Storage Tank S9120	49,549	GAL
Dimethylacetoacetamide	North Warehouse	55	GAL
Maleic Anhydride	South Warehouse	60,303	LBS
MMA	North Pad	1,815	GAL
N,N-Diethylaniline	North Warehouse	1,126	LBS
N,N-Dimethyl-P-Toluidine	North Warehouse	110	GAL
P-Tert-Butyl Catechol Solution	North Warehouse	606	LBS
Quarternary Ammonium Salt	South Warehouse	165	GAL
Terephthalic Acid	Warehouse, South Warehouse	7,050	LBS
Solvent Naphtha Light Aromatic	North Warehouse	329	LBS
Surfactant	North Warehouse	220	GAL
Trimethylol Ethane	Warehouse	1,200	LBS
Alkyl Quarternary Ammonium Clay	South Warehouse	549	LBS
Calcium Naphthenate 5%	Warehouse	652	GAL
Cobalt Drier 12%	NE Pad	275	GAL
Cobalt	Northeast fence line, warehouse	2,078	GAL
CHDM-90	North pad	2,706	GAL

Liquid Nitrogen	Storage Tank	11,000	GAL
Trimethylol Propane	North Warehouse	8,985	LBS
n-Butyl Acetate	Northeast Pad	32,800	LBS
2,2-Dimethyl-1,3-Propandiol	Raw Material Tank Farm	39,980	LBS
Phosphoric Acid	South Warehouse	1,300	LBS
Solvent Naphtha Medium Aliphatic	Northeast Pad	44,580	LBS
Polycure 503	Northeast Pad	537	LBS
Rinse Styrene	North Warehouse	15,000	GAL
White Colorant	Warehouse	9,338	LBS
White Colorant	Warehouse	14,667	LBS
951 White Colorant	Warehouse	8,921	LBS
Maleic Anhydride	Raw Material Tank Farm-T121	26,584	GAL
Nitrogen	Storage Tank	11,000	GAL
Cobalt Drier	Warehouse	3,300	LBS
Isopropanol	Northeast Fenceline	55	GAL
Pentaerythritol	South Warehouse	6,017	LBS
2-Butyl, 2-Ethyl, 1, 3 Propanediol	Raw Material Cage	1,045	GAL
Benzoic Acid	Oxy Warehouse	960	LBS
Smoothie	Raw Material Cage, Gel Coat Big Batch	165	GAL
Ferrite Yellow Colorant	Warehouse	55	GAL
Yellow (Green Shade) Colorant	Warehouse	995	GAL
Thermaclean	North Warehouse	2,335	LBS
Inhibitor Solution	North Warehouse	3,151	LBS
Tegokat 220	North Warehouse	580	LBS
Colorant	Warehouse	3,575	GAL
Phthalic Anhydride	Raw material tank farm-phthalic tank	152,400	LBS

CERTIFICATION

Check One

_____ I certify that I have reviewed the Business Plan for this facility (including the Emergency Response and Employee Training Plans) and the plan is complete, accurate, and up to date. I also certify that there have been no changes in the quantity of the hazardous materials reported and that all hazardous materials handled at this site, which is subject to inventory, are listed above.

__✓__ I have reviewed the Business Plan and revisions are necessary. I have completed and enclosed a revised Business Plan.

SIGNED: _____ **TITLE:** ~~DIRECTOR~~ HSEQ COMPLIANCE ASSURANCE **DATE:** 02/26/2010

Failure to submit this form is a violation of State Law and may result in administrative civil penalties.

BUSINESS PLAN ANNUAL CERTIFICATION STATEMENT - 1/1/2009

This Certification Statement must be signed and returned by 3/1/2009 to:

Oxnard Fire Department
CUPA District 4 Inspector
360 West Second Street
Oxnard, CA 93030

RECEIVED
MAR 2 2009
BY:

DO NOT MAKE ANY CHANGES ON THIS FORM

Jon Schuckman
Cook Composites and Polymers Co.
P.O. Box 419389
Kansas City, MO 64141

Permit #:
030012
Location:
5980 Arcturus Ave.

EMERGENCY CONTACTS

	Name	Business Phone	24 Hr. Phone
Primary	Patrico Cueva	(805) 986-3635	(805) 236-1734
Alternate	Juan Zavala	(805) 986-3635	(805) 754-6890

HAZARDOUS MATERIALS

Common Name	Location	Max. Daily Amount
BYK-A 555	Northeast Fence Line, Warehouse	1,936 LBS
Calcined Kaolin	South Warehouse	23,542 LBS
Alumina Trihydrate	Warehouse	12,630 LBS
Isophthalic Acid	South Warehouse	508,835 LBS
Adipic Acid	South Warehouse	35,721 LBS
Limestone	Warehouse	22,729 LBS
Cobalt Drier 21%	North Warehouse	1,265 LBS
Sodium Hydroxide	Water Treatment Area	3,000 GAL
DCPD	Raw Material Tank Farm-S9120	71,894 LBS
Glacial Methacrylic Acid	Northeast Pad, Warehouse	2,129 LBS
Solvent Naphtha Heavy Aromatic	South Warehouse	5,919 LBS
Sulfuric Acid	Water Treatment Area	250 GAL
Vinyl Toluene	South Warehouse	2,531 LBS
Gel Coat Conatining Styrene	Gel Coat Production/Gel Coat Storage	95,000 LBS
Acetone	North Warehouse	1,216 LBS
Ethylene Glycol	Raw Material Tank Farm T101	125,306 LBS

Cook Composites & Polymers Co.

DEGMEE	North Pad, Warehouse	2,597	LBS
NPG	Storage Tank S9115, South Warehouse	53,578	LBS
	North concrete pad	20,385	LBS
1,6-Hexanediol	South Warehouse	686,287	LBS
Phthalic Anhydride	South Warehouse	49,532	LBS
Talc	Northeast Pad, Warehouse	1,850	LBS
DPGMME	Northeast Pad	2,833	LBS
Alpha-Methyl Styrene	Northeast Pad, Warehouse	3,650	GAL
Iso-Butanol	Raw Material Tank Farm-T103	106,706	LBS
Diethylene Glycol	North Pad, Warehouse	12,473	LBS
Dipropylene Glycol	North Warehouse	1,378	GAL
2,4-Pentanedione	Raw Material Tank Farm - T810, T105	146,418	LBS
Propylene Glycol	South Warehouse	157,146	LBS
Titanium Dioxide	Warehouse	359,548	LBS
Unsaturated Polyester Gel Coats containing Styrene	Warehouse-Chemical Shed	517	LBS
Hydroquinone	North Warehouse	16,355	LBS
Polyvinylacetate in Styrene	South Warehouse	4,504	LBS
Silica Gel	Raw Material Tank Farm-T107, Tank Car Unloading	546,391	LBS
Styrene	Thin Tanks/Blending/Finished Goods-Resin Storage	1,376,000	LBS
Unsaturated Polyester Resins Containing Styrene	South Warehouse	550	LBS
Hydrophobic Amorphous Fumed Silica	Kettle Deck	577	GAL
Butyltin Tris-2-Ethyl Haxanoate	South Warehouse	8,084	LBS
Untreated Fumed Silica	North Warehouse	545	GAL
Cobalt	North Pad/ Warehouse	1,304	GAL
Copper Drier 8%	North Warehouse	3,265	LBS
Dibasic Ester Mixture	Storage Tank S9120	49,549	GAL
Dicyclopentadiene	North Warehouse	2,278	LBS
Dimethylacetoacetamide	North East Pad	931	LBS
2% Lithium Ten-Cem	South Warehouse	60,303	LBS
Maleic Anhydride	North Pad	721	LBS
Methanol	North Pad	16,546	LBS
MMA	North Warehouse	1,126	LBS
N,N-Diethylaniline			

N,N-Dimethylaniline	North Warehouse	964	LBS
N,N-Dimethyl-P-Toluidine	North Warehouse	1,008	LBS
Nonsilicone Defoamer	North Pad	874	LBS
Orange Fragrance	South Warehouse	709	LBS
P-Tert-Butyl Catechol Solution	North Warehouse	606	LBS
Paraffin Wax	South Warehouse	30,000	GAL
Plastic Additive	North Warehouse	2,707	LBS
Potassium Hex-Cem 977	North Warehouse	1,247	LBS
Quarternary Ammonium Salt	South Warehouse	1,821	GAL
Terephthalic Acid	Warehouse, South Warehouse	7,050	LBS
Saturated Polyester W/Acidic Groups	North Warehouse	400	LBS
Solvent Naphtha Light Aromatic	North Warehouse	329	LBS
Surfactant	North Warehouse	2,242	LBS
Styrene Surpressant	South Warehouse	997	LBS
Trimethylol Ethane	Warehouse	1,200	LBS
Triphenyl Phosphite	North Warehouse	629	LBS
Wetting and Dispersion Agent	North Warehouse	1,237	LBS
Alkyl Quarternary Ammonium Clay	South Warehouse	860	LBS
Calcium Naphthenate 5%	Warehouse	652	GAL
Cobalt Drier 12%	NE Pad	2,235	LBS
Cobalt	Northeast fence line, warehouse	2,078	GAL
CHDM-90	North pad	2,706	GAL
UV Absorber	North Warehouse	541	LBS
Liquid Nitrogen	Storage Tank	11,000	GAL
Trimethylol Propane	North Warehouse	35,341	LBS
Morpholine	Northeast Pad/Kettle Deck	944	LBS
n-Butyl Acetate	Northeast Pad	32,800	LBS
2,2-Dimethyl-1,3-Propandiol	Raw Material Tank Farm	39,980	LBS
Phosphoric Acid	South Warehouse	1,300	LBS
Solvent Naphtha Medium Aliphatic	Northeast Pad	44,580	LBS
Polycure 503	Northeast Pad	537	LBS
Rinse Styrene	Warehouse	515,743	LBS
White Colorant	Warehouse	9,338	LBS
White Colorant	Warehouse	14,667	LBS
951 White Colorant	Warehouse	8,921	LBS

Maleic Anhydride	Raw Material Tank Farm-T121 Storage Tank	141,040	LBS
Nitrogen	Warehouse	11,000	LBS
Cobalt Drier	Warehouse	3,300	LBS
Tert-Butyl Catechol	North Tank Farm	583	LBS
Esterification Water	Northeast Fenceline	375,218	LBS
Isopropanol	South Warehouse	598	LBS
Pentaerythritol	Raw Material Cage	13,052	LBS
2-Butyl, 2-Ethyl, 1, 3 Propanediol	Oxy Warehouse	48,936	LBS
Benzoic Acid	Raw Material Cage, Gel Coat Big Batch	11,228	LBS
Smoothie	Raw Material Cage, Resin Promoter Area	1,237	LBS
Chemlease	Raw Material Cage	1,275	LBS
Vinyl Toulene	Warehouse	1,381	LBS
Ferrite Yellow Colorant	Warehouse	55	GAL
Yellow (Green Shade) Colorant	North Warehouse	995	GAL
Thermaclean	North Tank Farm	2,335	LBS
Reaction Water	North Warehouse	1,376,000	LBS
Inhibitor Solution	North Warehouse	3,759	LBS
Tegokat 220	Warehouse	580	LBS
BYK-R 605 Plastic Additive	Thin Tanks/Blending/Finished Goods Storage/Resin	804	LBS
Colorant	North Warehouse	91,041	LBS
Wax Mixture w/polar components	Thin Tanks/Blending/Finished Goods Storage/Resin	1,376,000	LBS
Stabilizer	North Warehouse	964	LBS
N,N-dimethyl aniline			

CERTIFICATION

Check One

_____ I certify that I have reviewed the Business Plan for this facility (including the Emergency Response and Employee Training Plans) and the plan is complete, accurate, and up to date. I also certify that there have been no changes in the quantity of the hazardous materials reported and that all hazardous materials handled at this site, which is subject to inventory, are listed above.

__X__ I have reviewed the Business Plan and revisions are necessary. I have completed and enclosed a revised Business Plan.

SIGNED: _____ **TITLE:** DIRECTOR HSE COMPLIANCE ASSURANCE **DATE:** 02/27/2009

Failure to submit this form is a violation of State Law and may result in administrative civil penalties.

BUSINESS PLAN ANNUAL CERTIFICATION STATEMENT - 1/1/2008

This Certification Statement must be signed and returned by 3/1/2008 to:

Oxnard Fire Department
CUPA District 4 Inspector
360 West Second Street
Oxnard, CA 93030

DO NOT MAKE ANY CHANGES ON THIS FORM

Jon Schuckman
Cook Composites and Polymers Co.
P.O. Box 419389
Kansas City, MO 64141

Permit #:
030012
Location:
5980 Arcturus Ave.

EMERGENCY CONTACTS

	Name	Business Phone	24 Hr. Phone
Primary	Ron Kramer	(805) 986-3635	(805) 207-6113
Alternate	Al Kull	(805) 986-3635	(805) 207-6073

HAZARDOUS MATERIALS

Common Name	Location	Max. Daily Amount
Air Release Additive BYK-A 555	Northeast Fence Line, Warehouse	611 GAL
Calcined Kaolin	South Warehouse	24,587 LBS
Alumina Trihydrate	Warehouse	12,413 LBS
Isophthalic Acid	South Warehouse	325,646 LBS
Adipic Acid	South Warehouse	79,108 LBS
Limestone	Warehouse	19,754 LBS
Cobalt Drier 21%	North Warehouse	1,337 LBS
Sodium Hydroxide	Water Treatment Area	3,000 GAL
DCPD	Raw Material Tank Farm-S9120	54,024 LBS
Glacial Methacrylic Acid	Northeast Pad, Warehouse	3,846 GAL
Solvent Naphtha Heavy Aromatic	South Warehouse	5,919 LBS
Sulfuric Acid	Water Treatment Area	250 GAL
Vinyl Toluene	South Warehouse	2,531 LBS
Gel Coat Conatining Styrene	Gel Coat Production/Gel Coat Storage	95,000 LBS
Acetone	North Warehouse	702 LBS
Ethylene Glycol	Storage Tank S9113	108,670 LBS

DEGMEE	North Pad, Warehouse	2,045	LBS
NPG	Storage Tank S9115, South Warehouse	79,211	LBS
1,6-Hexanediol	North concrete pad	20,385	LBS
Phthalic Anhydride	South Warehouse	471,640	LBS
Talc	South Warehouse	52,427	LBS
DPGMME	Northeast Pad, Warehouse	2,676	LBS
Alpha-Methyl Styrene	Northeast Pad	2,795	GAL
Iso-Butanol	Northeast Pad, Warehouse	3,650	GAL
Diethylene Glycol	Storage Tank S9114	89,075	LBS
Dipropylene Glycol	North Pad, Warehouse	15,968	LBS
2,4-Pentanedione	North Warehouse	1,497	GAL
Propylene Glycol	Storage Tank S9116	194,304	LBS
Titanium Dioxide	South Warehouse	123,769	LBS
Unsaturated Polyester Gel Coats containing Styrene	Warehouse	359,548	LBS
Hydroquinone	Warehouse	568	LBS
Polyvinylacetate in Styrene	North Warehouse	16,355	LBS
Silica Gel	South Warehouse	6,869	LBS
Styrene	Raw Material Tank Farm-T107, Tank Car Unloading Pl	681,375	LBS
Unsaturated Polyester Resins Containing Styrene	Thin Tanks/Blending/Finished Goods-Resin Storage	1,376,000	LBS
Hydrophobic Amorphous Fumed Silica	South Warehouse	550	LBS
Butyltin Tris-2-Ethyl Haxanoate	Kettle Deck	577	GAL
Untreated Fumed Silica	South Warehouse	8,084	LBS
Cobalt	North Warehouse	545	GAL
Copper Drier 8%	North Pad/ Warehouse	1,438	GAL
Dibasic Ester Mixture	North Warehouse	3,757	LBS
Dicyclopentadiene	Storage Tank S9120	49,549	GAL
Dimethylacetoacetamide	North Warehouse	2,148	GAL
2% Lithium Ten-Cem	North East Pad	931	GAL
Maleic Anhydride	South Warehouse	89,517	GAL
Methanol	North Pad	514	LBS
MMA	North Pad	14,011	LBS
N,N-Diethylaniline	North Warehouse	1,173	LBS

N,N-Dimethylaniline	North Warehouse	1,032	GAL
N,N-Dimethyl-P-Toluidine	North Warehouse	810	LBS
Nonsilicone Defoamer	North Pad	6,346	LBS
Orange Fragrance	South Warehouse	793	GAL
P-Tert-Butyl Catechol Solution	North Warehouse	606	LBS
Paraffin Wax	South Warehouse	4,135	LBS
Plastic Additive	North Warehouse	1,837	LBS
Potassium Hex-Cem 977	North Warehouse	1,259	LBS
Quarternary Ammonium Salt	South Warehouse	1,941	GAL
Terephthalic Acid	Warehouse, South Warehouse	7,050	LBS
Saturated Polyester W/Acidic Groups	North Warehouse	400	GAL
Solvent Naphtha Light Aromatic	North Warehouse	329	LBS
Surfactant	North Warehouse	2,061	LBS
Styrene Surpressant	South Warehouse	1,640	LBS
Trimethylol Ethane	Warehouse	1,200	LBS
Triphenyl Phosphite	North Warehouse	738	LBS
Wetting and Dispersion Agent	North Warehouse	1,140	GAL
Alkyl Quarternary Ammonium Clay	South Warehouse	641	LBS
Calcium Naphthenate 5%	Warehouse	652	GAL
Cobalt Drier 12%	NE Pad	2,621	GAL
Cobalt	Northeast fence line, warehouse	2,078	GAL
CHDM-90	North pad	2,706	GAL
UV Absorber	South Warehouse	1,062	LBS
Liquid Nitrogen		9,000	GAL
Trimethylol Propane	South Warehouse	41,274	LBS
Morpholine	Northeast Pad/Kettle Deck	1,098	LBS
n-Butyl Acetate	Northeast Pad	32,800	LBS
2,2-Dimethyl-1,3-Propandiol	Raw Material Tank Farm	39,980	LBS
Phosphoric Acid	South Warehouse	1,300	LBS
Solvent Naphtha Medium Aliphatic	Northeast Pad	44,580	LBS
Polycure 503	Northeast Pad	537	LBS
Rinse Styrene	Warehouse	515,743	LBS
White Colorant	Warehouse	9,338	LBS
White Colorant	Warehouse	14,667	LBS
951 White Colorant	Warehouse	8,921	LBS

Maleic Anhydride	Storage Tank S9112	298,978	LBS
Nitrogen	Storage Tank	11,000	LBS
Cobalt Drier	Warehouse	3,300	LBS
Tert-Butyl Catechol	Warehouse	589	LBS
Esterification Water	North Tank Farm	139,678	LBS
Isopropanol	Northeast Fenceline	700	LBS
Pentaerythritol	South Warehouse	9,877	LBS
2-Butyl, 2-Ethyl, 1, 3 Propanediol	Raw Material Cage	33,937	LBS
Benzoic Acid	Oxy Warehouse	12,650	LBS
Smoothie	Raw Material Cage, Gel Coat Big Batch	805	LBS
Chemlease	Raw Material Cage, Resin Promoter Area	598	LBS
Vinyl Toulene	Raw Material Cage	921	LBS
Ferrite Yellow Colorant	Warehouse	55	GAL
Yellow (Green Shade) Colorant	Warehouse	995	GAL

CERTIFICATION

Check One

_____ I certify that I have reviewed the Business Plan for this facility (including the Emergency Response and Employee Training Plans) and the plan is complete, accurate, and up to date. I also certify that there have been no changes in the quantity of the hazardous materials reported and that all hazardous materials handled at this site, which is subject to inventory, are listed above.

X I have reviewed the Business Plan and revisions are necessary. I have completed and enclosed a revised Business Plan.

SIGNED: [signature] **TITLE:** DIRECTOR, HSE COMPLIANCE ASSURANCE **DATE:** 02/29/08

Failure to submit this form is a violation of State Law and may result in administrative civil penalties.

BUSINESS PLAN ANNUAL CERTIFICATION STATEMENT - 1/1/2007

This Certification Statement must be signed and returned by 3/1/2007 to:

Oxnard Fire Department
CUPA District 4 Inspector
251 S. C Street
Oxnard, CA 93030

DO NOT MAKE ANY CHANGES ON THIS FORM

Michael Gromacki
Cook Composites and Polymers Co.
PO Box 419389
Kansas City, MO 64141

Permit #:
030012
Location:
5980 Arcturus Ave.

EMERGENCY CONTACTS

	Name	Business Phone	24 Hr. Phone
Primary	Ron Kramer	(805) 986-3635	(805) 207-6113
Alternate	Al Kull	(805) 986-3635	(805) 207-6073

HAZARDOUS MATERIALS

Common Name	Location	Max. Daily Amount
Air Release Additive BYK-A 555	Northeast Fence Line, Warehouse	2,313 GAL
Calcined Kaolin	South Warehouse	22,447 LBS
Alumina Trihydrate	South Warehouse	12,333 LBS
Isophthalic Acid	South Warehouse	137,529 LBS
Adipic Acid	South Warehouse	100,634 LBS
Limestone	Warehouse	23,404 LBS
Cobalt Drier 21%	North Warehouse	1,350 LBS
Sodium Hydroxide	Water Treatment Area	3,000 GAL
DCPD	Storage Tank S9120	46,389 LBS
Glacial Methacrylic Acid	Northeast Pad, Warehouse	2,610 GAL
Solvent Naphtha Heavy Aromatic	South Warehouse	20,644 GAL
Sulfuric Acid	Water Treatment Area	250 GAL
Vinyl Toluene	South Warehouse	2,531 LBS
Gel Coat Conatining Styrene	Gel Coat Production/Gel Coat Storage	166,033 LBS
Acetone	North Warehouse	560 GAL
Ethylene Glycol	Storage Tank S9113	105,165 LBS

Cook Composites & Polymers Co.

DEGMEE	North Pad, Warehouse	1,530	LBS
NPG	Storage Tank S9115, South Warehouse	85,093	LBS
1,6-Hexanediol	North concrete pad	20,385	LBS
Phthalic Anhydride	Southeast Warehouse	366,556	LBS
Talc	South Warehouse	31,173	LBS
DPGMME	Northeast Pad, Warehouse	2,079	GAL
Alpha-Methyl Styrene	Northeast Pad	2,974	GAL
Iso-Butanol	Northeast Pad, Warehouse	3,650	GAL
Diethylene Glycol	Storage Tank S9114	141,173	LBS
Dipropylene Glycol	North Pad, Warehouse	6,204	LBS
2,4-Pentanedione	North Warehouse	1,563	GAL
Propylene Glycol	Storage Tank S9116	165,315	LBS
Titanium Dioxide	South Warehouse	55,996	LBS
Unsaturated Polyester Gel Coats containing Styrene	Warehouse	359,548	LBS
Hydroquinone	Warehouse	528	LBS
Polyvinylacetate in Styrene	North Warehouse	16,355	LBS
Silica Gel	South Warehouse	14,078	LBS
Styrene	Raw Material Tank Farm-T107	552,323	LBS
Unsaturated Polyester Resins Containing Styrene	Thin Tanks/Blending/Finished Goods-Resin Storage	1,201,272	LBS
Hydrophobic Amorphous Fumed Silica	South Warehouse	550	LBS
Butyltin Tris-2-Ethyl Haxanoate	Kettle Deck	577	GAL
Untreated Fumed Silica	South Warehouse	8,084	LBS
Cobalt	North Warehouse	545	GAL
Copper Drier 8%	North Pad/ Warehouse	795	GAL
Dibasic Ester Mixture	North Warehouse	4,530	LBS
Dicyclopentadiene	Storage Tank S9120	49,549	GAL
Dimethylacetoacetamide	North Warehouse	2,228	GAL
2% Lithium Ten-Cem	North East Pad	1,150	GAL
Maleic Anhydride	South Warehouse	91,645	GAL
Methanol	North Pad	672	GAL
MMA	North Pad	12,758	LBS
N,N-Diethylaniline	North Warehouse	1,466	LBS
N,N-Dimethylaniline	Warehouse	1,310	GAL

N,N-Dimethyl-P-Toluidine	North Warehouse	1,274	LBS
Nonsilicone Defoamer	North Pad	877	LBS
Orange Fragrance	South Warehouse	775	GAL
P-Tert-Butyl Catechol Solution	North Warehouse	606	LBS
Paraffin Wax	South Warehouse	4,135	LBS
Plastic Additive	North Warehouse	1,548	LBS
Potassium Hex-Cem 977	North Warehouse	1,482	LBS
Quarternary Ammonium Salt	South Warehouse	1,923	GAL
Terephthalic Acid	Warehouse, South Warehouse	7,050	LBS
Saturated Polyester W/Acidic Groups	North Warehouse	1,053	GAL
Solvent Naphtha Light Aromatic	North Warehouse	2,549	GAL
Surfactant	North Warehouse	2,091	LBS
Styrene Surpressant	South Warehouse	1,640	LBS
Trimethylol Ethane	Warehouse	1,200	LBS
Triphenyl Phosphite	North Warehouse	802	LBS
Wetting and Dispersion Agent	North Warehouse	1,233	GAL
Alkyl Quarternary Ammonium Clay	South Warehouse	641	LBS
Calcium Naphthenate 5%	Warehouse	652	GAL
Cobalt Drier	NE Pad	2,283	GAL
Cobalt	Northeast fence line, warehouse	2,078	GAL
CHDM-90	North pad	2,706	GAL
UV Absorber	South Warehouse	1,062	LBS
Liquid Nitrogen		9,000	GAL
Trimethylol Propane	South Warehouse	42,284	LBS
Morpholine	Northeast Pad/Kettle Deck	1,081	LBS
n-Butyl Acetate	Northeast Pad	32,800	LBS
2,2-Dimethyl-1,3-Propandiol	Raw Material Tank Farm	39,980	LBS
Phosphoric Acid	South Warehouse	1,300	LBS
Solvent Naphtha Medium Aliphatic	Northeast Pad	44,580	LBS
Polycure 503	Northeast Pad	537	LBS
Rinse Styrene	Warehouse	515,743	LBS
White Colorant	Warehouse	9,338	LBS
White Colorant	Warehouse	13,565	LBS
951 White Colorant	Warehouse	7,129	LBS
Maleic Anhydride	Storage Tank S9112	232,344	LBS

Nitrogen	Storage Tank	11,000	LBS
Cobalt Drier	Warehouse	3,300	LBS
Tert-Butyl Catechol	Warehouse	46,389	LBS
Esterification Water	North Tank Farm	66,000	LBS

CERTIFICATION

Check One

_____ I certify that I have reviewed the Business Plan for this facility (including the Emergency Response and Employee Training Plans) and the plan is complete, accurate, and up to date. I also certify that there have been no changes in the quantity of the hazardous materials reported and that all hazardous materials handled at this site, which is subject to inventory, are listed above.

__X__ I have reviewed the Business Plan and revisions are necessary. I have completed and enclosed a revised Business Plan.

SIGNED: _____ **TITLE:** VICE PRESIDENT ENGINEERING + LOSS CONTROL **DATE:** 02/28/2007

Failure to submit this form is a violation of State Law and may result in administrative civil penalties.

Oxnard Fire Department
Certified Unified Program Agency
251 S. C Street, Oxnard, CA 93030

BUSINESS PLAN ANNUAL CERTIFICATION STATEMENT

1/3/2006

This Certification Statement must be signed and returned by 3/1/2006

DO NOT MAKE ANY CHANGES ON THIS FORM

Michael Gromacki
Cook Composites and Polymers Co.
5980 Arcturus Ave.
Oxnard, CA 93033

Permit #:
030012
Location:
5980 Arcturus Ave.

EMERGENCY CONTACTS

	Name	Business Phone	24 Hr. Phone
Primary	Ron Kramer	(805) 986-3635	(805) 986-4415
Alternate	Michael Gromacki	(816) 391-6011	(816) 391-6000

HAZARDOUS MATERIALS

Common Name	Location	Max. Daily Amount
1,4-Butanedicarboxylic Acid	South Warehouse	20,385 LBS
1,6-Hexanediol	north concrete pad	1,621 GAL
2% Lithium Ten-Cem	North East Pad	39,980 LBS
2,2-Dimethyl-1,3-Propandiol	Raw Material Tank Farm	1,111 GAL
2,4-Pentanedione	North Warehouse	7,129 LBS
951 White Colorant	Warehouse	1,826 GAL
Acetone	North Warehouse	40,544 LBS
Adipic Acid	South Warehouse	2,316 GAL
Air Release Additive BYK-A 555	Northeast Fence Line, Warehouse	641 LBS
Alkyl Quarternary Ammonium Clay	South Warehouse	1,897 GAL
Alpha-Methyl Styrene	Northeast Pad	12,333 LBS
Alumina Trihydrate	South Warehouse	577 GAL
Butyltin Tris-2-Ethyl Haxanoate	Kettle Deck	22,447 LBS
Calcined Kaolin	South Warehouse	652 GAL
Calcium Naphthenate 5%	warehouse	2,706 GAL
CHDM-90	north pad	2,078 GAL
Cobalt	northeast fence line, warehouse	

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Cobalt	north warehouse	545	GAL
Cobalt Drier	warehouse, north pad	3,407	GAL
Cobalt Drier 21%	North Warehouse	1,712	LBS
Copper Drier 8%	North Pad/ Warehouse	841	GAL
DCPD	Storage Tank S9120	62,195	LBS
Dibasic Ester Mixture	North Warehouse	1,648	LBS
Dicyclopentadiene	Storage Tank S9120	49,549	GAL
Diethylene Glycol	Storage Tank S9114	119,674	LBS
Dimethylacetoacetamide	North Warehouse	2,210	GAL
Dipropylene Glycol	North Pad, Warehouse	2,575	LBS
Dipropylene Glycol Monomethyl Ether	northeast pad, warehouse	2,614	GAL
DPGMEE	North Pad, Warehouse	2,197	LBS
Ethylene Glycol	Storage Tank S9113	88,100	LBS
Gel Coat Conatining Styrene	South Warehouse	359,548	LBS
Glacial Methacrylic Acid	Northeast Pad, Warehouse	2,093	GAL
Hydrophobic Amorphous Fumed Silica	South Warehouse	550	LBS
Hydroquinone	warehouse	547	LBS
Iso-Butanol	northeast pad, warehouse	3,650	GAL
Isophthalic Acid	South Warehouse	131,653	LBS
Limestone	Warehouse	23,404	LBS
Liquid Nitrogen		9,000	GAL
Maleic Anhydride	South Warehouse	104,260	GAL
Maleic Anhydride	Storage Tank S9112	190,452	LBS
Methanol	North Pad	690	GAL
MMA	North Pad	13,546	LBS
Morpholine	Northeast Pad/Kettle Deck	1,096	LBS
N,N-Diethylaniline	North Warehouse	1,682	LBS
N,N-Dimethylaniline	warehouse	1,421	GAL
N,N-Dimethyl-P-Toluidine	North Warehouse	1,181	LBS
n-Butyl Acetate	Northeast Pad	32,800	LBS
Nitrogen	Storage Tank	11,000	LBS
Nonsilicone Defoamer	North Pad	1,115	LBS
NPG	Storage Tank S9115, South Warehouse	65,588	LBS
Orange Fragrance	South Warehouse	2,652	GAL
Paraffin Wax	South Warehouse	4,135	LBS
Phosphoric Acid	South Warehouse	1,300	LBS
Phthalic Anhydride	Southeast Warehouse	523,490	LBS

Plastic Additive	Northeast Pad	1,821	LBS
Polycure 503		537	LBS
Polyvinylacetate in Styrene	North Warehouse	16,355	LBS
Potassium Hex-Cem 977	North Warehouse	2,251	LBS
Propylene Glycol	Storage Tank S9116	131,728	LBS
P-Tert-Butyl Catechol Solution	North Warehouse	606	LBS
Quarternary Ammonium Salt	South Warehouse	2,871	GAL
Rinse Styrene	Warehouse	515,743	LBS
Saturated Polyester W/Acidic Groups	North Warehouse	1,053	GAL
Silica Gel	South Warehouse	14,078	LBS
Sodium Hydroxide	Water Treatment Area	3,000	GAL
Solvent Naphtha Heavy Aromatic	South Warehouse	21,694	GAL
Solvent Naphtha Light Aromatic	North Warehouse	2,617	GAL
Solvent Naphtha Medium Aliphatic	Northeast Pad	44,580	LBS
Styrene	Storage Tank S9117	679,114	LBS
Styrene Surpressant	South Warehouse	1,640	LBS
Sulfuric Acid	water Treatment Area	250	GAL
Surfactant	North Warehouse	2,746	LBS
Talc	South Warehouse	31,173	LBS
Terephthalic Acid	warehouse, south warehouse	7,050	LBS
Titanium Dioxide	South Warehouse	55,996	LBS
Trimethylol Ethane	warehouse	1,200	LBS
Triphenyl Phosphite	North Warehouse	1,027	LBS
Unsaturated Polyester Gel Coats containing Styrene	warehouse	359,548	LBS
Unsaturated Polyester Resins Containing Styrene	Resin Storage	1,360,441	LBS
Untreated Fumed Silica	South Warehouse	8,084	LBS
UV Absorber	South Warehouse	1,062	LBS
Vinyl Toluene	South Warehouse	2,531	LBS
Wetting and Dispersion Agent	North Warehouse	1,209	GAL
White Colorant	Warehouse	626	LBS
White Colorant	Warehouse	10,438	LBS

CERTIFICATION

Check One

_____ *I certify that I have reviewed the Business Plan for this facility (including the Emergency Response and Employee Training Plans) and the plan is complete, accurate, and up to date. I also certify that there have been no changes in the quantity of the hazardous materials reported and that all hazardous materials handled at this site, which is subject to inventory, are listed above.*

__X__ *I have reviewed the Business Plan and revisions are necessary. I have completed and enclosed a revised Business Plan.*

SIGNED: _____ **TITLE:** DIRECTOR - QSE **DATE:** 02/27/2006

Failure to submit this form is a violation of State Law and may result in administrative civil penalties.

Cook Composites & Polymers

Oxnard Fire Department
Certified Unified Program Agency
251 S. C Street, Oxnard, CA 93030

BUSINESS PLAN ANNUAL CERTIFICATION STATEMENT

1/10/2005

This Certification Statement must be signed and returned by 3/1/2005
Attention: District 4 inspector
DO NOT MAKE ANY CHANGES ON THIS FORM

Permit #:
030012
Location:
5980 Arcturus Ave.

Ron Bergkamp
Cook Composites and Polymers Co.
5980 Arcturus Ave.
Oxnard, CA 93033

EMERGENCY CONTACTS

	Name	Business Phone	24 Hr. Phone
Primary	Jim Hallock	(805) 986-3635	(805) 647-0631
Alternate	Michael Gromacki	(916) 391-6011	(816) 532-6210

HAZARDOUS MATERIALS

Common Name	Location	Max. Daily Amount
Air Release Additive BYK-A 555	northeast fence line, warehouse	2,092 GAL
Aluminum Silicate	Warehouse	22,447 LBS
Alumina Trihydrate	warehouse	12,330 LBS
Isophthalic Acid	south warehouse	130,637 LBS
Adipic Acid	warehouse	51,327 LBS
Limestone	Warehouse	17,503 LBS
Cobalt Drier 21%	warehouse	1,349 GAL
Cobalt	north warehouse	545 GAL
2% Lithium Ten-Cem	north warehouse	866 GAL
Maleic Anhydride	Storage Tank S9112	392,180 GAL
Methanol	northeast pad	614 GAL
Sodium Hydroxide	Water Treatment Area	3,000 GAL
DCPD	Storage Tank S9120	49,549 LBS
Unsaturated Polyester Gel Coats containing Styrene	warehouse	359,548 LBS
Polyvinylacetate in Styrene	North warehouse	16,382 GAL
Silica Gel	southeast warehouse	14,078 GAL
Copper Drier 8%	north pad, warehouse	512 GAL

Dibasic Ester Mixture	north warehouse	2,188	GAL
MMA	warehouse	17,168	LBS
N,N-Diethylaniline	warehouse	1,377	GAL
Glacial Methacrylic Acid	northeast pad, warehouse	2,093	GAL
Styrene	Storage Tank S9117	660,145	GAL
Dicyclopentadiene	Storage Tank S9120	49,549	GAL
Dimethylacetoacetamide	warehouse	862	GAL
N,N-Dimethylaniline	warehouse	1,421	GAL
N,N-Dimethyl-P-Toluidine	warehouse	688	GAL
Nonsilicone Defoamer	warehouse	1,306	GAL
Solvent Naphtha Heavy Aromatic	warehouse	27,503	GAL
Sulfuric Acid	water Treatment Area	250	GAL
Unsaturated Polyester Resins containing Styrene	warehouse	1,492,460	LBS
Orange Fragrance	warehouse	3,342	GAL
P-Tert-Butyl Catechol Solution	warehouse	593	GAL
Paraffin Wax	warehouse	4,135	GAL
Plastic Additive	warehouse	867	GAL
Vinyl Toluene	warehouse	14,194	GAL
Hydrophobic amorphous fumed silica	warehouse	550	LBS
Butyltin Tris-2-Ethyl Haxanoate	Kettle Deck	577	GAL
Untreated Fumed Silica	warehouse	9,529	LBS
Potassium 2-Ethylhexanoate	warehouse	1,066	GAL
Quarternary Ammonium Salt	warehouse	1,980	GAL
Terephthalic Acid	warehouse, south warehouse	7,050	LBS
Rinse Styrene	warehouse	515,743	LBS
Saturated Polyester with acidic groups	warehouse	9,142	GAL
Acetone	north warehouse	712	GAL
Solvent Naphtha Light Aromatic	warehouse	3,691	GAL
Ethylene Glycol	Storage Tank S9113	65,615	GAL
DEGMEE	northeast pad, warehouse	1,446	GAL
NPG	Storage TankS9115, south warehouse	55,145	LBS
Hydroquinone	warehouse	547	LBS
Surfactant	warehouse	2,412	GAL
Styrene Surpressant	warehouse	1,640	GAL
Trimethylol Ethane	warehouse	1,200	LBS
Triphenyl Phosphite	warehouse	600	GAL

SITE TIER II

Cook Composites & Polymers Co.

Wetting and Dispersion Agent	south warehouse	662	GAL
ASU-1 Quaternary Ammonium Bentonite	north concrete pad	559	LBS
1,6-Hexanediol	southeast warehouse	20,385	LBS
Phthalic Anhydride	southeast warehouse	474,531	LBS
Talc	northeast pad, warehouse	31,173	LBS
Dipropylene Glycol Monomethyl Ether	warehouse	2,614	GAL
Calcium Naphthenate 5%	warehouse, north pad	652	GAL
Cobalt Drier	northeast fence line, warehouse	3,407	GAL
Cobalt	warehouse	2,078	GAL
Alpha-Methyl Styrene	northeast pad, warehouse	1,897	GAL
Iso-Butanol	Storage Tank S9114	3,650	GAL
Diethylene Glycol	north pad, warehouse	97,867	GAL
Dipropylene Glycol	warehouse	6,045	GAL
2,4-Pentanedione	Storage Tank S9116	978	GAL
Propylene Glycol	north pad	181,109	GAL
CHDM-90	warehouse	2,706	GAL
UV Absorber	warehouse	526	LBS
Organophilic Clay	southeast warehouse	6,856	LBS
Titanium Dioxide		55,996	LBS
Liquid Nitrogen		9,000	GAL

CERTIFICATION

Check One

X — I certify that I have reviewed the Business Plan for this facility (including the Emergency Response and Employee Training Plans) and the plan is complete, accurate, and up to date. I also certify that there have been no changes in the quantity of the hazardous materials reported and that all hazardous materials handled at this site, which is subject to inventory, are listed above.

____ I have reviewed the Business Plan and revisions are necessary. I have completed and enclosed a revised Business Plan.

SIGNED: [signature] **TITLE:** DIRECTOR - QSE **DATE:** 02-28-2005

Failure to submit this form is a violation of State Law and may result in administrative civil penalties.

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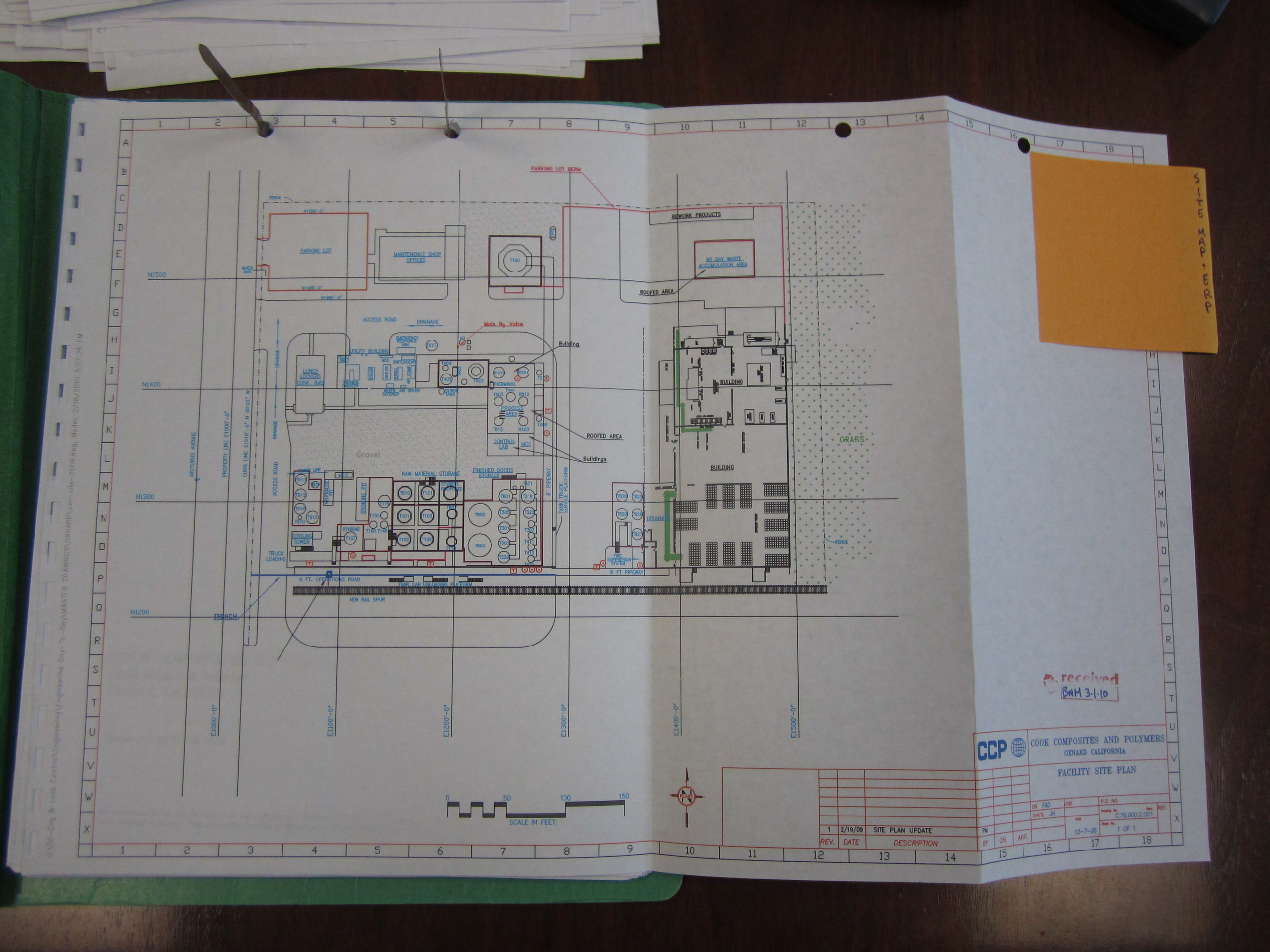

PARKING LOT BERM
REWORK PRODUCTS
90 DAY WASTE ACCUMULATION AREA
ROOFED AREA
PARKING LOT
MAINTENENCE SHOP OFFICES
T100
N1500
N1400
N1300
N1200
ACCESS ROAD
DRAINAGE
Main N2 Valve
Building
LUNCH LOCKERS CONF. RMS
UTILITY BUILDING
PROCESS AREA
CONTROL LAB
MCC
ROOFED AREA
Buildings
BUILDING
GRASS
Gravel
RAW MATERIAL STORAGE
FINISHED GOODS STORAGE
8' PIPEWAY
TANK TRUCK SERVICE PLATFORM
BROMINE PIT
COOLING TOWER
TRUCK LOADING
6 FT. OPERATIONS ROAD
TANK CAR UNLOADING PLATFORM
NEW RAIL SPUR
6 FT PIPEWAY
FIRE SUPPRESSION SYSTEM
DRUMMING
FENCE
TRENCH
ARCTURUS AVENUE
PROPERTY LINE E1000'-0"
CURB LINE E1019'-0" N 00°05' W
E1000'-0"
E1100'-0"
E1200'-0"
E1300'-0"
E1400'-0"
E1500'-0"
SCALE IN FEET:
0
50
100
150
SITE MAP - ERP
received
BNM 3.1.10
CCP
COOK COMPOSITES AND POLYMERS
OXNARD CALIFORNIA
FACILITY SITE PLAN
1 2/19/09 SITE PLAN UPDATE
REV. DATE DESCRIPTION
DR. FAD
CHK'D. JH
10-7-96
C.76.000.G.001
1 OF 1

COOK COMPOSITES AND POLYMERS CO.

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MAR 01 2010
BY: BNM

BUSINESS PLAN
FOR
HAZARDOUS MATERIAL
AND
EMERGENCY RESPONSE

COOK COMPOSITES AND POLYMERS CO.
5980 Arcturus Avenue
Oxnard, CA 93033

Telephone: (805) 986-3635

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5980 Arcturus Ave.

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OXNARD PLANT
BUSINESS PLAN FOR HAZARDOUS MATERIALS
AND
EMERGENCY RESPONSE

Copy: 1

Part of:

Revised:

Date: 02-26-09	By: Mary Dawdy	Title: Quality/Safety/Environment
Date: 02-24-2010	By: Mary Dawdy	Title: Quality/Safety/Environment

Reviewed:

Date: 02-27-09	By: Jon Schuckman	Title: Director HSE Compliance
Date: 02-242010	By: Jon Schuckman	Title: Director HSE Compliance

Approved:

Date: 02-27-09	By: Jon Schuckman	Title: Director HSE Compliance
Date: 02-24-2010	By: Jon Schuckman	Title: Director HSE Compliance

Scheduled Review:

Next Review	February 2010	February 2011		
Performed by	Jon Schuckman			
Date	02-24-2010			

Distribution:

Copy #	Destination	Copy #	Destination	Copy #	Destination
0	QSE Director	1	Plant Manager	2	Knox Box
3	Fire Department	4	Office of Emergency Response Services		

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1.0 Purpose:

To provide a reference document for emergency response that includes chemical inventories, resources available, and response plans.

2.0 Scope:

This document is applicable to the Oxnard plant. Copies are reviewed by the Oxnard Fire Department and the Office of Emergency Response Services.

3.0 References:

29 CFR 1910.120

4.0 Document Owner:

The Oxnard Plant Office Manager is the owner of this training level work instruction.

5.0 Definitions:

None

6.0 Plan:

Conditions that could cause a large-scale release include, but are not limited to: earthquake, tank car derailment, transportation accidents on company property, equipment failure, employee, negligence or sabotage.

6.1 Criteria

Criteria use to evaluate the Facility include physical location of the plant, environmental conditions, structural considerations, chemical hazards, management structure, level of training for emergency response personnel, traditional equipment and supplies, specialized equipment and supplies, first aid supplies, and communications equipment.

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6.2 *Facility Description*

Physical Location:

Ventura County Thomas Bros. Map coordinates: Pg. 552 H-7. (See Appendix B)

The CCP Facility is located in a rural area on Arcturus Avenue and consists of 3.7 acres of plant property and ten acres of land owned by CCP on the North. To the East is Kaiser Aluminum Plant and to the West is Arcturus Manufacturing. The Southern boundary of the facility is defined by a rail spur owned by Ventura County Railroad Company, which runs East and West and separates the CCP Facility from the Occidental Chemical Facility.

There is an above ground pipe connecting the former Occidental Chemical Company and CCP that runs over the southern boundary. The pipeline was formerly used to supply the Reichhold Chemicals (the former owner of the CCP Plant) with sodium hydroxide but is no longer in use. Occidental Chemicals Company is no longer operational and the facility has been acquired for storage by CCP.

The CCP Facility is located approximately 1.5 miles from the Pacific Ocean and is subject to on-shore-offshore winds and fog. The prevailing wind direction is to the East (onshore).

Surrounding Area:

While the facility is located in a rural area, the city of Oxnard is 2 miles to the North and, under certain conditions, it would be possible for the wind to move a plume in this direction.

Directly, to the South is agricultural land and the Pacific Ocean. To the Southeast, approximately 1/2 mile, is the Edison Plant.

To the East, approximately 4 miles, is the point Mugu U.S. Naval Air Missile Test Grounds and the Point Mugu Game Reserve.

To the West, approximately 1 mile, is the city of Port Hueneme.

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Cook Composites & Polymers Co.

Port Hueneme has had an earthquake of a magnitude 2.0-2.4, between 1978-1988 (see enclosed U.S. Geological Survey Map).

Facility Status:

As discussed on January 21, 2009, the CCP Oxnard facility temporarily idled its UPR production process as part of a corporate restructuring strategy effective November 17, 2007. Subsequently, CCP personnel performed thorough cleaning of all UPR-related process equipment to prepare the process equipment for restart when the production capacity is again required.

Again in November 2008, the CCP Oxnard facility temporarily idled its gel coat production process in response to a contracting market place. Subsequently, CCP personnel performed thorough cleaning of all gel coat-related process equipment to prepare the process equipment for restart when the production capacity is again required. As a result, the entire CCP Oxnard facility is temporarily idled.

6.3 Methods For Determining A Release

A release at the CCP Facility is determined initially by visual inspection or by alarm system.

6.4 Hazard Analysis

6.4.1 Operations

The CCP/Oxnard Facility is currently idled.

There are 2 employees.

6.4.2 Structures

6.4.2.1 Office\Maintenance Building

Contains offices and maintenance work area. Small quantities of solvents and paint may be stored in these areas.

6.4.2.2 Gel Coat Production Area

The gel coat production area is one of several areas in a corrugated and cinder block building (dock high). The building is on the East side of the facility. The gel coat production area is located in the north end of this building. Fire suppression system is provided in an overhead sprinkle system.

This area is currently idled

Finished Goods Warehouse For Gel Coat/Polyester Resin

This area is adjacent to the gel coat production area. A cinder block wall separates the gel coat and the polyester resin storage areas.

This area is currently idled.

6.4.2.3 Drum Filling Area

This area is adjacent to and partially in the finished goods warehouse for resins.

This area is currently idled.

6.4.2.4 Hazardous Waste Storage

CCP has a 90-day storage area for hazardous waste containers. The storage area is located on the south end of the property, on the area

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previously owned by Occidental Chemical Company.

6.4.2.5 Process Building

There is a two-story structure, with the Control Room adjacent to the kettles. One kettle is mainly used for production. The other kettle can be used at times to facilitate the early stages of the cooking process.

This area is currently idled.

6.4.2.6 Control Room

The Control Room is located on the upper level of the Process Building and is accessible by stairways on the east and west sides of the structure or by ladder on the east side of the structure. The Control Room has one exit to the north and one to the east.

The Control Room has a halon fire extinguishing system, providing protection for the control instruments panel.

This area is currently idled.

6.4.2.7 Production Laboratory

This room is located under the Control Room and is part of the Process Building. It is clean, well ventilated and well maintained.

Fire suppression is provided in overhead sprinklers.

This area is currently idled.

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6.4.2.8 Utility Building

As with the Maintenance Area, the Utility Building is a critical component of day-to-day operations of the CCP Facility.

This building houses the telephone lines, the main power station, the team generators, the water softener for the boilers and the motor control panel. This building also contains 55 gallons of sodium hydroxide used in the water softener, and boiler treatment chemicals.

This area is currently idled.

6.4.2.9 Tank Car Unloading

This primary rail unloading area is at the South end of the Facility and CCP has a second unused rail spur at the former Occidental Plant.

This area also has high and low pressure steam lines used to liquefy products that have become solid during transit.

This area is currently idled.

6.4.2.10 Lunch Room \ Locker Room Area \ Laboratory

Small quantities of reagents are stored in the lab for wastewater testing.

This area is currently idled.

6.4.3 Hazardous Materials In storage Tanks

6.4.3.1 Phthalic Anhydride

Location: The Phthalic Anhydride tank is located between the boiler room and tank farm. This tank contained 25,000 gallons of Phthalic

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Anhydride. The tank is interconnected to other portions of the facility.

As a result of the facility idling, the phthalic anhydride tank was thoroughly cleaned. CCP is managing the associated rinsate and phthalic acid in accordance with local, state and federal regulations.

Maximum Quantity: 25,000 Gallons
Hazard Class: Stored as a combustible liquid
NFPA: 2-1-0
CAS #: 85-44-9
UN Number: 2214
Guide Page: 60
CCP Code: 07A-0001

6.4.4 Packaged Hazardous Materials

These materials are stored in various types and size containers. The Oxnard Fire Department enters these items into the CAMEO program from their "Chemical Inventory Form". (See Appendix E)

This facility no longer routinely stores finished goods.

6.4.5 Transportation Routes and DOT Hazard Classes

Since CCP uses a variety of firms to transport their product, information regarding transportation can be given in only a general way.

Primary routes leaving the facility include, but are not limited to:

Arcturus Avenue (North-South)

Hueneme Road (East-West)

Saviers Street (North-South)

Highway 1 (Pacific Coast Freeway, North-South

Ventura County Railroad Spur

The facility no longer routinely ships hazardous materials.

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6.4.6 Vulnerability and Risk Assessment

The Vulnerability and Risk Assessment for this document was performed utilizing CAMEO. The Calculations are the same as outline in Section 3.1 of Technical Guidelines for Hazards Analysis.

As discussed on January 21, 2009, the CCP Oxnard facility temporarily idled its UPR production process as part of a corporate restructuring strategy effective November 17, 2007. Subsequently, CCP personnel performed thorough cleaning of all UPR-related process equipment to prepare the process equipment for restart when the production capacity is again required.

Again in November 2008, the CCP Oxnard facility temporarily idled its gel coat production process in response to a contracting market place. Subsequently, CCP personnel performed thorough cleaning of all gel coat-related process equipment to prepare the process equipment for restart when the production capacity is again required. As a result, the entire CCP Oxnard facility is temporarily idled.

This section has been revised due to the closure of the facility and the fact that we no longer store or use hazardous chemicals at this facility.

6.5 SENSITIVE ENVIRONMENTAL AREAS - PUBLIC TRANSPORTATION

Surrounding Area

While the facility is located in a rural area, the City of Oxnard is 2 miles to the North and, under certain conditions, it would be possible for the wind to move a plume in this direction.

Directly to the South is agricultural land and the Pacific Ocean. To the East, approximately 1/2 mile, is the Edison Power Plant. It is possible for a vapor cloud to move toward the Edison Plant.

To the East, approximately 4 miles, is the Point Mugu U.S. Naval Missile Test Grounds and the Point Mugu Game Reserve.

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To the West, approximately 1 mile, is the city of Port Hueneme.

Port Hueneme has had an earthquake of the magnitude 2.0-2.4 between 1978 -1988 (See enclosed State identified earthquake faults. State of California, Division of Mines and Geology, July 1991). (See Appendix B)

6.6 POPULATION DENSITIES, SPECIAL POPULATIONS AND SENSITIVE INSTITUTIONS

Complete information was not available for sensitive populations, convalescent homes, shopping centers, schools, and day care centers.

6.7 CLIMATE AND WEATHER CONDITIONS AS THEY AFFECT DISPERSION

This information will be determined by the Environmental Health Department, County of Ventura.

6.8 CRITICAL TIME VARIABLES

This information will be determined by the Environmental Health Department, County of Ventura.

6.9 CONCEPT OF OPERATIONS

The purpose of this plan is to interface with, and to provide information to emergency responders in the event of an uncontrolled release of product at the facility.

6.9.1 Facility Emergency Coordinators

The Primary Emergency Response Coordinator/Incident Commander at the CCP facility will be the Office Manager.

The Secondary Emergency Response Coordinators will be the Vice President-Manufacturing and the Director-HSE Compliance Assurance. The Secondary Emergency Response Coordinator will assume the responsibilities of the Administrative Manager in his absence.

CCP Emergency Response Personnel have been trained in the Incident Command System. Therefore, all roles and responsibilities assigned to Emergency Personnel at the CCP facility are duplicated within the fire command system.

Emergency Response Personnel have been trained as Incident Commanders until the arrival of the Fire Department or until the Primary or Secondary Emergency Coordinator takes command.

6.9.2 Plan Relationships

This plan was developed within the framework of the Incident Command System and is designed to interface with existing procedures and policies currently in use by the City of Oxnard Fire Department.

6.9.3 INTEGRATION OF PLAN

6.9.3.1 Plans From the City of Oxnard

Not applicable to the CCP facility.

6.9.3.3 Describe The Way They Are Integrated

Not applicable to the CCP facility.

6.9.3.3 Describe Roles Of Local Response Organizations

The following will support the fire department when requested:

COMMUNITY DEVELOPMENT: Will provide equipment, barricades, damage assessment, building inspections, and debris removal.

RED CROSS: Will provide manpower, feeding facilities for crews, first aid volunteers.

UTILITIES DEPARTMENT: Will coordinate with Southern California Edison for supply of emergency power; inspect and repair power facilities; inspect and repair water supply system.

GENERAL TELEPHONE: Will assist with communications

SOUTHERN CALIFORNIA GAS: Will supply equipment.

POLICE: Will assist with search and rescue.

6.9.4 LIST MUTUAL AID

Currently, CCP/Oxnard does not have mutual aid agreements with any other company, facility or local agency.

6.9.5 DESCRIBE GOVERNMENT COORDINATION

Relationships between district, local, state, or federal agencies is not applicable to CCP. CCP expects the CUPA program to coordinate. (Contact person: Steve Elkinton 805-385-7717

6.9.6 INSTRUCTIONS FOR PLAN USE

This plan is designed to provide Emergency Response information to Local, State, and Federal emergency response personnel and officials in the event of an uncontrolled release of product due to fire, mechanical or equipment failure, human error, transportation accidents and earthquake or any other natural disaster.

6.9.6.1 Organizations Receiving Copies Of The Plan

Oxnard City Fire Department
CUPA Program
Office of Emergency Services

Each copy of the plan is to be dated as to the time of transmittal. Each copy of the plan is to be marked on the cover with the following information:

BUSINESS PLAN FOR HAZARDOUS MATERIAL
AND EMERGENCY RESPONSE

Cook Composites and Polymers, Co.
5980 Arcturus Avenue
Oxnard, CA. 93033
Telephone: 805-986-3635
Copy No:

6.9.7 RECORD OF AMENDMENTS

The Plan shall be reviewed and updated as required on a yearly basis.

Copies of the Plan can be made available to any interested parties upon receipt of a letter stating the party's name, address, affiliation (if any) and the reason for the request.

Copies of any request will be kept on file at the CCP facility located at 5980 Arcturus Avenue, Oxnard, CA 93033.

6.9.8 EMERGENCY NOTIFICATION PROCEDURE

6.9.8.1 FIRST RESPONSE
(See Evacuation Checklist after this section)

Upon determining that a release has occurred, whether by visual inspection or by other means, the first responder shall immediately:

6.9.8.1.1 Notify plant personnel, and act as incident commander until relieved.

6.9.8.1.2 The first responder shall call 911, and inform the dispatcher of the following:

6.9.8.1.2.1 The Chemical Name

6.9.8.1.2.2 An indication of whether the substance is extremely hazardous.

6.9.8.1.2.3 An estimate of the quantity released into the environment.

6.9.8.1.2.4 The time and duration of the release.

6.9.8.1.2.5 The medium into which the release occurred (air, water, land, etc.)

6.9.8.1.2.6 Any known or chronic health risks associated with the chemical.

6.9.8.1.2.7 Proper precautions, such as evacuation.

6.9.8.1.2.8 Name and telephone number of a contact person.

6.9.8.1.3 In the event the Plant Manager is not at the facility, the first responder shall attempt to reach him at home, or the Secondary Emergency Response Commander if he is not available.

6.9.8.1.4 Warn neighbors who may be impacted by the release.

6.9.8.1.5 Federal regulations require a written follow-up notice within 24 hours after a reportable release. This notice shall include the following:

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6.9.8.1.5.1 Update information included in the initial notice.

6.9.8.1.5.2 Actual response taken (Documentation)

6.9.8.1.5.3 Any known or anticipated data on chronic health risks associated with the release.

6.9.8.1.5.4 Any advice regarding medical attention necessary for exposed individuals. (if applicable)

6.9.8.1.6 See Evacuation Checklist on next page.

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6.9.8.1.5.1 Update information included in the initial notice.

6.9.8.1.5.2 Actual response taken (Documentation)

6.9.8.1.5.3 Any known or anticipated data on chronic health risks associated with the release.

6.9.8.1.5.4 Any advice regarding medical attention necessary for exposed individuals. (if applicable)

6.9.8.1.6 See Evacuation Checklist on next page.

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EVALUATION CHECKLIST

___ DETERMINE IF INCIDENT REQUIRES EVACUATION: IS THE SPILL/FIRE IMMEDIATELY DANGEROUS OR DOES IT HAVE A SERIOUS POTENTIAL TO BE DANGEROUS TO HEALTH AND/OR THE ENVIRONMENT BASED ON THE SIZE OF THE SPILL/FIRE OR TYPE OF MATERIAL INVOLVED? IF YES, ACT AS INCIDENT COMMANDER AND COMPLETE THE FOLLOWING LIST.

___ NOTIFY EMPLOYEES OVER THE P.A. SYSTEM

- ___ TYPE OF EMERGENCY (FIRE,SPILL,ETC.)
- ___ CHEMICAL INVOLVED IN ACCIDENT
- ___ AREA OF INCIDENT
- ___ WIND (SMOKE) DIRECTION
- ___ EVACUATION MEETING AREA (CONSIDER SHELTER IN PLACE)

EXAMPLE: "(SPILL/FIRE) OF (CHEMICAL) IN THE (AREA). THE WIND IS MOVING (ON/OFF SHORE) (OR (FROM LUNCHROOM TOWARD WAREHOUSE).) STAY UPWIND AND EVACUATE TO THE (MEETING AREA).

- ___ CALL 911
- ___ TYPE OF EMERGENCY (FIRE, SPILL, ETC.)
- ___ GIVE CHEMICAL NAME
- ___ WHETHER IT IS EXTREMELY HAZARDOUS
- ___ ESTIMATE OF QUANTITY RELEASED
- ___ TIME AND DURATION OF RELEASE
- ___ MEDIUM INTO WHICH IT WAS RELEASED (AIR, WATER, LAND)
- ___ HEALTH RISKS ASSOCIATED WITH THE CHEMICAL
- ___ PROPER PRECAUTIONS SUCH AS EVACUATION
- ___ NAME AND TELEPHONE NUMBER OF CONTACT PERSON

___ EVACUATE THE PLANT YOURSELF IF YOU FEEL IT IS NECESSARY (TAKE THE CELLULAR PHONE).

___ CALL PLANT MANAGER OR OTHER AVAILABLE MANAGEMENT (including Corporate)

___ CONTACT NEIGHBORING PLANTS:

- ___ KAISER
- ___ MORRISON KNUDSEN (LEASING EXXON FACILITY)
- ___ ARCTURUS
- ___ OFF SHORE CRANE (PRESENTLY LEASE BY EXXON-PHONE NUMBER IS FOR EXXON)
- ___ PACIFIC VEHICLE PROCESSORS
- ___ BMW
- ___ BEGIN HEAD COUNT

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6.9.8.2 PRIMARY AND SECONDARY COORDINATORS TELEPHONE NUMBERS

NAME	POSITION	NUMBER
Pauli McClanahan	Office Manager	CELL: (805) 207-6073
Greg Geary	Quality Manager	HOME: (816) 781-5616 CELL: (816) 695-1764
Jon Schuckman	Director HSE Compliance Assurance	HOME: (913) 825-3738 CELL: (816) 694-3967

6.9.8.3 LOCAL EMERGENCY RESPONSE TELEPHONE NUMBERS

Police, Fire, Paramedics	911
Sheriff's Office (Bomb Disposal)	911
CUPA	805-385-7717
Southern California Edison	818-967-7411 800-442-4950
GTE (General Telephone)	800-482-6709
Insurance (TOTAL America)	713-739-3029
Toxics Center (Northridge Hospital)	800-682-9000
AT&T (Telephone Company)	

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FIRE **POLICE-OXNARD P.D.** **AMBULANCE** (BUSINESS # 488-4311)	**911**
HOSPITALS **ST. JOHNS** **1600 N. ROSE AVE.** **OXNARD, CA 93033**	**988-2500**
DOCTOR **ABRAHAM POTOLSKI, MD** **OXNARD INDUSTRIAL MEDICAL CLINIC** **345 SOUTH A STREET** **OXNARD, CA 93030** **DR. PETER GREANEY** **GMG WORKCARE** **ORANGE, CA 92868** **(800) 455-6155**	**PHONE 805-240-3131** **FAX 805-240-3119**
INSURANCE - WORKMANS COMPENSATION **AIG WORKERS' COMPENSATION SERVICE CENTER** **7676 HAZARD CENTER DRIVE, 12TH FLOOR** **SAN DIEGO, CA 92108** **PRIMARY CONTACT: DEBBIE PALFY, EXTENSION 732** **SECONDARY CONTACT: MICHAEL RASMUSSEN, EXTENSION 768**	**PHONE 800-736-6671** **SECONDARY 619-688-3700** **FAX 619-688-1704**
ADT ALARM EMERGENCY NUMBER	**818-781-3941**
ARCTURUS MANUFACTURING **WEST**	**488-4481**
KAISER ALUMINUM **EAST**	**488-4401**
MORRISON KNUDSEN (EXXON LEASE) **NORTHWEST**	**488-9677**
OFFSHORE CRANE LEASE TO EXXON **NORTHWEST**	**488-8701**
PACIFIC VEHICLE PROCESSORS **NORTH**	**488-3050**
BMW **NORTH**	**986-7300**
CHEMTREC (EMERGENCY CHEMICAL INFORMATION)	**1-800-424-9300**
NATIONAL RESPONSE CENTER **STATE WARNING CENTER**	**1-800-424-8802** **1-800-852-7550**
VCAPCD - EQUIP. FAILURE (THERMAL OXIDIZER)	**805-654-2797**

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6.9.8.4 EMERGENCY ASSISTANCE TELEPHONE NUMBERS

Association of American Railroads Bureau of Explosives	202-639-2222
Department of Transportation D.O.T. Hotline	202-366-4488
Environmental Protection Agency E.P.A. Hotline	800-535-0202
E.P.A. / RCRA Hotline	800-424-9346

6.9.8.4.1 TECHNICAL AND RESPONSE PERSONNEL

State OES (Region I)	310-795-2900
U.S. Coast Guard	800-424-8802
National Response Center	800-424-8802
National Weather Service	805-988-6610
Association of American Railroads Bureau of Explosives	202-639-2222
Department of Transportation D.O.T. Hotline	202-366-4488
Environmental Protection Agency E.P.A. Hotline	800-535-0202
E.P.A/RCRA Hotline	800-424-9346
Contractor – EAGLE (National Contract with CCP)	800-336-0909

6.9.8.4.2 EMERGENCY COORDINATORS

CHEMTREC (Chemical Transportation Emergency center)	800-424-9300
National Response Center	800-424-8802

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6.9.8.4.3 OTHER AGENCIES

Federal Bureau of Investigation	805-642-3995
Sheriff	911
State Warning Center (Haz Mat)	800-852-7550
Stare Notification (Warning Center)	800-852-7550
OSHA	800-321-OSHA

6.9.8.4.4 VCAPCD EMERGENCY TELEPHONE NUMBER FOR NEIGHBORING DISTRICTS

Telephone numbers are available for the Oxnard Fire Department or the Oxnard Police Department.

6.9.8.4.5 TRANSPORTATION EMERGENCY PHONE NUMBERS

The following is a list of carriers used by the CCP facility.

COMPANY NAME	PHONE NUMBER
ARROW TRANSPORTATION	800-592-2525
BAY AREA EXPRESS	800-794-9409
BEDFORD FREIGHT	310-657-3280
BENITO	310-633-6555
CONSOLIDATED FREIGHT	805-484-1047
CWX	805-482-4664
FREYMILLLER TRANSPORTATION	800-669-6275
G.I. TRANSPORTATION	805-482-4664
IOSCO	503-692-6878
ODYSSEY TRANSPORTATION L.A Basin North West Arizona	 310-768-3336 310-493-6142 310-514-2483
PRO EXPRESS	800-788-8022
RCI TRUCKING	818-334-4974
SCHNEIDER	800-558-6767
SHANE TRANSPORTATION	800-287-4263
SOUTHWESTERN	800-277-7932

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NAME	COMPANY PHONE NUMBER
TRI-MAC TRANSPORTATION	800-888-3795
UNION PACIFIC BULKTAINER	800-255-1972
VENTURA COUNTY RAILWAY	805-486-4428

6.9.8.5 LOCAL ORGANIZATIONS TO BE NOTIFIED IN THE EVENT OF A RELEASE

Oxnard Fire Department (911)

6.9.8.6 LOCAL INSTITUTIONS TO BE NOTIFIED IN THE EVENT OF A RELEASE

Local Institutions will be notified by the Oxnard Fire Department Incident Commander.

6.9.8.7 STATE ORGANIZATIONS TO BE NOTIFIED IN THE EVENT OF A RELEASE

The Incident Commander or the Facility Manager will notify the State Office of Emergency Services at (800) 852-7550.

6.9.8.8 FEDERAL RESPONSE ORGANIZATIONS TO BE NOTIFIED IN THE EVENT OF A RELEASE

The Incident Commander or the Plant Manager will notify the National Response Center at (800) 424-8802.

6.9.9 INITIAL NOTIFICATION OF RESPONSE AGENCIES

Initial notification of response agencies by the CCP Incident Commander will be telephoning **911.**

6.9.9.1 METHOD OF NOTIFICATION

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Initial notification to the community Emergency Coordinator will be by a representative of the Oxnard Fire department, or the Plant Manager, after determining that the situation may affect an area outside of the CCP property.

6.9.9.2 CES NOTIFICATION

The decision to notify the Community Emergency Coordinator agencies will be made by the Oxnard Fire Department Incident Commander.

6.9.9.3 FOLLOW-UP NOTIFICATIONS

Follow-up notifications will be made, in writing, by the Plant Manager to the following agencies:

- Oxnard Fire Department
- California State Office of Emergency Services
- National Response Center
- Ventura County Air Pollution Control District

6.9.9.4 PERSON OR OFFICE RESPONSIBLE FOR RECEIVING NOTIFICATION

Not applicable to the CCP Facility.

6.9.10 DIRECTION AND CONTROL

Direction and control of emergency services will be by the Oxnard City Fire Department and the Oxnard Police Department.

6.9.10.1 METHODS AND PROCEDURES

In the event of a release of product below the RQ for that material, the CCP Facility will notify employees and activate its emergency response plan. The First Responder or the Plant Manager will inform the Oxnard Fire

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Department by calling 911 and reporting the spill if it is immediately dangerous or has the serious potential to be dangerous to health and/or the environment.

In the event of a release of product above the RQ, the CCP Facility will immediately notify employees and activate its emergency response plan. The First Responder will immediately notify the Oxnard City Fire Department via 911.

6.9.10.2 ORGANIZATIONS RESPONSIBLE FOR DIRECTION AND CONTROL

Within the facility: CCP personnel/ Oxnard Fire Department

Off facility property, may include, but is not limited to:

- Oxnard Police Department
- California Highway Patrol
- Cal Trans
- Oxnard city Fire Department
- Sheriff's Office
- Ventura County environmental Health

6.9.10.3 PERSONNEL OR OFFICE RESPONSIBLE FOR DIRECTION AND CONTROL

At the CCP Facility: Office Manager.

Overall control will be by the Oxnard Fire Department.

6.9.10.4 PERSONNEL RESPONSIBLE FOR INCIDENT COMMAND FUNCTIONS

CCP Facility: See Operational Organization in following section.

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6.9.10.5 CHAIN OF COMMAND AND EMERGENCY OPERATIONS CENTER PERSONNEL

On-site Organizational Structure And Chain Of Command.

The following personnel are designated to carry out the stated job functions at the plant site. (NOTE: One person may carry out more than one job function):

FUNCTION/ STRUCTURE	AFTER HOURS	DAY SHIFT AND/ OR UPON ARRIVAL
Incident Commander	Office Manager	Vice President-Manufacturing Director-HSE Compliance Assurance
Maintenance Office	Maintenance Mechanic	Maintenance Mechanic
Site Safety Officer	Office Manager	Vice President-Manufacturing Director-HSE Compliance Assurance
Public Information Officer	Director Corporate Training & Communications	Director Corporate Training & Communications
Recorder	Office Manager	Office Manager
Financial Officer	Office Manager	Office Manager

6.9.10.6 LEVEL OF INCIDENT SEVERITY AND RESPONSE LEVELS

Level I: Chemical is at or below the TLV for the chemical involved. Chemical is at or below the Reporting Quantity. Chemical is contained within a diked area or within the CCP Facility.

CCP personnel will notify Oxnard City Fire Department and initiate facility response if the spill is immediately dangerous or has the serious potential to be dangerous to health and/or the environment.

Level II: Chemical is above the TLV and amount is above the Reporting Quantify. Evacuation of the CCP Facility is required. State and Federal agencies notified.

CCP response personnel will work jointly with the Oxnard City Fire Department and other local agencies.

Level III: Quantity is at the IDLH and contaminating the environment, requiring evacuation of the surrounding community and multi-agency response.

All CCP personnel will evacuate the area.

6.9.10.7 RESPONSE CONDITIONS FOR EACH LEVEL

Conditions for each level of response will be determined by the Oxnard Fire Department Incident Commander.

6.9.10.8 RESPONSIBLE ORGANIZATIONS AT EACH RESPONSE LEVEL

Level I: Oxnard City Fire Department and CCP personnel.

Level II: Oxnard City Fire Department/Ventura county Environmental Health Department.

Level III: Oxnard City Fire Department/ Other agencies.

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6.9.11 COMMUNICATION AMONG RESPONDERS

6.9.11.1 MESSAGE PRIORITIES

Message classifications and priorities are as follows:

Emergency Messages	**Highest Priority**
Operation Priority	**Second Priority**
Priority Messages	**Third Priority**
Routine Messages	**Lowest Priority**

Each message will be classified by the originator and a priority assigned in accordance with the above table and/or with rules issued by the Director or the Communications Office.

6.9.11.2 ALLOCATION OF RADIO SYSTEM

Radio System	
Police	**Law Enforcement**
Fire	**Fire**
Local Government	**Transportation Planning/Engineering Manpower Supply/Procurement**
Ham/C.B.	**Medical/Health Care and Shelter**

6.9.11.3 EMERGENCY PUBLIC INFORMATION MEDIA

Emergency information, advice, and action instructions are announced to the public by

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various media. The Emergency Broadcast System (EBS) and outdoor warning devices (loud speakers) are the primary media. Other media available include bulletins, handbills, and the press. The Public Information Office will release emergency public information originated by the City.

Communication among CCP Emergency Personnel shall be by the following methods:

CCP Facility Personnel:

CCP Incident Commander: IC will use two (2) channel radios set to the following frequencies:

Channel 1 for communication with Response Team Members.

Channel 2 communication with CCP command personnel.

Telephone Lines: CCP personnel shall make initial contact with Local, County, State, and Federal Agencies via telephone.

6.9.11.4 SOURCES OF INFORMATION FOR RESPONDERS

Chemical information needed for emergency response operations, will be available in the following formats:

Reference Material:

Material Safety Data sheets applicable to the chemicals at the Facility.

Department of Transportation, Emergency Response Guidebook (ERG)

Pocket Guide to Chemical Hazards NIOSH.

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Hazardous Chemicals Desk Reference
SAX/Lewis.

Telephone

Chemical Transportation Emergency Center
(CHEMTREC)

Tox-Center (Medical treatment for chemical exposure, located at Northridge Hospital).

U.S. Coast Guard/National Response Center

Association of American Railroads

E.P.A. Hotline

E.P.A./RCRA Hotline

Computer Data Base

Oxnard Fire Department has a Macintosh computer, with Cameo installed. Oxnard City Fire Department will update files with information supplied by CCP .

6.9.11.5 BACK-UP COMMUNICATIONS SYSTEMS

Should two-way radio contact become ineffective, for any reason, communication among responders may continue using the following methods:

Messengers
Hand Signals
Sound Amplification Equipment
(Bullhorns, etc)
Signs

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6.9.12 WARNING SYSTEMS

Warning will be by telephone intercom system.

6.9.12.1 ALARMS

Alarms are indicated on the Panel Alarm & Beta Alert Systems located in the Control Room.

6.9.12.2 OTHER METHODS

Other methods to alert/warn adjoining business include:

Telephone
Oxnard City Fire Department Personnel
Oxnard Police Department Personnel
Loudspeakers
Door-to-Door Alert

6.9.12.3 TIME FRAMES FOR ALARM (S)

Upon discovery of either a fire or chemical spill, notification through the intercom system will be immediate.

6.9.13 PUBLIC INFORMATION AND COMMUNITY RELATIONS

Information concerning any reportable incident at the CCP Facility will be handled jointly by the Vice President-Manufacturing (or his designate) and the OFD Public Information Officer.

6.9.13.1 ROLE OF CCP PUBLIC INFORMATION OFFICER

The Director Corporate Training & Communications shall represent the Facility in the event media contact is necessary.

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6.9.13.2 SPOKESPERSON

The Director Corporate Training & Communications or his designate shall act as spokesperson for CCP in the event of an emergency.

The designate shall inform the Public Information Officer for the Oxnard fire Department of the status of the Facility.

6.9.13.3 RELATED PUBLIC INFORMATION ACTIVITIES

None are currently in use or anticipated at this time.

6.9.14 RESOURCE MANAGEMENT

Management of resources will be coordinated by a Logistics Officer appointed by the Facility Incident Commander.

6.9.14.1 PERSONNEL RESOURCES

CCP personnel are trained to respond to a chemical emergency

CCP currently uses rotating shifts. Because of this, all CCP response personnel are trained in accordance with 29 CFR Part 1910.120 (HAZWOPER).

6.9.14.2 EMERGENCY RESPONSE EQUIPMENT

This list is intended as a guide only.

4	**Viton Level A Suits**
8	**Self contained Breathing Apparatus**

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6	Long Handled, Soft Bristled Brushes
5	Five Gallon Plastic Buckets
1	Roll 8'X 500" (Or Equivalent) Polyethylene Plastic Sheeting
1	Gallon of Tincture of Green soap
1	Case of Paper Towels (Rolls)
1	Case of Disposable Shower Towels
1	Box PH Paper
12	4" X 4" Cuts as 4' sections
1	Roll Barricade Tape ("DANGER" or "DO NOT ENTER" or "CAUTION" CHEMICAL SPILL DO NOT ENTER)
1	Box Large Zip-Lock Bags
1	Box Extra Strong Hefty Bags
6	Drum Pumps to Transfer Liquid from Holding Pools to Drums
6	Small Spray Bottles

1	32 Gallon Plastic Trash Can (To Be Used to Clean SCBA's, Suits, and Larger Equipment)
12	24" Plastic Cones (In Addition to the Existing Cones)
6	2' Wooden Step Ladders
1	Case of 8" X 10' Booms
1	Case Spill Pillows
2	Chemical-Resistant Squeegees (18" blade)
1	Case Duct Tape
1	8" X 11" Erasable Tablet
1	Box Assorted Markers for Tablet
	Binoculars
5	Gallons drinking water
	Gatorade or the equivalent (powdered)
1	Small cooler

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	Drinking Cups
2	Pads Legal Paper
1	Box Pencils
2	Clipboards
	Camera, Video or Still (Optional)
	Small Folding Table
1	Large Laminated Map of the Facility
	Local, State, Federal and Management Emergency Telephone Numbers
RESOURCE BOOKS AND RELATED MATERIAL	
1	Pocket Guide to Chemical Hazards (Available from NIOSH or Lab Safety Supply)
1	Emergency Response Guidebook
1	Thomas Guide
1	Emergency Care for Hazardous Materials Exposure

6.9.14.3 EMERGENCY OPERATING CENTERS

Should it become necessary for the management at CCP to set up a Facility EOC, it will be coordinated with the OFDEOC.

6.9.14.4 PROCEDURES FOR SECURING STATE AND FEDERAL ASSISTANCE

Not applicable to the CCP Facility.

6.9.15 HEALTH AND MEDICAL

6.9.15.1 METHODS AND PROCEDURES FOR MEDICAL RESPONSE

In the event of minor chemical contamination, CCP personnel will decontaminate the exposed individual and transport to the nearest medical facility.

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In the event of gross contamination, CCP personnel will initiate decontamination protocol and activate EMS by calling 911.

6.9.15.2 PROCEDURES FOR SUMMONING EMERGENCY MEDICAL ASSISTANCE

In the event of gross contamination, CCP personnel will activate EMS by calling 911.

6.9.15.3 TYPE OF EMERGENCY RESPONSES

Type of emergency response level indicted for the CCP Facility will be determined by the Oxnard Fire Department Incident Commander.

6.9.15.4 DECONTAMINATION PROCEDURES FOR CONTAMINATED INDIVIDUALS

In all cases of chemical contamination, the event and follow-up will be documented.

In the case of limited exposure to a hazardous chemical, the following decontamination protocol will be used:

Eye: Victim will flush eyes at nearest eye station for a minimum of 20 minutes. After 20 minutes, both eyes will be bandaged and the victim transport to the nearest medical facility for evaluation and treatment. The appropriate MSDS will accompany the exposed individual.

Respiratory: The individual will be placed on a commercial oxygen unit and transported to the nearest medical facility. Signs and symptoms of exposure to the particular chemical will be monitored and charted. The appropriate MSDS will accompany the exposed individual.

Skin: The individual will be flushed with water, with an attempt to contain runoff; clothing and

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personal effects will be removed and placed in containers for later decontamination.

The patient will be wrapped in a blanket; signs and symptoms of exposure will be monitored and charted; patient will be transported to the nearest medical facility for evaluation and treatment. The appropriate MSDS will accompany the patient.

Ingestion: The patient will be transported to the nearest medical facility for evaluation and treatment. The appropriate MSDS will accompany the patient.

GROSS CONTAMINATION

Gross contaminated individuals will be immediately flushed with water, with an attempt to contain the runoff. The victim's clothes and personal effects will be placed in containers for later decontamination. EMS will be activated and the Paramedics informed of the following:

1. Nature of the chemical
2. Time the contamination occurred
3. How the contamination occurred
4. Inform paramedics on any method to protect themselves against cross exposure.
5. Give copy of the relevant MSDS to the paramedics for transport with the patient.

6.9.15.5 PROCEDURES FOR RE-ENTRY

The decision to re-enter the CCP Facility will be determined by the OFD Incident

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Commander or by the Ventura County Environmental Health Department.

6.9.15.6 PROCEDURES FOR CONDUCTING HEALTH ASSESSMENTS

All health assessments will be conducted by the Ventura County Environmental Health Department.

6.9.15.7 LEVEL OF MEDICAL CAPABILITIES FOR FACILITY

Some CCP Emergency Response Personnel are able to provide basic first aid and CPR. Not all are currently certified.

6.9.15.8 MENTAL HEALTH CARE

Mental health care referrals for CCP employees will be provided by CCP through the EAP program.

6.9.15.9 MUTUAL AID AGREEMENTS

Not applicable to the CCP Facility.

6.9.16 RESPONSE PERSONNEL SAFETY

6.9.16.1 INITIAL ENTRY

Minimum Entry procedures for Incident Site

CCP Facility personnel

(2) Entry Team Members, SCBA, Level B protection
(2) Backup Team Members, SCBA, Level B protection

6.9.16.1.1 ENTRY TEAM WILL DON SCBAS AND LEVEL B PPE AND ENTER AREA TO

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ACCESS THE FOLLOWING CONDITIONS:

6.9.16.1.1.1 Precise location of the spill
6.9.16.1.1.2 Nature of the spill (Drum, Tank, etc.)
6.9.16.1.1.3 Type of chemical involved
6.9.16.1.1.4 Duration of spill
6.9.16.1.1.5 Conditions that may affect the spill (weather, non- diked area, etc.)
6.9.16.1.1.6 Lower explosive limit (LEL)
6.9.16.1.1.7 Oxygen content.
6.9.16.1.1.8 Isolate the area and establish an Exclusionary Zone
6.9.16.1.1.9 CCP Entry Personnel may elect to control/contain the product
6.9.16.1.1.10 Report any other relevant information pertaining to the spill to the Backup Team

6.9.16.1.2 BACKUP TEAM MEMBERS WILL DO THE FOLLOWING:

6.9.16.1.2.1 Provide support for the Entry Team.
6.9.16.1.2.2 Establish a Contamination Control Line.
6.9.16.1.2.3 Establish a Support Zone
6.9.16.1.2.4 Decontaminate the Entry Team
6.9.16.1.2.5 Monitor time in for the Entry Team

6.9.16.1.3 MAXIMUM ENTRY PROCEDURES FOR INCIDENT SITE

6.9.16.1.3.1 Oxnard City Fire Department notified
6.9.16.1.3.2 City of Oxnard Emergency Operations notified
6.9.16.1.3.3 Incident Command System established

After initial notification by the Facility, The OFD Incident Commander will make the determination of whether CCP personnel will be involved in the incident.

CCP Teams will provide technical assistance and support to the OFD and be on standby until needed.

6.9.16.2 PERSONNEL AND EQUIPMENT DECONTAMINATION

6.9.16.2.1 Entry personnel will use an 11 station decontamination line.

6.9.16.2.1.1 Station 1: Equipment Drop
6.9.16.2.1.2 Station 2: Wash Suit/Boots
6.9.16.2.1.3 Station 3: Rinse
6.9.16.2.1.4 Station 4: Wash Suit/Boots
6.9.16.2.1.5 Station 5: Rinse/Dry
6.9.16.2.1.6 Station 6: Tank Change or/Continue Decon
6.9.16.2.1.7 Station 7: Remove Tape
6.9.16.2.1.8 Station 8: Remove Boots
6.9.16.2.1.9 Station 9 : Remove Suit/Gloves
6.9.16.2.1.10 Station 10: Remove SCBA
6.9.16.2.1.11 Station 11: Inner Clothing Removal

6.9.16.2.2 DECONTAMINATION PROCEDURES

6.9.16.2.2.1 Station 1: Deposit all equipment used on site into individual containers for later decontamination.

6.9.16.2.2.2 Station 2: Suit and boots to be scrubbed with a solution of Tincture of green soap.

6.9.16.2.2.3 Station 3: Water Rinse.

6.9.16.2.2.4 Station 4: Wash Suit/Boots

6.9.16.2.2.5 Station 5: Water Rinse/Dry

6.9.16.2.2.6 Station 6: Team member will change air packs or continue with decontamination procedures.

6.9.16.2.2.7 Station 7: Removal tape and deposit in containers for later disposal

6.9.16.2.2.8 Station 8: Boots are removed and placed in container for full decontamination or disposal

6.9.16.2.2.9 Station 9: Level A suits are removed and place in drums for later decon or disposal. Gloves are removed and placed in a disposal drum.

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6.9.16.2.2.10 Station 10: SCBA is removed and placed in a drum for later decontamination.

6.9.16.2.2.11 Station 11: Nomex suits are removed and placed in container for later decontamination.

6.9.16.3 SAMPLING, MONITORING, PERSONNEL PROTECTIVE EQUIPMENT

Sampling, monitoring, and appropriate Personal Protective Equipment will be determined by the type and extent of the spill and decided upon by the Incident Commander.

6.9.17 PERSONAL PROTECTION OF CITIZENS/INDOOR PROTECTION

Not applicable to the CCP Facility

6.9.17.1 METHOD OR DETERMINING AREAS AFFECTED BY A RELEASE

Areas affected by the release will be determined by the Oxnard City Fire Department, The Ventura County Department of Health Services, and the Environmental Protection Agency.

Methods used may include: Sampling equipment, Monitoring equipment, and Computer Models.

6.9.17.2 METHOD TO PREDICT AIRBORNE RELEASE

Process Hazard Analysis, Cameo

6.9.17.3 DECISION FACTORS

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The OFD Incident Commander will make all decision regarding airborne release

6.9.17.4 ROLES OF FACILITIES

The role of the CCP Facility in the event of a chemical release is that of secondary support and information.

6.9.17.5 CONDITIONS AND METHODS FOR INDOOR PROTECTION

Conditions methods for indoor protection will be determined by the Incident Commander.

6.9.17.6 METHODS FOR EDUCATING THE PUBLIC ON INDOOR PROTECTIVE MEASURES

Not applicable to the CCP Facility.

6.9.18 PERSONAL PROTECTIVE MEASURES AND EVACUATION PROCEDURES

Personal protective measures and evacuation procedures will be determined by the Incident Commander.

6.9.18.1 EVACUATION PLANS FOR THE CCP FACILITY

Because the wind direction changes during the day, two evacuation routes are planned. Other evacuation routes may be required depending upon the situation.

See Map, Thomas Guide page 552 H7 (See appendix B).

6.9.18.1.1 EVACUATION ROUTE ONE

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Based on a wind direction roughly encompassing 270 to 90 degrees

Employees will exit the Facility and proceed south to an open field. Employees will assemble and a head count will be made. Transportation to a new location may be provided by the City of Oxnard.

6.9.18.1.2 EVACUATION ROUTE TWO

Based on a wind direction of roughly 90 to 270

Employees will exit the Facility either on foot or in their personal vehicles, and proceed North to Hueneme road. Employees will assemble on the northwest corner and a head count will be taken. Employees will not proceed home until count has been taken and permission given by the Incident Commander.

Transportation to a new location may be provided by the City of Oxnard.

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6.9.18.2 AUTHORITY FOR EVACUATION

The CCP Incident Commander or OFD will determine if an evacuation of the CCP plant is necessary.

In the event a larger evacuation is called for, the decision will be made by the OFD Incident Commander, or by the City of Oxnard Emergency Coordinator.

6.9.18.3 AGENCY RESPONSIBLE

Not applicable to the CCP Facility.

6.9.18.4 ROLE OF FACILITY IN EVACUATION IN DECISION MAKING PROCESS

The Plant Manager will provide information to the Incident commander to assist in any decision to evacuate.

6.9.18.5 METHODS FOR EVACUATION

The method for evacuation of personnel and other civilians will be decided by the OFD Incident Commander.

Methods may include: Walking, Personal Vehicle, Public Transportation, Oxnard City Vehicles, Military Transport.

6.9.18.6 RELATIONSHIP OF EVACUATION PROCEDURES TO OTHER PROTECTIVE MEASURES

The OFD Incident Commander will determine these relationships.

6.9.18.7 CONDITIONS REQUIRING EVACUATION

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The OFD Incident Commander will determine the conditions that require evacuation.

6.9.18.8 EVACUATION ROUTES

(See Appendix B)

Larger Evacuation will be coordinated by the authority of the City of Oxnard.

6.9.18.9 EVACUATION ZONES AND DISTANCES

In the event of a contained chemical spill on Facility property, a radius of 300 feet will be isolated around the spill area.

Additional Evacuation Zones and Distances will be determined by the OFD Incident Commander, the Ventura County Environmental Health Department, Environmental Protection Agency, or by the VCAPCD.

6.9.18.10 PROCEDURES FOR EVACUATION OF SPECIAL POPULATIONS

The OFD Incident Commander will determine procedures.

6.9.18.11 MASS CARE FACILITIES

Mass Care facilities will be determined by the Oxnard Fire Department Incident Commander.

6.9.18.12 EVACUATION SECURITY

Security for any evacuation required due to product release, will be coordinated by one or all of the following agencies:

Oxnard Police Department
Venture county Sheriff's Office
California Highway Patrol

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6.9.18.13 TRAFFIC MANAGEMENT

Traffic Management for any evacuation will be provided by one or all of the following agencies:

Oxnard Police Department
Ventura County sheriff's Office
California Highway Patrol

6.9.18.14 FACILITY RE-ENTRY

Re-entry to the CCP Facility will be determined by the OFD Incident Commander.

6.9.19 FIRE AND RESCUE

Applies only to Oxnard City Fire Department personnel.

6.9.19.1 FIRE FIGHTERS ROLE IN HAZMAT RESPONSE

Not applicable to the CCP Facility

6.9.19.2 PUBLIC AND PRIVATE FIRE PROTECTION ORGANIZATIONS

None

6.9.19.3 COMMAND STRUCTURE FOR MULTI-AGENCY , MULT-JURISDICTIONAL RESPONSE

Not applicable to the CCP Facility

6.9.19.4 AVAILABLE SUPPORT SYSTEMS

Covered under Resource Management.

6.9.19.5 DISTRICT HAZMAT TEAMS

The Oxnard Fire Department maintains a Special Operations Unit equipped to handle a hazardous material incident at the CCP Facility.

Additionally, the County of Ventura also has a hazardous materials unit.

6.9.20 LAW ENFORCEMENT

CCP has no trained security personnel. Law enforcement will be provided by State and Local Agencies.

6.9.21 ON-GOING INCIDENT ASSESSMENT

6.9.21.1 METHODS FOR DETERMINING AREAS AFFECTED BY AN ON-GOING RELEASE

Areas affected will be monitored by the Ventura County Environmental Health Department, or the EPA.

6.9.21.2 METHODS FOR DETERMINING IMPACT ON PUBLIC AND PRIVATE PROPERTY

Impact will be determined by the Ventura County department of Health Services, the EPA or the Ventura County Air Pollution Control District.

6.9.21.3 MONITORING CAPABILITIES

All ongoing monitoring will be done by the OFD, County Health, EPA, et. al.

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6.9.21.4 ENVIRONMENTAL ASSESSMENT

Environmental Assessment will be done by the Ventura County Environmental Health Services.

6.9.21.5 HUMAN SERVICES

Not applicable to the CCP Facility

6.9.21.6 EMERGENCY AGENCIES

The Oxnard City Fire Department has primary responsibilities for fire and rescue within the City of Oxnard.

The following will support the Fire Department when requested:

COMMUNITY DEVELOPMENT: Will provide equipment, barricades, damage assessment, building inspections and debris removal.

RED CROSS: Will provide manpower, feeding facilities for crews, first aid volunteers.

UTILITIES DEPARTMENT: Will coordinate with Southern California Edison for supply of emergency power: inspect and repair power facilities: inspect and repair water supply system.

GENERAL TELEPHONE: Will assist with communications.

HUMAN RESOURCES: Will provide manpower.

SOUTHERN CALIFORNIA GAS: Will provide crews to inspect and repair gas lines.

POLICE: Will assist with search and rescue

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6.9.21.7 MAJOR HUMAN SERVICE ACTIVITIES

Not applicable to the CCP

6.9.21.8 PUBLIC WORKS

Not applicable to the CCP Facility.

6.9.22 TECHNIQUES FOR SPILL CONTAINMENT AND CLEANUP

Almost all product and raw material containment vessels at the CCP Facility are diked. Should the product be released into a dike area, Facility response teams will don Personal Protective Equipment (PPE) and enter the area to determine the extent and nature of the spill. If possible, the entry team will attempt to stop product flow.

Should the product leave the diked enclosure, the Facility Haz Mat Team will use booms or sand to contain the product.

6.9.22.1 ALLOCATION OF RESPONSIBILITIES

Management:
Incident Command
Documentation
Finance
Logistics
OFD Liaison

Line Personnel:
Entry
Decontamination
Containment & Control
Disposal

6.9.22.2 MAJOR CONTAINMENT AND MITIGATION ACTIVITIES

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In the event that CCP/Oxnard is unable to contain and/or control the product, CCP will seek the assistance and advice of the Oxnard City Fire Department and the City of Oxnard.

6.9.22.3 CLEANUP AND DISPOSAL SERVICES

CCP is under contract with EAGLE (Phone Number (800) 336-0909 for clean up.

CCP currently uses the following firms for hazardous waste hauling and disposal.

VEOLIA Environmental Services	626-815-2210
West Central Environmental (WCE)	716-775-3335

6.9.22.4 METHODS FOR CLEANUP

Diked Areas: Product is contained. Foam may be used on material to suppress vapors. Product will be pumped to another container for recovery.

Non-Diked Areas: Spill will be contained in Sump or contained by berms of sand or booms. Product will be neutralized, if applicable. Material will be absorbed using sand or other absorbent and placed in drums for later disposal.

6.9.22.5 METHODS TO RESTORE THE ENVIRONMENT

Should the product damage the environment, methods to restore the environment will be determined by the Ventura County Environmental Protection Agency.

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6.9.22.6 LONG TERM CONTROL

Long-term control will be determined by the Environmental Protection Agency.

6.9.22.7 APPROVED DISPOSAL SITES

CCP Oxnard currently transports its hazardous waste products to company approved disposal sites.

6.9.22.8 CLEANUP MATERIAL AND EQUIPMENT AVAILABLE WITHIN DISTRICT

Not applicable to CCP Facility

6.9.22.9 CAPABILITIES OF CLEANUP PERSONNEL

All CCP Facility personnel have been trained in accordance with 29 CFR Part 1910.120.

All contractors employed by CCP to cleanup or mitigate a release, must be certified in accordance with 29 CFR 1910.120.

6.9.22.10 REGULATIONS FOR THE DISPOSAL OF HAZARDOUS MATERIALS

See 40 CFR Parts 262 to 265

6.9.23 DOCUMENTATION AND INVESTIGATIVE FOLLOW-UP

6.9.23.1 REQUIRED REPORTS

For the CCP Facility, the following are required reports:

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Written notification within 24 hours after the release, to the California Office of Emergency services.

Written notification within 24 hours to the National Response Center, Washington, DC.

6.9.23.2 METHODS FOR EVALUATION OF RESPONSE

Evaluation of emergency response operation will be by the OFD and consist of both written evaluation and verbal evaluations.

6.9.23.3 COST RECOVERY

CCP will determine the process if cost recovery is necessary.

6.9.24 PROCEDURES FOR TESTING AND UPDATING THE PLAN

6.9.24.1 METHODS AND SCHEDULES FOR TESTING PLAN

The Facility Emergency Response Plan will be tested on a yearly basis with an exercise. The extent of the exercise may vary from a plant-only tabletop exercise to a full-scale multi-agency, dressed out drill. The full-scale multi-agency drill will be performed as often as possible.

6.9.24.2 NATURE OF A FULL SCALE MULTI-AGENCY EXERCISE

The exercise will include monitoring, entry and exit procedures, evaluation of the incident, containment and control, documentation,

decontamination procedures, material disposal and Incident Command operations.

These exercises will include:

6.9.24.2.1 EXERCISE SCHEDULE

The schedule will be coordinated with the Oxnard Fire Department and all other participating agencies.

6.9.24.2.2 ROLE OF OTHER AGENCIES IN HAZMAT EXERCISES

As many governmental agencies as possible are encouraged to participate. In addition, all CAER (Community Awareness Emergency Response) members not participating will be invited to observe.

6.9.24.2.3 PERFORMANCE EVALUATION

Performance evaluation will be conducted after any exercise with a debriefing session by the participants.

6.9.25 TRAINING

6.9.25.1 TRAINING PROGRAMS AND SCHEDULES

All CCP personnel will receive 8 hours of refresher Hazardous Materials Emergency Response Training on a yearly basis.

6.9.25.2 TRAINING REQUIREMENTS FOR LEPC MEMBERS

All CCP Emergency Response personnel have been trained in the following:

First Responder

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24 Hours Emergency Response Training
Complies with California Government Code Section 1503 and 29 CFR 1910.1200

Hazardous Materials Technician Level Training
16 Hours complies with 29 CFR 1910.120 & 29 CFR Part 1910.134

Total Number of Training Hours: 40 Hours.

Supervisory personnel and representatives from each department/shift have received an additional 8 hours of training in the Incident Command System.

6.9.25.3 TRAINING DOCUMENTATION AND TESTING
(See Corporate training documentation files.)

7.0 Environmental and Safety Records:

8.0 Related Documentation/Exhibits:

9.0 Control/Change/Revision Record

9.1 Control of this document will be by the Document Control Procedure (QP CR 05 0001). Distribution recipients are responsible for its availability and accessibility, removal/replacement/disposition of obsolete documents.

The document owner is designated to retain the obsolete document master copy, as needed, suitably identified as obsolete archival record.

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Plan No.:	CCP-07-076-PL-01	Version:	February 2010
Plan Title:	CCP-Oxnard: Business Plan for HAZMAT and	Page:	54 of 63
	EMERGENCY RESPONSE	Approved By:	Jon Schuckman

Revision Record

Changes					
Revision No.	Revision Date	Old Ref.	New Ref.	Description	Approved
1	2-11-00	2-96		Update for Mgt. Change	MAG
2	10-04-00	2-11-00		Update for DCPD & Mgt.	MAG
3	8-1-02	10-4-00		Update for Mgt. Change	MAG
4	11-12-03	8-1-02		Update for Mgt. Change	MAG
5	3-01-05	11-12-03		Update for Mgt. Change	MAG
6	2-28-06	3-01-05		Annual Update	MAG
7	02-27-09	02-28-06		Update for Mgt. Change	JS
8	02-24-10	02-27-09		Update for Mgt. Change	JS

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Appendix A: Emergency Phone Numbers

Insert

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EMERGENCY TELEPHONE NUMBERS

FIRE 911
POLICE-OXNARD P.D.

AMBULANCE (BUSINESS # 488-4311)

HOSPITALS

988-2500
ST. JOHNS
1600 N. ROSE AVE.
OXNARD, CA 93033

DOCTOR

ABRAHAM POTOLSKI, MD PHONE 805-240-3131
OXNARD INDUSTRIAL MEDICAL CLINIC FAX 805-240-3119
345 SOUTH A STREET
OXNARD, CA 93030

DR. PETER GREANEY
GMG WORKCARE
ORANGE, CA 92868 PHONE 800-455-6155

INSURANCE - WORKMANS COMPENSATION

AIG WORKERS' COMPENSATION SERVICE CENTER PHONE 800-736-6671
7676 HAZARD CENTER DRIVE, 12TH FLOOR SECONDARY 619-688-3700
SAN DIEGO, CA 92108 FAX 619-688-1704
PRIMARY CONTACT: DEBBIE PALFY, EXTENSION 732
SECONDARY CONTACT: MICHAEL RASMUSSEN, EXTENSION 768

ADT ALARM EMERGENCY NUMBER 818-781-3941

ARCTURUS MANUFACTURING	WEST	488-4481
KAISER ALUMINUM	EAST	488-4401
MORRISON KNUDSEN (EXXON LEASE)	NORTHWEST	488-9677
OFFSHORE CRANE LEASE TO EXXON	NORTHWEST	488-8701
PACIFIC VEHICLE PROCESSORS	NORTH	488-3050
BMW	NORTH	986-7300

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CHEMTREC (EMERGENCY CHEMICAL INFORMATION)	**1-800-424-9300**
NATIONAL RESPONSE CENTER	**1-800-424-8802**
STATE WARNING CENTER	**1-800-852-7550**
VCAPCD - EQUIP. FAILURE (THERMAL OXIDIZER)	**805-654-2797**

EMERGENCY ASSISTANCE TELEPHONE NUMBERS

Association of American Railroads Bureau of Explosives	202-639-2222
Department of Transportation D.O.T. Hotline	202-366-4488
Environmental Protection Agency E.P.A. Hotline	800-535-0202
E.P.A. / RCRA Hotline	800-424-9346

TECHNICAL AND RESPONSE PERSONNEL

State OES (Region I)	310-795-2900
U.S. Coast Guard	800-424-8802
National Response Center	800-424-8802
National Weather Service	805-988-6610
Association of American Railroads Bureau of Explosives	202-639-2222
Department of Transportation D.O.T. Hotline	202-366-4488
Environmental Protection Agency E.P.A. Hotline	800-535-0202
E.P.A/RCRA Hotline	800-424-9346
Contractor – EAGLE (National Contract with CCP)	800-336-0909

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EMERGENCY COORDINATORS

CHEMTREC (Chemical Transportation Emergency center)	800-424-9300
National Response Center	800-424-8802

OTHER AGENCIES

Federal Bureau of Investigation	805-642-3995
Sheriff	911
State Warning Center (HazMat)	800-852-7550
Stare Notification (Warning Center)	800-852-7550
OSHA	800-321-OSHA

TRANSPORTATION EMERGENCY PHONE NUMBERS

COMPANY NAME	PHONE NUMBER
ARROW TRANSPORTATION	800-592-2525
BAY AREA EXPRESS	800-794-9409
BEDFORD FREIGHT	310-657-3280
BENITO	310-633-6555
CONSOLIDATED FREIGHT	805-484-1047
CWX	805-482-4664
FREYMILLLER TRANSPORTATION	800-669-6275
G.I. TRANSPORTATION	805-482-4664
IOSCO	503-692-6878
ODYSSEY TRANSPORTATION L.A Basin North West Arizona	310-768-3336 310-493-6142 310-514-2483 800-788-8022
PRO EXPRESS	818-334-4974
RCI TRUCKING	800-558-6767
SCHNEIDER	800-287-4263
SHANE TRANSPORTATION	800-277-7932
SOUTHWESTERN	800-888-3795
TRI-MAC TRANSPORTATION	800-255-1972
UNION PACIFIC BULKTAINER	805-486-4428
VENTURA COUNTY RAILWAY	

The electronic file of this Document on the CCP Intranet site is the Controlled Document. The Document is "uncontrolled" if printed. The user is responsible to verify that a printed version is the current version before using.

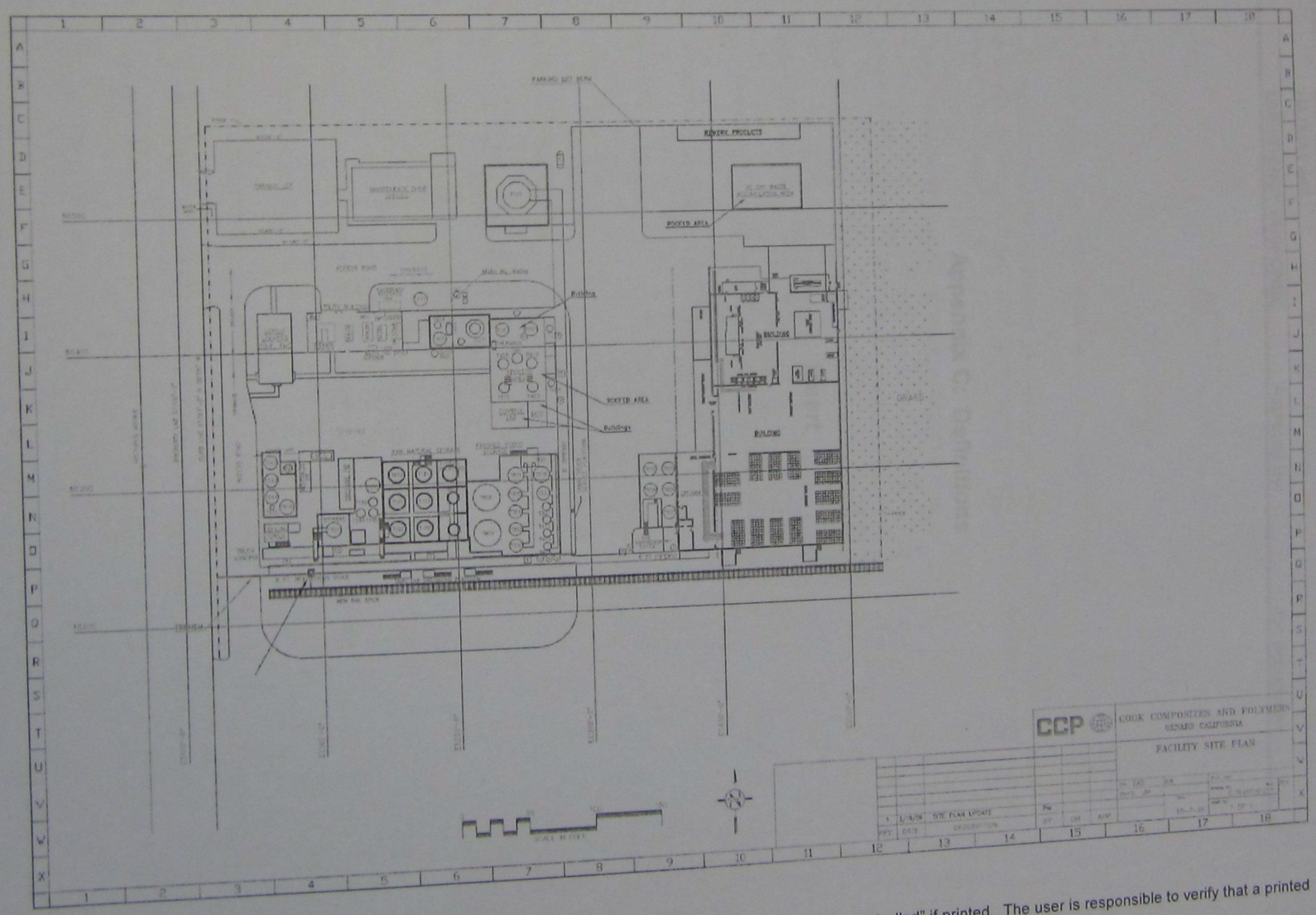
Appendix B: Site Map

Insert

Cook Composites & Polymers Co

The electronic file of this Document on the CCP Intranet site is the Controlled Document. The Document is "uncontrolled" if printed. The user is responsible to verify that a printed version is the current version before using.

Plan No.:	CCP-07-076-PL-01	Version:	February 2010
Plan Title:	CCP-Oxnard: Business Plan for HAZMAT and	Page:	61 of 63
	EMERGENCY RESPONSE	Approved By:	Jon Schuckman



The electronic file of this Document on the CCP Intranet site is the Controlled Document. The Document is "uncontrolled" if printed. The user is responsible to verify that a printed version is the current version before using.

5980 Arcturus Ave.
Cook Composites & Polymers Co.

Appendix C: Definitions

Insert

Cook Composites & Polymers Co.

APPENDIX C

DEFINITIONS

ACGIH – American Conference of Governmental Industrial Hygienist

CAMEO – Computer Aided Management of Emergency Operation. A Computer program developed by the National Oceanic and Atmosphere Administration (NOAA), which is used by the Oxnard Fire Department.

CAER – Community Awareness and Emergency Response

CAS – Chemical Abstract Service

CCP – Cook Composites and Polymers Co.

CPR – Cardiac Pulmonary Resuscitation

EPA – Environmental Protection Agency

IDLH – Immediately Dangerous to Life and Health

LOC – Level of Concern

LPG – Liquid Propane Gas

MCC – Master Control Center

MSDS – Material Safety Data Sheet

NFPA – National Fire Protection Association

NIOSH – National Institute of Occupational Safety and Health

ORM – A – Department of Transportation Code for Shipping Materials

RQ – Reportable Quantity

SCBA – Self Contained Breathing Apparatus

SWPPP – Storm Water Pollution Prevention Plan

TLV – Threshold Limit Value

TWA – Time Weighted Average

VCAPCD – Ventura County Air Pollution Control District

The electronic file of this Document on the CCP Intranet site is the Controlled Document. The Document is "uncontrolled" if printed. The user is responsible to verify that a printed version is the current version before using.

5980 Arcturus Ave.
Cook Composites & Polymers Co.

From: <Orlando_Flores@URSCorp.com>
To: Ines.Gonzalez@ci.oxnard.ca.us
Date: 2/24/2011 8:05:35 AM
Subject: Re: Cook Composites & Polymers (CCP) - Permit #11-568 ImpactedSoilContingency Excavation Work Plan

Will do.

Regards,
Orlando A. Flores
Aman Environmental Construction, Inc.
614 E. Edna Place
Covina, CA 91723
(626)967-4287 Ext. 3010
(626)967-4072 Fax
www.amanenvironmental.com

URS

Ronald A. Miller, MSIH, REA, CAC
Senior Project Industrial Hygienist

URS Corporation
2020 East First Street, Suite 400
Santa Ana, CA 92705
Tel: 714.835.6886
Direct: 714.648.2789
Fax: 714.667.7147
ronald_miller@urscorp.com

----- Original Message -----
From: "Ines Gonzalez" [Ines.Gonzalez@ci.oxnard.ca.us]
Sent: 02/24/2011 08:00 AM PST
To: Orlando Flores
Subject: Re: Cook Composites & Polymers (CCP) - Permit #11-568 Impacted SoilContingency Excavation Work Plan

Thank you,
Please notify CUPA when demolition is scheduled. We'll need to come out to confirm closure.

Ines V. Gonzalez
Oxnard Fire CUPA
360 W. Second St
Oxnard, CA 93030

(805) 385-7657

>>> <Orlando_Flores@URSCorp.com> 2/23/2011 10:42 AM >>>
Hi Ines - Per your request find attached a copy of Aman's "Impacted Soil Contingency Excavation Work Plan" for the CCP Oxnard project. Please let me know if you should have any questions or require any clarifications.

Regards,

Orlando A. Flores
Aman Environmental Construction, Inc.
614 Edna Place
Covina, California 91723
Phone: (626) 967-4287
Fax: (626) 967-4072
orlando_flores@urscorp.com

AMAN Environmental Construction
Demolition and Remediation Contractors

Aaron Teague
Project Superintendent

614 E. Edna Place
Covina, California 91723
626 967 4287 Tel
626 322 1877 Fax
626 945 0311 Cell
aaron_teague@urscorp.com

Report

REPORT OF CLEANING OF TANKS AND PIPELINES

COOK COMPOSITES AND POLYMERS CO.
5980 ARCTURUS AVENUE
OXNARD, CALIFORNIA

Prepared for

Cook Composites and Polymers Co.
P.O. Box 419389
Kansas City, MO 64141

Allen E. Blodgett, P.E.

January 21, 2008

URS

2020 E. First Street
Suite 400
Santa Ana, California 92705

29868635.10000

Certification

I, Allen E. Blodgett, a Professional Engineer registered pursuant to the Professional Engineers Registration Law, California, hereby certify that I am familiar with actions taken to clean six tanks and connecting pipelines at the Cook Composites and Polymers Co. facility located at 5980 Arcturus Avenue, Oxnard, California, and the rules and regulations under California Code of Regulations (CCR) Title 22 Section 67383.3 pertaining to cleaning of such tanks, and that I personally have made visual observations of the aforementioned tanks, and that the cleaning of the aforementioned tanks has been performed in substantial accordance with the rules and regulations of California Title 22 CCR 67383.3.

Allen E. Blodgett — 1/21/08

(signature) (date)

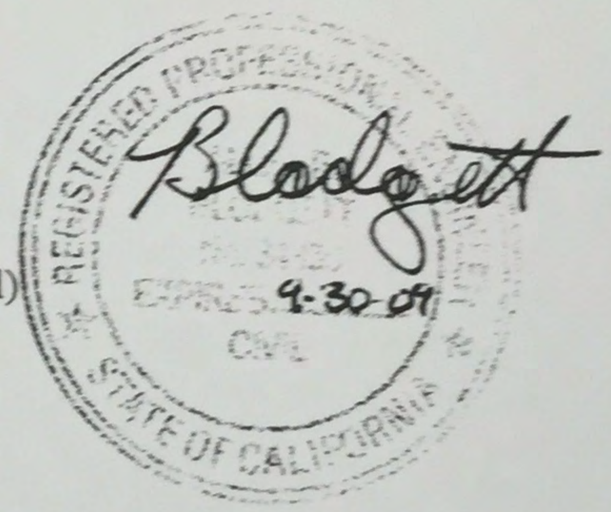
C 34356

(professional engineering license number)

2020 East First Street, Ste. 400, Santa Ana, CA 92705

(business address)

(seal)



714-835-6886

(telephone number)

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3.0 TANK CLEANING APPROACH 3-1

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3.1.1 Analytical Test Methods 3-2

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2 VOC Analytical Results

FIGURES

1 Site Location Map
2 Site Layout

APPENDICES

A Manifests
B Laboratory Analytical Report and Chain-of-Custody Documentation

List of Acronyms and Abbreviations

bgs	Below ground surface
CCP	Cook Composites and Polymers Co.
CCR	California Code of Regulations
CUPA	Certified Unified Program Agency
DCPD	Dicyclopentadiene
DTSC	Department of Toxic Substances Control
EPA	Environmental Protection Agency (U.S.)
Facility	CCP Oxnard Facility
HSP	Health and safety plan
OVA	Organic vapor analyzer
OVM	Organic vapor monitor
Permit	Hazardous Waste Facility Permit
PPE	Personal protective equipment
RCRA	Resource Conservation and Recovery Act
TSDF	Treatment, storage, and disposal facility
URS	URS Corporation
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile organic compound

1.0 INTRODUCTION

On behalf of Cook Composites and Polymers Co. (CCP), URS Corporation (URS) has prepared this Tank and Pipeline Cleaning Certification Report (Report) to document tank and pipeline cleaning activities at the CCP facility (the Facility). The Facility is located at 5980 Arcturus Avenue in Oxnard, California, as depicted in Figure 1. The activities described in this Report have been completed in support of temporarily idling the Unsaturated Polyester Resin process at the Facility.

The Facility formerly operated the tanks under Permit Number 0012 issued by the Oxnard Fire Department, the Certified Unified Program Agency (CUPA). The tanks covered by this permit and the Report include Tank T-403, Tank T-405, the Vacuum Pot, Poly Scrubber T-321, the Knock Out Pot, and the Distillate Tank Receiver R-101 (Table 1). These tanks are being temporarily idled and may be put back into the same service in the future.

This Report is organized as follows:

- A brief description of the Facility is provided in Section 2;
- A description of steps performed to clean the tanks is provided in Section 3; and
- A discussion of the results of the cleaning is presented in Section 4.

2.0 FACILITY BACKGROUND

CCP operates an approximately six acre facility located at 5980 Arcturus Avenue in Oxnard, California (Figure 1), that was acquired from Reichhold Chemicals, Inc. in February of 1996. The Facility is bounded by undeveloped CCP-owned land to the north (and further to the north is the BMW Emission Testing and Vehicle Transport Unit); Aluminum Precision Products and Borla Industries Plants to the east; Arcturus Avenue, Arcturus Manufacturing, and T&T Crains (with lease to Exxon Support Group) to the west; and a Ventura County Railroad spur and a Wagoneers vehicle shipping facility to the south (formerly Occidental Chemical Company). The Facility has been used to manufacture unsaturated polyester resin and Gelcoat.

CCP is temporarily idling the unsaturated polyester resin portion of the Facility. The idled portions of the Facility will remain in place and may be put back into service in the future. The Gelcoat manufacturing portion of the Facility will continue to operate.

CCP operated tanks T-403 and T-405 as less than 90 day hazardous waste storage tanks that temporarily stored esterification wastewater. Esterification wastewater is a complex and variable wastewater stream that is a function of raw materials used and process conditions during unsaturated polyester production. In general, it is primarily water (typically greater than 90 to 95%) and a mixture of glycols including ethylene glycol, propylene glycol, diethylene glycol, and dipropylene glycol. Phenol is a common semivolatile compound found in esterification water in varying amounts. Cyclic ethers, such as 1,4-Dioxane, may at times be present in esterification wastewater due to the reaction of certain glycols in an acidic solution. Other trace volatile organic compounds (VOCs) include alcohols, such as methanol or propanol, may be present depending upon the type of raw materials used. For example, for dicyclopentadiene (DCPD) -based unsaturated polyester production, the esterification water may contain trace amounts of DCPD, cyclopentadiene, DCPD alcohol, and lighter (C5, C6) and heavier (C10, C11) hydrocarbon alkane fractions.

3.0 TANK CLEANING APPROACH

The actions taken to clean the tanks and connecting pipelines were designed to remove residual waste from the units and to temporarily decommission the units by cleaning them. The scope of work completed during the cleaning process to meet these objectives is summarized as follows.

1. CCP personnel removed waste materials remaining in the six tanks identified in Table 1 and their connecting pipelines. These materials were disposed of off site at an appropriately licensed treatment and disposal facility.
2. URS retained a subcontractor, Aman Environmental Construction (Aman), to perform the cleaning activities.
3. Aman prepared a site specific Health and Safety Plan (HSP) to protect workers during the work.
4. Pipelines connecting the tanks were cleaned by flushing water through them and collecting it in Tank T405. The interiors of the tanks were washed using a high-pressure water spray. Cleaning generally proceeded from the first tank in the manufacturing process (Tank R101), through the pipeline connecting it to the next tank, and so on until the last tank (Tank T405) was cleaned. Wash water was pumped out of the tanks using a vacuum truck, manifested, and taken off site for disposal at Filter Recycling located in Rialto, California, an appropriately licensed treatment and disposal facility. Approximately 2,300 gallons of wash water was taken to Filter Recycling as non-RCRA hazardous waste liquid. Copies of the manifests are presented in Appendix A.
5. The certifying engineer personally observed conditions inside each of the cleaned tanks to visually verify that no waste residues or wash water remained.
6. Samples of the final wash water were taken and analyzed by American Analytics, a California Department of Health Services-certified laboratory, to document the final condition of the tanks.
7. This Report was prepared upon completion of the above activities.

The objectives of the tank and pipeline cleaning program were to temporarily idle the tanks in a manner that:

- Complies with the applicable requirements of CCR Title 22 Section 67383.3;
- Minimizes the need for further maintenance; and
- Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-cleaning escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.

3.1 WASH WATER SAMPLING

At the conclusion of cleaning of the tanks and pipelines, samples of the final wash water were obtained to document conditions in the tanks. Grab samples were taken from the final wash water drained from Tank T-405 and the Poly Scrubber T-321.

Sample containers and handling procedures conformed to the established protocols described in EPA SW-846. The sample bottles, once filled, were labeled with the tank number and sample location. Sample

containers were supplied by the laboratory. A unique identifying number was written on each label by the sampler at the time of sampling. Field logs consist of chain-of-custody records. Information provided on the form includes the sample number, date and time of sampling, preservatives, number and type of containers, and analyses requested. Sample receipt by the laboratory is documented on the form. Copies of this documentation are included with the attached laboratory report (Appendix B). A unique identification number was assigned to each sample by the laboratory. This number is indicated on the chain-of-custody record, and is used in subsequent reporting of results. Unused portions of samples will be disposed of by the laboratory at permitted facilities. Analytical results were reported to URS by the laboratory, using the unique sampling and laboratory numbers assigned to each sample.

3.1.1 Analytical Test Methods

Samples were analyzed by American Analytics a California Department of Health Services-certified laboratory. Samples were analyzed for VOCs by EPA Method 8260B.

4.0 DISCUSSION OF RESULTS

As anticipated, the two final wash water samples taken from inside Tank T-405 and Poly Scrubber T-321 contain detectable concentrations of VOCs associated with the unsaturated polyester resin manufacturing process. The sample results are summarized in Table 2. The analytical laboratory report is presented in Appendix B.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based upon our field observations during the tank and pipeline cleaning work and the analytical laboratory results for final wash water samples, the inside of the subject tanks and connecting pipelines have been cleaned of visually observable waste residues and wash water. Although the samples of the final wash water did contain detectable concentrations of VOCs, the tanks and pipelines have been cleaned of visually observable waste residues and wash water. Since the tanks and pipelines are now empty there is no potential for a release. Hence, the cleaned tanks and pipelines do not represent a threat to human health or the environment.

6.0 REFERENCES

U.S. EPA, *USEPA Test Methods for Evaluating Solid Wastes Physical/Chemical Methods, SW-846, Version III.* December 1996.

Tables

Table 1
Tanks Cleaned
Cook Composites and Polymers Co.
Oxnard, California

Tank Number	Description	Material Contained
	Knockout pot	Vent Line Condensate
T-403	Reaction water tank	Esterification water
T-405	Reaction water tank	Esterification water
T-321	Scrubber	Spent glycol - Air Pollution Control Device
	Vaccum water accumulation tank	Esterification water
R-101	Reciever tank	Esterification water

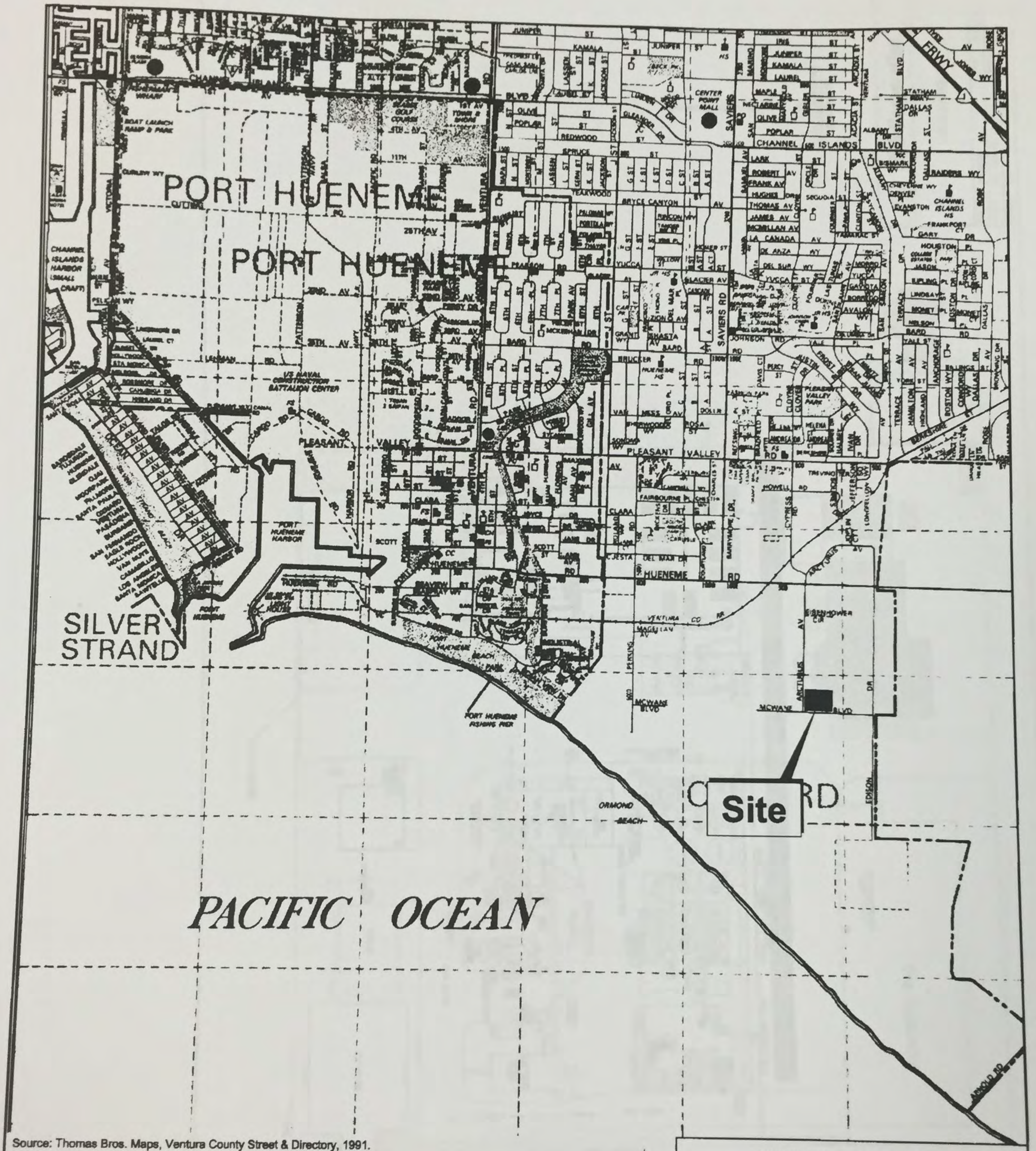
TABLE 2
VOC
ANALYTICAL RESULTS

Tank and Pipeline Cleaning
Cook Composites and Polymers Co.
Oxnard, California

Sample ID	Sample Date	LABORATORY ANALYTICAL RESULTS										
		Benzene	n-Butylbenzene	Ethylbenzene	4-Isopropyltoluene	Naphthalene	n-Propylbenzene	Styrene	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Xylenes
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
T-405	12/17/2007	**15**	**120**	**38**	<20	**46**	**16**	**800**	**34**	**50**	**15**	**95**
Poly Scrubber	12/17/2007	<10	**46**	**22**	**130**	**170**	**18**	**2,100**	**36**	**120**	< 10	**46**

Explanation:
µg/L = Microgram per Liter
All other VOCs were non-detected above the laboratory reporting limit.

Figures



Source: Thomas Bros. Maps, Ventura County Street & Directory, 1991.

0 2400' 4800'

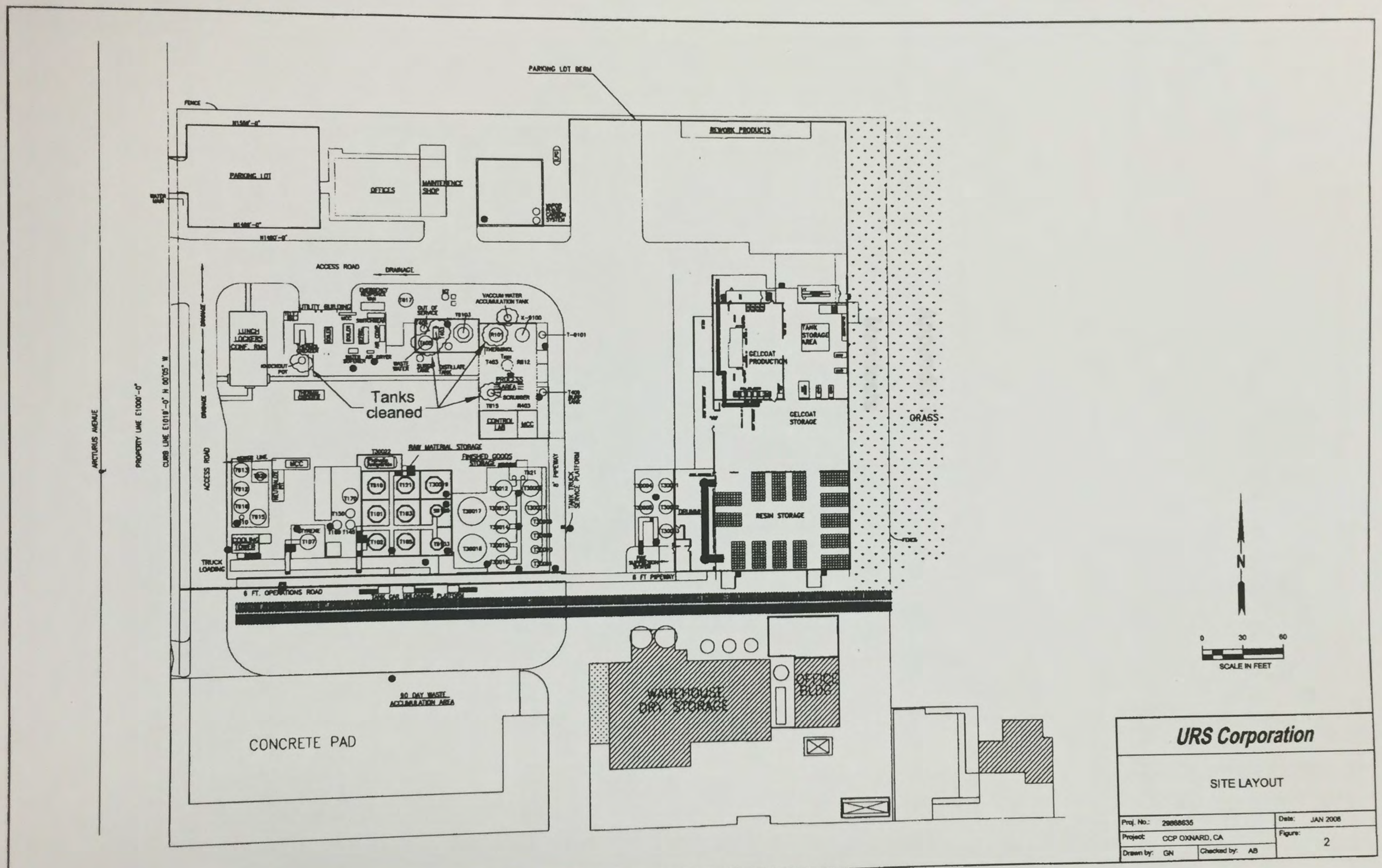
Scale in Feet

URS Corporation

SITE LOCATION MAP

Proj. No.:	29868635	Date:	JAN 2008
Project:	CCP OXNARD, CA	Figure:	1
Drawn by: GN	Checked by: AB		

S:\Gabriel Negrete\Figure 01 - Site Location Map.dwg, File date: 1/4/2008 11:48 AM, Print date: 1/4/2008 11:49 AM, by: Gabriel Negrete



URS Corporation

SITE LAYOUT

Proj. No.:	29888635	Date:	JAN 2008
Project:	OCP OXNARD, CA	Figure:	2
Drawn by:	GN	Checked by:	AB

S:\Gabriel Negrete\Figure 02 - Site Layout.dwg, File date: 1/7/2008 8:47 AM, Print date: 1/7/2008 8:48 AM by: Gabriel Negrete

Appendix A

Manifests

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
CAD087163267		909 873 4141	000075025GBF

GENERATOR

5. Generator's Name and Mailing Address
COOK COMPOSITES AND POLYMERS
5980 ARCTURUS AVE
OXNARD, CA 93033
Generator's Phone: (805) 986 3635

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
FILTER RECYCLING
U.S. EPA ID Number
CAD982444481

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
FILTER RECYCLING
180 MONTE AVE
RIALTO, CA
Facility's Phone: 909 873 4141
U.S. EPA ID Number
CAD982444481

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NON RCRA HAZARDOUS WASTE LIQUID	1	T	1500	G	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
WEAR APPROPIATE PPE WHEN HANDLING

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Patricio Cuevas — Signature — Month: 12 Day: 14 Year: 07

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Fernando DIAZ — Signature — Month: 12 Day: 14 Year: 07

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name — Signature — Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CAD087163267
2. Page 1 of: 1
3. Emergency Response Phone: 909 873-4141
4. Manifest Tracking Number: 003807595 JJK

GENERATOR

5. Generator's Name and Mailing Address
COOK COMPOSITES AND POLYMERS
5980 ARCTURUS AVE
OXNARD, CA 93033
Generator's Phone: (805) 966-3635

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Filter Recycling
U.S. EPA ID Number: CAD982444481

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Filter Recycling
1600 Monte Ave
Rialto, CA
Facility's Phone: (909) 876-4141
U.S. EPA ID Number: CAD982444481

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NON RCRA HAZARDOUS waste liquid	1	TT	800	G	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
WEAR APPROPIATE PPE WHEN HANDLING

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Patricio Cueva
Signature:
Month: 12 Day: 17 Year: 07

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Fernanda Diaz
Signature:
Month: 12 Day: 17 Year: 07

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature
Month: Day: Year:

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Appendix B

Laboratory Analytical Reports and Chain-of-Custody Documentation

AMERICAN ANALYTICS

9765 Eton Avenue
Chatsworth
California 91311
Tel: (818) 998-5547
Fax: (818) 998-7258

December 26, 2007

Allen Blodgett
URS (SA)
2020 East First Street, Suite 400
Santa Ana, CA 92705

Re : Cook Composites Polymere / 29868635.10000

A321101 / 7L17011

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received on 12/17/07 14:44 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report or require additional information please call me at American Analytics.

Sincerely,

Eydie Schwartz

Eydie Schwartz
Project Manager

AMERICAN ANALYTICS

LABORATORY ANALYSIS RESULTS

Client: URS (SA)
Project No: 29868635.10000
Project Name: Cook Composites Polymere

AA Project No: A321101
Date Received: 12/17/07
Date Reported: 12/26/07

Sample ID	Laboratory ID	Matrix	TAT	Date Sampled	Date Received
8260B					
T-405	7L17011-01	Water	10	12/17/07 11:48	12/17/07 14:44
Poly-Scrubber	7L17011-02	Water	10	12/17/07 11:55	12/17/07 14:44

Eydie Schwartz

Eydie Schwartz
Project Manager

AMERICAN ANALYTICS

LABORATORY ANALYSIS RESULTS

Client: URS (SA)
Project No: 29868635.10000
Project Name: Cook Composites Polymere

AA Project No: A321101
Date Received: 12/17/07
Date Reported: 12/26/07

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
		VOCs by GC/MS						
Benzene	T-405	**15**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
n-Butylbenzene	T-405	**120**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
Ethylbenzene	T-405	**38**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
Naphthalene	T-405	**46**	40	ug/L	20	12/19/07	12/19/07	EPA 8260B
n-Propylbenzene	T-405	**16**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
Styrene	T-405	**800**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
Toluene	T-405	**34**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
1,2,4-Trimethylbenzene	T-405	**50**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
1,3,5-Trimethylbenzene	T-405	**15**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
o-Xylene	T-405	**19**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
m,p-Xylenes	T-405	**76**	20	ug/L	20	12/19/07	12/19/07	EPA 8260B
n-Butylbenzene	Poly-Scrubber	**46**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
Ethylbenzene	Poly-Scrubber	**22**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
4-Isopropyltoluene	Poly-Scrubber	**130**	20	ug/L	20	12/19/07	12/19/07	EPA 8260B
Naphthalene	Poly-Scrubber	**170**	40	ug/L	20	12/19/07	12/19/07	EPA 8260B
n-Propylbenzene	Poly-Scrubber	**18**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
Styrene	Poly-Scrubber	**2100**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
Toluene	Poly-Scrubber	**36**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
1,2,4-Trimethylbenzene	Poly-Scrubber	**120**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
o-Xylene	Poly-Scrubber	**22**	10	ug/L	20	12/19/07	12/19/07	EPA 8260B
m,p-Xylenes	Poly-Scrubber	**24**	20	ug/L	20	12/19/07	12/19/07	EPA 8260B

Eydie Schwartz

Eydie Schwartz
Project Manager

AMERICAN ANALYTICS

LABORATORY ANALYSIS RESULTS

Client: URS (SA)
Project No: 29868635.10000
Project Name: Cook Composites Polymere
Method: VOCs by GC/MS

AA Project No: A321101
Date Received: 12/17/07
Date Reported: 12/26/07
Units: ug/L

Date Sampled:	12/17/07	12/17/07	
Date Prepared:	12/19/07	12/19/07	
Date Analyzed:	12/19/07	12/19/07	
AA ID No:	7L17011-01	7L17011-02	
Client ID No:	T-405	Poly-Scrubber	
Matrix:	Water	Water	
Dilution Factor:	20	20	MRL
8260B (EPA 8260B)			
Acetone	<200	<200	10
Benzene	**15**	<10	0.50
Bromobenzene	<10	<10	0.50
Bromochloromethane	<10	<10	0.50
Bromodichloromethane	<10	<10	0.50
Bromoform	<10	<10	0.50
Bromomethane	<10	<10	0.50
2-Butanone (MEK)	<200	<200	10
tert-Butylbenzene	<10	<10	0.50
n-Butylbenzene	**120**	**46**	0.50
sec-Butylbenzene	<10	<10	0.50
Carbon Disulfide	<10	<10	0.50
Carbon Tetrachloride	<10	<10	0.50
Chlorobenzene	<10	<10	0.50
Chloroethane	<10	<10	0.50
Chloroform	<10	<10	0.50
Chloromethane	<10	<10	0.50
4-Chlorotoluene	<10	<10	0.50
2-Chlorotoluene	<10	<10	0.50
1,2-Dibromo-3-chloropropane	<20	<20	1.0
Dibromochloromethane	<10	<10	0.50
1,2-Dibromoethane (EDB)	<10	<10	0.50
Dibromomethane	<10	<10	0.50
1,3-Dichlorobenzene	<10	<10	0.50
1,4-Dichlorobenzene	<10	<10	0.50
1,2-Dichlorobenzene	<10	<10	0.50
Dichlorodifluoromethane (R12)	<10	<10	0.50

Eydie Schwartz

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Project Manager

AMERICAN ANALYTICS

LABORATORY ANALYSIS RESULTS

Client: URS (SA)
Project No: 29868635.10000
Project Name: Cook Composites Polymere
Method: VOCs by GC/MS

AA Project No: A321101
Date Received: 12/17/07
Date Reported: 12/26/07
Units: ug/L

Date Sampled:	12/17/07	12/17/07	
Date Prepared:	12/19/07	12/19/07	
Date Analyzed:	12/19/07	12/19/07	
AA ID No:	7L17011-01	7L17011-02	
Client ID No:	T-405	Poly-Scrubber	
Matrix:	Water	Water	
Dilution Factor:	20	20	MRL
8260B (EPA 8260B) (continued)			
1,1-Dichloroethane	<10	<10	0.50
1,2-Dichloroethane (EDC)	<10	<10	0.50
cis-1,2-Dichloroethylene	<10	<10	0.50
1,1-Dichloroethylene	<10	<10	0.50
trans-1,2-Dichloroethylene	<10	<10	0.50
1,3-Dichloropropane	<10	<10	0.50
1,2-Dichloropropane	<10	<10	0.50
2,2-Dichloropropane	<10	<10	0.50
trans-1,3-Dichloropropylene	<10	<10	0.50
1,1-Dichloropropylene	<10	<10	0.50
cis-1,3-Dichloropropylene	<10	<10	0.50
Ethylbenzene	**38**	**22**	0.50
Hexachlorobutadiene	<20	<20	1.0
2-Hexanone (MBK)	<200	<200	10
Isopropylbenzene	<10	<10	0.50
4-Isopropyltoluene	<20	**130**	1.0
Methyl-tert-Butyl Ether (MTBE)	<40	<40	2.0
Methylene Chloride	<100	<100	5.0
4-Methyl-2-pentanone (MIBK)	<200	<200	10
Naphthalene	**46**	**170**	2.0
n-Propylbenzene	**16**	**18**	0.50
Styrene	**800**	**2100**	0.50
1,1,1,2-Tetrachloroethane	<10	<10	0.50
1,1,2,2-Tetrachloroethane	<10	<10	0.50
Tetrachloroethylene (PCE)	<10	<10	0.50
Toluene	**34**	**36**	0.50
1,2,4-Trichlorobenzene	<10	<10	0.50

Eydie Schwartz

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Project Manager

AMERICAN ANALYTICS

LABORATORY ANALYSIS RESULTS

Client: URS (SA)
Project No: 29868635.10000
Project Name: Cook Composites Polymere
Method: VOCs by GC/MS

AA Project No: A321101
Date Received: 12/17/07
Date Reported: 12/26/07
Units: ug/L

Date Sampled:	12/17/07	12/17/07	
Date Prepared:	12/19/07	12/19/07	
Date Analyzed:	12/19/07	12/19/07	
AA ID No:	7L17011-01	7L17011-02	
Client ID No:	T-405	Poly-Scrubber	
Matrix:	Water	Water	
Dilution Factor:	20	20	MRL
8260B (EPA 8260B) (continued)			
1,2,3-Trichlorobenzene	<10	<10	0.50
1,1,2-Trichloroethane	<10	<10	0.50
1,1,1-Trichloroethane	<10	<10	0.50
Trichloroethylene (TCE)	<10	<10	0.50
Trichlorofluoromethane (R11)	<10	<10	0.50
1,2,3-Trichloropropane	<10	<10	0.50
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<10	<10	0.50
1,2,4-Trimethylbenzene	**50**	**120**	0.50
1,3,5-Trimethylbenzene	**15**	<10	0.50
Vinyl chloride	<10	<10	0.50
o-Xylene	**19**	**22**	0.50
m,p-Xylenes	**76**	**24**	1.0
Surrogates			**%REC Limits**
4-Bromofluorobenzene	100%	92.0%	70-140
Dibromofluoromethane	124%	108%	70-140
Toluene-d8	108%	104%	70-140

Eydie Schwartz

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AMERICAN ANALYTICS

LABORATORY ANALYSIS RESULTS

Client: URS (SA)
Project No: 29868635.10000
Project Name: Cook Composites Polymere

AA Project No: A321101
Date Received: 12/17/07
Date Reported: 12/26/07

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B7L1912 - EPA 5030B										
Blank (B7L1912-BLK1)				Prepared & Analyzed: 12/19/07						
Acetone	<10	10	ug/L							
Benzene	<0.50	0.50	ug/L							
Bromobenzene	<0.50	0.50	ug/L							
Bromochloromethane	<0.50	0.50	ug/L							
Bromodichloromethane	<0.50	0.50	ug/L							
Bromoform	<0.50	0.50	ug/L							
Bromomethane	<0.50	0.50	ug/L							
2-Butanone (MEK)	<10	10	ug/L							
tert-Butylbenzene	<0.50	0.50	ug/L							
n-Butylbenzene	<0.50	0.50	ug/L							
sec-Butylbenzene	<0.50	0.50	ug/L							
Carbon Disulfide	<0.50	0.50	ug/L							
Carbon Tetrachloride	<0.50	0.50	ug/L							
Chlorobenzene	<0.50	0.50	ug/L							
Chloroethane	<0.50	0.50	ug/L							
Chloroform	<0.50	0.50	ug/L							
Chloromethane	<0.50	0.50	ug/L							
4-Chlorotoluene	<0.50	0.50	ug/L							
2-Chlorotoluene	<0.50	0.50	ug/L							
1,2-Dibromo-3-chloropropane	<1.0	1.0	ug/L							
Dibromochloromethane	<0.50	0.50	ug/L							
1,2-Dibromoethane (EDB)	<0.50	0.50	ug/L							
Dibromomethane	<0.50	0.50	ug/L							
1,3-Dichlorobenzene	<0.50	0.50	ug/L							
1,4-Dichlorobenzene	<0.50	0.50	ug/L							
1,2-Dichlorobenzene	<0.50	0.50	ug/L							
Dichlorodifluoromethane (R12)	<0.50	0.50	ug/L							
1,1-Dichloroethane	<0.50	0.50	ug/L							
1,2-Dichloroethane (EDC)	<0.50	0.50	ug/L							
cis-1,2-Dichloroethylene	<0.50	0.50	ug/L							
1,1-Dichloroethylene	<0.50	0.50	ug/L							
trans-1,2-Dichloroethylene	<0.50	0.50	ug/L							

Eydie Schwartz

Eydie Schwartz
Project Manager

LABORATORY ANALYSIS RESULTS

Client: URS (SA)
Project No: 29868635.10000
Project Name: Cook Composites Polymere

AA Project No: A321101
Date Received: 12/17/07
Date Reported: 12/26/07

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B7L1912 - EPA 5030B										
Blank (B7L1912-BLK1) Continued				Prepared & Analyzed: 12/19/07						
1,3-Dichloropropane	<0.50	0.50	ug/L							
1,2-Dichloropropane	<0.50	0.50	ug/L							
2,2-Dichloropropane	<0.50	0.50	ug/L							
trans-1,3-Dichloropropylene	<0.50	0.50	ug/L							
1,1-Dichloropropylene	<0.50	0.50	ug/L							
cis-1,3-Dichloropropylene	<0.50	0.50	ug/L							
Ethylbenzene	<0.50	0.50	ug/L							
Hexachlorobutadiene	<1.0	1.0	ug/L							
2-Hexanone (MBK)	<10	10	ug/L							
Isopropylbenzene	<0.50	0.50	ug/L							
4-Isopropyltoluene	<1.0	1.0	ug/L							
Methyl-tert-Butyl Ether (MTBE)	<2.0	2.0	ug/L							
Methylene Chloride	<5.0	5.0	ug/L							
4-Methyl-2-pentanone (MIBK)	<10	10	ug/L							
Naphthalene	<2.0	2.0	ug/L							
n-Propylbenzene	<0.50	0.50	ug/L							
Styrene	<0.50	0.50	ug/L							
1,1,1,2-Tetrachloroethane	<0.50	0.50	ug/L							
1,1,2,2-Tetrachloroethane	<0.50	0.50	ug/L							
Tetrachloroethylene (PCE)	<0.50	0.50	ug/L							
Toluene	<0.50	0.50	ug/L							
1,2,4-Trichlorobenzene	<0.50	0.50	ug/L							
1,2,3-Trichlorobenzene	<0.50	0.50	ug/L							
1,1,2-Trichloroethane	<0.50	0.50	ug/L							
1,1,1-Trichloroethane	<0.50	0.50	ug/L							
Trichloroethylene (TCE)	<0.50	0.50	ug/L							
Trichlorofluoromethane (R11)	<0.50	0.50	ug/L							
1,2,3-Trichloropropane	<0.50	0.50	ug/L							
1,1,2-Trichloro-1,2,2-trifluoroethane (R113)	<0.50	0.50	ug/L							
1,2,4-Trimethylbenzene	<0.50	0.50	ug/L							
1,3,5-Trimethylbenzene	<0.50	0.50	ug/L							

Eydie Schwartz

Eydie Schwartz
Project Manager

AMERICAN ANALYTICS

LABORATORY ANALYSIS RESULTS

Client: URS (SA)
Project No: 29868635.10000
Project Name: Cook Composites Polymere

AA Project No: A321101
Date Received: 12/17/07
Date Reported: 12/26/07

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B7L1912 - EPA 5030B										
Blank (B7L1912-BLK1) Continued					Prepared & Analyzed: 12/19/07					
Vinyl chloride	<0.50	0.50	ug/L							
o-Xylene	<0.50	0.50	ug/L							
m,p-Xylenes	<1.0	1.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*53.8*		*ug/L*	*50.0*		*108*	*70-140*			
Surrogate: Dibromofluoromethane	*52.7*		*ug/L*	*50.0*		*105*	*70-140*			
Surrogate: Toluene-d8	*53.8*		*ug/L*	*50.0*		*108*	*70-140*			
LCS (B7L1912-BS1)					Prepared & Analyzed: 12/19/07					
Benzene	**17.0**	0.50	ug/L	20.0		85.0	75-125			
Bromodichloromethane	**18.7**	0.50	ug/L	20.0		93.5	75-125			
Bromoform	**20.2**	0.50	ug/L	20.0		101	75-125			
Carbon Tetrachloride	**16.1**	0.50	ug/L	20.0		80.5	75-125			
Chlorobenzene	**17.7**	0.50	ug/L	20.0		88.5	75-125			
Chloroethane	**17.5**	0.50	ug/L	20.0		87.5	75-125			
Chloroform	**17.4**	0.50	ug/L	20.0		87.0	75-125			
Chloromethane	**18.1**	0.50	ug/L	20.0		90.5	65-125			
Dibromochloromethane	**20.6**	0.50	ug/L	20.0		103	75-125			
1,4-Dichlorobenzene	**18.1**	0.50	ug/L	20.0		90.5	75-125			
1,1-Dichloroethane	**17.9**	0.50	ug/L	20.0		89.5	70-125			
1,2-Dichloroethane (EDC)	**17.8**	0.50	ug/L	20.0		89.0	75-125			
cis-1,2-Dichloroethylene	**17.3**	0.50	ug/L	20.0		86.5	75-125			
1,1-Dichloroethylene	**17.5**	0.50	ug/L	20.0		87.5	70-130			
trans-1,2-Dichloroethylene	**17.0**	0.50	ug/L	20.0		85.0	75-125			
1,2-Dichloropropane	**16.5**	0.50	ug/L	20.0		82.5	75-130			
cis-1,3-Dichloropropylene	**17.6**	0.50	ug/L	20.0		88.0	75-125			
Ethylbenzene	**17.4**	0.50	ug/L	20.0		87.0	75-125			
Methyl-tert-Butyl Ether (MTBE)	**21.0**	2.0	ug/L	20.0		105	75-125			
Methylene Chloride	**28.3**	5.0	ug/L	20.0		142	75-130			AA-C1
1,1,2,2-Tetrachloroethane	**21.5**	0.50	ug/L	20.0		108	70-135			
Tetrachloroethylene (PCE)	**16.7**	0.50	ug/L	20.0		83.5	75-125			
Toluene	**17.6**	0.50	ug/L	20.0		88.0	75-125			
1,1,2-Trichloroethane	**19.4**	0.50	ug/L	20.0		97.0	75-125			

Eydie Schwartz

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Project Manager

LABORATORY ANALYSIS RESULTS

Client: URS (SA)
Project No: 29688035.10000
Project Name: Cook Composites Polymers

AA Project No: A321101
Date Received: 12/17/07
Date Reported: 12/26/07

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B7L1912 - EPA 5030B										
LCS (B7L1912-BS1) Continued				Prepared & Analyzed: 12/19/07						
1,1,1-Trichloroethane	16.2	0.50	ug/L	20.0		81.0	75-125			
Trichloroethylene (TCE)	21.9	0.50	ug/L	20.0		110	75-125			
Vinyl chloride	18.3	0.50	ug/L	20.0		91.5	75-125			
o-Xylene	17.5	0.50	ug/L	20.0		87.5	75-125			
Surrogate: 4-Bromofluorobenzene	*58.9*		*ug/L*	*50.0*		*118*	*70-140*			
Surrogate: Dibromofluoromethane	*61.9*		*ug/L*	*50.0*		*124*	*70-140*			
Surrogate: Toluene-d8	*60.7*		*ug/L*	*50.0*		*121*	*70-140*			
Matrix Spike (B7L1912-MS1)			Source: 7L11002-01	Prepared & Analyzed: 12/19/07						
Benzene	22.3	0.50	ug/L	20.0	<0.50	112	70-130			
Bromoform	25.9	0.50	ug/L	20.0	<0.50	130	70-130			
Chlorobenzene	18.6	0.50	ug/L	20.0	<0.50	93.0	70-130			
Chloroform	25.0	0.50	ug/L	20.0	<0.50	125	70-130			
1,1-Dichloroethane	25.0	0.50	ug/L	20.0	<0.50	125	70-130			
cis-1,2-Dichloroethylene	22.6	0.50	ug/L	20.0	<0.50	113	70-130			
1,1-Dichloroethylene	20.0	0.50	ug/L	20.0	<0.50	100	70-130			
1,2-Dichloropropane	24.8	0.50	ug/L	20.0	<0.50	124	70-130			
Ethylbenzene	18.1	0.50	ug/L	20.0	<0.50	90.5	70-130			
Methyl-tert-Butyl Ether (MTBE)	16.1	2.0	ug/L	20.0	<2.0	80.5	70-130			
n-Propylbenzene	17.7	0.50	ug/L	20.0	<0.50	88.5	70-130			
Tetrachloroethylene (PCE)	15.9	0.50	ug/L	20.0	<0.50	79.5	70-130			
Toluene	18.1	0.50	ug/L	20.0	<0.50	90.5	70-130			
1,1,1-Trichloroethane	21.7	0.50	ug/L	20.0	<0.50	108	70-130			
Trichloroethylene (TCE)	22.3	0.50	ug/L	20.0	<0.50	112	70-130			
1,3,5-Trimethylbenzene	18.5	0.50	ug/L	20.0	<0.50	92.5	70-130			
Vinyl chloride	15.5	0.50	ug/L	20.0	<0.50	77.5	70-130			
Surrogate: 4-Bromofluorobenzene	*52.8*		*ug/L*	*50.0*		*106*	*70-140*			
Surrogate: Dibromofluoromethane	*64.5*		*ug/L*	*50.0*		*129*	*70-140*			
Surrogate: Toluene-d8	*52.7*		*ug/L*	*50.0*		*105*	*70-140*			
Matrix Spike Dup (B7L1912-MSD1)			Source: 7L11002-01	Prepared & Analyzed: 12/19/07						
Benzene	19.0	0.50	ug/L	20.0	<0.50	95.0	70-130	16.0	30	
Bromoform	20.8	0.50	ug/L	20.0	<0.50	104	70-130	21.8	30	

Eydie Schwartz
Project Manager

AMERICAN ANALYTICS

LABORATORY ANALYSIS RESULTS

Client: URS (SA)
Project No: 29868635.10000
Project Name: Cook Composites Polymers

AA Project No: A321101
Date Received: 12/17/07
Date Reported: 12/28/07

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
VOCs by GC/MS - Quality Control										
Batch B7L1912 - EPA 5030B										
Matrix Spike Dup (B7L1912-MSD1)	**Source: 7L11002-01**			*Prepared & Analyzed: 12/19/07*						
Continued										
Chlorobenzene	**18.6**	0.50	ug/L	20.0	<0.50	93.0	70-130	0.00	30	
Chloroform	**20.3**	0.50	ug/L	20.0	<0.50	102	70-130	20.8	30	
1,1-Dichloroethane	**20.8**	0.50	ug/L	20.0	<0.50	104	70-130	18.3	30	
cis-1,2-Dichloroethylene	**18.9**	0.50	ug/L	20.0	<0.50	94.5	70-130	17.8	30	
1,1-Dichloroethylene	**17.1**	0.50	ug/L	20.0	<0.50	85.5	70-130	15.6	30	
1,2-Dichloropropane	**19.3**	0.50	ug/L	20.0	<0.50	96.5	70-130	24.9	30	
Ethylbenzene	**18.6**	0.50	ug/L	20.0	<0.50	93.0	70-130	2.72	30	
Methyl-tert-Butyl Ether (MTBE)	**21.3**	2.0	ug/L	20.0	<2.0	106	70-130	27.8	30	
n-Propylbenzene	**18.2**	0.50	ug/L	20.0	<0.50	91.0	70-130	2.79	30	
Tetrachloroethylene (PCE)	**17.3**	0.50	ug/L	20.0	<0.50	86.5	70-130	8.43	30	
Toluene	**18.0**	0.50	ug/L	20.0	<0.50	90.0	70-130	0.554	30	
1,1,1-Trichloroethane	**19.2**	0.50	ug/L	20.0	<0.50	96.0	70-130	12.2	30	
Trichloroethylene (TCE)	**18.3**	0.50	ug/L	20.0	<0.50	91.5	70-130	19.7	30	
1,3,5-Trimethylbenzene	**18.1**	0.50	ug/L	20.0	<0.50	90.5	70-130	2.19	30	
Vinyl chloride	**18.1**	0.50	ug/L	20.0	<0.50	90.5	70-130	15.5	30	
Surrogate: 4-Bromofluorobenzene	*47.8*		*ug/L*	*50.0*		*95.6*	*70-140*			
Surrogate: Dibromofluoromethane	*55.4*		*ug/L*	*50.0*		*111*	*70-140*			
Surrogate: Toluene-d8	*50.7*		*ug/L*	*50.0*		*101*	*70-140*			

Eydie Schwartz

Eydie Schwartz
Project Manager

LABORATORY ANALYSIS RESULTS

Client: URS (SA)
Project No: 29868635.10000
Project Name: Cook Composites Polymers

AA Project No: A321101
Date Received: 12/17/07
Date Reported: 12/26/07

Special Notes

[1] = AA-C1 : The percent recovery for this analyte exceeds acceptance criteria. Since this analyte was not detected in any of the associated samples, the data was approved.

Eydie Schwartz

Eydie Schwartz
Project Manager

URS CORPORATION
2020 East First Street, Suite 400
Santa Ana, CA 92705
(714) 835-6886
FAX (714) 667-7147

CHAIN OF CUSTODY RECORD

Date: 12/17/07
Page 1 of 1

#103982

A321101 / 7L17011

☐ Data Requested in GISKey Format

Lab Name: American Analytics
Client Name/Project Name/Location: Cook Composites Polymere
URS Project Manager: Allen Blodgett
Sampler Name and Signature: Greg Sinsun
URS Project/PO Number: 29868635.10000
Geo Tracker Information:
EDF Reporting: Y N Global ID:
COELT Log Number:

Requested Analyses: 8260 HOLD
Special Instructions:

	Sample Name	Sample Date:	Sample Time:	Preserved:	Matrix:	Container type:	# of Cont.:	8260	HOLD
1	T-405	12/17/07	11:48	Y N	S L G	Acetate SS. Brass Jar Encore ___ml Amb. Plas. Glass VOA	4	X	7L17011-01
2	Poly-Scrubber	12/17/07	11:55	Y N	S L G	Acetate SS. Brass Jar Encore ___ml Amb. Plas. Glass VOA	4	X	-02
3				Y N	S L G	Acetate SS. Brass Jar Encore ___ml Amb. Plas. Glass VOA			
4				Y N	S L G	Acetate SS. Brass Jar Encore ___ml Amb. Plas. Glass VOA			
5				Y N	S L G	Acetate SS. Brass Jar Encore ___ml Amb. Plas. Glass VOA			
6				Y N	S L G	Acetate SS. Brass Jar Encore ___ml Amb. Plas. Glass VOA			
7				Y N	S L G	Acetate SS. Brass Jar Encore ___ml Amb. Plas. Glass VOA			
8				Y N	S L G	Acetate SS. Brass Jar Encore ___ml Amb. Plas. Glass VOA			
9				Y N	S L G	Acetate SS. Brass Jar Encore ___ml Amb. Plas. Glass VOA			
10				Y N	S L G	Acetate SS. Brass Jar Encore ___ml Amb. Plas. Glass VOA			

REVIEWED
Date 12/17/07 Time 1708
TAT 1 Days Sign: E Schwarz

Relinquished By:	Date:	Received By:	Date/Time:
[signature]	12/17/07 14:44	[signature]	12-17-7 14:15
[signature]	12-17-7	[signature]	12/17/7 14:44

Turnaround Time: (Check)
Same Day: ___ 72 Hour: ___
24 Hour: ___ 5 Day: ___
48 Hour: ___ Standard: X

Lab Use Only
Cooler Temperature*: ___
*Record upon arrival

URS

S=Solid L=Liquid G=Gas

White Copy in Final Report, Yellow to File, Pink to URS at Dropoff

URS

April 8, 2008

Mr. Jon Schuckman
Cook Composites and Polymers Company
P.O. Box 419389
Kansas City, MO 64141

SUBJECT: CERTIFICATION OF TANK CLEANOUTS
5980 ARCTURUS AVENUE
OXNARD, CALIFORNIA 93033

Dear Mr. Schuckman:

On behalf of Cook Composites and Polymers Co. (CCP), URS Corporation (URS) has prepared this Tank Cleanout Certification Report (Report) to document cleaned tank conditions at the CCP facility (the Facility). The Facility is located at 5980 Arcturus Avenue in Oxnard, California, as depicted in the attached Figure 1. The activities described in this Report have been completed in support of temporarily idling the Unsaturated Polyester Resin process at the Facility.

The Facility formerly operated the tanks under Permit Number 0012 issued by the Oxnard Fire Department, the Certified Unified Program Agency (CUPA). The tanks covered by this Report are listed in the attached Table 1. These tanks are being temporarily idled and may be put back into the same service in the future. A brief description of the Facility and a summary of observations made following cleaning of the tanks are presented in the following paragraphs.

Facility Description

CCP operates an approximately six acre facility located at 5980 Arcturus Avenue in Oxnard, California (Figure 1), that was acquired from Reichhold Chemicals, Inc. in February of 1996. The Facility is bounded by undeveloped CCP-owned land to the north (and further to the north is the BMW Emission Testing and Vehicle Transport Unit); Aluminum Precision Products and Borla Industries Plants to the east; Arcturus Avenue, Arcturus Manufacturing, and T&T Crains (with lease to Exxon Support Group) to the west; and a Ventura County Railroad spur and a Wagoneers vehicle shipping facility to the south (formerly Occidental Chemical Company). The Facility has been used to manufacture unsaturated polyester resin and Gelcoat.

CCP is temporarily idling the unsaturated polyester resin portion of the Facility. The idled portions of the Facility will remain in place and may be put back into service in the future. The Gelcoat manufacturing portion of the Facility will continue to operate. The objectives of the tank cleaning program were to temporarily idle the tanks in a manner that:

- Complies with the applicable requirements of California Code Regulations (CCR) Title 22 Section 67383.3;
- Minimizes the need for further maintenance; and

URS Corporation
2020 East First Street, Suite 400
Santa Ana, CA 92705-4032
Tel: 714.835.6886
Fax: 714.667.7147
www.urscorp.com

URS

- Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-cleaning escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.

Observations

CCP and its subcontractor emptied the tanks of remaining product and cleaned the interior surfaces of the tanks. Wastes derived from the cleaning operations were taken offsite to an appropriately licensed facility for treatment and disposal. On April 4, 2008, a representative of URS visually observed the interior of each of the cleaned tanks listed in Table 1. The results of these observations are summarized in Table 1.

With the exception of Tanks T30008 and T121, based upon our field observations following the tank cleaning work, the inside of the subject tanks have been cleaned of visually observable residues and wash water. In Tank T30008, a white substance was observed at several locations on the interior of the tank. In Tank T121, a relatively thin coating of a white substance was observed to be flaking off the interior surface of the roof of the tank. Numerous pieces of this material were observed on the floor of the tank. Determination of the nature of these materials was beyond URS' scope of work and their occurrence was pointed out to the CCP representative. In addition, a small hole was observed in the roof of Tank T30007. This was pointed out to the CCP representative who also noted a loose internal pipe in the tank.

Conclusions

Based upon our field observations following the tank cleaning work, with the exception of Tanks T30008 and T121, the inside of the subject tanks have been cleaned of visually observable waste residues and wash water. Since the tanks are currently empty there is no potential for a release. Hence, the cleaned tanks do not represent a threat to human health or the environment.

URS appreciates this opportunity to continue our service to Cook Composites and Polymers Company. If you have any questions regarding this report, please feel free to contact me at your convenience.

Very truly yours,
URS CORPORATION

Allen E. Blodgett, P.E.
Principal Engineer

Attachments

TABLE 1
SUMMARY OF TANK OBSERVATIONS
Cook Composites and Polymers Company
Oxnard, California

Tank Number	Contents	Product Name	Storage Capacity (gallons)	Observation Comments
T30006	Blend Tank	Process tank	1,000	Interior visually observed to be free of residue and dry
T30007	Blend Tank	Process tank	7,000	A small hole was observed in the roof of the tank and the CCP representative noted a loose interior pipe. Interior visually observed to be free of residue and dry.
T30008	Blend Tank	Process tank	2,000	White substance was observed at several locations in the tank.
T30009	Blend Tank	Process tank	2,000	Interior visually observed to be free of residue and dry
T30010	Blend Tank	Process tank	2,000	Interior visually observed to be free of residue and dry
T30011	Blend Tank	Process tank	2,000	Interior visually observed to be free of residue and dry
T30012	Storage	040-0914	18,000	Interior visually observed to be free of residue and dry
T30013	Blend Tank	Process tank	7,000	Interior visually observed to be free of residue and dry
T30014	Blend Tank	Process tank	7,000	Interior visually observed to be free of residue and dry
T30015	Blend Tank	Process tank	7,000	Interior visually observed to be free of residue and dry
T30016	Blend Tank	Process tank	10,000	Interior visually observed to be free of residue and dry
T30017	Base Storage	040-0865	30,000	Interior visually observed to be free of residue and dry
T30018	Base Storage	040-0805	30,000	Interior visually observed to be free of residue and dry
T30019	Base Storage	empty	12,000	Interior visually observed to be free of residue and dry
T9103	Base Storage	040-0866	12,000	Interior visually observed to be free of residue and dry
S9120	Raw material Storage	DCPD	8,000	Interior visually observed to be free of residue and dry
T105	Raw material Storage	PG (south)	15,000	Interior visually observed to be free of residue and dry
T103	Raw material Storage	DEG	15,000	Interior visually observed to be free of residue and dry
T102	Raw material Storage	NPG	6,000	Interior visually observed to be free of residue and dry
T101	Raw material Storage	EG	15,000	Interior visually observed to be free of residue and dry
T810	Raw material Storage	PG (north)	15,000	Interior visually observed to be free of residue and dry
T121	Raw material Storage	MA	20,000	A thin coating of white material is flaking off the interior of the roof of the tank and numerous pieces were observed on the tank floor.
K-9100	Reactor	Process vessel	4,600	Interior visually observed to be free of residue and dry
T-9101	Thinning tank	process vessel	7,000	Interior visually observed to be free of residue and dry
T9103	Thinning tank	process vessel	10,000	Interior visually observed to be free of residue and dry



Source: Thomas Bros. Maps, Ventura County Street & Directory, 1991.

URS Corporation

SITE LOCATION MAP

Proj. No.:	29888635	Date:	JAN 2008
Project:	CCP OXNARD, CA	Figure:	1
Drawn by: GN	Checked by: AB		

S:\Gabriel Negrete\Figure 01 - Site Location Map.dwg, File date: 1/4/2008 11:48 AM, Print date: 1/4/2008 11:49 AM, by: Gabriel Negrete

CCP

December 21, 2005

Mr. Greg Abille
Senior Fire Environmental Specialist
Oxnard Fire/CUPA
251 South C Street
Oxnard, CA 93030

VIA EXPRESS DELIVERY

RE: **Request for Extension – Above Ground Storage Tanks, Piping and Secondary Containment**
Cook Composites and Polymer Co.
5980 Arcturus Avenue
Oxnard, California 93033

Dear Mr. Abille:

Cook Composites and Polymers Co. (CCP) received a letter dated September 15, 2005 in response to the August 13, 2005 fire at the CCP Oxnard facility and your August 23, 2005 site visit. The letter indicates that the August 13, 2005 fire brought attention to alleged deficiencies at the CCP Oxnard facility. The notification requests a response in a timely manner, not to exceed ninety (90) days.

As initially requested on Tuesday December 13, 2005 and as discussed on Monday December 19, 2005, the CCP Oxnard facility respectfully requests a ninety (90) day extension to address the alleged deficiencies. The CCP Oxnard facility continues:

1. Improving labeling of piping, emergency shut-off valves, and back flow prevention/check valves, and
2. Evaluating overfill prevention equipment for T-403 and T-405.

A summary of the alleged deficiencies and the respective status of the alleged deficiencies are as follows:

1. *Tank Inventory – The hazardous materials inventory statement submitted to Oxnard Fire/CUPA did not include all tanks at the facility. Only the reporting of storage tanks was submitted, omitted were process tanks. Provide an updated inventory (form 2731) for all aboveground tanks at the CCP facility that at anytime throughout the year contain hazardous materials.*

5980 Arcturus Avenue • Oxnard, CA • 93033
Ph: 805-986-3635 • Fax: 805-986-4645 • E-mail: kramer@ccponline.com

The 2004 inventory (form 2731) was revised to include all storage containers at the CCP Oxnard facility that at anytime throughout 2004 contained hazardous materials. The following sections of form 2731 for applicable chemical descriptions were updated (refer to Attachment 1):

- Chemical Location
- Grid #
- Largest Container
- Storage Location

The 2004 inventory (form 2731) was updated to include the distillate tank (T-403) and esterification waste water tank (T-405) (refer to Attachment 1).

2. <u>Secondary Containment</u> – *Pursuant to Article 80, Section 8003.1.3.3, secondary containment shall be maintained liquid tight. A monitoring method shall be provided to detect hazardous materials and/or water intrusion in the secondary containment. If a monitoring device is used, the device shall be connected to a distinct audible and visual alarm.*

CCP contracted URS to conduct an assessment of T-403 and T-405 on November 30, 2005. The assessment, prepared by a qualified, registered engineer will include an evaluation of:

- Tank and ancillary equipment design standards
- Hazardous characteristics of the tank contents
- Existing corrosion characteristics as applicable
- Age of tank(s) if available or an estimate of age of the tank(s)
- Review of the leak test, internal inspection, or other tank integrity examinations conducted
- Review of existing secondary containment condition and design capacities

CCP will receive the assessment of T-403 and T-405 in January 2006.

CCP personnel conduct site inspections, once per shift. One (1) aspect of the site walk through is to monitor secondary containment for the presence of hazardous materials and/or water intrusion.

3. <u>Maintenance</u> – *Tank and piping maintenance shall be performed in accordance with manufacturers specifications, or as needed to keep the equipment in an operable condition. Secondary containment structures shall be maintained liquid tight. All maintenance records shall be retained and available for review.*

The Maintenance Department at the CCP Oxnard facility completes maintenance on tanks and piping as needed to maintain the equipment in safe and operable condition. Maintenance activities are documented by work orders generated by plant personnel.

4. *Knox Box – A Knox Box must be installed in an approved location.*

   CCP submitted the 2005 Fire/Law Enforcement Rapid Entry System Authorization Oder Form with payment in the amount of $713.22 to Mr. Gary Sugich of the Oxnard Fire Department on November 30, 2005 (refer to Attachment 2). CCP received the 1300 Series Knox Cabinet, and plans to install the 1300 Series Knox Cabinet by January 20, 2006.

5. *Piping – Piping throughout the CCP facility is presently not identified in accordance with nationally recognized standards. Piping shall be installed and operated in accordance with Article 80, Section 8001.4.3.2,*

   1. *Piping shall be compatible with the material contained and capable of withstanding the pressure, structural, seismic stress, and exposure to which they are subject.*
   2. *Piping shall be identified indicating the material conveyed.*
   3. *Emergency shut-off valves shall be identified, clearly visible and indicated by means of a sign.*
   4. *Back-flow prevention/check valves shall be provided if backflow of material could create a hazardous condition.*

Pursuant to 29 CFR Part 1910.119 Process Safety Management of Highly Hazardous Chemicals, CCP contracted DBI, Inc. in 2003 to complete mechanical integrity testing of the following process equipment:

- Pressure vessels
- Storage tanks
- Piping systems

Mechanical integrity testing was completed in accordance with American Society of Mechanical Engineers (ASME) and American Petroleum Institute (API) good engineering standards and practices. Summary reports for T-403 and T-405 are included in Attachment 3.

CCP believes the piping is compatible with the material contained and capable of withstanding the pressure, structural, seismic stress, and exposure to which they are subject. The next ultrasonic thickness and visual inspections are due in February 2008, five (5) years from the previous ultrasonic thickness and visual inspections (refer to Attachment 4). The inspection frequency is in accordance with American Society of Mechanical Engineers (ASME) and American Petroleum Institute (API) good engineering standards and practices.

CCP contracted DBI, Inc. to re-inspect T-403 and T-405 on November 30, 2005. The next ultrasonic thickness test and visual inspection is due in November 2015 and November 2010 respectively (refer to Attachment 5).

Piping, emergency shut-off valves, and back-flow prevention/check valves in waste water service, including equipment associated with T-403 and T-405, were labeled according to nationally recognized standards. CCP continues to improve labeling facility-wide.

6. *Overfill Prevention – The distillate hold tank (T-403) did not have a liquid level limit control, ultimately resulting in damage to the thermal oxidizer. Article 80, Section 8001.4.8 of the California Fire Code, requires all tanks with a capacity of greater than 500 gallons, containing hazardous materials, and/or filled using a remote or automatic filling procedure, shall be fitted with a liquid level limit control to prevent overfilling of the tank. Identify all tanks that have overfill protection, the method/equipment used along with the testing and maintenance schedule for the overfill prevention device.*

   As a result of the August 13, 2005 fire, the CCP Oxnard facility focused efforts on high level limit control for T-403 and T-405. The CCP Oxnard facility evaluated feasibility of magnetic level gauge controllers with Magtech of Houston, Texas in November 2005, but this project is not yet complete.

   As a result of the fire on December 15, 2005, the CCP Oxnard facility requested assistance from CCP Engineering in developing a scope for installing high level limit control on T-403 and T-405. The estimated date of installation will be defined upon receipt of the scope of work, and we will advise you of this date when it is established.

CCP appreciates the assistance and cooperation of the City of Oxnard Fire Department in resolving these important issues. If you have any questions please contact Jon Schuckman at (816) 391-6324 or myself at (805) 986-3635.

Sincerely,
COOK COMPOSITES AND POLYMERS CO.

Ron Kramer
Plant Manager

Enclosures: As Stated

Cc: Steve Dare – CCP
Gary Hall – CCP Houston
Michael Gromacki – CCP
Jon Schuckman – CCP

Fire/Law Enforcement Rapid Entry System

2005 AUTHORIZATION ORDER FORM

Effective January 1, 2005

Section 1 ORDERED BY - PRINT ONLY

COMPANY / NAME: COOK COMPOSITES AND POLYMERS CO

STREET (NO P.O. BOXES): 820 EAST 14TH AVE

SUITE / BUILDING:

CITY: NORTH KANSAS CITY

STATE: MO

ZIP CODE: 64116-

CONTACT NAME: MICHAEL GROMACKI

PHONE NUMBER: 816-391-6000

P.O. NUMBER (GOV. AGENCIES ONLY):

☒ CHECK BOX IF SHIPPING ADDRESS IS DIFFERENT. SEE SECTION 5

Send this form with payment to:
KNOX COMPANY
1601 W. Deer Valley Road,
Phoenix, AZ 85027

Section 2 ORDER WILL NOT BE PROCESSED Without Authorized Signature

Oxnard Fire Department
251 S. "C" St.
Oxnard, CA 93030

Gary Sugich
Authorized Fire Agency Signature and Date

Gary Sugich
Print Name Clearly

PS.01.220
System Code

IMPORTANT NOTE - Knox Master Keys are provided to authorized fire departments or other registered entities on an as-needed basis solely for use with the Knox Rapid Entry System. No other use of the keys or their associated codes is authorized. Key codes associated with the Knox Master Keys and Keyways remain the property of the Knox Company and are maintained by the Knox Company in Phoenix, Arizona. For questions regarding this policy, contact Knox at 800-552-5669.

Section 3 ORDER PRODUCT HERE

Quantity	Part Number	Amount
01	1304	Total $ 625.00
		Total $
		Total $

If required, add $7.00 per submastered item $

Shipping & Handling	
1 lb. to 7 lbs.	$7.00
8 lbs. to 25 lbs.	$17.00
26 lbs. to 50 lbs.	$30.00
51 lbs. to 75 lbs.	$40.00

75 lbs.+ call Knox for quote. Alaska, Hawaii, Canada or Priority Shipping, please call for rates.

Shipping and Handling $	40.00
Subtotal $	665.00
Sales Tax $	48.22
Pre-payment Total $	713.22

PRE-PAYMENT INFORMATION REQUIRED

USE PRICE LIST ON NEXT PAGE

Check or Money Order made payable to: KNOX COMPANY Federal I.D. #95-3617858

☐ VISA ☑ AMEX ☐ MC ☐ DISC

CARD NUMBER: 378505997591005

EXP. DATE (MM / YYYY): 09-2009

Cardholder Signature

Section 4 INSTALLATION ADDRESS - REQUIRED BY FIRE DEPARTMENT

BUILDING NAME (WHERE ITEM WILL BE INSTALLED): COOK COMPOSITES AND POLYMERS

ADDRESS: 5980 ARCTURUS AVENUE

CITY: OXNARD STATE: CA ZIP CODE: 93033

BUILDING NAME (WHERE ITEM WILL BE INSTALLED):

ADDRESS:

CITY: STATE: ZIP CODE:

Fire Department Approval Signature Required to Submaster Items

☐ Check here to Submaster

Authorized Fire Agency Signature
Submaster fee $7.00 per keyed item.

www.knoxbox.com
800-552-5669
623-687-2300
Fax: 623-687-2290
KNOX COMPANY

O/N

REC'D

26767

If shipping address different, complete Section 5 on back.

Knox Rapid Entry System Product Catalog

Section 5 SHIP TO ADDRESS

ENTERED BY CONTACT NAME: MICHAEL GROMACKI

SHIP TO CONTACT NAME: RON KRAMER

COMPANY NAME: COOK COMPOSITES AND POLYMERS CO

STREET ADDRESS (NO P.O. BOXES): 5980 ARCTURUS AVENUE

CITY: OXNARD STATE: CA ZIP CODE: 93033

E-MAIL ADDRESS: KRAMER@CCPONLINE.COM

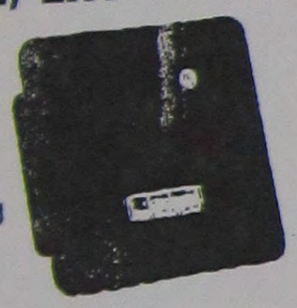
Section 6 DUAL LOCK OPTION - For Dual Lock Products ONLY

Knox Master Keys are provided to authorized fire departments or other registered entities on an as-needed basis solely for the use with Knox Rapid Entry System. No other use of the keys or their associated codes is authorized. Key codes associated with the Knox Master Keys and Keyways remain the property of the Knox Company. If any replacement keys are needed, the transaction will be handled through the local fire department. Knox Company will send the replacement key to the Knox coordinator at the appropriate Fire Department and the FD representative will give the key to the appropriate property owner

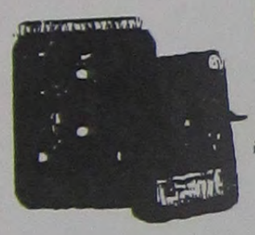
Authorized Dual Lock User Signature

Date

KNOX-BOX 3200 Series w/ Lift-Off Door - Heavy Duty



#3227 Recessed



#3208 Surface

- 10 key capacity storage and access cards
- 1/2" solid steel door
- Dimensions: Surface 5"H x 4"W x 3-1/4"D
  Recessed 7"H x 7"W Flange
- **Ship Weight: 9 lbs.**
- Colors: - Black, Bronze, Aluminum
- Finish: - Knox-Coat™ weather resistant proprietary coating system
- Options: - Alarm tamper switches
  - Aluminization (additional rust and corrosion protection)
- Use Recessed Mounting Kit for new masonry construction

KNOX-VAULT 4400 Series - Heavy Duty



#4444 Recessed



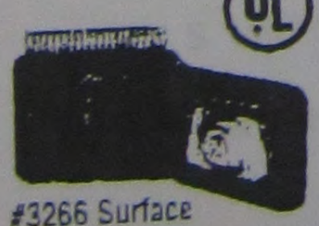
#4413 Surface

- 50 key capacity storage, for access cards, floor plans
- 5/8" solid steel door, re-locking mechanism with drill resistant hard-plate lock protector
- Dimensions:
  Surface 7"H x 7"W x 5"D
  Recessed 9-1/2"H x 9-1/2"W Flange
- **Ship Weight: 29 lbs.**
- Colors: - Black, Bronze, Aluminum
- Finish: - Knox-Coat™ weather resistant proprietary coating system
- Options: - Alarm tamper switches
  - Single, dual, or combination locks
  - Aluminization (additional rust and corrosion protection)
- Use Recessed Mounting Kit for new masonry construction

KNOX-BOX 3200 Series w/ Hinged Door



#3270 Recessed



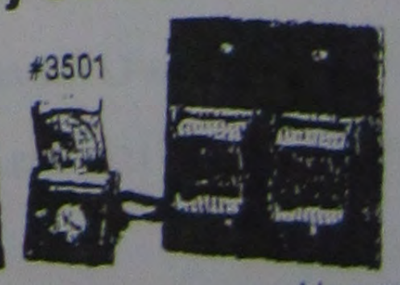
#3266 Surface

- Allows single-handed operation
- Stores both keys and access cards
- Ensures efficient emergency response
- Opened or closed, it's all one unit
- **Ship Weight: 9 lbs.**

Knox Key Switch 3500 Series



#3502



#3501

#3503

- Electric override for perimeter gates, parking garages, gated communities, HVAC controls and industrial equipment lockout
- For fire, EMS & law enforcement
- Single or dual-key options
- **Ship Weight: 1 lb.**

26767

Cook Composites and Polymers
5980 Arcturus Avenue
Oxnard, CA 93033

2-25-2003

A-Scan Examination

Vessel No.: T-403
Vessel Name: Distillate Hold Tank

DBI Incorporated
Lincoln Nebraska
4223 Progressive Avenue.Lincoln NE 68504.Telephone: 402-467-1818 Fax: 402-467-1766
Omaha Nebraska
2211 S. 156th Circle.Omaha NE 68130.Telephone:402-330-9612.Fax: 402-330-9640
Overland Park Kansas
11660 West 90th.Overland Park KS 66214.Telephone: 913-888-2321 Fax: 913-888-2351

DBI, Inc. Quality Inspection and Consulting Services

Reliable…Responsive…Resourceful…Proactive

Summary Report

Client: Cook Composites and Polymers
Location: Oxnard, CA

Vessel No. : T-403
Vessel Name: Distillate Hold Tank

Inspection Date: 2-25-03

Type of Inspection: A-Scan

Area Covered: Ultrasonic A-Scan measurements were taken on the vessel shell and nozzles.

Next UT Inspection: 2-25-2008
Next Visual Inspection: 2-25-2008

Note: A baseline inspection was performed on the vessel shell and nozzles. The T-403 Distillate Hold Tank meets MAWP of 80 psi at this time. Corrosion rate and remaining service life will be determined after next scheduled inspection.

Client: CCP Oxnard, CA
Circuit: Glycol Water

Drawing #: T-403
Material: A-240-304L

TML #	SIZE	TOP	NORTH	EAST	BOTTOM	SOUTH	WEST	COMMENTS
N1	2”		.149	.147		.158	.161	Note: Vessel is 100%
N2	2”		.154	.158		.162	.158	Insulated.
N3	3”		.204	.212		.214	.195	
N4	4”	N/A						Insulated
N5	4”		.116	.111		.121	.116	
N6	2”		.162	.163		.161	.169	
N7	18” M/W		.405	.400		.398	.401	
N8	2”		.155	.152		.154	.154	
N9	2”		.112	.109		.111	.114	
N10	4”		.113	.115		.116	.117	
A	Shell				.381			
B	Shell				.382			

DBI, Inc. Quality Inspection and Consulting Services

Reliable…Responsive…Resourceful…Proactive

Client: Cook Composites and Polymers
Location: Oxnard, CA

Vessel No.: T-403
Vessel Name: Distillate Hold Tank

Vessel Parameters

Design Pressure (MAWP):	FV/80 psi	Top Head Material:	SA-240-304L
Design Temperature:	200 F	Head Type:	Flanged & Dished
Operating Pressure (MAWP):	Unknown	Allowable Stress:	14300
Operating Temperature:	Unknown	Joint Efficiency:	.85
Diameter: I.D or O.D	5' 5" I.D.	Bottom Head Material	SA-240-304L
Length S/S:	11' 10"	Head Type:	Flanged & Dished
Shell Material:	SA-240-304L	Allowable Stress:	14300
Allowable Stress:	14300	Joint Efficiency:	.85
Joint Efficiency:	.85	Date Manufactured:	1965
Corrosion Allowance:	0	In Service Date:	1965

ASME CODE EDITION USED FOR CALCULATIONS
ASME Section VIII, Division 1. 1998 Edition

Paint Information

Average paint coating thickness:	N/A	Thickness measured with paint:	N/A
Paint Multiplier:	N/A	Thickness measured without paint:	N/A

Name Plate Information

U1A Available:	Yes	ASME stamp present on vessel ?	Yes
Name Plate present ?	Yes	Rubbing taken ?	No

DBI, Inc. Quality Inspection and Consulting Services

Reliable…Responsive…Resourceful…Proactive

Client: Cook Composites and Polymers
Location: Oxnard, CA

Vessel No.: T-403
Vessel Name: Distillate Hold Tank

Vessel Data

Vessel Class:	2	Date Manufactured:	1965
Manufactures Serial #:	B-1136	In Service Date:	1965
Product in Vessel:	Glycol Water	Date of ASME VIII Vessel Mfg. under:	N/A
P&ID Drawing #:	N/A	Code Cases:	N/A
P&ID Prepared By:	N/A	Addenda:	N/A
Manufacturer:	The Boardman Co.	National Board Number:	292
Vessel Length S/S	11' 10"	Vessel Insulated:	Yes
Diameter I.D or O.D:	5' 5" I.D.	Describe openings (if any):	N/A
No. of Shell Sections:	2	ANSI Flange Rating:	150 #
No. of Nozzles:	10	Vessel Orientation:	Horizontal
Design Pressure (MAWP):	FV/80 psi	Operating Pressure:	Unknown
Design Temperature:	200 F	Operating Temperature:	Unknown
Head Type: Head A:	Flanged & Dished	Head Type: Head B:	Flanged & Dished
Head A Material:	SA-240-304L	Head B Material:	SA-240-304L
Weld Type Head A:	DBL	Weld Type Head B:	DBL
Shell Material:	SA-240-304L	Shell Weld Type	DBL
Radiography:	Spot	Hydrostatic:	120 psi

Relief Valve Information

Relief Valve Tag Number:	N/A	Relief Valve Pressure Setting:	N/A
Relief Valve Test Date:	N/A	Relief Valve Size:	N/A

DBI, Inc. Quality Inspection and Consulting Services

Reliable…Responsive…Resourceful…Proactive

PRESSURE VESSEL EXTERNAL INSPECTION

Client:	Cook Composites and Polymers	Date Inspected:	2-25-03
Location:	Oxnard, CA	Inspector(s):	Floyd Maire
Vessel No.	T-403		Hollis Shellnut
Vessel Name:	Distillate Hold Tank	Signature & Date:	

NAME PLATE

Item Inspected Yes No NA = Not Applicable	Yes	No	N\A	Comments:
Name Plate present & legible	☒	☐	☐	
National Board #	☒	☐	☐	**292**
Manufacturer	☒	☐	☐	**The Boardman Company**
Serial # & Year Built	☒	☐	☐	**B-1136/ 1965**
Repair or Rerate Name Plate	☒	☐	☐	**Good condition**

FOUNDATION

Concrete condition (spalling, cracks)	☒	☐	☐	**No defects noted**
Foundation settling	☒	☐	☐	**No defects noted**
Coating condition	☒	☐	☐	**No defects noted**
Cradle supports (moisture, cracks)	☒	☐	☐	**No defects noted**

SUPPORTS

Describe type (legs, saddle, etc.)	☒	☐	☐	**Saddle**
Corrosion, pitting (describe)	☒	☐	☐	**No defects noted**
Weld condition	☒	☐	☐	**No defects noted**
Paint condition	☒	☐	☐	**No defects noted**
Anchor bolts (tightness & corrosion	☒	☐	☐	**No defects noted**
Insulation deterioration	☒	☐	☐	**No defects noted**

SHELL

Corrosion, pitting (describe)	☒	☐	☐	**No defects noted**
Bulges / Blisters / Deformations	☒	☐	☐	**No defects noted**
Weld condition	☒	☐	☐	**No defects noted**
Paint condition	☒	☐	☐	**No defects noted**
Insulation deterioration	☒	☐	☐	**No defects noted**
UT Measurements	☒	☐	☐	**See drawing**

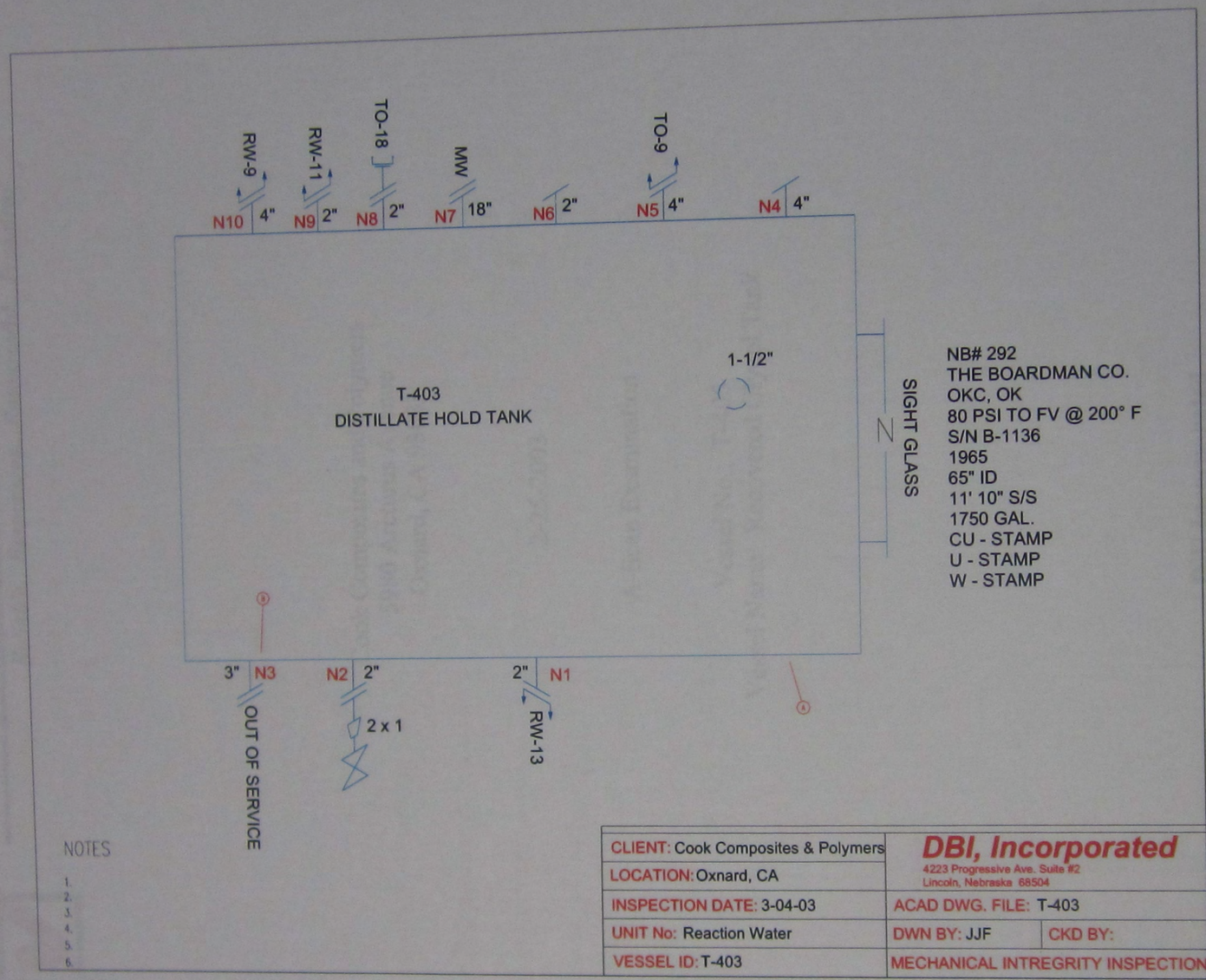
HEADS Item Inspected Yes No NA = Not Applicable	Yes	No	N\A	Comments:
Corrosion, pitting (describe)	☒	☐	☐	**No defects noted**
Bulges / Blisters / Deformations	☒	☐	☐	**No defects noted**
Weld condition	☒	☐	☐	**No defects noted**
Paint condition	☒	☐	☐	**No defects noted**
Insulation deterioration	☒	☐	☐	**No defects noted**
UT Measurements	☒	☐	☐	**See drawing**

MANWAYS & NOZZLES				
Corrosion, pitting (describe)	☒	☐	☐	**No defects noted**
Weld condition	☒	☐	☐	**No defects noted**
Flange condition	☒	☐	☐	**No defects noted**
Bolting condition	☒	☐	☐	**No defects noted**
Repad condition	☒	☐	☐	**No defects noted**
Insulation deterioration	☒	☐	☐	**No defects noted**
UT Measurements	☒	☐	☐	**See drawing**

APPURTENANCES				
Grounding (tightness & corrosion)	☒	☐	☐	**No defects noted**
Gauges, Sight glass (damage)	☒	☐	☐	**No defects noted**
Relief Valve # / Size / Set Pressure	☐	☐	☒	

LADDERS, STAIRS, PLATFORMS				
Corroded, Broken Parts	☒	☐	☐	**No defects noted**
Paint condition	☒	☐	☐	**No defects noted**
Wear (ladder rungs, stair treads)	☒	☐	☐	**No defects noted**
Handrails secure	☒	☐	☐	**No defects noted**
Flooring condition	☒	☐	☐	**No defects noted**
Tightness (bolts, tie down clips)	☒	☐	☐	**No defects noted**
Attachment welds	☒	☐	☐	**No defects noted**
Corrosion, pitting (describe)	☒	☐	☐	**No defects noted**

ADDITIONAL COMMENTS:



NOTES

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CLIENT: Cook Composites & Polymers	**DBI, Incorporated** 4223 Progressive Ave. Suite #2 Lincoln, Nebraska 68504
LOCATION: Oxnard, CA	
INSPECTION DATE: 3-04-03	ACAD DWG. FILE: T-403
UNIT No: Reaction Water	DWN BY: JJF / CKD BY:
VESSEL ID: T-403	MECHANICAL INTREGRITY INSPECTION

DBI, Inc. Quality Inspection and Consulting Services

Reliable…Responsive…Resourceful…Proactive

Cook Composites and Polymers
5980 Arcturus Avenue
Oxnard, CA 93033

2-25-2003

A-Scan Examination

Vessel No.: T-405
Vessel Name: Recovered Glycol Tank

DBI Incorporated
Lincoln Nebraska
4223 Progressive Avenue.Lincoln NE 68504.Telephone: 402-467-1818 Fax: 402-467-1766
Omaha Nebraska
2211 S. 156th Circle.Omaha NE 68130.Telephone:402-330-9612.Fax: 402-330-9640
Overland Park Kansas
11660 West 90th.Overland Park KS 66214.Telephone: 913-888-2321 Fax: 913-888-2351

DBI, Inc. Quality Inspection and Consulting Services

Reliable…Responsive…Resourceful…Proactive

Summary Report

Client: Cook Composites and Polymers
Location: Oxnard, CA

Vessel No. : T-405
Vessel Name: Recovered Glycol Tank

Inspection Date: 2-25-03

Type of Inspection: A-Scan

Area Covered: Ultrasonic A-Scan measurements were taken on the vessel shell and nozzles.

Next UT Inspection: 2-25-08
Next Visual Inspection: 2-25-08

Note: A baseline inspection was performed on the vessel shell and nozzles. Corrosion rate and remaining service life will be determined after next scheduled inspection.

DBI, Inc. Quality Inspection and Consulting Services

Reliable…Responsive…Resourceful…Proactive

Client: CCP Oxnard, CA
Circuit: Glycol

Drawing #: T-405
Material: Stainless Steel

TML #	SIZE	TOP	NORTH	EAST	BOTTOM	SOUTH	WEST	COMMENTS
N1	18" M/W	.227		.224	.225		.228	
N2	8"	.408	.414		.416		.414	
A	Shell		.205	.202		.202	.206	
B	Shell						.198	
C	Shell						.210	

DBI, Inc. Quality Inspection and Consulting Services

Reliable…Responsive…Resourceful…Proactive

Client: Cook Composites and Polymers
Location: Oxnard, CA

Vessel No.: T-405
Vessel Name: Recovered Glycol Tank

Vessel Parameters

Design Pressure (MAWP):	Unknown	Top Head Material:	Stainless Steel
Design Temperature:	Unknown	Head Type:	Unknown
Operating Pressure (MAWP):	Unknown	Allowable Stress:	Unknown
Operating Temperature:	Unknown	Joint Efficiency:	Unknown
Diameter: I.D or O.D	Unknown	Bottom Head Material	Stainless Steel
Length S/S:	Unknown	Head Type:	Unknown
Shell Material:	Stainless Steel	Allowable Stress:	Unknown
Allowable Stress:	Unknown	Joint Efficiency:	Unknown
Joint Efficiency:	Unknown	Date Manufactured:	Unknown
Corrosion Allowance:	Unknown	In Service Date:	Unknown

ASME CODE EDITION USED FOR CALCULATIONS

ASME Section VIII, Division 1. 1998 Edition

Paint Information

Average paint coating thickness:	N/A	Thickness measured with paint:	N/A
Paint Multiplier:	N/A	Thickness measured without paint:	N/A

Name Plate Information

U1A Available:	No	ASME stamp present on vessel ?	No
Name Plate present ?	No	Rubbing taken ?	No

DBI, Inc. Quality Inspection and Consulting Services

Reliable…Responsive…Resourceful…Proactive

Client: Cook Composites and Polymers
Location: Oxnard, CA

Vessel No.: T-405
Vessel Name: Recovered Glycol Tank

Vessel Data

Vessel Class:	Unknown	Date Manufactured:	Unknown
Manufactures Serial #:	Unknown	In Service Date:	Unknown
Product in Vessel:	Glycol	Date of ASME VIII Vessel Mfg. under:	Unknown
P&ID Drawing #:	Unknown	Code Cases:	Unknown
P&ID Prepared By:	Unknown	Addenda:	Unknown
Manufacturer:	Unknown	National Board Number:	Unknown
Vessel Length S/S	Unknown	Vessel Insulated:	Yes
Diameter I.D or O.D:	Unknown	Describe openings (if any):	Unknown
No. of Shell Sections:	Unknown	ANSI Flange Rating:	Unknown
No. of Nozzles:	Unknown	Vessel Orientation:	Vertical
Design Pressure (MAWP):	Unknown	Operating Pressure:	Unknown
Design Temperature:	Unknown	Operating Temperature:	Unknown
Head Type: Head A:	Unknown	Head Type: Head B:	Unknown
Head A Material:	Stainless Steel	Head B Material:	Stainless Steel
Weld Type Head A:	Unknown	Weld Type Head B:	Unknown
Shell Material:	Unknown	Shell Weld Type	Unknown
Radiography:	Unknown	Hydrostatic:	Unknown

Relief Valve Information

Relief Valve Tag Number:	N/A	Relief Valve Pressure Setting:	N/A
Relief Valve Test Date:	N/A	Relief Valve Size:	N/A

DBI, Inc. Quality Inspection and Consulting Services

Reliable…Responsive…Resourceful…Proactive

PRESSURE VESSEL EXTERNAL INSPECTION

Client:	Cook Composites and Polymers	Date Inspected:	2-25-03
Location:	Oxnard, CA	Inspector(s):	Floyd Maire
Vessel No.	T-405		Hollis Shellnut
Vessel Name:	Recovered Glycol Tank	Signature & Date:	

NAME PLATE

Item Inspected Yes No NA = Not Applicable	Yes	No	N\A	Comments:
Name Plate present & legible	☐	☐	☒	**No information given**
National Board #	☐	☐	☒	
Manufacturer	☐	☐	☒	
Serial # & Year Built	☐	☐	☒	
Repair or Rerate Name Plate	☐	☐	☒	

FOUNDATION

Concrete condition (spalling, cracks)	☒	☐	☐	**No defects noted**
Foundation settling	☒	☐	☐	**No defects noted**
Coating condition	☒	☐	☐	**No defects noted**
Cradle supports (moisture, cracks)	☒	☐	☐	**No defects noted**

SUPPORTS

Describe type (legs, saddle, etc.)	☒	☐	☐	**No defects noted**
Corrosion, pitting (describe)	☒	☐	☐	**No defects noted**
Weld condition	☒	☐	☐	**No defects noted**
Paint condition	☒	☐	☐	**No defects noted**
Anchor bolts (tightness & corrosion	☒	☐	☐	**No defects noted**
Insulation deterioration	☒	☐	☐	**No defects noted**

SHELL

Corrosion, pitting (describe)	☒	☐	☐	**No defects noted**
Bulges / Blisters / Deformations	☒	☐	☐	**No defects noted**
Weld condition	☒	☐	☐	**No defects noted**
Paint condition	☒	☐	☐	**No defects noted**
Insulation deterioration	☒	☐	☐	**No defects noted**
UT Measurements	☒	☐	☐	**See table**

HEADS

Item Inspected Yes No NA = Not Applicable	Yes	No	N\A	Comments:
Corrosion, pitting (describe)	☒	☐	☐	**No defects noted**
Bulges / Blisters / Deformations	☒	☐	☐	**No defects noted**
Weld condition	☒	☐	☐	**No defects noted**
Paint condition	☒	☐	☐	**No defects noted**
Insulation deterioration	☒	☐	☐	**No defects noted**
UT Measurements	☐	☐	☒	

MANWAYS & NOZZLES

Corrosion, pitting (describe)	☒	☐	☐	**No defects noted**
Weld condition	☒	☐	☐	**No defects noted**
Flange condition	☒	☐	☐	**No defects noted**
Bolting condition	☒	☐	☐	**No defects noted**
Repad condition	☒	☐	☐	**No defects noted**
Insulation deterioration	☒	☐	☐	**No defects noted**
UT Measurements	☒	☐	☐	**See table**

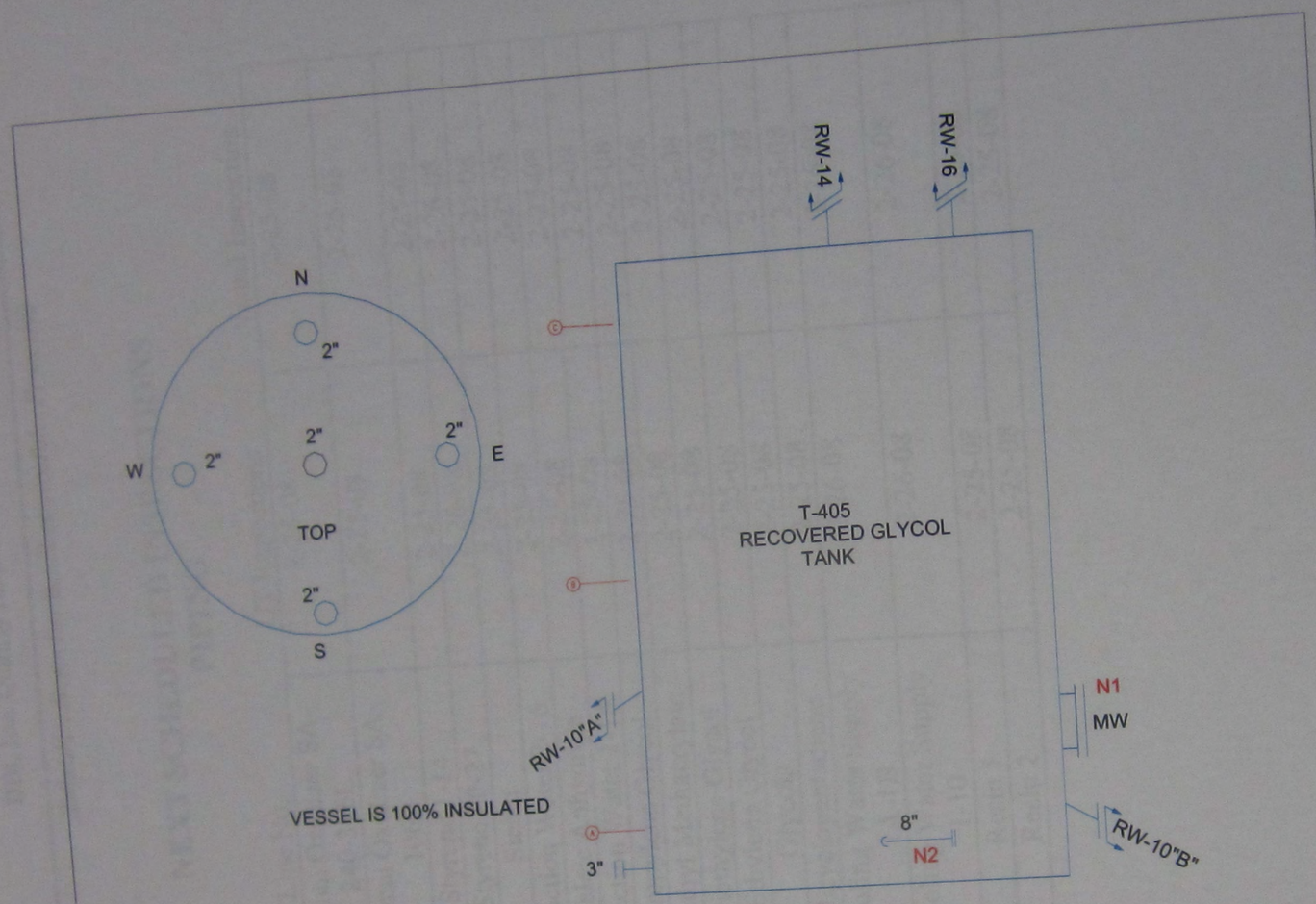
APPURTENANCES

Grounding (tightness & corrosion)	☐	☐	☒	
Gauges, Sight glass (damage)	☐	☐	☒	
Relief Valve # / Size / Set Pressure	☐	☐	☒	

LADDERS, STAIRS, PLATFORMS

Corroded, Broken Parts	☐	☐	☒	
Paint condition	☐	☐	☒	
Wear (ladder rungs, stair treads)	☐	☐	☒	
Handrails secure	☐	☐	☒	
Flooring condition	☐	☐	☒	
Tightness (bolts, tie down clips)	☐	☐	☒	
Attachment welds	☐	☐	☒	
Corrosion, pitting (describe)	☐	☐	☒	

ADDITIONAL COMMENTS:



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CLIENT: Cook Composites & Polymers	**DBI, Incorporated** 4223 Progressive Ave. Suite #2 Lincoln, Nebraska 68504
LOCATION: Oxnard, CA	ACAD DWG. FILE: T-405
INSPECTION DATE: 3-04-03	DWN BY: JJF / CKD BY:
UNIT No: Reaction Water	MECHANICAL INTREGRITY INSPECTION
TANK ID: T-405	

NEXT SCHEDULED INSPECTIONS
PIPING

ISO No.	Line No.	UT Inspections	Visual Inspection
N/A	Thermal Oxidizer SA-240-316L	2-25-08	2-25-08
N/A	Thermal Oxidizer SA-106B	2-25-08	2-25-08
N/A	Styrene 1-14	2-25-08	2-25-08
N/A	Styrene 20-27	2-26-08	2-26-08
N/A	Steam	2-25-08	2-25-08
N/A	Reaction Water 2-16	2-25-08	2-25-08
N/A	Maleic Anhydride	2-25-08	2-25-08
N/A	Reaction Water 1-1A	2-25-08	2-25-08
N/A	Propylene Glycol	2-25-08	2-25-08
N/A	Methyl Methacrylate	2-25-08	2-25-08
N/A	Diethylene Glycol	2-25-08	2-25-08
N/A	Ethylene Glycol	2-25-08	2-25-08
N/A	Glycols	2-25-08	2-25-08
N/A	Dicyclopentadiene	2-25-08	2-25-08
N/A	Cooling Water Supply 1A-1B	2-26-08	2-26-08
N/A	Cooling Water Supply 1-10	2-26-08	2-26-08
N/A	Resin 1	2-25-08	2-25-08
N/A	Resin 2	2-25-08	2-25-08

DBI, Inc. Quality Inspection and Consulting Services

Reliable…Responsive…Resourceful…Proactive

NEXT SCHEDULED INSPECTIONS
TANK

Tank #	Tank Name	UT Inspection	Visual Inspection
T-107	Styrene Storage	2-25-08	2-25-08
T-110	DCPD Storage	2-25-08	2-25-08
T-30001	Resin Storage	2-25-08	2-25-08
T-30002	Resin Storage	2-25-08	2-25-08
T-30003	Resin Storage	2-25-08	2-25-08
T-30004	Resin Storage	2-25-08	2-25-08
T-30005	Resin Storage	2-25-08	2-25-08
T-30006	Resin Blend	2-25-08	2-25-08
T-30007	Resin Blend	2-25-08	2-25-08
T-30008	Resin Blend	2-25-08	2-25-08
T-30009	Resin Blend	2-25-08	2-25-08
T-30010	Resin Blend	2-25-08	2-25-08
T-30011	Resin Blend	2-25-08	2-25-08
T-30012	Resin Blend	2-25-08	2-25-08
T-30013	Resin Blend	2-25-08	2-25-08
T-30014	Resin Blend	2-25-08	2-25-08
T-30015	Resin Blend	2-25-08	2-25-08
T-30016	Resin Blend	2-25-08	2-25-08
T-30017	Resin Blend	2-25-08	2-25-08
T-30018	Resin Blend	2-25-08	2-25-08
T-30019	Resin Blend	2-25-08	2-25-08
T-30021	Resin Blend	2-25-08	2-25-08

DBI, Inc. Quality Inspection and Consulting Services

Reliable....Responsive....Resourceful....Proactive

NEXT SCHEDULED INSPECTIONS
VESSELS

Vessel #	Vessel Name	UT Inspection	Visual Inspection
N/A	D-206 Packed Column	2-25-08	2-25-08
N/A	G-9100-02	2-25-08	2-25-08
N/A	G-9100-01	2-25-08	2-25-08
T-405	Recovered Glycol Tank	2-25-08	2-25-08
T-404	Glycol Recovery Tank	2-25-08	2-25-08
T-9103	Thin Tank	2-25-08	2-25-08
3638	Filter	2-25-08	2-25-08
K-9100	Reactor	2-25-08	2-25-08
T-403	Distillate Hold Tank	2-25-08	2-25-08
3637	Filter	2-25-08	2-25-08
N/A	Total Condensor	2-25-08	2-25-08
3634	Filter	2-25-08	2-25-08
3633	Filter	2-25-08	2-25-08

DBI, Inc. Quality Inspection and Consulting Services

Reliable...Responsive...Resourceful...Proactive

Cook Composites & Polymers

Oxnard, CA

11-30-2005

A-Scan Re-inspection

Vessel No.: T-403
Vessel Name: Reaction Water Tank



DBI Incorporated
Lincoln Nebraska
4223 Progressive Avenue.Lincoln NE 68504.Telephone: 402-467-1818 Fax: 402-467-1766
Omaha Nebraska
2211 S. 156th Circle.Omaha NE 68130.Telephone:402-330-9612.Fax: 402-330-9640
Overland Park Kansas
11660 West 90th.Overland Park KS 66214.Telephone: 913-888-2321 Fax: 913-888-2351

DBI, Inc. Quality Inspection and Consulting Services

Reliable...Responsive...Resourceful...Proactive

Summary Report

Client: Cook Composites and Polymers
Location: Oxnard, CA

Vessel No. : T-403
Vessel Name: Reaction Water Tank

Inspection Date: 11-30-2005

Type of Inspection: A-Scan

Note: An A-Scan re-inspection was performed on the T-403 Reaction Water Tank and it meets MAWP of 80 psi with a remaining service life of 20+ years.

Next UT Inspection Date: 11-28-2015
Next Visual Inspection Date: 11-29-2010

	2003 Inspection						2005 Inspection							
TML	**T**	**N**	**E**	**B**	**S**	**W**	**T**	**N**	**E**	**B**	**S**	**W**	**Corrosion Rate (Per Year)**	**Remaining Life**
A				.381						.384			N/A	20+
B				.382				.369		.383			N/A	20+
North Head	N/A								.280			.281	N/A	N/A
South Head	N/A								.286			.283	N/A	N/A
N1		.149	.147		.158	.161		.157	.154		.155	.152	.003	20+
N2		.154	.158		.162	.158		.151	.149		.156	.151	.003	20+
N3		.204	.212		.214	.195		.220	.221		.218	.208	N/A	20+
N4	N/A							.218				.220	N/A	N/A
N5		.116	.111		.121	.116		.120	.120		.121	.119	Less than 1 mil	20+
N6		.162	.163		.161	.169		.166	.178		.172	.161	.003	20+
N7		.405	.400		.398	.401		.399	.401		.400	.402	.002	20+
N8		.155	.152		.154	.154		.152	.148		.153	.154	.001	20+
N9		.112	.109		.111	.114		.110	.109		.112	.112	.001	20+
N10		.113	.115		.116	.117		.117	.116		.115	.115	.001	20+
N11	N/A						.155	.158		.149	.148		N/A	N/A

DBI, Inc. Quality Inspection and Consulting Services

Reliable...Responsive...Resourceful...Proactive

Client: Cook Composites and Polymers
Location: Oxnard, CA

Vessel No.: T-403
Vessel Name: Reaction Water Tank

Vessel Parameters

Design Pressure (MAWP):	FV/80 psi	Top Head Material:	SA-240-304L
Design Temperature:	200 F	Head Type:	2:1 Elliptical
Operating Pressure (MAWP):	20 psi	Allowable Stress:	14300
Operating Temperature:	Ambient	Joint Efficiency:	.85
Diameter: I.D or O.D	5' 5" O.D.	Bottom Head Material	SA-240-304L
Length S/S:	11' 10"	Head Type:	2:1 Elliptical
Shell Material:	SA-240-304L	Allowable Stress:	14300
Allowable Stress:	14300	Joint Efficiency:	.85
Joint Efficiency:	.85	Date Manufactured:	1965
Corrosion Allowance:	0	In Service Date:	1965

ASME CODE EDITION USED FOR CALCULATIONS
ASME Section VIII, Division 1. 1998 Edition

Paint Information

Average paint coating thickness:	N/A	Thickness measured with paint:	N/A
Paint Multiplier:	N/A	Thickness measured without paint:	N/A

Name Plate Information

U1A Available:	Yes	ASME stamp present on vessel ?	Yes
Name Plate present ?	Yes	Rubbing taken ?	No

DBI, Inc. Quality Inspection and Consulting Services

Reliable...Responsive...Resourceful...Proactive

Client: Cook Composites and Polymers
Location: Oxnard, CA

Vessel No.: T-403
Vessel Name: Reaction Water Tank

Vessel Data

Vessel Class:	2	Date Manufactured:	1965
Manufactures Serial #:	B-1136	In Service Date:	1965
Product in Vessel:	Glycol Water	Date of ASME VIII Vessel Mfg. under:	N/A
P&ID Drawing #:	N/A	Code Cases:	N/A
P&ID Prepared By:	N/A	Addenda:	N/A
Manufacturer:	The Boardman Co.	National Board Number:	292
Vessel Length S/S	11' 10"	Vessel Insulated:	Yes
Diameter I.D or O.D:	5' 5" O.D.	Describe openings (if any):	N/A
No. of Shell Sections:	2	ANSI Flange Rating:	150 #
No. of Nozzles:	10	Vessel Orientation:	Horizontal
Design Pressure (MAWP):	FV/80 psi	Operating Pressure:	20 psi
Design Temperature:	200 F	Operating Temperature:	Ambient
Head Type: Head A:	2:1 Elliptical	Head Type: Head B:	2:1 Elliptical
Head A Material:	SA-240-304L	Head B Material:	SA-240-304L
Weld Type Head A:	DBL	Weld Type Head B:	DBL
Shell Material:	SA-240-304L	Shell Weld Type	DBL
Radiography:	Spot	Hydrostatic:	120 psi

Relief Valve Information

Relief Valve Tag Number:	N/A	Relief Valve Pressure Setting:	N/A
Relief Valve Test Date:	N/A	Relief Valve Size:	N/A

DBI, Inc. Quality Inspection and Consulting Services

Reliable...Responsive...Resourceful...Proactive

PRESSURE VESSEL EXTERNAL INSPECTION

Client:	Cook Composites and Polymers	Date Inspected:	11-30-2005
Location:	Oxnard, CA	Inspector(s):	Greg Wiebelhaus
Vessel No.	T-403		Mitch Benes
Vessel Name:	Reaction Water Tank		

NAME PLATE

Item Inspected Yes No NA = Not Applicable	Yes	No	N\A	Comments:
Name Plate present & legible	☒	☐	☐	**Good condition**
National Board #	☒	☐	☐	**292**
Manufacturer	☒	☐	☐	**The Boardman Company**
Serial # & Year Built	☒	☐	☐	**B-1136/ 1965**
Repair or Rerate Name Plate	☐	☐	☒	**N/A**

FOUNDATION

Concrete condition (spalling, cracks)	☒	☐	☐	**No defects noted**
Foundation settling	☒	☐	☐	**No defects noted**
Coating condition	☐	☐	☒	**N/A**
Cradle supports (moisture, cracks)	☐	☐	☒	**N/A**

SUPPORTS

Describe type (legs, saddle, etc.)	☒	☐	☐	**Saddle**
Corrosion, pitting (describe)	☒	☐	☐	**Minor surface rust**
Weld condition	☒	☐	☐	**No defects noted**
Paint condition	☒	☐	☐	**Paint peeling**
Anchor bolts (tightness & corrosion	☒	☐	☐	**Minor surface rust**
Insulation deterioration	☐	☐	☒	**N/A**

SHELL

Corrosion, pitting (describe)	☒	☐	☐	**No defects noted in ports**
Bulges / Blisters / Deformations	☐	☐	☒	**N/A**
Weld condition	☐	☐	☒	**N/A**
Paint condition	☐	☐	☒	**N/A**
Insulation deterioration	☒	☐	☐	**No defects noted**
UT Measurements	☒	☐	☐	**See drawing**

DBI, Inc. Quality Inspection and Consulting Services

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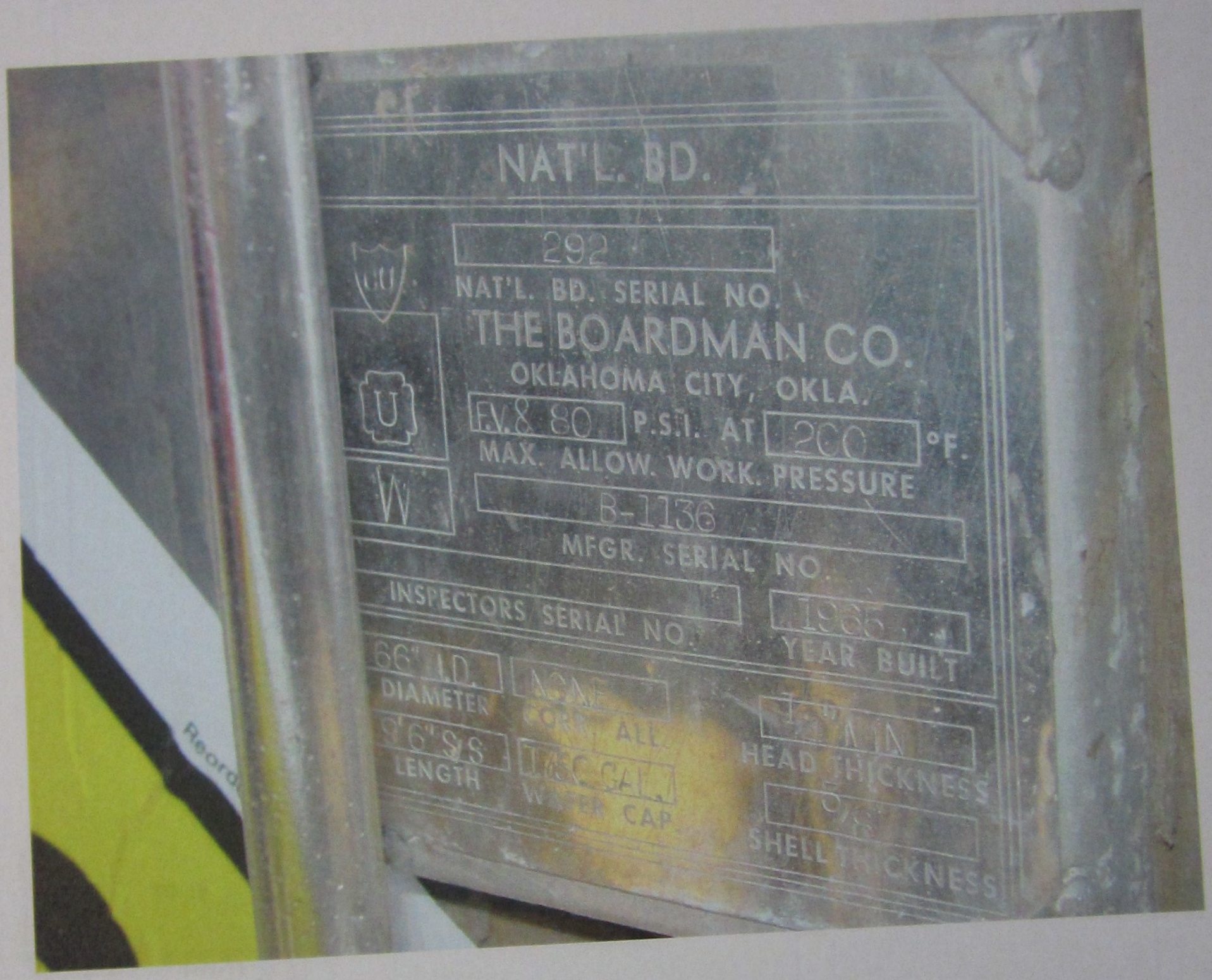
HEADS Item Inspected Yes No NA = Not Applicable	Yes	No	N\A	Comments:
Corrosion, pitting (describe)	☒	☐	☐	**No defects noted in ports**
Bulges / Blisters / Deformations	☐	☐	☒	**N/A**
Weld condition	☐	☐	☒	**N/A**
Paint condition	☐	☐	☒	**N/A**
Insulation deterioration	☒	☐	☐	**No defects noted**
UT Measurements	☒	☐	☐	**See drawing**

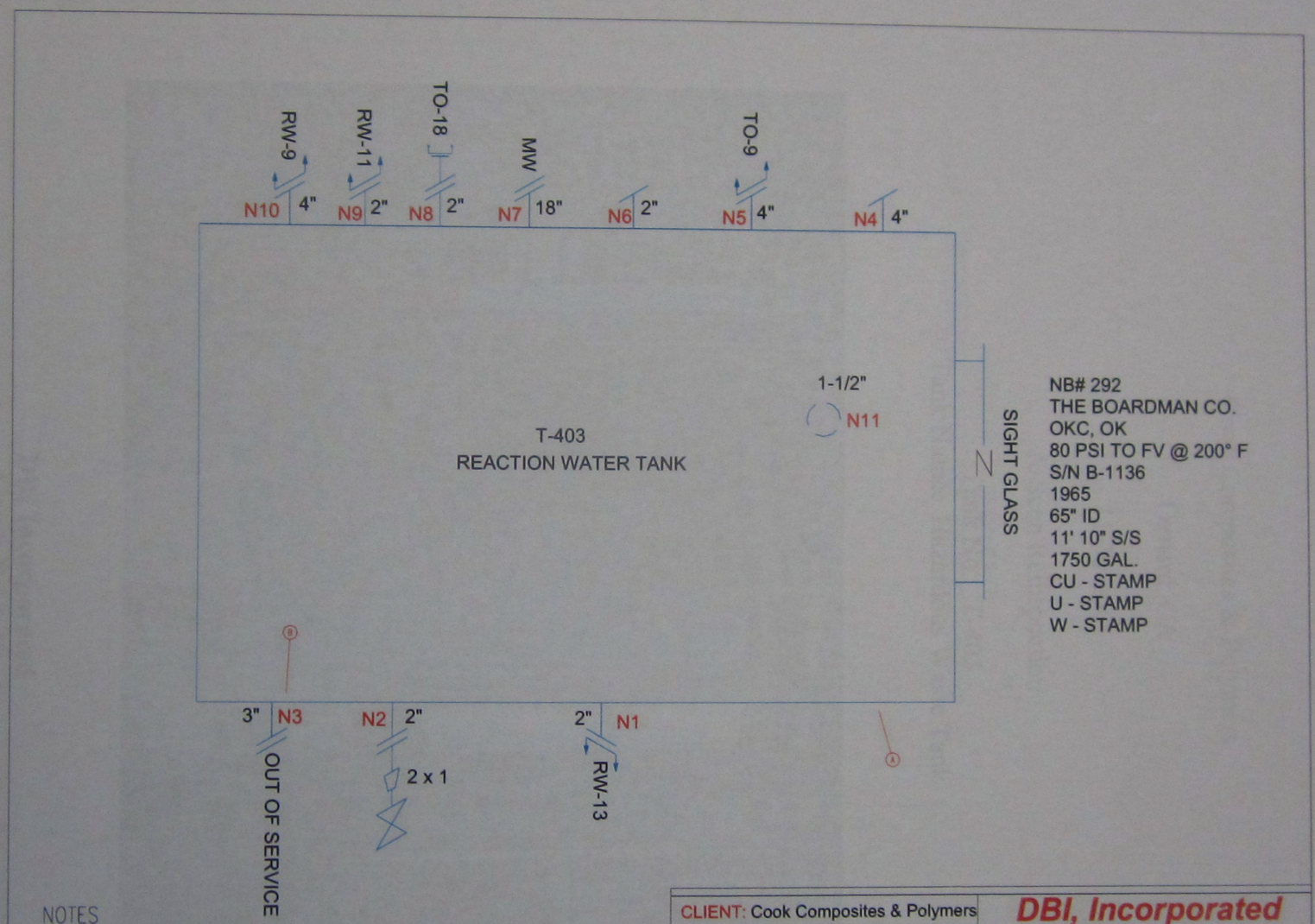
MANWAYS & NOZZLES				
Corrosion, pitting (describe)	☒	☐	☐	**Minor surface rust on manway**
Weld condition	☐	☐	☒	**N/A**
Flange condition	☒	☐	☐	**No defects noted**
Bolting condition	☒	☐	☐	**Bolt loose on manway**
Repad condition	☐	☐	☒	**N/A**
Insulation deterioration	☒	☐	☐	**No defects noted**
UT Measurements	☒	☐	☐	**See drawing**

APPURTENANCES				
Grounding (tightness & corrosion)	☒	☐	☐	**No ground found**
Gauges, Sight glass (damage)	☒	☐	☐	**No defects noted**
Relief Valve # / Size / Set Pressure	☐	☐	☒	**N/A**

LADDERS, STAIRS, PLATFORMS				
Corroded, Broken Parts	☒	☐	☐	**No defects noted**
Paint condition	☒	☐	☐	**Paint fading and peeling**
Wear (ladder rungs, stair treads)	☒	☐	☐	**No defects noted**
Handrails secure	☐	☐	☒	**N/A**
Flooring condition	☐	☐	☒	**N/A**
Tightness (bolts, tie down clips)	☐	☐	☒	**N/A**
Attachment welds	☒	☐	☐	**No defects noted**
Corrosion, pitting (describe)	☒	☐	☐	**Minor surface rust**

ADDITIONAL COMMENTS:


NAT'L. BD.
292
NAT'L. BD. SERIAL NO.
THE BOARDMAN CO.
OKLAHOMA CITY, OKLA.
F.V.& 80
P.S.I. AT
200
°F.
MAX. ALLOW. WORK. PRESSURE
B-1136
MFGR. SERIAL NO.
INSPECTORS SERIAL NO.
1966
YEAR BUILT
66" I.D.
DIAMETER
NONE
CORR. ALL
9'6" S/S
LENGTH
HEAD THICKNESS
SHELL THICKNESS



NB# 292
THE BOARDMAN CO.
OKC, OK
80 PSI TO FV @ 200° F
S/N B-1136
1965
65" ID
11' 10" S/S
1750 GAL.
CU - STAMP
U - STAMP
W - STAMP

NOTES

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CLIENT: Cook Composites & Polymers	**DBI, Incorporated** 4223 Progressive Ave. Suite #2 Lincoln, Nebraska 68504	
LOCATION: Oxnard, CA		
INSPECTION DATE: 11-30-2005	ACAD DWG. FILE: T-403	
Vessel No: T-403	DWN BY: JJF	CKD BY:
VESSEL ID: Reaction Water Tank	MECHANICAL INTREGRITY INSPECTION	

DBI, Inc. Quality Inspection and Consulting Services

Reliable...Responsive...Resourceful...Proactive

Cook Composites & Polymers

Oxnard, CA

11-30-2005

A-Scan Reinspection

Tank No.: T-405
Tank Name: Hazardous Waste Tank



DBI Incorporated
Lincoln Nebraska
4223 Progressive Avenue.Lincoln NE 68504.Telephone: 402-467-1818 Fax: 402-467-1766
Omaha Nebraska
2211 S. 156th Circle.Omaha NE 68130.Telephone:402-330-9612.Fax: 402-330-9640
Overland Park Kansas
11660 West 90th.Overland Park KS 66214.Telephone: 913-888-2321 Fax: 913-888-2351

DBI, Inc. Quality Inspection and Consulting Services

Reliable…Responsive…Resourceful…Proactive

Summary Report

Report Reviewed By:

Client: Cook Composites & Polymers

Location: Oxnard, CA

Tank No. : T-405
Tank Name: Hazardous Waste Tank

Inspection Date: 11-30-2005

Type of Inspection: A-Scan Reinspection

Note: An A-Scan re-inspection was performed on the T-405 Hazardous Waste Tank. The T-405 Hazardous Waste Tank has a remaining service life of 20+ years.

Next UT Inspection Date: 11-28-2015
Next Visual Inspection Date: 11-29-2010

	2003 Inspection						2005 Inspection							
TML	T	N	E	B	S	W	T	N	E	B	S	W	Corrosion Rate (Per Year)	Remaining Life
A		.205	.202		.202	.206		.213	.208		.210	.217	N/A	20+
B						.198						.204	N/A	20+
C						.210						.216	N/A	20+
Top Head	N/A							.223			.221		N/A	N/A
N1	.227		.224	.225		.228	.224		.214	.219		.219	.005"	20+
N2	.408	.414		.416		.414	.420	.425		.419	.430		N/A	20+
N3	N/A							.281	.278		.276		N/A	N/A

DBI, Inc. Quality Inspection and Consulting Services

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Client: Cook Composites & Polymers
Location: Oxnard, CA

Tank No.: T-405
Tank Name: Hazardous Waste Tank

Tank Data

Construction Date:	1986 Assumed	Tank Configuration:	Vertical
In-Service Date:	1986 Assumed	Shell Diameter:	9' 0"
Manufacturer:	Unknown	Shell Height:	116"
Mfg. Serial #:	Unknown	Max. Design Liquid Level:	Unknown
Issue Date of API-650:	Unknown	Product:	Glycol
Tank Insulated:	Yes	Specific Gravity:	1.12
Openings in Insulation:	2 1/2" ports	Capacity:	5000 gallons
Design Temperature:	Unknown	Operating Temperature:	Ambient
No. of Shell Courses:	1	No. of Nozzles:	6
Type of Roof:	Domed	Coating Thickness:	N/A
Name Plate Condition:	Name plate missing		

DBI, Inc. Quality Inspection and Consulting Services

Reliable...Responsive...Resourceful...Proactive

STORAGE TANK EXTERNAL INSPECTION

Client:	Cook Composites & Polymers	Date Inspected:	11-30-2005
Location:	Oxnard, CA	Inspector(s):	Greg Wiebelhaus
Tank No.	T-405		Mitch Benes
Tank Name:	Hazardous Waste Tank		

NAME PLATE

Item Inspected Yes No NA = Not Applicable	Yes	No	N/A	Comments:
Name Plate present & legible	☐	☐	☒	Name plate missing
API Code Stamp #	☐	☐	☒	Unknown
Manufacturer	☐	☐	☒	Unknown
Serial # & Year Built	☐	☐	☒	Unknown/ 1986 Assumed

FOUNDATION

Concrete condition (spalling, cracks)	☒	☐	☐	Good condition
Levelness	☒	☐	☐	Appears level
Coating condition	☐	☐	☒	N/A
Drain openings in ring	☐	☐	☒	N/A
Signs of settlement around tank	☒	☐	☐	No settlement noted
Dike walls / Containment	☒	☐	☐	Good condition
Site Drainage	☒	☐	☐	Drainage is good
Seal	☐	☐	☒	N/A

SHELL

Paint condition	☐	☐	☒	N/A
Corrosion / Pitting (describe)	☒	☐	☐	None noted
Bulges / Blisters / Deformations	☐	☐	☒	N/A
Weld condition	☐	☐	☒	N/A
Attachments (supports, brackets)	☐	☐	☒	N/A
Insulation deterioration	☒	☐	☐	None noted
Signs of "chime" thinning	☐	☐	☒	N/A
Overflow vents / piping	☐	☐	☒	N/A
UT measurements	☒	☐	☐	See autocad drawing

CATHODIC PROTECTION

Galvanic anode system	☐	☐	☒	N/A
Impressed current system	☐	☐	☒	N/A

MANWAYS & NOZZLES

Item Inspected Yes No NA = Not Applicable	Yes	No	N/A	Comments:
Paint condition	☒	☐	☐	No paint failure noted
Corrosion, pitting (describe)	☒	☐	☐	None noted
Weld condition	☐	☐	☒	N/A
Flange condition	☒	☐	☐	Good condition
Bolting condition	☒	☐	☐	Good condition
Repad condition	☐	☐	☒	N/A
Insulation deterioration	☐	☐	☒	N/A
UT measurements	☒	☐	☐	See autocad drawing

ROOF

Paint Condition	☐	☐	☒	N/A
Corrosion, pitting (describe)	☒	☐	☐	None noted
Weld condition	☐	☐	☒	N/A
Proper drainage	☒	☐	☐	Drainage good
Insulation deterioration	☒	☐	☐	None noted
UT measurements	☒	☐	☐	See autocad drawing

ROOF APPURTENANCES

Condition of hatch(s), manway(s)	☐	☐	☒	N/A
Condition of pressure/vacuum vent	☐	☐	☒	N/A
Condition of screens on vents	☐	☐	☒	N/A
Bolting condition	☐	☐	☒	N/A
Insulation seal condition	☐	☐	☒	N/A

APPURTENANCES

Grounding (tightness & corrosion)	☒	☐	☐	No ground found
Gauges, Sight glass (damage)	☐	☐	☒	N/A

HANDRAILS

Paint condition	☒	☐	☐	No paint failure noted
Corrosion, pitting (describe)	☒	☐	☐	None noted
Attachment welds	☒	☐	☐	Good condition
Safety drop bar (chain) condition	☐	☐	☒	N/A

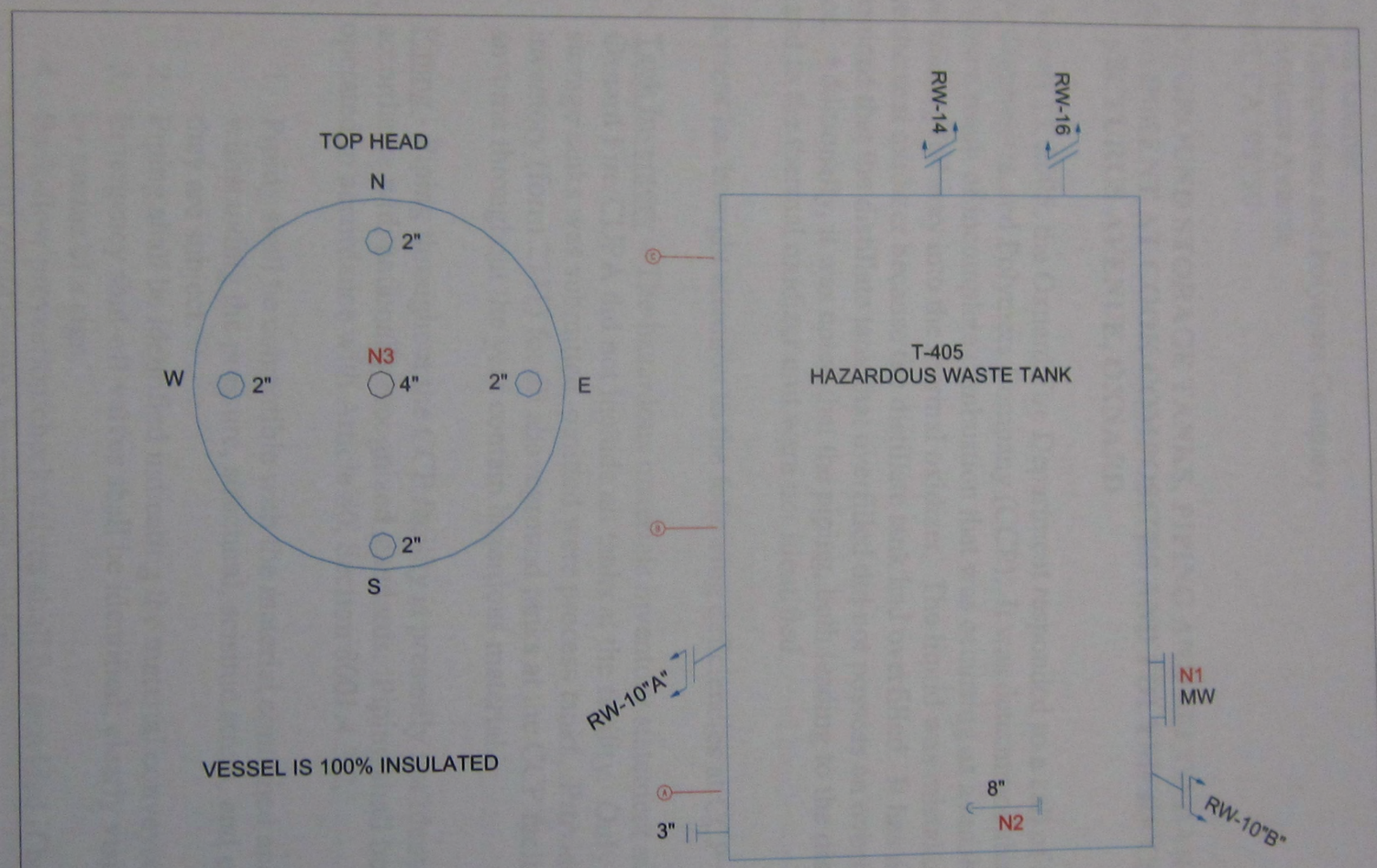
PLATFORMS / STAIRS / LADDERS

Item Inspected Yes No NA = Not Applicable	Yes	No	N/A	Comments:
Paint condition	☒	☐	☐	No paint failure noted
Corrosion, pitting (describe)	☒	☐	☐	None noted
Attachment weld condition	☒	☐	☐	Good condition
Bolting condition	☐	☐	☒	N/A
Cage condition	☒	☐	☐	Good condition
Rung condition	☐	☐	☒	N/A
Stairway tread condition	☐	☐	☒	N/A
Concrete base condition	☒	☐	☐	Good condition

GRATING

Paint condition	☐	☐	☒	N/A
Thinning on grating bars	☒	☐	☐	Good condition
Condition of grating welds	☒	☐	☐	Good condition
Tie down clips	☐	☐	☒	N/A

ADDITIONAL COMMENTS:



VESSEL IS 100% INSULATED

NOTES

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CLIENT: Cook Composites & Polymers	**DBI, Incorporated** 4223 Progressive Ave. Suite #2 Lincoln, Nebraska 68504
LOCATION: Oxnard, CA	ACAD DWG. FILE: T-405
INSPECTION DATE: 11-30-2005	DWN BY: JJF / CKD BY:
Tank No: T-405	MECHANICAL INTREGRITY INSPECTION
TANK ID: Hazardous Waste Tank	

CITY OF Oxnard "The City That Cares" CALIFORNIA

September 15, 2005

Mr. Ron Kramer
Cook Composites and Polymers Company
5980 Arcturus Avenue
Oxnard, CA 93030

ABOVEGROUND STORAGE TANKS, PIPING AND SECONDARY CONTAINMENT AT COOK COMPOSITES AND POLYMERS COMPANY, 5980 ARCTURUS AVENUE, OXNARD

On August 13, 2005, the Oxnard Fire Department responded to a call of smoke and fire at Cook Composites and Polymers Company (CCP). It was determined that the smoke and fire were a result of incomplete combustion that was occurring as a result of distillate liquid making its' way into the thermal oxidizer. The liquid was mistakenly transferred to the thermal oxidizer because the distillate tank had overfilled. It has also been determined that the distillate tank that overfilled did not possess an overfill prevention device. Additionally, it was noted that the piping, both leading to the distillate-holding tank and to the thermal oxidizer unit were not identified.

This incident has brought attention to the following deficiencies at CCP:

- Tank Inventory – The hazardous materials inventory statement submitted to Oxnard Fire/CUPA did not include all tanks at the facility. Only the reporting of storage tanks was submitted, omitted were process tanks. Provide an updated inventory (form 2731) for all aboveground tanks at the CCP facility that at anytime throughout the year contain hazardous material.

  Piping - Piping throughout the CCP facility is presently not identified in accordance with nationally recognized standards. Piping shall be installed and operated in accordance with Article 80, Section 8001.4.3.2,

  1. Piping shall be compatible with the material contained and capable of withstanding the pressure, structural, seismic stress, and exposure to which they are subject.
  2. Piping shall be identified indicating the material conveyed.
  3. Emergency shut-off valves shall be identified, clearly visible and indicated by means of a sign.
  4. Back-flow prevention/check valves shall be provided if backflow of material could create a hazardous condition.

Overfill Prevention - The distillate hold tank (T-403) did not have a liquid level limit control, ultimately resulting in damage to the thermal oxidizer. Article 80, Section 8001.4.8 of the California Fire Code, requires all tanks with a capacity of greater than 500 gallons, containing hazardous materials, and/or filled using a remote or automatic filling procedure, shall be fitted with a liquid level limit control to prevent overfilling of the tank. Identify all tanks that have overfill protection, the method/equipment used along with the testing and maintenance schedule for the overfill prevention device.

T.O. Repairs

Secondary Containment – Pursuant to Article 80, Section 8003.1.3.3, secondary containment shall be maintained liquid tight. A monitoring method shall be provided to detect hazardous materials and/or water intrusion in the secondary containment. If a monitoring device is used, the device shall be connected to a distinct audible and visual alarm.

Maintenance – Tank and piping maintenance shall be performed in accordance with manufacturers specifications, or as needed to keep the equipment in an operable condition. Secondary containment structures shall be maintained liquid tight. All maintenance records shall be retained and available for review.

Be advised, modifications to the tank and piping system may require a permit through the City of Oxnard Development Center. Please contact the Oxnard Fire Department for permit requirements. If a permit is required, please submit an application and plans for review. All approvals and the permit must be secured prior to commencement of any work.

Finally, as discussed, a Knox Box (a secured box – accessible only by the Oxnard Fire Department) must be installed in an approved location. The Knox Box shall be large enough to contain tank, piping, and process and instrumentation diagrams to be used by the Fire Department during emergency operations at your facility. Please contact Sergio Martinez in Fire Prevention (805) 385-7723 for information on obtaining a Knox Box.

Corrections to the facility must be completed in a timely manner, not to exceed 90 days for completion. If you need to request an extension with this compliance schedule or if you have any questions or concerns about the requirements, please contact me at (805) 385-7730.

Greg Abille
Senior Fire Environmental Specialist
Oxnard Fire/CUPA

Enclosure

CCP

March 4, 2004

Mr. Joe Zarnoch
Fire / CUPA
251 South C Street
Oxnard, CA 93030

RE: Amendment – Hazardous Materials Inventory – Chemical Description (OES 2731)
Cook Composites and Polymers Co. - Oxnard, California
Facility ID Number: 560130

Dear Mr. Zarnoch:

Cook Composites and Polymers Co. (CCP) submitted on February 27, 2004, via Federal Express both the Business Owner/Operator Identification (OES 2730) form and the Hazardous Materials Inventory – Chemical Description (OES 2731) form for all changes in inventory for the 2003 calendar year.

On March 1, 2004, CCP discovered that form OES 2731 requires an additional signature in space 246 if the facility handles either a hazardous material equal to or greater than 10,000 pounds, or an extremely hazardous substance equal to or greater than 500 pounds, or the federal threshold planning quantity. Please find the enclosed revised forms OES 2730 and OES 2731 for the 2003 calendar year. The revision includes the signature in space 246 for the respective forms of chemicals exceeding the applicable thresholds.

If you have any questions, please contact me at (816) 391-6324.

Sincerely,
COOK COMPOSITES AND POLYMERS CO.

Jon Schuckman
Environmental Engineer

Enclosure – As Stated

Cc: Michael Gromacki – CCP
Ron Bergkamp – CCP Oxnard

ATOFINA
PO Box 419389 • Kansas City, MO • 64141-6389
Ph: 816-391-6324 • Fax: 816-391-6093 • E-mail: schuckman@ccponline.com

PERMIT TO OPERATE
Number 00146

Valid April 1, 2001 to March 31, 2002

This Permit Has Been Issued To The Following:

Company Name / Address:

Cook Composites & Polymers Co.
P.O. Box 419389
Kansas City, MO 64141-6389

Facility Name / Address:

Cook Composites & Polymers Co.
5980 Arcturus Avenue
Oxnard, CA 93033

Permission Is Hereby Granted To Operate The Following:

1 - Polyester Resin Process, that includes one - 5,000 gallon Pfaulder reactor (K9200); and one Polyester Resin Kettle (K9100) and associated equipment, including the Polyester Kettle Fume Scrubbing System. The K9200 Reactor and K9100 Kettle can operate in series.
1 - Resin Holding Tank
1 - 8000 Gallon Fixed Roof Tank for the storage of DCPD (Dicyclopentadiene), equipped with a submerged fill pipe and a pressure-vacuum relief valve. The emissions from the tank are routed to the existing Thermal Oxidizer.
1 - Distillate Waste Collection System utilizing Vapor Condensors, and a 5,000 Gallon Effluent Storage Tank (S9121)
2 - 30000 Gallon Closed Top Blend Tanks (S9101 & S9102)
1 - 18000 Gallon Closed Top Blend Tank (S9103)
2 - 10000 Gallon Closed Top Blend Tanks (S9104 & S9105)
2 - 9000 Gallon Closed Top Blend Tanks (S9106 & S9107)
4 - 7000 Gallon Closed Top Blend Tanks (B9101, B9102, B9103 & B9104)
1 - 7000 Gallon Closed Top Thinning Tank (T9101) With an Internal Cooling System
1 - 10000 Gallon Closed Top Thinning Tank. The vent from this tank is equipped with a condenser with a temperature gauge.
3 - 6000 Gallon Closed Top Blend Tanks (S9108, S9109 & S-910)
1 - 2000 Gallon Closed Top FR Thinning Tank (T9102)
4 - 2000 Gallon Closed Top Blend Tanks (B-9105, B-9106, B-9107 & B-9108)
1 - 500 Gallon Closed Top Tube Mixer (B-9109)
1 - 500 Gallon Closed Top Blow Back Tank (S9122)
1 - Gel Coat Line for mixing the various resin materials (polyester resins, monomers, thinners, fillers, pigment, and other additives)
1 - Gel Coat Spraying Line for quality control purposes. The spraying is conducted in a 4′ x 4′ spray booth (exempt from permit)
1 - 8.4 MMBTU/hr North American Model 200 HP Boiler, natural gas fired with fuel oil standby
1 - 9.9 MMBTU/hr Kewanee Model 250 HP Boiler, natural gas fired
1 - 5 MMBTU/hr Radiant Furnace, natural gas fired with LPG

05/23/2001

VCAPCD Permit To Operate Number 00146
Issued To Cook Composites & Polymers Co.
Valid April 1, 2001 to March 31, 2002

standby
1 - 6.78 MMBTU/hr Hirt Combustion Engineering Thermal Oxidizer (Incinerator); Model HFL-3.5 MX (F-100); and associated waste heat boiler (SG-101); natural gas and waste gas fired, with fuel oil standby

Loading, Unloading, and Storage Facility for Phthalic Anhydride (PAA), including a Sublimation Box for the removal of PAA from the inert gas displaced during the use of the following equipment:

1 - 50000 Gallon Stainless Steel Fixed Roof Tank for PAA
1 - 200 Gallon Per Minute Railroad Tank Car Unloading Facility for PAA
1 - 150 Gallon Per Minute Truck Tanker Loading Facility for PAA

This Permit Has Been Issued Subject To The Following Conditions:

1. Permitted Emissions

	Tons/Year	Pounds/Hour
Reactive Organics	15.96	15.10
Nitrogen Oxides	3.14	3.67
Particulate Matter	1.66	2.02
Sulfur Oxides	0.02	6.44
Carbon Monoxide	0.66	0.80

2. Annual production, storage, and usage of the following materials shall not exceed:

a) Production of 62,000,000 pounds of completed resin product, including 7,000,000 pounds of gel coat materials. Completed resin product includes raw resins, thinners, monomers, fillers, pigments, and any other additives.

b) 1,260 tons of dry materials (dry materials are added to resins for gel coat production).

c) Phthalic Anhydride offloading (receiving) - 12,360 tons per year. Phthalic Anhydride truck loading - 6,960 tons per year.

d) Total fuel use shall not exceed 66,000 MMBTU per year assuming the heat content of Natural Gas is 1050 BTU/SCF, Fuel Oil is 142,000 BTU/gallon and the heat content of Propane is 90,500 BTU/gallon.

e) Storage of DCPD (Dicyclopentadiene) in the 8000 gallon capacity tank shall not exceed 2,059.00 tons per year.

Prior to exceeding any of the above limits, the permittee shall apply for, and receive, a permit modification.

In order to comply with this condition, permittee shall maintain records and monthly reports as required by Condition No. 26. The monthly totals shall be summed for the previous twelve (12) months.

VCAPCD Permit To Operate Number 00146
Issued To Cook Composites & Polymers Co.
Valid April 1, 2001 to March 31, 2002

Production, throughputs, storage and material usage totals for the previous twelve (12) months in excess of the above limits shall be considered a violation of this condition.

3. The K9200 Reactor and K9100 Kettle are for pre-conditioning and polymerization (polyester reactions) only.

4. Offloading of PAA is limited to maximum of two railroad cars per week.

5. All process lines (raw materials, finished product, vapors, etc.) associated with the Polyester Resin Process shall be clearly labeled as to the product which is contained therein.

6. All floors, concrete, and appurtenances must be kept clean of reactive organic compound containing raw materials and products. Cleanup of any spill of a material containing reactive organic compounds must be initiated within 30 minutes of the spill, and must be completed as soon as practicable.

7. The transfer of resin solution (solution containing resin and styrene) and styrene into the 7,000 gallon thinning tank (T9101) shall be accomplished using submerged fill pipes with connections that are free of leaks.

8. The cooling system on the 7,000 gallon capacity thinning tank (T9101) shall be operated at all times during the thinning operations.

9. The 10,000 gallon thinning tank, and the 7,000 gallon thinning tank (T9101) shall not be used simultaneously during the thinning process. This condition is applied as VCAPCD Rule 26 compliance.

10. The 10,000 gallon capacity thinning tank condenser gas effluent temperature shall not exceed 90 degrees Fahrenheit. This condition is applied as Best Available Control Technology (BACT).

    In order to comply with this condition, permittee shall record the condenser gas effluent temperature on a weekly basis.

11. The 8000 gallon DCPD storage tank shall comply with all applicable requirements of VCAPCD Rule 71.2.

12. The 8000 gallon DCPD storage tank shall be vented to the existing Thermal Oxidizer. This condition is applied as Best Available Control Technology (BACT).

13. All hatches on tanks containing reactive organic compounds (ROC) shall be kept closed at all times except during sampling, gauging, or maintenance.

14. All liquids containing reactive organic compounds (ROC) shall be kept in sealed containers which shall be kept closed, except when

adding or removing materials.

15. This condition applies to the gel coat mixing operations. All ROC and organic containing materials shall be stored in closed containers which are nonabsorbent and do not leak. All containers holding ROC and organic materials shall be kept closed when not in use. All gel coat mixing operations involving ROC materials shall be conducted in containers that are kept closed except for the area necessary to accommodate removal of the agitator. The mixer lid may be momentarily opened during filling, emptying, and when scraping material from the side of the mixer. This condition is applied as Best Available Control Technology (BACT), and to ensure compliance with VCAPCD Rule 51, and VCAPCD Rule 62.1.

16. The gel coat spraying operation at the facility is exempt from Permit to Operate requirements pursuant to District Rule 23.F.14, which exempts polyester resin operations using less than 20 gallons of polyester resin materials each month including unsaturated polyester resins, cross-linking agents, catalysts, gel coats, indibitors, accelerators, promoters, and any other material containing ROC and used in the polyester resin operation. Inert filler and cleaning material is specifically excluded from this determination.

    Permittee shall maintain monthly records of polyester resin materials use. The monthly records shall be summed for the previous 12 months. Polyester resin materials use in excess of the Rule 23.F.14 exemption limit shall be considered a violation of this permit. Prior to exceeding this amount, the permittee shall apply for a permit modification.

17. The particulate matter emissions generated from the use of dry additives shall be conveyed to a dust collection system.

18. All surface coating operations shall be conducted inside a spray booth equipped with overspray filters. This condition is applied as APCD Rule 51 compliance.

19. The dust collection system controlling the use of dry materials and the overspray filters controlling the polyester resin spray booth shall be kept in good operating condition. This condition is applied as Best Available Control Technology (BACT), and/or VCAPCD Rule 51, and/or VCAPCD Rule 62.1.

20. In the event of a breakdown of the Thermal Oxidation system, displaced gases from the polyester kettle process shall be vented to the existing polyester vent scrubber (source Va, drawing 70S 585-1).

21. The use of fuel oil in the 200 HP boiler, thermal oxidizer or propane in the radiant furnace shall occur only during periods of natural gas curtailment, or other periods of time when natural gas is not available, and such occurences are beyond the control of

Cook Composites & Polymers Co. Fuel oil and propane may also be used for up to 50 hours per year at the 200 HP boiler, thermal oxidizer or radiant furnace, as required to maintain the alternative fuel supply. However, the annual BTU limit specified in Condition No. 2 shall not be exceeded.

22. All boilers and process heaters, as defined in VCAPCD Rule 74.15, shall comply with all applicable requirements of VCAPCD Rule 74.15, Boilers, Steam Generators and Process Heaters.

23. The 200 HP North American Steam Boiler and the 250 HP Kewanee Steam Boiler shall each be operated in compliance with Rule 74.15.B.2 and shall have an annual heat input rate of less than 9,000 MMBTU's per calendar year. Either boiler will be required to be tuned, in accordance with the procedure described in APCD Rule 74.15, any time that unit is to be operated more than one week. The tuning frequency shall not exceed two times per year.

24. All breakdowns shall be reported per APCD Rule 32 (Breakdown Conditions).

25. Thermal Oxidizer shall be operated at 1,600 degrees F with a retention time of at least 0.4 seconds, per APCD Rule 57.A.3.

26. Permittee shall maintain records showing, on a monthly basis, the amount of completed resin product (including gel coats) produced, the styrene and other additives contents (including monomers, thinners, fillers, etc...) by weight, the amount of DCPD stored in the tank, the amount of dry materials used in the gel coat mixing processes, the throughputs of phtalic anhydride loading and unloading facilities, the weekly records of the 10,000 gallon capacity thinning tank condenser gas effluent temperature, as well as the amount of fuel used in each piece of fuel burning equipment. MSDS (material safety data sheets) of the materials produced can be used as records of styrene and additives contents. The records shall be compiled into monthly reports. Such records shall be maintained for at least two years and shall be made available to District personnel upon request.

Within 10 days after receipt of this permit, the permittee may petition the Hearing Board to review any new or modified condition (Rule 22).

This permit, or a copy, shall be posted reasonably close to the subject equipment and shall be accessible to inspection personnel (Rule 19). This permit is not transferable from one location to another unless the equipment is specifically listed as being portable (Rule 20).

City of
Oxnard

VCAPCD Permit To Operate Number 00146
Issued To Cook Composites & Polymers Co.
Valid April 1, 2001 to March 31, 2002

This Permit to Operate shall not be construed to allow any emission unit to operate in violation of any state or federal emission standard or any rule of the District.

For:

Karl E. Krause, Manager
Engineering Division

Richard H. Baldwin
Air Pollution Control Officer

CCP
Cook Composites and Polymers Co.

Environmental/Regulatory/Safety
PO Box 419389
Kansas City, MO 64141-6389
816/391-6011

February 15, 1999

Joe Zarnoch
City of Oxnard
FIRE/CUPA
251 South C Street
Oxnard, California 93030

RE: California Accidental Release Prevention (CalARP) Program
Regulated Substance Registration
Cook Composites and Polymers Co.
Oxnard, California
Facility ID: 0146

Dear Mr. Zarnoch:

The City of Oxnard Fire Department submitted a letter to Cook Composites and Polymers Co. (CCP) on December 22, 1998, requesting that CCP review and confirm current compliance status with the California Accidental Release Prevention (CalARP) Program.

The CalARP Program requires any business, which has more than a threshold quantity of a regulated substance *in a process,* to submit a Risk Management Plan (RMP).

Cook Composites and Polymers Co. currently does not utilize any regulated substance greater than the threshold quantities listed in both the Federal List and the State List of Regulated Substances for Accidental Release Prevention. CCP is not subject to the CalARP Program requirements.

If you have any questions please contact me at 816-391-6011.

Sincerely,
Cook Composites and Polymers Co.

Michael Gromacki

Michael Gromacki
Director – Environmental, Regulatory, Safety

CC: Ron Kramer – CCP Oxnard

City of

Oxnard

December 22, 1998

Cook Composites and Polymers Co.
5980 Arcturus Ave.
Oxnard, CA 93033

SUBJECT: CALIFORNIA ACCIDENTAL RELEASE PREVENTION (CalARP) PROGRAM

Based upon a review of your Unified Program Facility Permit Application, the City of Oxnard Fire/Certified Unified Program Agency (CUPA) has determined that the following California Accidental Release Prevention (CalARP) Program requirements may apply to your business; please read carefully. If after reading the following information you believe your business is not subject to the CalARP Program requirements, please contact the City of Oxnard Fire/CUPA at (805) 385-7657 to avoid being invoiced for a CalARP Program state surcharge.

What is the CalARP Program?

The CalARP Program is a merging of the federal and state programs for the prevention of accidental releases of regulated toxic and flammable substances (California state law under Chapter 6.95, Article 2 of the California Health & Safety Code, §25531 through 25543.3 and federal law under the Clean Air Act 112(r) and Title 40 of the Code of Federal Regulations, Part 68). The CalARP Program is a tiered program which has replaced the California Risk Management and Prevention Program (RMPP). The Phase I CalARP Program permanent regulations became effective November 16, 1998.

Who Must Submit a Risk Management Plan (RMP)?

Any business that has more than a threshold quantity of a regulated substance *in a process* must submit a Risk Management Plan (RMP). Regulated substances and their respective threshold quantities are found on the federal list and the state list. Both the federal list (Tables 1 and 2) and the state list (Table 3) are attached.

Fire Department
251 South C Street • Oxnard, CA 93030 • (805) 385-7722 Fax (805) 385-8009

Examples of regulated substances and their respective federal and state thresholds are:

Regulated Substance	Federal Threshold (lbs)	State Threshold (lbs)
Ammonia (anhydrous)	10,000	500
Ammonia (conc 20% or greater)	20,000	500
Chlorine	2,500	100
Propane	10,000	--

Please see attached Tables 1, 2 and 3 for the complete list of regulated substances.

A *process* means any activity involving a regulated substance including any use, storage, manufacturing, handling, or on-site movement of such substances, or combination of these activities. For the purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that a regulated substance could be involved in a potential release, shall be considered a single process.

A RMP, depending on the applicable program tier, is a detailed analysis of the potential accident factors at a business (e.g., worst-case and if applicable, alternative release scenarios), the mitigation measures that can be implemented to reduce the accident potential, safety information, a hazard review, operating procedures, training, maintenance, compliance audits and incident investigation.

When Must a RMP be Submitted?

A business that handles more than a threshold quantity of a regulated substance on the federal list must submit a RMP by June 21, 1999.

A business that handles more than a threshold quantity of a regulated substance on the state list (but not over the federal threshold) must submit a RMP twelve (12) to thirty-six (36) months after the administering agency (City of Oxnard Fire/CUPA) requests a RMP submittal. **Unless you have received a prior request for submittal of a RMP for a regulated substance on the state list (but not over the federal threshold), this letter constitutes a request for submittal of a RMP thirty-six (36) months from receipt.**

What Guidance Documents are Available for Preparation of a RMP?

The City of Oxnard Fire/CUPA recommends the following guidance documents for developing your RMP:

United States Environmental Protection Agency (USEPA) Guidance: Risk Management Programs 40 CFR 68 (which includes RMP Offsite Consequence Analysis)

USEPA has also developed or is in the process of completing specific guidance for water treatment plants, ammonia, propane and chemical warehouses. You can call the USEPA Hotline at (800) 424-9346 or visit their website at http://www.epa.gov/swercepp/ for additional information.

The Local Emergency Planning Committee (LEPC) is finalizing RMP guidance. Please contact the City of Oxnard Fire/CUPA at (805) 385-7657 for additional information.

The Office of Emergency Services (OES) is in the process of developing CalARP Program guidance. For additional information, you can contact the Hazardous Materials Unit of OES at (916) 464-3230.

What if You Need Additional Information?

You can contact the City of Oxnard Fire/CUPA at (805) 385-7657 or the Hazardous Materials Unit of OES at (916) 464-3230. You can obtain a copy of the CalARP Program regulations from the OES website at http://www.oes.ca.gov or by calling the OES' Hazardous Materials Unit at (916) 464-3230.

In addition, OES is conducting several CalARP Program workshops. There is no registration or registration fee for the workshops. There may be a parking fee and lunch is not provided. The workshops begin at 9:00 a.m. and will end by 5:00 p.m.

When	**Where**
January 12, 1999	Carson Community Center, 3 Civic Plaza, City of Carson
January 13, 1999	South Coast Air Quality Management District Auditorium, 21885 E. Copley Drive, Diamond Bar

Additional workshops are being conducted in Bakersfield, San Diego and northern California. You can contact the OES' Hazardous Materials Unit at (916) 464-3230 for more information.

What are the Penalties for Not Submitting a RMP?

Any business that violates the CalARP Program requirements is civilly liable to the City of Oxnard Fire/CUPA in an amount of not more than two thousand dollars ($2,000) for each day in which the violation occurs. If the violation results in, or significantly contributes to, an emergency, including a fire, the business can also be assessed the full cost of the county and/or city response, as well as the cost of cleaning up and disposing of the hazardous materials.

Any business that knowingly violates the CalARP Program requirements after reasonable notice of the violation is civilly liable to the City of Oxnard Fire/CUPA in an amount not to exceed twenty-five thousand dollars ($25,000) for each day in which the violation occurs and upon conviction, may be punished by imprisonment in the county jail for not more than one year.

What is the CalARP Program State Surcharge Amount?

The CalARP Program state surcharge amount of one hundred-five dollars ($105.00) covers state costs for state fiscal years 1997/1998 and 1998/1999. In the future, the state surcharge will be invoiced on an annual basis. Beginning in fiscal year 1999/2000, the City of Oxnard Fire/CUPA will implement fees for costs of reviewing a RMP and conducting required audits.

What Else Do You Need to Do?

If your business has more than a federal or state threshold quantity of a regulated substance *in a process*, please complete the attached Regulated Substance Registration Form and return it to the City of Oxnard Fire/CUPA at the address at the top of the form within thirty (30) days from receipt of this letter.

If you have any questions, please contact me at (805) 385-7657.

Sincerely,

Joe Zarnoch
City of Oxnard Fire/CUPA

Enclosures

CERTIFIED MAIL
P 536 373 211

400028
D379719

VEOLIA
ENVIRONMENTAL SERVICES

TECHNICAL SOLUTIONS
NORTH AMERICA

Customer:
RECYCLE PAK
5736 WEST JEFFERSON STREET
PHOENIX, AZ 85043

Generator:
COOK COMPOSITES AND POLYMERS CO.
5980 ARCTURUS AVE
OXNARD, CA 93033

Veolia ES Technical Solutions L.L.C. AZ0000337360
Certificate of Recycling and/or Disposal

Manifest/BOL Number: PAK10949263

Type	Quantity	Unit of Measure	Serial Number
Recycle - Alkaline Batteries	45	P	691191710949263

By accepting the waste products described on the shipping paper referenced above, Veolia ES Technical Solutions, L.L.C. certifies to the generator that the transportation, storage, and processing methods employed are in accordance with Veolia ES permit parameters, the Toxic Substance Control Act, the Resource Conservation and Recovery Act, the Hazardous Materials Transportation Act, the Occupational Health and Safety Act and all applicable federal, state and local laws.

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Michael Bergquist
Operations Manager

Date Received: 9/24/2008

Veolia ES Technical Solutions, L.L.C.
5736 W Jefferson Street, Phoenix, AZ 85043
tel: 602 233 2955 - toll free: 800 368 9095 - fax: 602 415 3030
www.VeoliaES.com

406089
D392459

VEOLIA
ENVIRONMENTAL SERVICES

TECHNICAL SOLUTIONS
NORTH AMERICA

Customer:
RECYCLE PAK
5736 WEST JEFFERSON STREET
PHOENIX, AZ 85043

Generator:
COOK COMPOSITES AND POLYMERS CO.
5980 ARCTURUS AVE
OXNARD, CA 93033

Veolia ES Technical Solutions L.L.C. AZ0000337360
Certificate of Recycling and/or Disposal
Manifest/BOL Number: PAK10454873

Type	Quantity	Unit of Measure	Serial Number
Recycle - Four Foot Fluorescent Lamps	36	LMP	691191710454873

By accepting the waste products described on the shipping paper referenced above, Veolia ES Technical Solutions, L.L.C. certifies to the generator that the transportation, storage, and processing methods employed are in accordance with Veolia ES permit parameters, the Toxic Substance Control Act, the Resource Conservation and Recovery Act, the Hazardous Materials Transportation Act, the Occupational Health and Safety Act and all applicable federal, state and local laws.

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Richard Bongiovanni
Operations Manager

Date Received: 11/5/2008

Veolia ES Technical Solutions, L.L.C.
5736 W Jefferson Street, Phoenix, AZ 85043
tel: 602 233 2955 - toll free: 800 368 9095 - fax: 602 415 3030
www.VeoliaES.com

COOK COMPOSITES AND POLYMERS

• *Imagination* • *Innovation*

February 25, 1998

Sally Machuzak
CUPA Program Coordinator
6001 South Perkins Road
Oxnard, CA 93033

Re: Coordination Agreement

Dear Sally,

Enclosed are updated sections of CCP's business plan. Steve Elkinton instucted me to send the plan to your address. Please discard the old sections and replace it with the enclosed sections. All chemical inventory forms have been updated. The chemical inventory forms also reflect the current amounts and locations of all hazardous chemicals that fall under the requirements of the business plan. If you have trouble locating your original copies, please contact me and I will send you a whole new set.

Also, enclosed are updated sections CCP's Contingency Plan developed and implemented by Cook Composites and Polymers Co. for the Oxnard facility. It is submitted to you to be kept on file as a reference document in the event of an emergency at the Oxnard facility. Please insert the enclosed updated sections into your current contingency plan.

This Contingency Plan is developed as part of the Emergency Response Plan. The plan contains all the elements required by 29cfr1910.120(p)(7)(ii) to response to an emergency. The Cook Composites and polymers Co. plant handles a number of hazardous substances including flammable, corrosive, and toxic chemicals. Also, note that VPS Inc. has been contracted to provide emergency spill response to the Oxnard facilty.

Also, attached to this plan please find a site plan and topographic map, procedures for reporting incidents to local, state, and federal governmental agencies. We expect the following types of injuries in the event of an emergency incident:

- Chemical and thermal burns
- Shock, anxiety, etc.
- Broken bones, sprains, and strains
- Cuts and lacerations

CCP

5980 Arcturus Ave. Oxnard, CA 93033
(805) 986-3635 Fax: (805) 986-4645

- Pulmonary and cardiovascular distress from inhalation of some chemicals
- possible blood chemistry changes in sever cases
- Central nervous system effects

If you have any questions concerning either plan, please give me a call.

Sincerely,

James P. Hallock
Plant Manager

COOK COMPOSITES AND POLYMERS

• *Imagination* • *Innovation*

February 25, 1998

Mrs. Lizz Estrada
Gold Coast Medical Clinic
2100 Solar Drive
Suite 100
Oxnard, CA 93030
Re: Coordination Agreement

Dear Mrs. Estrada,

Enclosed is an **annual revised** copy of the Contingency Plan developed and implemented by Cook Composites and Polymers Co. for the Oxnard facility. It is submitted to you to be kept on file as a reference document in the event of an emergency at the Oxnard facility. Please insert the enclosed updated sections into your current contingency plan.

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- Central nervous system effects

If there are certain emergencies which you believe that you can not handle, please notify me.

Sincerely,

James P. Hallock
Plant Manager

CCP

5980 Arcturus Ave. Oxnard, CA 93033
(805) 986-3635 Fax: (805) 986-4645

COOK COMPOSITES AND POLYMERS

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February 25, 1998

Dr. Alan Hooper, M.D.
Director of Emergency Services
St. Johns Hospital
1600 North Rose Street
Oxnard, CA 93030

Re: Coordination Agreement

Dear Dr. Hooper

Enclosed are **revised sections** of the Contingency Plan developed and implemented by Cook Composites and Polymers Co. for the Oxnard facility. It is submitted to you to be kept on file as a reference document in the event of an emergency at the Oxnard facility. Please insert the enclosed updated sections into your current contingency plan and discard the old ones.

This Contingency Plan is developed as part of the Emergency Response Plan. The plan contains all the elements required by 29cfr1910.120(p)(7)(ii) to response to an emergency. The Cook Composites and polymers Co. plant handles a number of hazardous substances including flammable, corrosive, and toxic chemicals. Also, note that VPS Inc. has been contracted to provide emergency spill response to the Oxnard facilty.

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If there are certain emergencies which you believe that you can not handle, please notify me.

Sincerely,

James P. Hallock
Plant Manager

COOK COMPOSITES AND POLYMERS

• Imagination • Innovation

February 25, 1998

Officer Mike Zamore
Oxnard Police Department
251 South C Street
Oxnard, CA 93030

Re: Coordination Agreement

Dear Officer Zamore,

Enclosed are **revised sections** of the Contingency Plan developed and implemented by Cook Composites and Polymers Co. for the Oxnard facility. It is submitted to you to be kept on file as a reference document in the event of an emergency at the Oxnard facility. Please insert the enclosed updated sections into your current contingency plan and discard the old ones.

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Sincerely,

James P. Hallock
Plant Manager

CCP

5980 Arcturus Ave. Oxnard, CA 93033
(805) 986-3635 Fax: (805) 986-4645

COOK COMPOSITES AND POLYMERS

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February 25, 1998

Chris J. Penza
General Manager
VPS, Inc.
P.O. Box 6812
Ventura, CA 93006

Re: Coordination Agreement

Dear Mr.Penza,

Enclosed are **revised sections** of the Contingency Plan developed and implemented by Cook Composites and Polymers Co. for the Oxnard facility. It is submitted to you to be kept on file as a reference document in the event of an emergency at the Oxnard facility. Please insert the enclosed updated sections into your current contingency plan and discard the old ones.

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If there are certain emergencies which you believe that you can not handle, please notify me.

Sincerely,

James P. Hallock
Plant Manager

COOK COMPOSITES AND POLYMERS

• Imagination • Innovation

February 25, 1998

Jay Bayman
Program Administrator
Ventura County Sheriff's Department
Office of Emergency Services
Ventura, CA 93009

Re: Coordination Agreement

Dear Mr. Bayman,

Enclosed are **revised sections** of the Contingency Plan developed and implemented by Cook Composites and Polymers Co. for the Oxnard facility. It is submitted to you to be kept on file as a reference document in the event of an emergency at the Oxnard facility. Please insert the enclosed updated sections into your current contingency plan and discard the old ones.

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(805) 986-3635 Fax: (805) 986-4645

If there are certain emergencies which you believe that you can not handle, please notify me.

Sincerely,

James P. Hallock
Plant Manager

COOK COMPOSITES AND POLYMERS

• Imagination • Innovation

RECEIVED
98 MAR 23 AM 11:16
CITY OF OXNARD
WASTEWATER
DIVISION

February 25, 1998

Sally Machuzak
CUPA Program Coordinator
6001 South Perkins Road
Oxnard, CA 93033

Re: Coordination Agreement

Dear Sally,

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If you have any questions concerning either plan, please give me a call.

Sincerely,

James P. Hallock
Plant Manager

APPENDIX A

PRIMARY AND SECONDARY EMERGENCY RESPONSE COORDINATORS

NAME	POSITION	NUMBER
PAUL McCLANAHAN	OFFICE MANAGER	CELL: (805) 207-6073
GREG GEARY	QUALITY MANAGER	HOME: (816) 781-5616 CELL : (816) 695-1764
JON SCHUCKMAN	DIRECTOR, HSE COMPLIANCE ASSURANCE	HOME: (913) 825-3738 CELL: (816) 694-3967

LOCAL EMERGENCY RESPONSE TELEPHONE NUMBERS

Police, Fire, Paramedics	911
Sheriff's Office (Bomb Disposal)	911
CUPA	805-385-7717
Southern California Edison	818-967-7411 800-442-4950
GTE (General Telephone)	800-482-6709
Insurance (TOTAL Risk Management)	215-419-5487
Toxics Center (Northridge Hospital)	800-682-9000
AT & T (Telephone Company)	

Oxnard Plant

CCP

50760

OPEN
Plant Manager/
Loss Control Coordinator

Pauli McClanahan
Office Manager

Estuardo Cruz
Maintenance

5980 Arcturus Avenue
Oxnard, CA 93033
805-986-3635
805-986-4645 FAX

COOK COMPOSITES AND POLYMERS CO.

Form No.:	CCP-18-076-REF-07	**Version:**	February 2009
Form Title:	Job Description.- Administrative Manager	**Page:**	1 of 2
		Approved By:	Pauli McClanahan

ADMINISTRATIVE MANAGER
Accountabilities

CCP

JOB DEFINITION

Coordinates and monitors financial records such as batch closings, trucking costs, offices supplies, and purchase orders. Maintains and monitors inventory levels and places purchase orders for all raw materials. Schedules and gives follow up shipping and receiving loads. Actively participates in the AIMS and ISO programs. This position reports directly to the Plant Manager.

MAJOR PROCESSES include the following (other duties may be assigned)

- Has Overall Responsibility for Coordinating and monitoring all Loss Control activities. This includes all Safety, Health and Environmental Issues, Regulatory Compliance and the Maintenance of the Facility.
- Closes and files batch tickets
- Receives customer orders form Costumer Service
- Maintains shipping schedule
- Coordinates daily operations meeting
- Conducts cycle counts
- Maintains inventory levels for all raw materials
- Places purchase orders for all needed raw materials
- Acts as loss control coordinator in conjunction with Plant Manager
- Responsible for SWPPP
- Coordinates all hazardous waste and non hazardous waste shipments
- Participates in AIMS and ISO programs
- Any other duties may be assigned by the plant manager

PERSONAL WORK HABITS

- Follows instructions and requests from supervisor and management.
- Exchanges work information with and communicates well with others.
- Seeks out information on orders and job duties when in doubt.
- Reports to work on time, and is dependable

HOUSEKEEPING

- Well organized files and office space
- Performs Planned General Inspections

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ADMINISTRATIVE MANAGER
Accountabilities

SAFETY

- Completes Safety Orientation, Departmental Safety/Work instruction Training, and OSHA Standards Training.
- Complies with departmental and job safety practices, including wearing protective equipment and monitoring placement of machine guards.
- Monitors and ensures all Federal, State, local, OSHA laws, rules and /or regulations are followed.

PHYSICAL DEMANDS

SITTING/STANDING/ WALKING/TRAVEL	Never (0%)	Occasional (1-33%)	Frequent (34-66%)	Constant (67-100%)
Standing			X	
Walking			X	
Sitting				X
Travel		X		

EDUCATION/SKILLS REQUIRED

- Desired College Degree or equivalent administrative experience
- Good organizational skills
- Ability to work in a diverse cultural workplace/good communication skills
- Can work with a minimum amount of supervision
- Good problem solving skills
- Good accounting skills
- Good computer skills in all Windows application and main frame.

SECURITY ACCESS LEVELS

- All computer programs pertaining to inventory, shipping, batch tickets, and Vouchers and other financial information

Supervisor Signature_____ Date_____

Employee Signature_____ Date_____

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COOK COMPOSITES AND POLYMERS CO.

Form No.:	CCP-18-076-REF-01	**Version:**	February 2009
Form Title:	Job Description.- Process Support Maintenance	**Page:**	1 of 3
		Approved By:	Pauli McClanahan

PROCESS SUPPORT MAINTENANCE
Accountabilities

CCP

JOB DEFINITION

- Reports directly Administrative Manager.
- Responsible to support and strive to meet plant goals as provided by the Vice President of Manufacturing and Administrative Manager.
- Ensures that all activities assigned to him/her are performed in accordance within regulatory compliance regarding the environment, air permits and OSHA standards.
- Ensures all safety and environmental procedures, rules and regulations as they apply to maintenance and contractor personnel are being followed.

MAJOR PROCESSES include the following (other duties may be assigned)

- Responds to equipment malfunction and break down
- Completes all work orders in a timely manner
- Maintains the appearance of the maintenance shop, boiler room and surrounding area.
- Transfers full Hazardous Waste drums, from Satellite Accumulation Areas in the production facility to the 90 day Hazardous Waste Storage Area
- Ensures all drums are in good condition, are properly labeled by waste stream and are properly stored
- Properly stages drum material in preparation to Live load drum waste (West Central)
- Ensures that all transportation labels are complete and correct
- Assists Administrative Manager in the transfer and labeling of material being removed from stock for disposal
- Inspects and, as needed, pumps containment areas. (Tank Farm, Truck Scale and Hazardous Waste Storage Area)
- Participates in the Preventive Maintenance Program
- Performs regular inspections to safety equipment and areas
- Supports other plant areas/departments as needed/assigned

PERSONAL WORK HABITS

- Follows instructions and requests from supervisor and management.
- Exchanges work information with and communicate well with others.
- Seeks out information on orders and job duties when in doubt.
- Reports to work on time, and is dependable
- Works overtime as required by production schedule
- Has good organizational abilities

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PROCESS SUPPORT MAINTENANCE
Accountabilities

HOUSEKEEPING

- Keeps floors and doorways free from obstructions and other materials, and maintains the general cleanliness of the work space.
- Sweeps and/or mops floors as needed.
- Keeps material handling equipment clean and well-maintained
- Performs Planned General Inspections and other inspections

SAFETY

- Completes Safety Orientation, Departmental Safety/Work instruction Training, and OSHA Standards Training.
- Complies with departmental and job safety practices, including wearing protective equipment and monitoring placement of machine guards.
- Adheres to the inspection and reporting requirements as specified in the plant's AIMS standards
- Serves as the primary liaison with truck drivers and delivery personnel in ensuring the proper compliance with plant safety rules
- Complies with departmental and job safety practices, including wearing protective equipment in the execution of job functions
- Applies chemical processing emergency procedures.
- Inspects fork lift prior to use each shift
- Reports/responds to all substandard acts and conditions

PHYSICAL DEMANDS

SITTING/STANDING/ WALKING/TRAVEL	Never (0%)	Occasional (1-33%)	Frequent (34-66%)	Constant (67-100%)
Standing				X
Walking			X	
Sitting		X		
Travel		X		

EDUCATION/SKILLS REQUIRED

- High school diploma or general education degree (GED)
- Welding experience desired
- Demonstrates mechanical ability

Language Skills:

- Ability to communicate information and ideas in writing so others will understand

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PROCESS SUPPORT MAINTENANCE
Accountabilities

- Ability to read and understand information and ideas presented in writing
- Ability to communicate technical information

Mathematical Skills:

- Ability to add, subtract, multiply, and divide in all units of measure, using whole numbers, common fractions, and decimals
- Ability to keep accurate counts for inventory and shipping activities

Reasoning Ability:

- Ability to apply general rules to specific problems to produce answers that make sense
- Ability to apply commonsense understanding to carry out instructions furnished in written, oral, or diagram form
- Ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations.)

Others Skills and Abilities:

- Knowledge of machines and tools, including their designs and uses.
- Knowledge in the use of hand tools
- Ability to distinguish color; good color vision
- Ability to see details at close range (within a few feet of the observer).
- Ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- Ability to quickly and repeatedly adjust the controls of a machine.
- Ability to quickly respond to a signal (sound, light, picture) when it appears.
- Ability to concentrate on a task over a period of time without being distracted.
- Ability to communicate technical information
- Ability to wear an air purifying full face respirator
- Demonstrates mechanical aptitude and understands machines

SECURITY ACCESS LEVELS

- Access to all areas of the plant during regular work hours
- Internet access, corporate e-mail and intranet.

Supervisor Signature_____ Date_____

Employee Signature_____ Date_____

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Back

CCP Training Needs

CCP Training Needs
Location Needs Report for Oxnard

TRAINING NEEDS ANALYSIS	MANAGEMENT SYSTEMS/AIMS, ISO						
	Environmental				Emergency Response		
	Environmental/Hazwoper A Course: Environmental/Hazwoper	Resource Conservation Recovery Act (RCRA) Course: Integrated Contigency Plan (ICP)	Spill Prevention Controls and Countermeasures (SPCC) Course: Integrated Contigency Plan (ICP)	Water Quality and Discharge (COD)	Confined Space Entry and Rescue	Crisis Communication - General Awareness	Integrated Emergency Response Plan Awareness
	I,A Required	I,A Required	I,A Required	I,A Desired	I,A Desired	I,A Desired	I,A Required
ADMINISTRATIVE MANAGER	X	X	X			X	X
PROCESS SUPPORT MAINTENANCE	X	X	X	X	X	X	X

Back

Back

CCP Training Needs Personnel Training Report

Employee Name	Course Title	Frequency	Date Skill Completed
Pauline McClanahan	ISO9001 Auditor Training	I,A	1/31/2008
	AIMS - ISRS Auditor Training	O	2/22/2008
	HAZCOM B 10 Hour General Industry Outreach Training Program	I,A	7/22/2008
	HAZWOPER A	I,A	7/23/2008
	AS400 Purchase Order Procedure	O	9/24/2008
	DOT 49 CFR	I,yr	7/14/2008
	Fork Lift Trainer	I,A	9/25/2008
	MultiMedia Regulatory Requirements	O,C	9/16/2008
	Environmental/Hazwoper	I,A	2/18/2009
Estuardo Cruz	HAZWOPER A	I,A	2/13/2008
	Fork Lift Trainer	I,A	9/25/2008
	MultiMedia Regulatory Requirements	O,C	9/16/2008
	Environmental/Hazwoper	I,A	2/19/2009

Back

October 19, 2000

Cook Composite Meeting

Cook Composites agreed to halt reactor runs with DCPD until a new back-up to the thermal oxidizer is installed and operative. They indicated that plans will be submitted to Ventura County APCD by 10/27/00.

Joe Zarnoch JZ

Cook Composites Meeting
Agenda

October 19, 2000

1. APCD Permitting of Back-up Unit
2. Status of DCPD Reactor Runs
3. 10/13/00 Non-DCPD Release
4. Oxnard Fire/CUPA Letter Issues
5. Facility Inspection

10-20-00

JUAN R DELGADO	Juan Delgado	#73
GARY Hall	Gary Hall	CCP
STEVE DARE		CCP
Mohammed DEKIOUK		CCP
ROD THORP	Rod Thorp	OFD
Norm Culp		CCP
Larry Scott	Larry Scott	APCD
Joe Zarnoch	Joe Zarnoch	OFD

805 [illegible]64645 CCP OXNARD 704 P01/05 OCT 11 '00 15:

CCP
Cook Composites and Polymers Co.

FAX COMMUNICATION

5980 Arcturus Avenue
Oxnard, CA 93033
805/986-3635

TO:	JOE ZARNOCH	FROM:	M. DEKIOUK
COMPANY:		PHONE & EXT:	805/986-3635, X
FAX NBR:		FAX NBR:	805/986-4645
DATE:	10/11/00	NBR PAGES:	

MATERIAL SAFETY DATA SHEET

6A 19

CONDEA Servo LLC

24 Hour Emergency Number: 800-424-9300
24 Hour CHEMTREC Number: 800-424-9300

Approval Date: October 4, 1996
Print Date: January 03, 2000

Cust: 15109110

Page: 1 6A-0019

MSDS Number: 0112066 01-09

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : NUODEX® COBALT 254 FINE GRIND
Synonyms : Cobalt Complex Solution
Product Use/Class: Loss of Dry Inhibitor

Supplier/Manufacturer:
CONDEA Servo LLC
Turner Place, P.O. Box 365
Piscataway, NJ 08855
Environmental & Regulatory Affairs, Information Number: 732-981-5016

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients

	CAS Number	% (Wt./Wt.
Cobalt Complex NJTSR No. 56705700001-5015P	Trade Secret	30 - 60 %
Hexylene glycol	000107-41-5	1 - 5 %

See Section 8 for Exposure Guidelines

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Eye Contact:
Possibly irritating.

Skin Contact:
Possibly irritating.

Inhalation:
Fumes from hot processing may cause irritation.

Ingestion:
No hazard expected in normal use.

4. FIRST AID MEASURES

FIRST AID

Eye Contact:
In case of contact, immediately flush eyes with plenty of water. Obtain medical attention if irritation develops.

MSDS Continued on Page 02

7. HANDLING AND STORAGE

Handling:

Wash thoroughly after handling. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing vapor or mist.

Storage:

Store in a cool, dry place. Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

	Value	Limit	Reference		
NJTSR No. 56705700001-5015P	N.E.	TWA	OSHA/ACGIH		
	N.E.	STEL	OSHA/ACGIH		
	0.05 mg/m3	(Co)		TWA	ONTAR
Hexylene glycol	121 mg/m3. 25 ppm	Ceiling	ACGIH		
	N.E.	TWA	OSHA/ACGIH		
	N.E.	STEL	OSHA/ACGIH		

Engineering Controls:

Use adequate ventilation.

Respiratory Protection:

A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

This product contains mineral oil which when misted has an OSHA PEL and an ACGIH TLV of 5 mg/m3 and an ACGIH STEL of 10 mg/m3.

Eye Protection:

Use chemical splash goggles.

Skin Protection:

Use impermeable gloves.

Other Protective Equipment:

A safety shower and eye wash fountain should be readily available. To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure : Non Volatile
Vapor Density (Air = 1) : Is heavier than air

MSDS Continued on Page 04

6A 19

14. TRANSPORTATION INFORMATION

U.S. DOT Transport Information

Proper Shipping Name: Not regulated

15. REGULATORY INFORMATION

U.S. Federal Regulations

OSHA:
This document has been prepared in accordance with the MSDS requirements of the OSHA Hazard Communication Standard.

Clean Air Act Section 112:
This product contains the following components listed as Hazardous Air Pollutants:

	CAS Number	Wt. %
Cobalt Compounds	Not Available	30 - 60 %

This product contains the following components listed as Extremely Hazardous Air Pollutants:

None

SARA Section 302:
This product contains the following components listed as Extremely Hazardous Substances:

None

SARA Section 311/312:
Hazard Classifications: None

SARA Section 313:
This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

	CAS Number	Wt. %
Cobalt Compounds	Not Available	60(max)

TSCA:
This product or its components are listed in or exempt from the TSCA inventory requirements.

This product contains the following non-proprietary substances subject to export notification under Section 12(b) of TSCA:

None

MSDS Continued on Page 06

16. OTHER INFORMATION (CONTINUED)

R Registered trademark owned by or licensed to CONDEA Servo LLC.

TM Trademark owned by or licensed to CONDEA Servo LLC.

Revision Summary:
This is the first issue of this MSDS in the ANSI Z400.1-1993 format.

This information is furnished without warranty, representation, inducement or license of any kind, except that it is accurate to the best of CONDEA Servo LLC's knowledge or obtained from sources believed by CONDEA Servo LLC to be accurate, and CONDEA Servo LLC does not assume any legal responsibility for use or reliance on same. This MSDS was prepared and is to be used for only this product. If the product is to be used as a component in another product, this MSDS information may not be applicable.

805986-4645 DANFO 139 P01 AUG 10 '00 08:59

CCP
Cook Composites and Polymers Co.

FAX COMMUNICATION

5980 Arcturus Avenue
Oxnard, CA 93033
805/986-3635

TO	Joe ZAKNOCH	FROM	M. DEKLOVE
COMPANY		PHONE & EXT	805/986-3635, X16
FAX NBR		FAX NBR	805/986-4645
DATE		NBR PAGES	7

Joe

As Requested.

We will review our procedure and update

if yr let us know.

thank you.

Mike

① repair/replace TO
② indicate TO repairs in log
③ update & follow all other SOP req'ts re: off-loading
④ PID/VOC
⑤ upgrade scrubber

COOK COMPOSITES AND POLYMERS CO.

Title: Shipping / Receiving Training Manual	Issue Date: January 10, 2000
Document Ref.: TM7601	Revision #: 1
Location: Oxnard, CA	Page: 1 of 6
Document No: SP 01.202.01	
Document Title: Unloading Tank Wagons of DCPD (10A38) to T110	Prepared By: Willie Skelton
	Approved By: Dr. M. Dekiouk

COOK COMPOSITES AND POLYMERS CO.

Shipping / Receiving Training Manual / TM
SP 01.202.01 -- Unloading Tank Wagons of DCPD (10A38) to T110

Copy #:

Part of:

Prepared/Revised:

Date: 01/10/09 By: Ricky Chua Title: Plant Engineer

Reviewed:

*Date:*_____ By:_____ Title:_____

Date:_____ By:_____ Title:_____

Date:_____ By:_____ Title:_____

Approved:

Date:_____ By:_____ Title:_____

Scheduled Review:

Next Review			
Performed By			
Date			

Distribution:

Copy #	Destination	Copy #	Destination	Copy #	Destination
1	Plant Office				
2	Shipping / Receiving				

COOK COMPOSITES AND POLYMERS CO.

Title: Shipping / Receiving Training Manual	**Issue Date:** January 10, 2000
Document Ref.: TM7601	**Revision #:** 1
Location: Oxnard, CA	**Page:** 2 of 6
Document No: SP 01.202.01	
Document Title: Unloading Tank Wagons of DCPD (10A38) to T110	**Prepared By:** Willie Skelton **Approved By:** Dr. M. Dekiouk

Purpose	This standard practice provides shipping and receiving personnel with appropriate instruction on how to unload tank wagon of DCPD (10A38) to T110.
Scope	This standard practice is generally performed after SP 01.201.01 – Preparation for Unloading Tank Wagons. This standard practice applies to all tank wagon shipments of DCPD to be unloaded to bulk storage tanks.
Safety (Minimum PPE- Hard Hat, Face Shield, Safety goggles, chemical gloves & safety shoes)	The tank wagon driver must stay with the truck at all times during unloading. The operator must be present at all times during unloading to monitor the process. Tank wagons must be disconnected immediately after each unloading operation. The Control Room operator must be notified before unloading, in order to monitor the Thermal Oxidizer. The unloading process shall be stopped immediately if the thermal oxidizer shuts down. Refer to MSDS for Personal Protection and Handling.
Quality	Check the Bill of Lading and Certificate of Analysis before unloading.
Environmental	All spills are to be cleaned up immediately according to facility spill response standard practices. (
Special Materials And Equipment	A drift bucket must be positioned underneath the connector fittings to avoid spills when disconnecting.
Reference Documents	SP 01.201.01 -- Preparation for Unloading Tank Wagons SP 01.203.01 -- Release of a Tank Wagon

STEP	DEVIATIONS/NOTES	CORRECTIVE ACTION
1. Verify SP 01.201.01 has been performed and the tank wagon is ready for unloading.		
WARNING **Do not begin unloading unless storage tank has sufficient capacity to hold entire shipment. Check with supervisor.**		
2. Verify the storage tank level.	Storage tank should be able to hold entire tank wagon contents.	Do not begin unloading until this standard practice has been completed.

COOK COMPOSITES AND POLYMERS CO.

Title: Shipping / Receiving Training Manual	**Issue Date:** January 10, 2000
Document Ref.: TM7601	**Revision #:** 1
Location: Oxnard, CA	**Page:** 3 of 6
Document No.: SP 01.202.01	
Document Title: Unloading Tank Wagons of DCPD (10A38) to T110	**Prepared By:** Willie Skelton **Approved By:** Dr. M. Dekjouk

STEP	DEVIATIONS/NOTES	CORRECTIVE ACTION
Note **Make sure hose from tank wagon is clean. Check gaskets to make sure they are not worn. Dirty hoses and worn gaskets could result in contamination of material or leaks from hose fittings while pumping.**		
3. Connect one end of the unloading hose to the tank wagon and the other end to the DCPD transfer pipe.	Use tank wagon hose to prevent contamination.	
WARNING **Failure to vent the tank wagon could cause the tank wagon to collapse resulting in a large spill of hazardous material**		
4. Instruct driver to pressurize tank truck.	Pressure to not more than 15psig of Nitrogen	
5. Open suction valve on DCPD unloading pump.		
6. Open discharge valve on DCPD unloading pump(P-112)		
7. Verify the tank wagon grounding clamp is connected		
8. Verify tank wagon pressure.		
9. Open tank wagon internal and external valves		
10. Open DCPD unloading valve.		
11. Bleed line down and check for leaks.	No leaks should be observed.	Fix and clean up leaks before continuing the unloading operation.

COOK COMPOSITES AND POLYMERS CO.

Title: Shipping / Receiving Training Manual	Issue Date: January 10, 2000
Document Ref.: TM7601	Revision #: 1
Location: Oxnard, CA	Page: 4 of 6
Document No: SP 01.202.01	Prepared By: Willie Skelton
Document Title: Unloading Tank Wagons of DCPD (10A38) to T110	Approved By: Dr. M. Dekiouk

STEP	DEVIATIONS/NOTES	CORRECTIVE ACTION
12. Start transfer pump and check for leaks.	No leaks should be observed.	Fix and clean up leaks before continuing the unloading operation.
13. Verify material flow into the storage tank.	Tank gage should show increasing level.	Stop pump immediately. Check valve alignment.
14. Continue to monitor the unloading process until tank wagon is empty.		Stop pump immediately if any leaks or spills are observed.
15. Vent off the tank wagon through the DCPD storage tank vent system. Be sure to regulate flow by checking the tank vent gauge reading carefully until tank wagon is vented off completely.	Do not exceed 25 inches of water column pressure.	If it exceeds 25 inches, regulate flow using the DCPD pump discharge valve.
16. Close the tank wagon internal and external valves when empty.	P efer driver to close valves.	
17. Lift unloading hose.	All material should flow out of hose to storage tank. Leave pump on to suck dry.	
18. Close DCPD unloading valve.		
19. Disconnect the unloading hose.	Prefer driver to disconnect hose. Use spill pan or pail to prevent spills when disconnecting hose.	
20. Turn pump switch to the off position.	Stops pump.	
21. Cap unloading line at tank wagon and bleed air out of		

COOK COMPOSITES AND POLYMERS CO.

Title: Shipping / Receiving Training Manual Document Ref.: TM7601 Location: Oxnard, CA Document No: SP 01.202.01 Document Title: Unloading Tank Wagons of DCPD (10A38) to T110	Issue Date: January 10, 2000 Revision #: 1 Page: 5 of 6 Prepared By: Willie Skelton Approved By: Dr. M. Dekiouk

STEP	DEVIATIONS/NOTES	CORRECTIVE ACTION
22. Proceed to SP 01.203.01 -- Releasing a Tank Wagon.		

COOK COMPOSITES AND POLYMERS CO.

Title: Shipping / Receiving Training Manual	**Issue Date:** January 10, 2000
Document Ref.: TM7601	**Revision #:** 1
Location: Oxnard, CA	**Page:** 6 of 6
Document No: SP 01.202.01	**Prepared By:** Willie Skelton
Document Title: Unloading Tank Wagons of DCPD (10A38) to T110	**Approved By:** Dr. M. Delcouk

Revision Record

Revision No.	Revision Date	Changes			
		Old Ref.	New Ref.	Description	Approved
1	01/10/00	TM7601	TM7601	Update Procedure	

G3 Soil and Groundwater Management Plan

SOIL AND GROUNDWATER MANAGEMENT PLAN

5980 and 6000 Arcturus Avenue
Oxnard, California

Prepared For:

Controlled Environments Construction
1562 Parkway Loop, Suite E
Tustin, California 92780

Prepared By:

Northgate Environmental Management, Inc.
92 Argonaut, Suite 100
Aliso Viejo, California 92656

June 9, 2023

Project No. 2036.04.02

SOIL AND GROUNDWATER MANAGEMENT PLAN

5980 and 6000 Arcturus Avenue
Oxnard, California

June 9, 2023

Prepared For:

Controlled Environments Construction
1562 Parkway Loop, Suite E
Tustin, California 92780

Prepared By:

Northgate Environmental Management, Inc.
92 Argonaut, Suite 100
Aliso Viejo, California 92656



Derrick S. Willis
Principal

Nicky G. Robinson, P.E., QSD/P
Senior Engineer

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FIGURES

1 Site Vicinity Map
2 Site Location Map
3 Site Plan
4 Proposed Areas Subject to Screening
5 Contaminated Soil Management Flow Chart

APPENDICES

A Land Use Covenant
B Ventura County Air Pollution Control District - Rule 74.29 – Soil Decontamination Operations
C Example Field Forms
D SGMP Certification Form

1.0 INTRODUCTION

Northgate Environmental Management, Inc. (Northgate) has prepared this Soil and Groundwater Management Plan (SGMP) for Controlled Environments Construction (CEC) at 5980 and 6000 Arcturus Avenue in the City of Oxnard, California (the Site). The purpose of this SGMP is to outline soil and groundwater management procedures, define the testing requirements for evaluating soil and groundwater for disposal or reuse, and describe procedures to follow in the event that contaminated soil or other subsurface environmental impacts (e.g., underground storage tanks [USTs], sumps, piping, contaminated groundwater, etc.) are encountered during construction. In addition, the SGMP will outline procedures for monitoring, and mitigating potential soil vapor impacted with volatile organic compounds (VOCs), as necessary. The procedures in this SGMP will assist Site contractors such that impacted soil and/or groundwater (if encountered) are handled in a manner that is protective of human health and the environment, in accordance with State and local regulations.

1.1 Site Description

The Site consists of approximately 13.65 acres of improved land located at 5980 and 6000 Arcturus Avenue in the City of Oxnard, California. The Site consists of two parcels identified as Assessor's Parcel Numbers (APNs) 231-009-313 and -315 in Ventura County. A Site Vicinity Map is shown on Figure 1, a Site Location Map is shown on Figure 2, and a Site Plan is shown on Figure 3.

1.2 Site Geology

The Site is located in the Oxnard Plain, which is comprised primarily of unconsolidated coalesced alluvial-fan deposits that extend to a depth of more than 2,000 feet below ground surface (bgs). The deposits are formed from the Santa Clara River as well as other local drainages and sediments in the uppermost 40 to 50 feet are reported to consist primarily of sand and gravel. The subsurface materials are reported to become increasingly finer with increasing depth, with silt and clay predominate to depths of approximately 40 to 50 feet bgs followed by sand and gravel to depths of approximately 50 to 150 feet bgs (CH2M Hill, 2004).

Previous subsurface investigations performed at the Site by others indicate that the Site geology is mainly comprised of mixtures of fine-grained sand and silt to depths of approximately 9 to 10 feet bgs. Fill material is present in the surface soils in some locations at depths of up to approximately 2 to 7 feet bgs (WCC, 1996). An approximate 11-foot-thick layer of silty clay is reported to underlay the surface materials followed by a sandy silt (CH2M Hill, 2004). A geologic investigation performed by Krazan & Associates, Inc. in 2015 reported a medium dense

to dense silty sand, clayey sand and medium stiff to stiff sandy clay in the top 13 feet underlain by soft to medium stiff sandy clay to depths of 30 feet bgs followed by a medium dense to dense silty sand to the maximum depth explored of 50 feet bgs (KAI, 2020).

1.3 Site Groundwater

The Site lies within the Oxnard Plain, which is known to have both a relatively shallow groundwater zone and several regionally defined deeper aquifers. The shallow groundwater zone is perched above a thick near-surface clay unit located with approximately the uppermost 40 feet of the subsurface. Some of the deeper, regional aquifers are utilized as water supply sources for the local area (CH2M Hill, 2004). Groundwater monitoring data at the Site from the 1990s indicates a depth to groundwater of approximately 6 to 9 feet bgs. The inferred groundwater flow direction in the area is reported to generally be directed toward the northwest and west. Due to the proximity to the Pacific Ocean, it is anticipated that water table elevations in the Site vicinity fluctuate and are both seasonally and tidally influenced, which may be highly variable (WCC, 1996). A geologic investigation performed by Krazan & Associates, Inc. in 2015 reported that shallow groundwater was encountered at 12 feet bgs (KAI, 2020).

1.4 Site Use History

According to Northgate's Phase I Environmental Site Assessment (ESA) (Northgate, 2015), the Site consists of approximately 13.65 acres of vacant land with a railroad spur extending through the central portion of the Site. The Site was utilized as agricultural land from the 1930s to the 1960s. Subsequently, a portion of the Site located at 5980 Arcturus Avenue was formerly developed for chemical manufacturing processes in the southern portion of the Site. Diamond Shamrock Chemical Company (DSCC) purchased the Site in 1966 and developed it with a sodium silicate production area in 1967 and a polyester resin plant in 1969. The polyester resin plant occupied approximately 3.5 acres of the Site and was sold to Koppers Company in 1978 before being purchased by Reichhold Chemical (Reichhold) in 1989. The Site was sold to Cook Composites and Polymer Company (CCPC) in January 1996. Reichhold entered into a Voluntary Cleanup Agreement (VCA) with the Department of Toxic Substance Control (DTSC) for the Site on January 2, 2002. This portion of the Site is historically known to use raw materials including bromine, styrene, maleic anhydride, and methylene chloride, which were previously stored in aboveground storage tanks (ASTs). Several recorded incidents of spills and releases are reported for this portion of the Site as well as the principal waste streams of permitted wastewater discharges to the City of Oxnard's wastewater treatment plant, permitted air emissions, and offsite disposal of acid distillate and non-recycled resins.

1.5 Results of Previous Assessments

Site assessment investigations for the portion of the Site located at 5980 Arcturus Avenue, which included sampling and analyzing soil and groundwater, between 1996 and 2006 indicated that surface soil, shallow soil, and groundwater had been variously impacted with ethylbenzene, chlorinated solvents, xylenes, and benzene. The results of the investigations indicated that the concentrations of VOCs have decreased over time in soil and groundwater and that biodegradation of VOCs has been occurring and is projected to continue to occur. Cadmium was also reported in shallow groundwater beneath the Site above drinking water standards. No significant adverse risks to human health as a result of this impact were notes as the groundwater is perched beneath the Site and not used for potable water, the detected concentrations of contaminants were relatively low, localized, and not migrating off-Site. A Human Health Risk Assessment was prepared for the Site, which concluded that the potential for unacceptable adverse human health effects are not expected for future commercial and/or industrial land use at this Site from exposure to the contaminants of potential concern in soil, soil gas, and shallow groundwater. A No Further Action (NFA) letter was issued for this portion of the Site on January 15, 2008. A Land Use Covenant (LUC), as shown in Appendix A, for commercial and/or industrial land use will be necessary per the requirements of the NFA.

The portion of the Site identified at 6000 Arcturus Avenue was originally constructed by either DSCC or its predecessor Diamond Alkali between 1966 and 1967. Sodium silicate production was initiated in 1967 followed by the production of polyester resin beginning in 1969. This portion of the Site was sold to Koppers Company followed by Occidental Chemical Corporation (OCC). Listings for this facility indicate that sodium silicate glass was previously produced until July 1995. Soil was found to have been impacted and a VCA was entered in to for this portion of the Site by OCC and the DTSC on May 2, 1995. A NFA letter for this portion of the Site is recorded in the Voluntary Cleanup Program (VCP) notes dated February 27, 1997 that reportedly indicates no land use restrictions. Historically, the remainder of the Site at 5980 and 6000 Arcturus Avenue has been used for commercial agriculture prior to 1993 followed by vacant, undeveloped land after 1993.

Northgate performed a Phase I ESA of the Site in 2015 (Northgate, 2015) that reviewed the Site history and previous investigations, as summarized above, and revealed no evidence of Recognized Environmental Conditions (RECs) in connection with the property. The Phase I ESA identified the following historic REC:

- Soil and groundwater have historically been reported to have been variously impacted by ethylbenzene, chlorinated solvents, xylenes, benzene, and cadmium. NFA letters have

been issued for the Site with land use restricted to commercial and/or industrial development.

The Phase I ESA also identified the following potential environmental concerns:

- An off-Site source located at 6001 Arcturus Avenue was identified on the LUST database as a closed case as of 1994, but no further information was available. Based on the proximity to the Site and the lack of available information regarding the release, possible impacts to groundwater as a result of this release could not be ruled out.
- The Site was used for agricultural purposes and pesticides may have been used.
- An undocumented soil pile was observed on the Site.

1.6 Purpose of Plan

The purpose of this SGMP is to provide guidance to contractors for appropriate handling, screening, and management of potentially impacted or impacted soils from historical operations that may be encountered at the Site during grading and excavation activities. These procedures include training for construction personnel on the appropriate procedures for identification of suspected impacted soils with total petroleum hydrocarbon (TPH) concentrations that exceed the Regional Water Quality Control Board (RWQCB) SSLs for protection of groundwater of 1,000 milligrams per kilogram (mg/kg) and the Environmental Protection Agency (U.S. EPA) RSL of 220 mg/kg for commercial development; requirements for testing and collection of potentially contaminated soils; segregation of potentially impacted soils; and applicable soil handling and disposal procedures. The SGMP also contains procedures to be followed in the event that any undocumented subsurface features of potential environmental concern (e.g., USTs, abandoned oil wells, sumps, hydraulic lifts, clarifiers, buried drums) are encountered during the excavation grading, and/or other earthmoving activities. These procedures include safety training, testing protocols, decontamination and decommission. It also provides procedures and protocols to monitor and mitigate any potential vapors impacted with VOCs. These procedures and protocols are designed to protect the health and safety of Site workers and the general public, and to comply with applicable rules and regulations. The SGMP supplements existing plans and documents governing work at the Site.

1.7 Applicability

This SGMP has been prepared to comply with the requirements of the LUC, which indicates that all activities that disturb the soil at or below 5 feet bgs, including excavation, grading, removal, trenching, filling, earth movement, mining, or drilling, must be managed in accordance with a Soil Management Plan approved by the DTSC. The following procedures and protocols shall be

followed during redevelopment activities at the Site, including excavation of soil, dewatering, and trenching for subsurface structures or utilities. The SGMP does not apply to demolition and removal of surface structures and concrete slabs.

All employees working at the Site are responsible for the implementation of the Site-specific Health and Safety Plan (HASP) as well as health and safety procedures outlined in this SGMP and their respective Contractor's HASPs.

1.8 Reference Documents

This SGMP has been prepared to summarize and supplement the requirements contained in the following documents as they pertain to the management of potentially contaminated soil and/or groundwater at the Site:

- ***LUC -*** The LUC requires all activities that disturb the soil at or below 5 feet bgs, including excavation, grading, removal, trenching, filling, earth movement, mining, or drilling, be managed in accordance with a Soil Management Plan approved in writing by the DTSC (see Appendix A).
- ***Ventura County Air Quality Management District (VCAQMD) Rule 74.29 – Soil Decontamination Operations –*** The Rule 74.29 Soil Decontamination Operations rule describes procedures for excavation, monitoring, and handling of soil that contains TPH or VOCs within the VCAQMD (see Appendix B).
- ***Site-Specific Health and Safety Plan, (HASP) –*** The HASP describes the minimum required safety and health procedures required by employees and subcontractors working at the Site.
- ***Contractor Health and Safety Plan (CHASP) –*** The CHASP describes appropriate health and safety procedures to minimize worker and public exposure to Site contaminants during construction. The components of the Contractor's HASP shall be consistent with the site-specific facts, all applicable California occupational health and safety administration (Cal/OSHA) standards and currently available toxicological information. The General Contractor, CEC for construction of the redevelopment project will be responsible for implementing the CHASP and will provide its employees who will potentially contact soil or previously unidentified soil contamination a copy of the CHASP and brief its employees as to its contents. The health and safety responsibilities of each individual worker will be described in the CHASP.
- ***Stormwater Pollution Prevention Plan (SWPPP) –*** The SWPPP describes Best Management Practices (BMPs) to be used during construction and grading activities to minimize pollutants in stormwater and authorized non-stormwater discharges from construction activity.

This SGMP is not intended to supersede any requirements, procedures, or protocols outlined in the above documents.

1.9 Key Personnel and Responsibilities

This section of the SGMP identifies the key personnel, including identification of the Project Safety Manager, Project Manager, the Excavation Contractor (EC), EC Superintendent, Project Geologist(s), and the subcontractors that will be working at the Site.

Site Superintendent (CEC): The Superintendent is responsible for directing the daily activities of the project. Specific duties pertaining to this SGMP include ensuring General Contractor and subcontractor safety compliance and ensuring management of excavated soil and extracted groundwater in accordance with the provisions of this SGMP.

Project Safety Manager & Project Manager (Northgate)*:* Derrick Willis of Northgate is the primary contact acting as the Project Safety Manager and Project Manager. The ***Project Safety Manager*** identifies and communicates anticipated safety and health requirements to the EC and any subcontractor(s) involved in the removal/excavation and management of contaminated or potentially contaminated soil/groundwater prior to their start of work at the Site.

The ***Project Manager*** is responsible for the direction, coordination, logistics and oversight of the project activities that Northgate is involved with. These activities include environmental supervision including Site sampling activities and Rule 74.29 monitoring and air monitoring associated with Health and Safety programs at the Site.

Excavation Contractor (EC) for CEC is to be decided. The ***EC Superintendent*** is responsible for directing the daily activities of the project. Specific duties pertaining to this SGMP include ensuring EC and subcontractor safety compliance and ensuring management of excavated soil in accordance with the provisions of this SGMP.

Project Geologist **(Northgate):** Northgate's Anthony Borges is the Project Geologist. The Project Geologist is responsible for compiling and reviewing field records daily, compiling and analyzing field data as necessary and keeping records up-to-date and accessible to the Project Superintendent and Project Safety Manager. The Project Geologist also coordinates management and disposal of contaminated soil and groundwater and is responsible for ensuring compliance with Rule 74.29 requirements and making notifications to VCAQMD and/or property owner representatives, as required. In addition, the Project Geologist facilitates communications between field operations and the EC Superintendent, as necessary.

Field Geologist (Northgate). Northgate's Ricardo Munoz is the Field Geologist. The Field Geologist is responsible for directing earthwork activities, including excavation, loading, and transport of contaminated or potentially contaminated soil, as well as any removal, management, loading, and transportation of contaminated groundwater and/or hydrocarbon product. The Field Geologist observes ground disturbance activities and evaluates excavated soil for indications of potential hydrocarbon/VOC contamination, per the Rule 74.29 protocol. The Field Geologist completes the field forms and coordinates the segregation of excavated material based on the degree of contamination present. The Field Geologist maintains and compiles the proper soil manifests and field logs as well as provides a complete record of field activities to the Project Geologist at the end of each day. The Field Geologist notifies the Project Manager and Project Superintendent when soil conditions are present that trigger regulatory responsive actions.

The Field Geologist directs stockpile location, oversees stockpile management and compliance with the SGMP, and ensures that the contaminated soil is handled/loaded properly for offsite disposal, as needed. The Field Geologist enforces safe work practices with respect to handling of hazardous materials and proper use of personal protective equipment (PPE). The Field Geologist coordinates the EC's work regarding hazardous materials and controls and communicates approved safety requirements to Site personnel.

2.0 HEALTH AND SAFETY

The following sections describe additional training, monitoring, and PPE required during the removal/excavation and management of contaminated or potentially contaminated soil and groundwater at the Site.

2.1 Training Requirements

To the extent that any construction activities may constitute "clean-up operations" or "hazardous substance removal work" as defined in the Cal/OSHA standards for Hazardous Waste Operations and Emergency Response (HAZWOPER), 8 Cal. Code Reg. § 5192, the EC will assure that on-Site personnel conducting such activities, who may contact chemicals in soil, have had training, and are subject to medical surveillance, in accordance with Cal/OSHA standards ("HAZWOPER-trained personnel"). Specifically, all construction personnel directly involved in the monitoring, excavation, loading and stockpiling of contaminated soils, or who otherwise may come into direct contact with contaminated soils during fulfillment of their routine job responsibilities, must have successfully completed an initial 40-hour HAZWOPER training course. In addition, each such employee must have attended an eight-hour annual HAZWOPER refresher training course within the past 12 months if their initial 40-hour HAZWOPER training course was completed more than 12 months prior. The Project Safety Manager shall verify that all Site workers have the appropriate training and certifications to perform the work that is included in their tasks.

Monitoring personnel (i.e., the Project Geologist and Field Geologist) must additionally be experienced in the visual identification of hydrocarbon-impacted soils and in the use of the specific photoionization detector (PID) used to collect VOC vapor measurements at the Site. Soil that is visibly stained, discolored, shiny, or oily; or has a noticeable odor will be handled only by such HAZWOPER-trained personnel until it is determined by the Project Safety Manager, Project Geologist, or Field Geologist that such soil does not contain chemical concentrations exceeding soil cleanup goals.

2.2 Health and Safety Air Monitoring Procedures

The following sections outline health and safety air monitoring procedures that will be followed during soil excavation and utility installation at the Site. Health and safety air monitoring shall be conducted in worker breathing zones using the procedures described below. Breathing-zone air monitoring results shall be documented using the Air Monitoring Form included in Appendix C, and the results shall be provided to the Project Geologist following each work shift.

2.2.1 Soil Excavation

No contaminants were detected that exceeded commercial screening levels; however, if suspect impacted soil is observed based on staining or odors, the EC will notify the Project Manager and the suspect soil will be managed as described in Section 3.0. As required by the LUC, all activities that disturb the soil at or below 5 feet bgs, including excavation, grading, removal, trenching, filling, earth movement, mining, or drilling, must be managed in accordance with this SGMP. In addition, sampling of the soil will be performed as described in Section 3.4, and monitoring will be conducted as described below. If necessary, monitoring will be performed in accordance with Rule 74.29 requirements.

A PID that conforms to Rule 74.29 requirements and the parameters established by the Field Geologist shall be onsite at all times during the excavation of contaminated or potentially contaminated soils. If excavation is conducted simultaneously in multiple areas of the Site and/or by multiple pieces of equipment, additional trained monitoring personnel and equipment may be required.

Air monitoring of worker breathing zones will be conducted by either the Field or Project Geologist using a 10.6ev hexane calibrated PID at approximate 30-minute intervals. If elevated vapor concentrations are measured, the monitoring frequency will be increased to every 15 minutes until four (4) consecutive vapor concentrations are measured that are below five (5) ppm_v. If during this time, sustained breathing zone readings that exceed the action levels defined below are observed, the following actions will be instituted, and the EC and Project Manager will be notified. For the purposes of this SGMP, sustained readings are defined as the average airborne concentration maintained for a period of one (1) minute.

Activity	Action Level at Breathing Zone	Level of Respiratory Protection
Excavation of impacted soil	< 5 ppm above background (VOCs)	Level D: No respiratory protection required.
	5 to 25 ppm (VOCs)	Level C: Half-or full-face air-purifying respirator fitted with organic vapor/HEPA filter cartridges.
	> 25 ppm (VOCs)	Cease operations and evacuate work area. Notify Derrick Willis; Project Manager; (949).375.7004 and the EC.

2.2.2 Personal Protective Equipment

The Site HASP defines the program for PPE and respiratory monitoring. PPE will be selected based on chemicals identified at the Site as part of planned sampling activities (if any) or impacted areas observed in the field, and the known route(s) of entry into the human body. The primary exposure routes include direct contact with soil and inhalation of dust.

If air monitoring results indicate that Level C respiratory protection is required, the following PPE shall be used:

- A NIOSH-approved half- or full-face air-purifying respirator equipped with organic vapor cartridges;
- Chemical-resistant clothing (e.g., Tyvek, polycoated Tyvek, or Saranex coveralls) when contact with chemically affected soils is anticipated;
- Outer nitrile gloves and inner nitrile surgical gloves when direct contact with chemically affected soils or groundwater is anticipated (nitrile surgical gloves may be used for collecting or classifying samples as long as they are removed and disposed of immediately after each sampling event); and
- Safety shoes/boots with protective overboots or knee-high polyvinyl chloride (PVC) polyblend boots when direct contact with chemically affected soils is anticipated.

Respirators will be stored in clean containers (i.e., self-sealing bags) when not in use. Respirator cartridges will be replaced in accordance with the following change-out schedule.

Type of Cartridge	Cartridge Change-out Schedule
Particulate (i.e., HEPA)	At least weekly or whenever the employee detects an increase in breathing resistance. This will occur as the filter becomes loaded with particulate matter.
Sorbent (i.e., organic vapor)	At the end of each day's use or whenever the employee detects an abnormal odor or other indicator.

Personnel who wear air-purifying respirators shall be trained in their use and must have successfully passed a qualitative respiratory fit test in accordance with 8 CCR 5144 within the last 12 months. All respiratory use will be under a written respiratory protection program including annual fit testing and medical clearance to wear a respirator. Fit test results will be provided to the Project Safety Manager. Respiratory devices may not be worn with beards or long sideburns, or under other conditions that prevent a proper seal. Respirators will be properly cleaned daily.

2.2.3 Site Control

The potential for trespassers or visitors to gain access to construction areas and come into direct contact with potentially contaminated soil shall be controlled by the General Contractor by implementing access and perimeter security measures, such as the placement of barricades, fencing, access control, and access logs. All workers within the work zone, who will have direct contact with soil, will perform the work in compliance with relevant aspects of the SGMP (and Site-specific HASP).

Areas within the work zone where contaminated or potentially contaminated soil and/or groundwater have been identified will be demarcated as Exclusion Zones if there is the potential for exposure to either the soil or groundwater. It is anticipated that the Exclusion Zone(s) will encompass the immediate confines of the contaminated soil area, along with any excavation area reaching impacted groundwater, with a buffer zone that will vary from location to location. In general, the Exclusion Zone(s) shall extend to 10 feet from the edge of all impacted materials. This distance may be modified by the overseeing environmental consultant (i.e., Project Manager and/or Field and Project Geologists) based upon field observations and conditions. The Exclusion Zone(s) shall be delineated with cones, barricade tape, temporary, or other visible means.

A Decontamination Zone shall be constructed adjacent to and outside the Exclusion Zone, but within the boundaries of the construction site. All end-of-the day cleanup operations, and the removal of any PPE, including the scrubbing and rinsing of boots and the doffing and donning of PPE, will occur in the Decontamination Zone. If possible, the Decontamination Zone will be located in close proximity to the entry and exit point of the construction site. Training for work inside the Decontamination and Exclusion Zones shall follow the requirements for HAZWOPER.

The entire construction site will be fenced to control pedestrian and vehicular entry, except at controlled (gated) points. The fences will remain locked during non-construction hours, and all visitors will be required to sign a visitor log.

2.2.4 Procedures for non-HAZWOPER Trained Personnel

All personnel within the Exclusion or Decontamination Zone must be HAZWOPER trained. Personnel who have not completed HAZWOPER training will not be permitted inside the Exclusion or Decontamination Zones. If non-HAZWOPER trained personnel suspect that they have identified contaminated soil they should stop work immediately and notify their foreman and the Field Geologist. The Field Geologist will evaluate the potential concern and direct

personnel accordingly. Contaminated soil may be identified by staining or material that looks wet, petroleum odors, or an oily sheen on soil or standing water.

3.0 SOIL AND GROUNDWATER MANAGEMENT PROCEDURES

The following sections describe procedures and a protocol for identifying, segregating, and managing excavated soil at the Site containing petroleum hydrocarbons and VOCs and addressing groundwater when encountered. It also described procedures and protocols for managing groundwater impacted by contaminants, and additional health and safety, decontamination, notification, and record keeping requirements for construction at the Site. The responsibility for implementation of this SGMP shall rest with the EC in consultation with the Project Geologist.

If encountered, excavation and management of VOC-contaminated soil must be performed in accordance with all Rule 74.29 requirements, which requires impacted soil removed from the site comply with the following:

- Be transported to an approved treatment/disposal facility.
- When loading into trucks is completed, and during transportation, no excavated material shall extend above the sides or rear of the truck or trailer.
- Prior to covering/tarping, loaded impacted soil shall be wetted by spraying with dust inhibitors.
- The trucks or trailers shall be completely covered/tarped prior to leaving the Project Site to prevent particulate emissions to the atmosphere.
- The exterior of the trucks (including the tires) shall be cleaned off prior to the trucks leaving the decontamination location.

Rule 74.29 monitoring and management shall be implemented as needed by Northgate in consultation with CEC and the EC based upon any other identified areas of suspect or impacted material by Northgate or the EC. The proposed development with excavation that is anticipated below 5 feet bgs, and therefore would be subject to screening, oversight, and soil management procedures as described in this document is shown on Figure 4. A generalized process flow chart describing management of non-contaminated and contaminated soil is shown as Figure 5.

3.1 Soil Screening and Segregation

If impacted soil or suspect soil is encountered or any contaminated historical features are identified by the EC during soil excavation or removal activities, the EC shall stop work in the area and immediately notify Northgate. Impacted or suspect soil will be identified by inspection for the presence of staining and observation of odors. Visual indications of VOC contamination may include green, gray, or black staining. Olfactory indications may include a moderate to strong hydrocarbon odor or other strong or unusual odors. Historical features potentially

contaminated may include, but are not limited to, drainage lines, utilities, sumps, pits, and other similar features. The Northgate field geologist shall be present to observe the excavation and soil removal activities to a minimum of at least one (1) foot below the base of any identified impacted soil or historical industrial features and collect confirmation samples as appropriate.

Any VOC contaminated soil encountered is subject to Rule 74.29 monitoring and management and shall be screened by visual observation and VOC readings collected with a PID at the time of excavation to determine segregation and management of the soil. The following sections describe the screening criteria and protocol.

3.1.1 Soil Inspection

Potentially contaminated soil may be identified via observation of the following characteristics:

- ***Presence of free product -*** Free product is defined as a petroleum product (e.g., oil) or chemical in its natural state, un-mixed with water. Free product is often identifiable by the presence of an oily substance or the presence of an oily sheen on soil or water.
- ***Oily or other staining -*** Oily staining is not consistent in appearance, but often has a black, dark gray, dark brown, or greenish hue. Other unusual staining or soil discoloration (e.g., blue soils) should also be considered as potential contamination.
- ***Petroleum or chemical odor -*** Any petroleum or other chemical odor should be noted regardless of whether a visible sign of oil or staining is encountered. If odorous soil or debris is encountered, the material may be potentially contaminated and should be evaluated as soon as possible by field screening with a PID and/or sampling for laboratory analysis. Areas exhibiting elevated PID readings above health and safety action levels should not be entered until laboratory data is available to evaluate potential health risks.
- ***Presence of elevated metals -*** Elevated metals in soil may be identified by strong and sometimes bright discoloration. Any chemical or metal odor should be noted regardless of whether a visible sign of elevated metals is encountered.
- ***Presence of waste debris -*** If debris such as concrete, scrap metal, bricks or other garbage is identified, the debris and surrounding soil may be potentially contaminated.

Evaluation of whether soil or groundwater are potentially contaminated should include input from the EC.

Upon identification and confirmation that soil is potentially contaminated, the following actions should immediately be taken:

1. Stop work in the area of impact.
2. Contact the Field Geologist to report the finding via phone and via email (if available); leave a message if the individual does not pick up the phone.
3. Complete the Field Reporting Form (Appendix C) (see Section 6.0 for further information relating to documentation) and completely document all soil screening procedures, observation, and monitoring results.
4. Contain the impacted material, as instructed (see Section 3.3 for additional information relating to containment of potentially impacted material). If removed from the subsurface, segregate and stockpile the impacted material in a designated location separate from non-impacted soil as described in Section 3.1.3. Include descriptions and sketches of the excavation and stockpile locations in the Field Reporting Form.
5. The Project Engineer or Field Geologist will notify the Site owner and make recommendations regarding further investigation, including confirmation sampling and/or remediation.
6. Work should not resume within the area of potential impact until clearance is received from the Field Geologist.
7. If backfilling of the origination point of the potentially impacted material must proceed due to project scheduling, the General Contractor is responsible for marking the potentially impacted excavation area with orange construction fencing in the subsurface and flagging at the ground surface.

A copy of this SGMP will be kept in each of the onsite construction trailers for reference and use in the event that potentially contaminated soil is encountered.

3.1.2 Soil Screening and Rule 74.29 Monitoring Procedures

The Field Geologist shall use a 10.6 EV hexane calibrated PID to assess the presence of VOCs in suspected contaminated excavated soil and shall note any indications of VOC contamination which may include green, gray, or black staining; product sheen; or crude oil staining. If VOC-containing soil is identified, VOC readings using the PID shall be conducted and recorded in accordance with the procedures listed in Rule 74.29, including:

- The PID used for collecting readings shall be calibrated at the beginning of each day and as necessary throughout the day to maintain the PID in good working order;

- All readings shall be expressed as ppm of hexane; if a calibration gas other than hexane is used, an appropriate equivalency factor shall be used to convert measurements to an equivalent concentration of hexane; and
- VOC readings shall be collected with the PID inlet no greater than three (3) inches above the soil surface and no later than three (3) minutes after the soil is excavated.

During all excavation activities within the delineated areas of contamination, VOC readings shall be taken from excavated soil at a minimum frequency of once every 15 minutes. If VOC-impacted soil is encountered, per the requirements of Rule 74.29, readings shall be collected at a minimum frequency of one reading for every five (5) cubic yards of soil, not to exceed 15 minutes between readings. All readings shall be taken no later than three (3) minutes after each load of soil is excavated.

3.1.3 Classification of Excavated Soil

When called to the Site in the event contaminated soil is encountered, the Field Geologist shall classify excavated soils as uncontaminated, potentially-contaminated, or contaminated based on visual and olfactory observations and PID readings, as summarized in the table below:

Classification	Criteria	Response
Uncontaminated	No staining, no odor, and/or PID readings < 10 ppm	• No environmental restrictions on reuse.
Potentially Contaminated Soil – Petroleum hydrocarbon or VOC impacted soil	Staining, odors, and/or PID readings between range of: 10 ppm ≤ PID < 50 ppm (based on "headspace" monitoring)	• Manage soil in accordance with the SGMP and SWPPP. • Segregate and place on designated stockpile area. • Coordinate with Northgate Project Geologist to sample for characterization and offsite reuse or disposal.
Contaminated Soil – Petroleum or VOC impacted soil	Staining, odors, historic features encountered, and/or PID readings ≥ 50 ppm (based on "headspace" monitoring)	• Manage soil in accordance with this SGMP, Rule 74.29, and SWPPP. • Spray with water or approved vapor suppressant prior to minimize dust. • Segregate and place on designated contaminated soil stockpile area, OR • Immediately transport to approved treatment, storage, and disposal facility. • Contaminated soil must be removed from the Site within **30 days** of excavation.

3.2 Handling of Liquids

Excavation in areas of heavy soil contamination may encounter liquids including separate-phase petroleum product (free product) or water (groundwater or surface water accumulated in excavation areas) contaminated with VOCs. Free product may be present as a liquid accumulated on the groundwater surface in excavated areas, or seeping from soil that is saturated with the free product. However, construction dewatering will be implemented, so groundwater or floating product is not anticipated to be encountered.

In the event discontinuous zones of perched liquid or water are encountered, the following procedures will be followed. To identify if encountered water is impacted by contaminants, the EC, and reporting staff will first evaluate whether the soil in the immediate proximity is impacted via field observations such as the following:

- ***Presence of free product.*** Free product is defined as a petroleum product (e.g., oil) or chemical in its natural state, un-mixed with water. Free product is often identifiable by the presence of an oily substance or the presence of an oily sheen on top of water.
- ***Presence of chemical odor.*** Any petroleum or other chemical odor should be noted regardless of whether a visible sign of oil or staining is encountered.

The procedures for notification and reporting of impacted groundwater are the same as those prescribed for soil, as detailed in Section 3.1.1. Upon discovery of free product or contaminated groundwater at the excavation areas, the EC will stop work. Work in the affected area will remain stopped with the work area covered until the appropriate mitigation steps can be taken The free product or contaminated groundwater shall be removed, segregated, containerized, profiled, and disposed of according to applicable regulations and the requirements of the selected licensed disposal facility after consultation or under the supervision of the Project Geologist. Precautions shall be taken to prevent the migration of free product or contaminated groundwater away from the excavation areas, per BMPs described in the SWPPP.

Water samples obtained for testing shall be collected by the Field Geologist or any designated personnel under the supervision of Northgate in three 40-milliliter (mL) volatile organic analysis (VOA) glass sample containers provided by a California-certified analytical laboratory using a standard polyethylene bailer. At a minimum, the Field Geologist shall submit the samples for laboratory analysis by a California-certified laboratory for TPH – carbon chain speciation (TPH-cc) using EPA Method 8015M and VOCs and oxygenates using EPA Test Method 8260B full including oxygenates.

The laboratory analytical results will be used to determine whether the water is non-hazardous, California hazardous, or Federal hazardous waste.

The EC shall arrange for transport and obtain facility acceptance for recycling and/or disposal of wastes off-siteoffsite (i.e., contaminated water or soil), using a permitted, licensed, and insured transportation company, and shall be responsible for tracking final dispositions at appropriate disposal facilities. Any liquid considered State of California (non-RCRA) or Federal (RCRA) hazardous waste (collectively, hazardous waste) will be tracked using the Uniform Hazardous Waste Manifest System (USEPA Form 8700-22), as applicable. An appropriate USEPA Generator Identification Number will be recorded on the hazardous waste manifests used to document transport of hazardous waste offsite. The hazardous waste transporter, disposal facility, and U.S. Department of Transportation (DOT) waste description required for each manifest will be determined on a case-by-case basis. Soil not considered hazardous waste will be tracked using non-hazardous bills of lading. These two systems will be used to comply with appropriate state and local requirements.

The EC shall be responsible for accurate completion of the hazardous waste manifests and non-hazardous bills of lading and shall coordinate with the facility to generate a waste profile and waste manifests for approval and signature by the GC or authorized agent of the GC. Records of all wastes shipped offsite, including manifests and bills of lading, will be maintained by the EC, and shall be provided to CEC within a reasonable time, as they are generated.

3.3 Temporary Stockpiling and Management of Potentially Contaminated Soil

All excavated potentially contaminated or contaminated soil shall be managed using the procedures specified in this SGMP, Rule 74.29, and the SWPPP. The excavated potentially contaminated or contaminated soil shall be placed on 4-mil or greater plastic sheeting and covered with 4-mil or greater plastic sheeting, which will be held in place with sandbags or other suitable materials. There can be no gaps in the plastic covering either beneath or on top of the soil. Covers shall be in good condition, placed with 24-inch overlapping seams secured with duct tape and securely anchored to prevent exposure of soil to the atmosphere. Contaminated soil in active stockpiles shall be kept visibly moist by water spray, treated with a vapor suppressant, or covered by continuous heavy duty plastic sheeting (4 mil or greater) or other covering, Northgate recommends 10 mil plastic sheeting, to minimize emissions to the atmosphere. For any active storage pile, the surface area not covered by plastic sheeting or other covering shall not exceed 6,000 square feet. Stockpiles shall be bermed to contain any precipitation runoff and covered at all times except when the EC is actively excavating or adding to the stockpile. Fiber rolls shall be installed around the perimeter of every potentially contaminated soil stockpile for erosion and sediment control.

All excavated contaminated soil with PID readings of 1,000 ppm or greater shall be placed in vapor-tight sealed containers or direct-loaded into trucks, sprayed with additional water or vapor

suppressant, covered, and transported immediately to an approved treatment facility in accordance with the requirements of Rule 74.29. Stockpiled and containerized soil shall be inspected at least daily, including before any break and before leaving the Site for the night, to ensure the integrity of the covers and containment.

No backfilling of an area containing potentially contaminated soil will be conducted without prior approval from the Project Manager. All backfill material will be certified clean soil in accordance with the DTSC Information Advisory on Clean Imported Fill Material (DTSC, 2001) as determined by Northgate; no impacted soil will be used as backfill.

3.4 Sampling and Testing of Potentially Contaminated and Contaminated Soil

The purpose of the stockpile sampling and testing is to characterize the excavated soil for off-Site treatment and/or disposal. Sampling shall be completed in a manner to minimize impairment to the stockpile covers. Should stockpile sampling require penetration of the stockpile cover, the penetrations shall be repaired. Personnel collecting the samples shall follow the health and safety procedures identified in Section 2.0 of this SGMP.

The potentially contaminated soil shall be stockpiled and soil samples collected and chemically analyzed for further characterization. The RWQCB – San Francisco Bay Region draft technical reference document, *Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil as Inert Waste* (SFRWQCB, 2006), can be used as guidance for collecting soil samples from the potentially contaminated soil stockpiles. Samples should be collected by qualified individual or Northgate personnel.

The number of soil samples to be collected will be based on the total volume of potentially contaminated soil that has been generated. Soil samples should be collected at a minimum frequency of one sample per 250 cubic yards of soil and in accordance with soil characterization requirements for waste profiling and acceptance at an appropriately licensed disposal facility.

Samples shall be collected in 4-ounce, unpreserved glass sample containers provided by a California certified analytical laboratory selected by the Northgate to perform the analysis. The soil samples will also be collected in accordance with EPA Method 5035 protocols using Encore® (or equivalent) samplers. The collected samples will be placed in an ice-cooled, insulated cooler until relinquished to the analytical laboratory under laboratory-provided chain-of-custody procedures for chemical analysis. Samples shall be analyzed for TPH-cc using EPA Method 8015M and VOCs, using EPA Method 8260B.

Additional soil testing requirements for waste profiling and acceptance at a disposal facility, including a higher sampling frequency and additional chemical analysis, may be necessary.

3.5 Soil Disposal

Laboratory analytical results will be used to determine whether the potentially contaminated soil is classified as a non-hazardous, California hazardous, or Federal hazardous waste. The EC shall obtain landfill acceptance for disposal of the contaminated soil and coordinate with a licensed waste transporter to generate a waste profile and waste manifests for approval and signature by CEC's Superintendent. Based on the waste classification, contaminated soil shall be transported by a licensed waste transporter to an appropriately licensed treatment, recycling, or disposal facility.

The EC shall inspect and verify that DOT-approved equipment is used for waste transport. Contaminated soil that is not contained within sealable bins shall be loaded into trucks with tarpaulin covers or containers with sliding steel covers.

Contaminated Soil will be transported to a facility licensed to accept the soil based on the analytical results. Additional samples may be collected in accordance with facility requirements. Each sample will be analyzed for CAM 17 metals using EPA Methods 6010B/7471A, VOCs using EPA Method 8260B, and extended-chain petroleum hydrocarbons using EPA Method 8015M. If the test results of any sample indicate the presence of any metals at a concentration that exceeds 10 times the California Soluble Threshold Limit Concentration (STLC) values, that sample will be reanalyzed for those analytes using the Waste Extraction Test (WET) method.

Potentially contaminated and contaminated soil that exceeds the regulatory screening criteria will be disposed of an appropriate landfill facilities and sampling will be conducted in accordance with the receiving facilities acceptance criteria. Section 3.1 summarizes the procedures and protocols for identifying and managing soil containing residual contamination.

3.6 Dewatering and Groundwater Management

Groundwater is approximately 12 feet bgs. While groundwater is not expected to be encountered during over-excavation/recompact activities or installation of footings, groundwater will likely be encountered during the installation of the subgrade detention basin and lift station in the southwestern corner of the Site. If groundwater is encountered, the EC is responsible for managing groundwater during excavation activities and to obtain all necessary permits and authorizations for discharge or disposal.

Based on the results of historic groundwater sampling conducted at the Site, chemical test results indicate that groundwater at the Site is impacted with VOCs and cadmium. As a result, groundwater that may be generated during the installation of the subgrade detention basin and lift station is likely impacted with VOCs and cadmium. Any groundwater generated from the

construction dewatering process at the Site will require either onsite treatment prior to discharge to the storm drain in accordance with an approved National Pollution Discharge Elimination System (NPDES) permit or will need to be temporarily stored on site pending profiling and off-site recycling or disposal. The decision will be based on the estimated volume of water that is expected to be generated.

3.6.1 Groundwater Handling

Dewatered groundwater or water that leaches out of soil excavated below the water table must be characterized prior to reuse (for dust control) or disposal in accordance with the requirements presented in Section 3.7. Groundwater, water extracted during trenching, excavation dewatering, and/or decant water from segregated soil stockpile containment will be pumped into onsite holding tanks to allow settlement of suspended sediment prior to sampling and analysis per Section 3.6.2. Excavated wet soils that originate in suspected contaminated areas must be placed on 10-mil plastic sheeting (Visqueen or HDPE) and surrounded with an impermeable berm to ensure that any decant water will not leach onto the ground.

3.6.2 Sampling and Analysis

Specific requirements for sampling and analysis of groundwater will be determined by the anticipated reuse and discharge approach, described below. At a minimum, it is anticipated that water generated during construction dewatering will be sampled and analyzed for TPH by EPA Method 8015B, VOCs, including fuel oxygenates, by EPA Method 8260B and Title 22 Metals by EPA Method 6010. Additional analyses may be required for groundwater disposal via an NPDES permit, as discussed below.

3.7 Groundwater Reuse or Disposal

3.7.1 Reuse

Onsite reuse criteria for the use of extracted groundwater for dust control will be the most current Tier 1 ESLs for groundwater, as defined by the RWQCB (SFRWQCB, 2019).

3.7.2 Disposal

Extracted groundwater that is not reused onsite will be discharged under permit to the storm drain, or profiled and transported from the Site to an approved recycling or disposal facility.

Discharge of extracted groundwater to the storm drain will be performed under the conditions of an NPDES permit with prior authorization obtained for the project. Based on historic groundwater concentrations, it is assumed that particulate filtration and carbon treatment will

likely be required prior to discharge of extracted groundwater to the storm drain under the Construction General Permit. The permit requires that a Notice of Intent (NOI) be submitted to the RWQCB to gain coverage under the Construction General Permit. Chemical testing in addition to the analyses listed in Section 3.6.2 may be required by the RWQCB prior to or as a condition of approval to discharge.

Alternatively, it is possible to profile and transport extracted groundwater from the Site to an approved recycling or disposal facility. Chemical testing in addition to the analyses listed in Section 3.6.2 may be required for acceptance based on the proposed destination of the extracted groundwater.

It is anticipated that groundwater that is removed from the excavation shall be temporally stored and tested for potential impact by organic contaminants and metals. If the water contains TPH, VOCs, or metals it shall be either treated to remove contaminants prior to discharging to the storm drain, or recycled or disposed of offsite at an appropriately permitted facility, consistent with applicable laws and regulations. With prior authorization by the Client, the Contractor may elect to either treat or discharge the water to the storm drain, or recycle/dispose of it offsite.

If the water is transported and recycled/disposed of offsite, the laboratory analytical results will be used to determine whether the water is non-hazardous, California hazardous, or Federal hazardous waste. The Contractor shall arrange for transport and obtain facility acceptance for recycling/disposal of the contaminated water, and coordinate with the facility to generate a waste profile and waste manifests for approval and signature by the Client. Contaminated water shall be transported by a licensed waste transporter to an appropriately licensed facility permitted to receive and dispose or recycle water that contains petroleum hydrocarbons.

If discharged to the storm drain, the laboratory analytical results will be used to determine if the removed groundwater requires treatment prior to discharge to the storm drain in accordance with the local NPDES requirements. The General Contractor will be responsible for compliance with the NPDES permit for groundwater management and discharges during any construction dewatering necessary.

3.8 Notification

The Field Geologist shall temporarily halt work and immediately notify the Project Geologist, Project Manager, and Project Superintendent before proceeding if:

- Contaminated soil 1,000 with a PID reading of ≥ 1,000 ppm is encountered; or
- Breathing-zone air monitoring results indicate Level C PPE is required to safely continue excavation (notification shall be made only after affected workers have stopped work and retreated to a safe location, as confirmed using a PID); or
- Any other condition that could pose a health and safety threat or that could result in a shutdown of operations based on permit requirements is encountered.

3.9 Equipment Decontamination

Equipment that may have come in contact with petroleum or VOC contaminated soil or groundwater shall be decontaminated in the Decontamination Zone, as necessary to prevent track out. Decontamination measures will include cleaning the wheels of all vehicles that have been in contact with soil in prior to their exiting the Site. Additionally, workers will be required to remove any contaminated PPE and place it in a designated area in the Exclusion Zone prior to leaving the Site. Paved roads and other surfaces shall be cleaned if the amount of soil tracked in the operation area has the potential to cause transport of contaminated soil beyond the immediate excavation work zone.

4.0 DUST MANAGMENT

Dust generation may be associated with concrete and paving removal and processing, excavation and grading activities, truck traffic, ambient wind traversing soil stockpiles, loading of transportation vehicles, and other earthwork. Appropriate dust control measures will be implemented by the EC during any excavation or disturbance of soil in accordance with applicable VCAPCD Rule 55 to minimize the generation of dust, minimize the exposure of onsite construction workers to dust, and to prevent dust from migrating offsite. In general, dust control will consist of keeping any potentially contaminated excavated soil wetted or covered. Water from trucks, hoses, or sprinklers shall be used, as necessary, during all excavation activities to control dust generation. All visibly dry disturbed soil surface areas shall be watered to control dust emissions, as necessary. These control measures can be separated into routine procedures and corrective controls implemented in response to the exceedance of an action level (e.g., higher wind speeds, observations of visible fugitive dust, or complaints of excessive dust generation by offsite parties). The General Contractor and EC Superintendent shall be notified in the event of unmitigated dust. Dust monitoring at the Site will include both visual observation and real-time dust monitoring.

4.1 Visual Observation

Visual dust monitoring will be performed throughout the duration of earthwork activities in conjunction with continuous dust monitoring during excavation of any impacted soil encountered at the Site. An example dust monitoring form is included as Appendix C. If at any time field staff notice visible dust being generated or moving offsite, s/he will immediately notify the Superintendent and response actions will be applied to reduce airborne dust generation.

4.2 Dust Control

Dust generation may be associated with concrete and paving removal and processing, excavation and grading activities, truck traffic, ambient wind traversing soil stockpiles, loading of transportation vehicles, and other earthwork. Appropriate dust control measures will be implemented by the EC during any excavation or disturbance of soil to minimize the generation of dust, minimize the exposure of onsite construction workers to dust, and to prevent dust from migrating offsite. In general, dust control will consist of keeping any potentially contaminated excavated soil wetted or covered. The Project or Field Engineer and Superintendent shall be notified in the event of unmitigated visible dust.

Potential dust emissions from excavation and earthwork activities will be controlled as outlined below. Dust emission controls include, but are not limited to, the following mitigation measures:

- Apply water to exposed surfaces during excavation and loading activities and in vehicle traffic areas at least twice daily or more frequently if winds exceed 15 miles per hour (mph);
- Use reclaimed water for dust mitigation whenever feasible;
- Replant vegetation in disturbed areas as quickly as possible;
- Install fencing with attached windscreen fabric on the windward side of the actively disturbed areas of the Site;
- Limit vehicle speeds to less than 10 mph onsite and prevent unauthorized vehicle access to the Site;
- Cover loads of transportation vehicles;
- Place track-out rock at designated entrances and exits with a minimum length of 3 feet;
- Require all operators tracking dirt or mud onto public roadways to have a wet power vacuum sweeper present daily during these activities and remove tracked dirt or mud at the end of each day or more frequently if needed (dry power sweeping methods should not be used);
- Cover soil stockpiles with anchored plastic, tarps, or other suitable material; and
- Draft and implement a project-specific SWPPP and install BMPs to eliminate erosion.

During any Site shutdown (non-operable periods) dust management shall continue, including covering exposed portions of the Site and maintaining SWPPP BMPs.

5.0 STORMWATER POLLUTION PREVENTION

All excavation and earthwork activity will be completed in accordance with a project-specific SWPPP, as required under the Construction General Permit. The following procedures will be implemented at the Site during the rainy season:

- The weather forecast will be monitored, and during the days heavy rain is forecasted, excavation activities may be stopped;
- The boundary of the excavation area will be properly bermed to prevent stormwater from entering or leaving the excavation area;
- Stormwater entering the excavation area from non-impacted areas and stormwater originating within the excavated area will be pumped to settlement tanks and treated prior to discharge under permit;
- The excavation will be conducted in small sections so the exposed excavated area can be covered immediately if heavy rains occur;
- Procedures will be used to prevent wet soil from sticking to the tires of trucks used to haul soil offsite. These procedures may include plastic sheeting at the loading area, a tire wash at Site egress paths, and/or a stabilized gravel construction entrance;
- Plastic sheeting will be used extensively to cover the area of excavation during non-working hours; and
- BMPs for the Site development activities should include use of fiber rolls, inlet protection, stabilized construction entrance, landscape and paving, street cleaning, and catch basin cleaning.

5.1 Spill Response Plan

In the event of a spill, the General Contractor will be responsible and prepared to respond in a safe and efficient manner, specific to the particular spill situation. Standards will be set and consistent procedures will be used for handling of spills, whether they are onsite spills or spills occurring during transportation. Haulers will have an Emergency Spill Contingency Plan (ESCP) to ensure that all drivers and dispatchers know their responsibilities in the unlikely event that an accidental spill occurs while transporting contaminated material offsite. The drivers and dispatchers will be required to know the procedures for emergency spill response. The ESCP will meet or exceed all Federal, State, and County regulations currently in effect. The provisions of the ESCP will be strictly adhered to, in order to ensure continued protection of the public safety and the environment. The HASP will address the handling of onsite spills.

6.0 DOCUMENTATIONS AND RECORDKEEPING

Prior to the start of foundation and hardscape demolition, each contractor should sign the SGMP Certification Form (see Appendix D) to document each contractor's acknowledgment of receipt and compliance of the SGMP. The SGMP and SGMP Certification Form should be kept onsite for reference during subsurface disturbance activities. Upon completion of such activities, the executed SGMP Certification Form(s) should be provide to Northgate for inclusion in the summary report as described below.

All screening, sampling, and stockpile management activities will be documented by the environmental professional assigned to the project (i.e., Field Geologist or Project Engineer). The Project Geologist and the Field Geologist shall be responsible for maintaining complete and legible field notes using the forms provided in Appendix C for each work shift during which contaminated soil is excavated and/or handled. Field forms will be checked for completeness and provided to the Project Geologist within 24 hours of the end of each shift.

In the event potentially contaminated soil and material are encountered during construction activities, information regarding the characteristics, location, and extent of the soil and material impacts must be collected. This information should be documented as follows and should include at a minimum:

- The date of the activity;
- A description of the general nature of the activity;
- The approximate location (marked on a Site map);
- Extent of potential contamination (How large an area of impacts has been identified);
- What indications of potential impacts were observed (i.e., odor, discoloration, free product);
- Site or odor control measures implemented if required by this SGMP;
- Is groundwater or a surface water body (surface puddles not included) is impacted (sheen or product on water surface);
- Air monitoring results;
- Excavation dewatering and groundwater management;
- Test results of any chemical testing performed if required by this SGMP (soil and groundwater);
- The disposition of any soil, groundwater or other materials removed from the Site (waste manifests); and

- If possible, take photographs.

The Project Geologist shall maintain copies of the written records pertaining to all excavation and disposal of contaminated or non-contaminated soil at the Site, including the dates and descriptions of excavation activities, daily inspection reports, field data sheets, and records of disposal. Records shall be maintained onsite for the duration of excavation activities and shall be maintained for a minimum period of two (2) years after completion.

The EC shall maintain copies of the written records pertaining to all excavation and disposal of contaminated or potentially contaminated soil at the Site, including the dates and descriptions of excavation activities, daily inspection reports, field data sheets, and records of disposal. Records shall be maintained onsite for the duration of excavation activities and shall be maintained for a minimum period of two (2) years after completion.

Following completion of work, a summary report shall be submitted to the Site Owner, documenting all activities performed under this SGMP and including records described in the previous paragraph. The report will include dust, soil, and groundwater screening observations and data, stockpile locations and volumes, sample locations and results, material disposition, and supporting documentation, including Daily Field Reports, laboratory analytical reports, and waste disposal documentation (e.g., profiles, waste manifests, and tonnage reports). In addition to being included in the summary report, laboratory analytical reports must be included as part of any profiles for offsite disposal.

7.0 REFERENCES

California Regional Water Quality Control Board – San Francisco Bay Region (SFRWQCB), 2006. *Draft Technical Reference Document Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil as Inert Waste*. October 20.

_____, 2019. *Tier 1 Environmental Screening Levels.*

CH2M Hill. 2004. Preliminary Final Preliminary Endangerment Assessment Report, 5980 Arcturus Avenue, Oxnard, California. November.

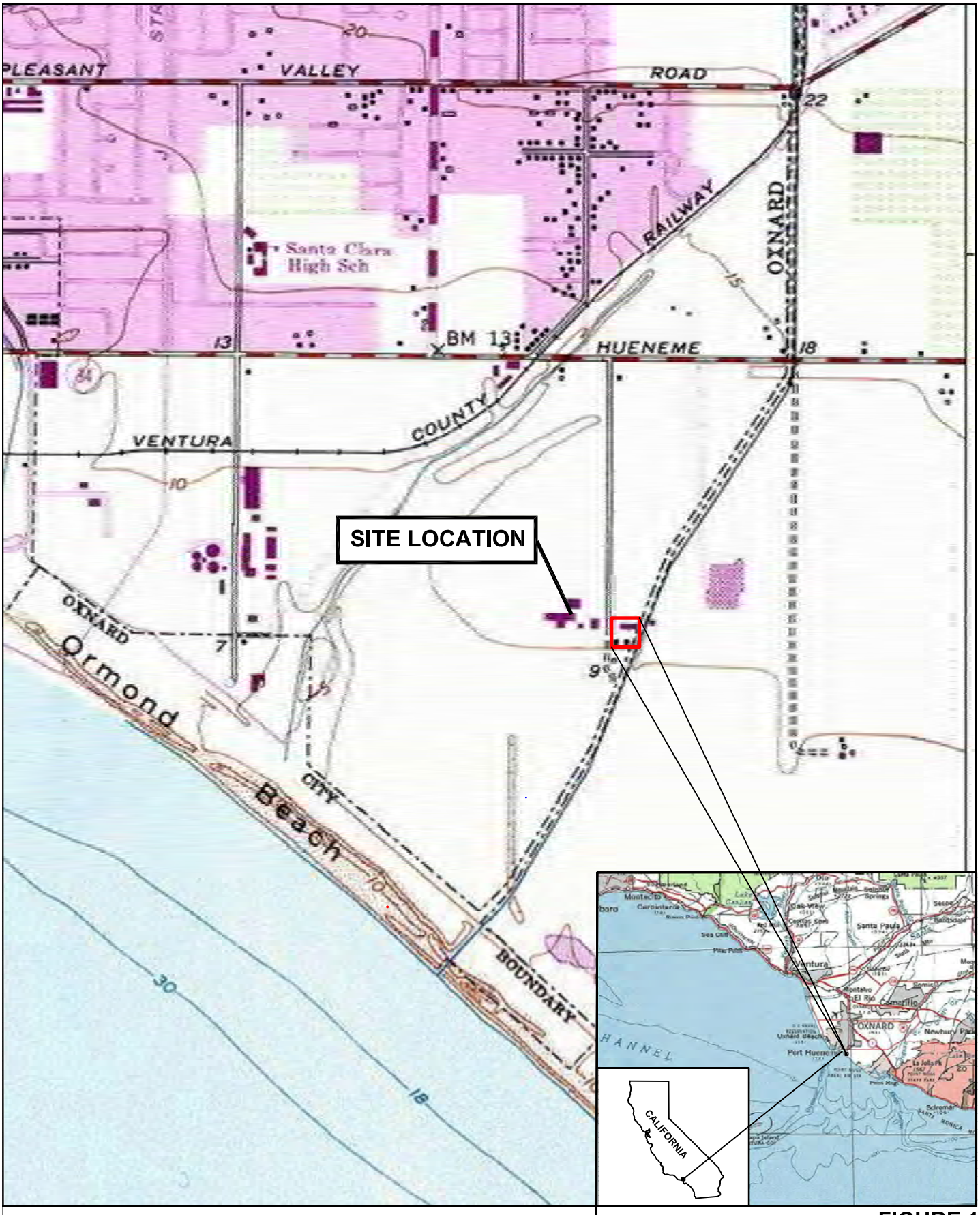
Department of Toxic Substances Control (DTSC), 2001. *Information Advisory on Clean Imported Fill Material Fact Sheet*. October.

Krazan & Associates, Inc. (KAI), 2020. *Update to Geotechnical Engineering Investigation Report, Proposed Cold Storage Facility, 5980/6000 Arcturus Avenue, Oxnard, California*. April 2.

Northgate Environmental Management, Inc. (Northgate), 2015. *Phase I Environmental Site Assessment, 5980 and 6000 Arcturus Avenue, Oxnard, California.* June 19.

Woodward-Clyde Consultants (WCC), 1996. Environmental Baseline Investigation Report, 5980 Arcturus Avenue, Oxnard, California, January.

FIGURES



Source: USGS Oxnard, CA 7.5 minute quadrangle

FIGURE 1
Site Vicinity Map

Soil and Groundwater Management Plan
5980 and 6000 Arcturus Avenue
Oxnard, California

northgate environmental management, inc.

Project No. 2036.04.02S



LEGEND

Site Boundary

Parcel Boundary

0 125 250

Scale (Feet)

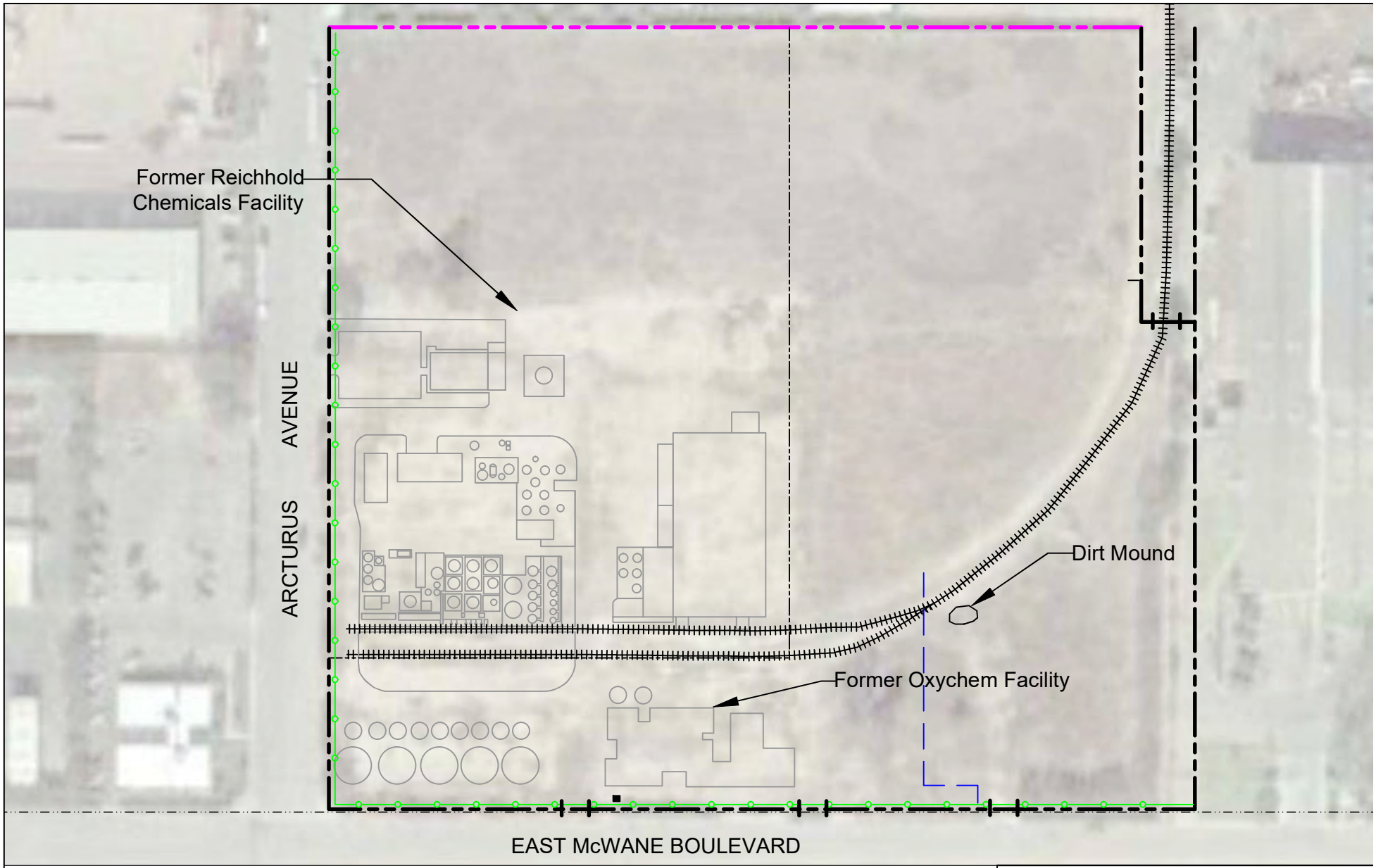
N

FIGURE 2
Site Location Map

Soil and Groundwater Management Plan
5980 and 6000 Arcturus Avenue
Oxnard, California

northgate environmental management, inc.

Project No. 2036.04.02S



LEGEND

- Site boundary - block wall
- Site boundary - chain link fence
- Parcel boundary
- Overhead power line
- Railroad track
- Trace of underground water line
- Sandbags for stormwater control at Site boundary
- Electrical utility box
- Gate
- Former Above Ground Storage Tanks
- Former plant features delineated in gray

0 65 130

Scale (Feet)

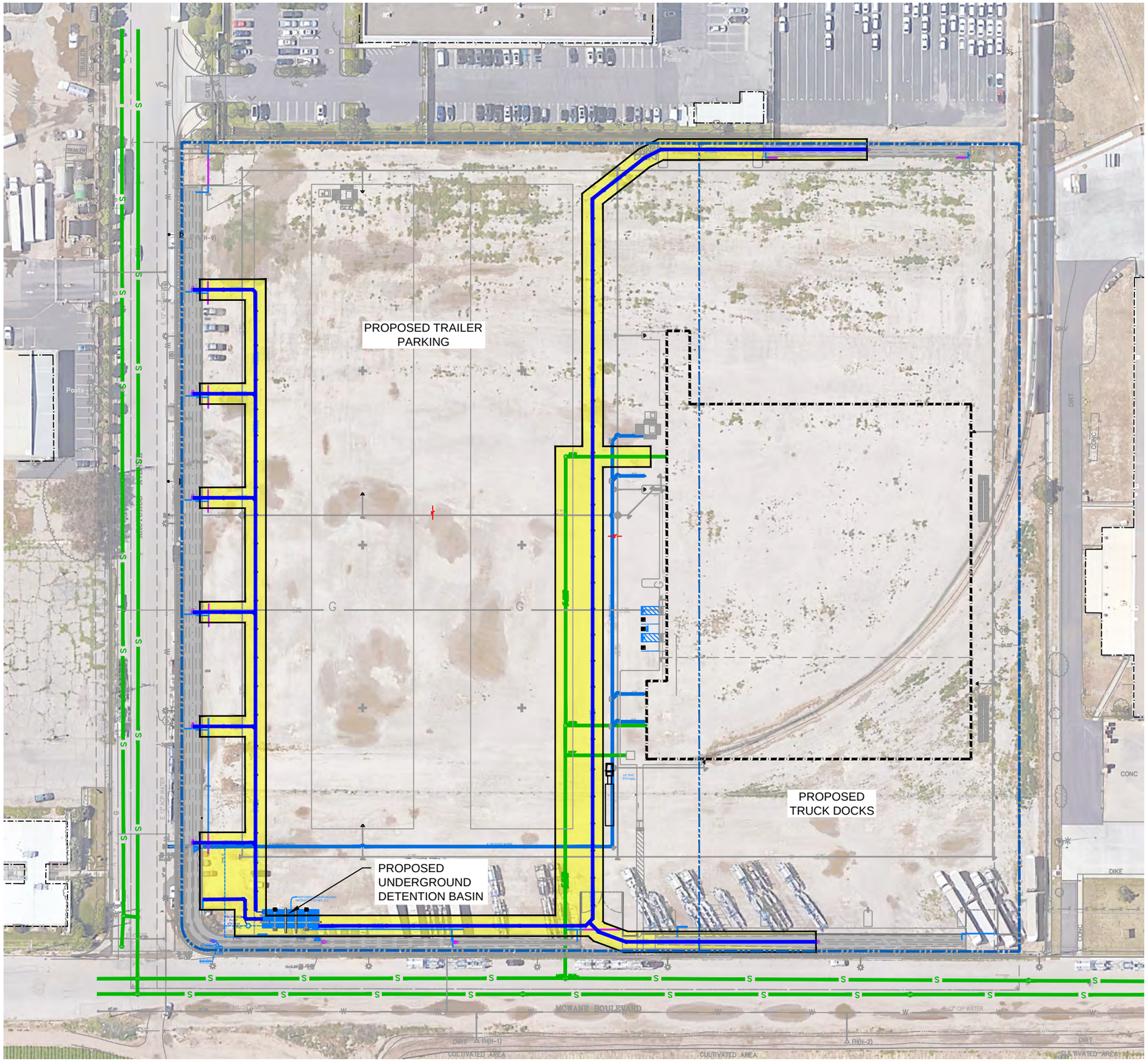
N

FIGURE 3
Site Plan

Soil and Groundwater Management Plan
5980 and 6000 Arcturus Avenue
Oxnard, California

northgate environmental management, inc.

Project No. 2036.04.02S



□EGE□□□

- SITE BOUNDARY
- BUILDING FOOTPRINT
- PROPOSED STORM DRAIN LINE
- EXISTING SEWER LINE
- PROPOSED SEWER LINE
- PROPOSED WATER LINE
- SCREENING AREA

N

0 50 100

Scale (Feet)

FIGURE □

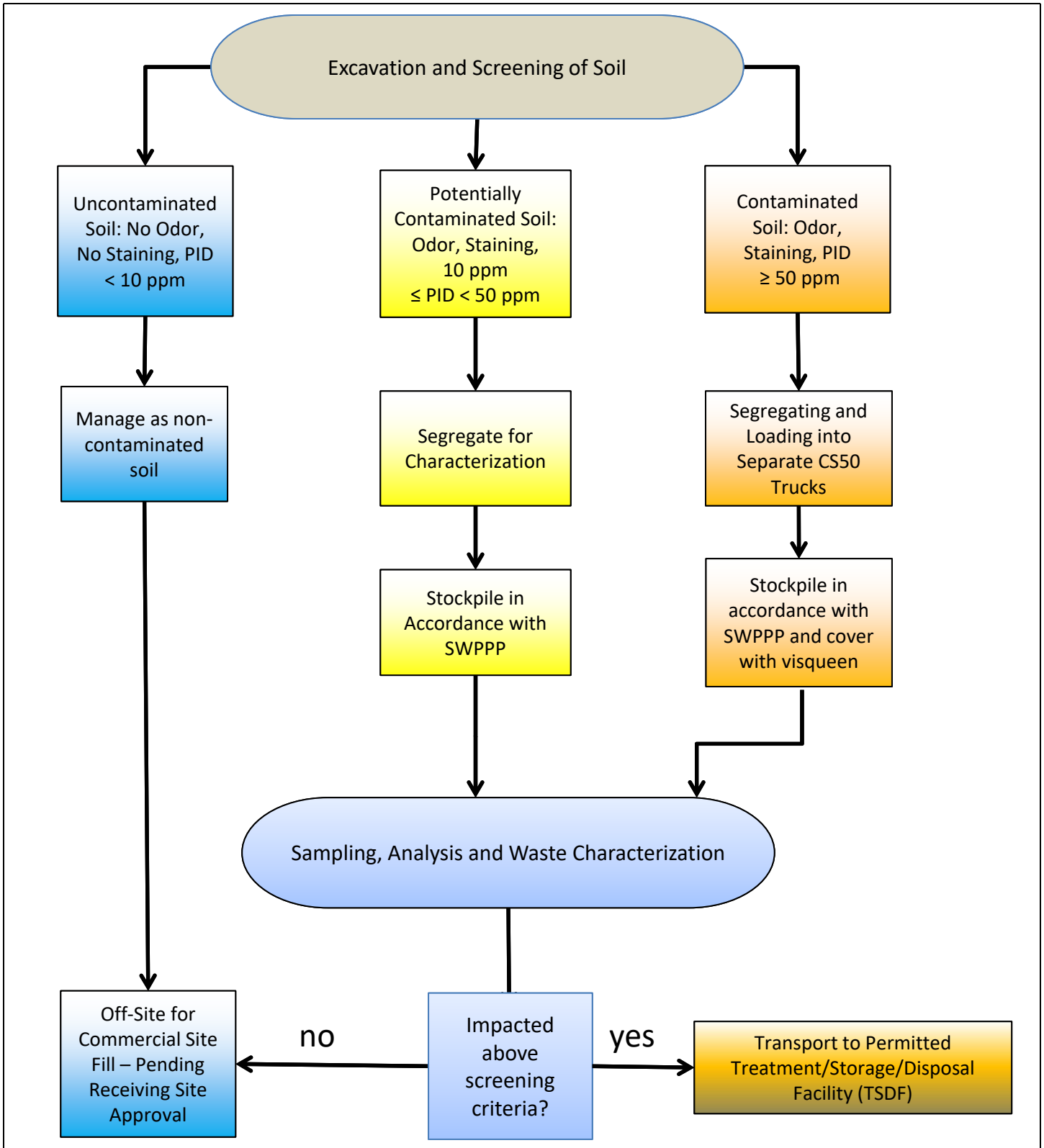
□R□□□SE□ □RE□S SU□□E□□ □□ S□REE□I□G

Soil and Groundwater Management Plan
5980 and 6000 Arcturus Avenue
Oxnard, California

northgate environmental management, inc.

Project No. 2036.04

D:\Work\NGEM\2036\2036.04\Figure 4 - Screening Areas.dwg, 6/9/23



Legend
PID: Photoionization detector
ppm: Parts per million
SWPPP: Stormwater Pollutant Prevention Plan
TSDF: Treatment/storage/disposal facility

FIGURE 5
Contaminated Soil Management Flow Chart

Soil and Groundwater Management Plan
5980 and 6000 Arcturus Avenue
Oxnard, California

northgate environmental management, inc.

Project Number 2036.04.02S

APPENDIX A

LAND USE COVENANT

RECORDING REQUESTED BY:

RETIA USA LLC
1201 Louisiana Street, Suite
1800Houston, TX 77002

WHEN RECORDED, MAIL TO:

Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth, California 91311
Attention: Sayareh Amirebrahimi
Branch Chief
Brownfields and Environmental
Restoration Program

SPACE ABOVE THIS LINE RESERVED FOR RECORDER'S USE

LAND USE COVENANT AND AGREEMENT

ENVIRONMENTAL RESTRICTIONS

County of Ventura, Assessor Parcel Number(s): 231-0-093-135 and -231-0-093-155
RETIA USA LLC (RETIA) Property
301702

This Land Use Covenant and Agreement ("Covenant") is made by and between RETIA USA LLC (RETIA) (the "Covenantor"), the current owner of property located at 5980 and 6000 Arcturus Avenue, Oxnard in the County of Ventura, State of California (the "Property"), and the Department of Toxic Substances Control (the "Department"). Pursuant to Civil Code section 1471, the Department has determined that this Covenant is reasonably necessary to protect present or future human health or safety or the environment as a result of the presence on the land of hazardous materials as defined in Health and Safety Code section 25260. The Covenantor and the Department hereby agree that, pursuant to Civil Code section 1471 and Health and Safety Code section 25355.5, the use of the Property be restricted as set forth in this Covenant and that the Covenant shall conform with the requirements of California Code of Regulations, title 22, section 67391.1.

ARTICLE I

STATEMENT OF FACTS

1.1. Property Location. The Property that is subject to this Covenant, totaling approximately 14.335 acres, is more particularly described in the attached Exhibit A, "Legal Description", and as depicted in Exhibit B. The Property is located in the area now generally bounded by Arcturus Avenue on the west, McWane Boulevard on the south, and industrial properties on the north and east. The Property is also identified as County of Ventura, Assessor Parcel Number(s) 231-0-093-135 and 231-0-093-155.

1.2. Remediation of Property. This Property has been investigated under the Department's oversight. The Site was used by various operators to manufacture polyester resins since the 1960s. The principal raw materials involved in the manufacturing have included bromine, styrene, maleic anhydride and methylene chloride. These materials were historically stored in above ground tanks and 55-gallon drums. Previous investigation and multimedia sampling at the property indicated that the soil at the property was contaminated with ethylbenzene, chlorinated solvents and xylene. The groundwater beneath the property was also contaminated with ethylbenze, chlorinated solvents, styrene, xylene and benzene. On January 2, 2002, the Department and former property owner, Reichhold Inc., entered into a Voluntary Cleanup Agreement for Reichhold Inc. to conduct a Preliminary Endangerment Assessment under the Department's oversight. According to the Preliminary Endangerment Assessment Report Addendum, dated March 2007, the highest level of VOCs found in groundwater at the property were benzene, toluene and xylene and concentrations of 0.85 ug/L, 0.9 ug/L and 0.24 ug/L respectively which were below their respective Maximum Contaminant Levels of 1ug/L, 150 ug/l and 1,750 ug/L. A Human Health Risk Assessment (HHRA) was conducted to provide a site-specific evaluation of potential risk. The Updated HHRA, dated October 15, 2007, concluded that potential cumulative excess life time cancer risk (ELCR) from all carcinogenic volatile compounds detected in the groundwater and the soil gas at the Property is below the Department regulatory point of departure value for unrestricted land use of 1×10^{-6}. For the future residential exposure of direct contact with soil, the potential cumulative ELCR from all carcinogenic chemicals of potential concern is 1×10^{-5}, which is above the Department

regulatory point of departure value for unrestricted land use of 1×10^{-6}. As demonstrated in the HHRA, the cumulative risk associated with direct contact exposures for the hypothetical residential scenario is above the unrestricted land use point of point of departure of 1×10^{-6}. Therefore, a Land Use Covenant is needed to restrict the use of the Property in order to protect present or future human health or safety or the environment. In accordance with Health and Safety Code, Division 20, Chapter 6.8, the Department issued a No Further Action letter on January 15, 2008, approving the Preliminary Endangerment Assessment Report Addendum dated March 2007 and the Updated Human Health Risk Assessment dated October 2007, and requiring implementation of a Land Use Covenant because of the potential cumulative ELCR from all carcinogenic chemicals of potential concern at the property.

1.3. Basis for Environmental Restrictions.

As a result of the presence of hazardous substances which are also hazardous materials as defined in Health and Safety Code section 25260, at the Property, and based on the conclusions of the Updated Human Health Risk Assessment, the Department has concluded that it is reasonably necessary to restrict the use of the Property in order to protect present or future human health or safety or the environment, and that this Covenant is required as part of the Department-approved remedy for the Property. The Department has also concluded that the Property, as remediated and when used in compliance with the Environmental Restrictions of this Covenant, does not present an unacceptable risk to present and future human health or safety or the environment.

ARTICLE II

DEFINITIONS

2.1. Department. "Department" means the California Department of Toxic Substances Control and includes its successor agencies, if any.

2.2. Environmental Restrictions. "Environmental Restrictions" means all protective provisions, covenants, restrictions, requirements, prohibitions, and terms and conditions as set forth in this Covenant.

2.3. Improvements. "Improvements" includes, but is not limited to buildings, structures, roads, driveways, improved parking areas, wells, pipelines, or other utilities.

2.4. Lease. "Lease" means lease, rental agreement, or any other document that creates a right to use or occupy any portion of the Property.

2.5. Occupant. "Occupant" or "Occupants" means Owner and any person or entity entitled by ownership, leasehold, or other legal relationship to the right to occupy any portion of the Property.

2.6. Owner. "Owner" or "Owners" means the Covenantor, and any successor in interest including any heir and assignee, who at any time holds title to all or any portion of the Property.

ARTICLE III

GENERAL PROVISIONS

3.1. Runs with the Land. This Covenant sets forth Environmental Restrictions that apply to and encumber the Property and every portion thereof no matter how it is improved, held, used, occupied, leased, sold, hypothecated, encumbered, or conveyed. This Covenant: (a) runs with the land pursuant to Civil Code section 1471 and Health and Safety Code section 25355.5; (b) inures to the benefit of and passes with each and every portion of the Property; (c) is for the benefit of, and is enforceable by the Department; and (d) is imposed upon the entire Property unless expressly stated as applicable only to a specific portion thereof.

3.2. Binding upon Owners/Occupants. This Covenant: (a) binds all Owners of the Property, their heirs, successors, and assignees; and (b) the agents, employees,

and lessees of the Owners and the Owners' heirs, successors, and assignees. Pursuant to Civil Code section 1471, all successive Owners of the Property are expressly bound hereby for the benefit of the Department; this Covenant, however, is binding on all Owners and Occupants, and their respective successors and assignees, only during their respective periods of ownership or occupancy except that such Owners or Occupants shall continue to be liable for any violations of, or non-compliance with, the Environmental Restrictions of this Covenant or any acts or omissions during their ownership or occupancy.

3.3. Incorporation into Deeds and Leases. This Covenant shall be incorporated by reference in each and every deed and Lease for any portion of the Property.

3.4. Conveyance of Property. The Owner and new Owner shall provide Notice to the Department not later than 30 calendar days after any conveyance or receipt of any ownership interest in the Property (excluding Leases, and mortgages, liens, and other non-possessory encumbrances). The Notice shall include the name and mailing address of the new Owner of the Property and shall reference the site name and site code as listed on page one of this Covenant. The notice shall also include the Assessor's Parcel Number(s) noted on page one. If the new Owner's property has been assigned a different Assessor Parcel Number, each such Assessor Parcel Number that covers the Property must be provided. The Department shall not, by reason of this Covenant, have authority to approve, disapprove, or otherwise affect proposed conveyance, except as otherwise provided by law or by administrative order.

3.5. Costs of Administering the Covenant to Be Paid by Owner. The Department has already incurred and will in the future incur costs associated with this Covenant. Therefore, pursuant to California Code of Regulations, title 22, section 67391.1(h), the Owner agrees to pay the Department's costs in administering, implementing and enforcing this Covenant.

ARTICLE IV

RESTRICTIONS AND REQUIREMENTS

4.1. Prohibited Uses. The Property shall not be used for any of the following purposes without prior written approval by the Department:

(a) A residence, including any mobile home or factory built housing, constructed or installed for use as residential human habitation.

(b) A hospital for humans.

(c) A public or private school for persons under 18 years of age.

(d) A day care center for children.

4.2. Soil Management. Soil management activities at the Property are subject to the following requirements in addition to any other applicable Environmental Restrictions:

(a) No activities that will disturb the soil at or below 5 feet below grade (e.g., excavation, grading, removal, trenching, filling, earth movement, mining, or drilling) shall be allowed at the Property without a Soil Management Plan pre-approved by the Department in writing.

(b) Any soil brought to the surface by grading, excavation, trenching or backfilling shall be managed in accordance with all applicable provisions of state and federal law.

4.3. Prohibited Activities. The following activities shall not be conducted at the Property:

(a) Drilling for any water, oil, or gas without prior written approval by the Department.

(b) Extraction or removal of groundwater for purposes other than site monitoring without a Groundwater Management Plan pre-approved by the Department in writing.

4.4. Access for Department. The Department shall have reasonable right of entry and access to the Property for inspection, investigation, remediation, monitoring, and other activities as deemed necessary by the Department in order to protect human health or safety or the environment.

4.5. Access for Implementing Operation and Maintenance. The entity or

person responsible for implementing the operation and maintenance activities, if any, shall have reasonable right of entry and access to the Property for the purpose of implementing such operation and maintenance activities until the Department determines that no further operation and maintenance activity is required.

4.6. Inspection and Reporting Requirements. The Owner shall conduct an annual inspection of the Property verifying compliance with this Covenant and shall submit an annual inspection report to the Department for its approval by June 15th of each year. The annual inspection report must include the dates, times, and names of those who conducted the inspection and reviewed the annual inspection report. It also shall describe how the observations that were the basis for the statements and conclusions in the annual inspection report were performed (e.g., drive by, fly over, walk in, etc.). If any violation is noted, the annual inspection report must detail the steps taken to correct the violation and return to compliance. If the Owner identifies any violations of this Covenant during the annual inspection or at any other time, the Owner must within 10 calendar days of identifying the violation: (a) determine the identity of the party in violation; (b) send a letter advising the party of the violation of the Covenant; and (c) demand that the violation cease immediately. Additionally, a copy of any correspondence related to the violation of this Covenant shall be sent to the Department within 10 calendar days of its original transmission.

4.7 Five-Year Review. In addition to the annual reviews noted above, after a period of five (5) years from June 15, 2015 and every five (5) years thereafter, Owner shall submit a Five-Year Review report documenting its review of the Environmental Restrictions and its evaluation to determine if human health and the environment are being adequately protected by the Environmental Restrictions. The report shall describe the results of all inspections, sampling analyses, tests and other data generated or received by Owner and evaluate the adequacy of the Environmental Restrictions in protecting human health and the environment. As a result of any review work performed, the Department may require Owner to perform additional review work or modify the review work previously performed by Owner.

ARTICLE V

ENFORCEMENT

5.1. Enforcement. Failure of the Owner or Occupant to comply with this Covenant shall be grounds for the Department to require modification or removal of any Improvements constructed or placed upon any portion of the Property in violation of this Covenant. Violation of this Covenant, such as failure to submit (including submission of any false statement) record or report to the Department, shall be grounds for the Department to pursue administrative, civil, or criminal actions, as provided by law.

ARTICLE VI

VARIANCE, REMOVAL AND TERM

6.1. Variance from Environmental Restrictions. Any person may apply to the Department for a written variance from any of the Environmental Restrictions imposed by this Covenant. Such application shall be made in accordance with Health and Safety Code section 25223.

6.2 Removal of Environmental Restrictions. Any person may apply to the Department to remove any of the Environmental Restrictions imposed by this Covenant or terminate the Covenant in its entirety. Such application shall be made in accordance with Health and Safety Code section 25224.

6.3 Term. Unless ended in accordance with paragraph 6.2, by law, or by the Department in the exercise of its discretion, this Covenant shall continue in effect in perpetuity.

ARTICLE VII

MISCELLANEOUS

7.1. No Dedication Intended. Nothing set forth in this Covenant shall be construed to be a gift or dedication, or offer of a gift or dedication, of the Property, or any portion thereof, to the general public or anyone else for any purpose whatsoever.

7.2. Recordation. The Covenantor shall record this Covenant, with all referenced Exhibits, in the County of Ventura within 10 calendar days of the Covenantor's receipt of a fully executed original.

7.3. Notices. Whenever any person gives or serves any Notice ("Notice" as

used herein includes any demand or other communication with respect to this Covenant), each such Notice shall be in writing and shall be deemed effective: (a) when delivered, if personally delivered to the person being served or to an officer of a corporate party being served; or (b) five calendar days after deposit in the mail, if mailed by United States mail, postage paid, certified, return receipt requested:

To Owner:

Mr. Doug Loutzenhiser
Vice President
RETIA USA LLC
486 Thomas Jones Way, Suite 110
Exton, PA 19341-2528

And

To Department

Ms. Sayareh Amirebrahimi
Branch Chief, Brownfields and Environmental Restoration Program
Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth, California 91311

Any party may change its address or the individual to whose attention a Notice is to be sent by giving advance written Notice in compliance with this paragraph.

7.4. Partial Invalidity. If this Covenant or any of its terms are determined by a court of competent jurisdiction to be invalid for any reason, the surviving portions of this Covenant shall remain in full force and effect as if such portion found invalid had not been included herein.

7.5. Statutory References. All statutory or regulatory references include successor provisions.

7.6. Incorporation of Exhibits. All exhibits and attachments to this Covenant are incorporated herein by reference.

IN WITNESS WHEREOF, the Covenantor and the Department hereby execute this Covenant.

Covenantor: RETIA USA LLC

By: Danny Kite

Title: President

Danny Kite, President

Date: 8/19/15

Department of Toxic Substances Control:

By:

Title: Branch Chief

Sayareh Amirebrahimi, Branch Chief
Brownfields and Environmental Restoration Program – Chatsworth Office

Date: 8/20/2015

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of LOS ANGELES

On AUGUST 20, 2015 before me,

M. BOSE, PUBLIC NOTARY

(space above this line is for name and title of the officer/notary),

personally appeared SAYAREH AMIRGBRAHIMI, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal,

M. Bose (seal)

Signature of Notary Public

M. BOSE
Commission No. 2041082
NOTARY PUBLIC-CALIFORNIA
LOS ANGELES COUNTY
My Comm. Expires SEPTEMBER 12, 2017

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of Texas

County of Harris

On August 19, 2015 before me, Susan Velasquez, personally appeared Danny Kite, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal,

NOTARY PUBLIC STATE OF TEXAS
SUSAN VELASQUEZ
My Commission Expires
September 18, 2016

Susan Velasquez
Signature of Notary Public

(Personalized Seal)

EXHIBIT "A"

All that certain real property situated in the County of Ventura, State of California, described as follows:

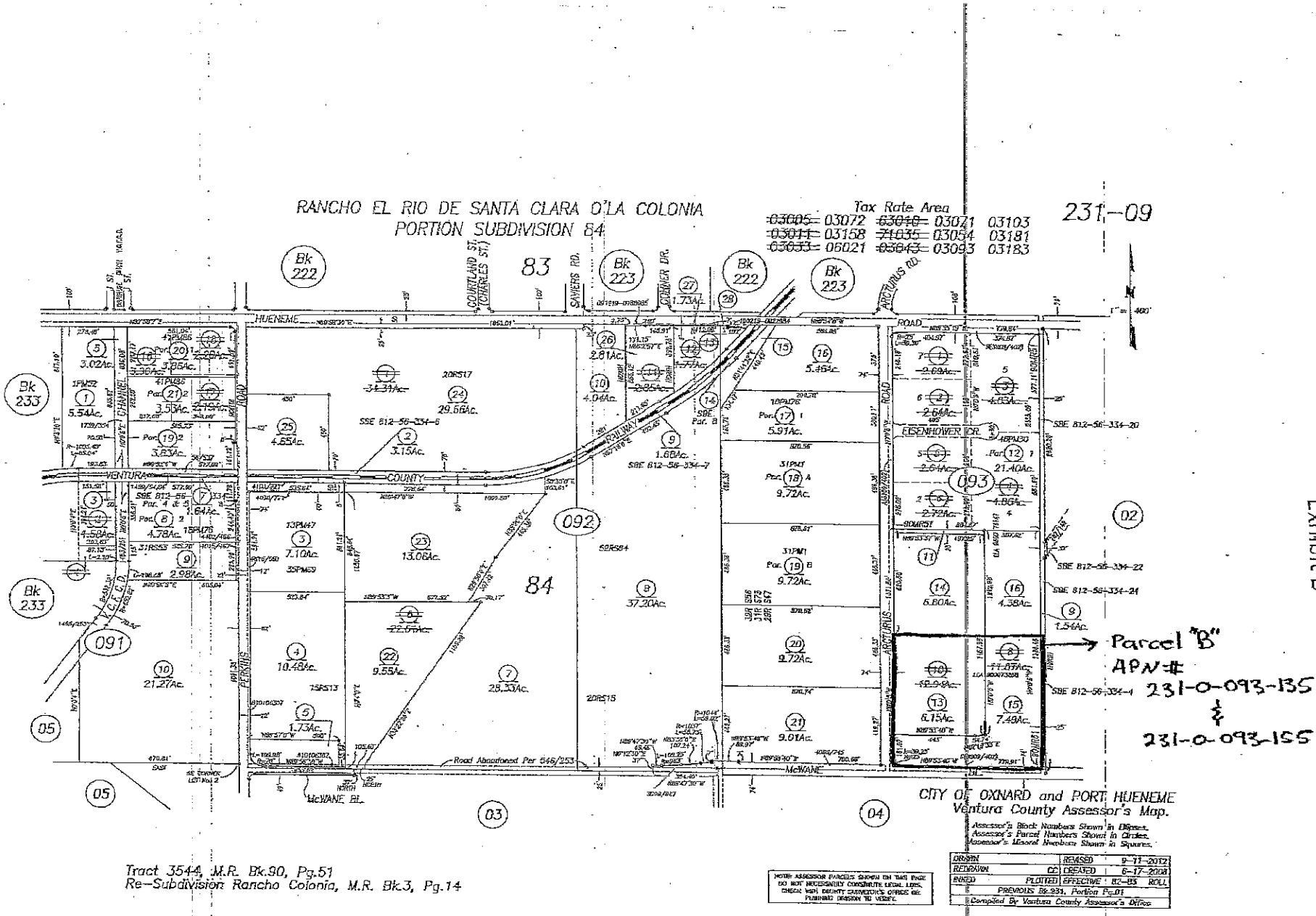
PARCEL "B", AS SHOWN AND DESIGNATED ON THAT CERTAIN LOT LINE ADJUSTMENT (PLANNING AND ZONING PERMIT NO. 98-5-42), RECORDED MAY 14, 1998 AS INSTRUMENT NO. 98-76147, OF OFFICIAL RECORDS, IN THE CITY OF OXNARD, COUNTY OF VENTURA, STATE OF CALIFORNIA AND BEING ALL OF PARCEL 2, OF LOT MERGER (PLANNING AND ZONING PERMIT NO. 98-5-41) RECORDED MAY 11, 1998 AS INSTRUMENT NO. 98-73258 OF OFFICIAL RECORDS.

EXCEPT THEREFROM THE NORTHERLY 620.50 FEET OF SAID PARCEL 2.

ALSO EXCEPTING FROM A PORTION, A ONE-HALF OF ALL MINERALS, OIL, GAS AND OTHER HYDROCARBON SUBSTANCES IN AND UNDER SAID LAND, WITHOUT, HOWEVER, ANY RIGHT OF ENTRY IN AND TO THE SUBSURFACE THEREOF AT DEPTH OF LESS THAT 500 FEET BENEATH THE SURFACE FOR THE DEVELOPMENT OR REMOVAL OF SAID SUBSTANCES, AS RESERVED BY CLIFFORD B. JOHNSON AND OTHERS IN THE DEED RECORDED SEPTEMBER 22, 1961 IN BOOK 2050, PAGE 386 OF OFFICIAL RECORDS.

ALSO EXCEPTING FROM A PORTION, A ONE-FOURTH OF ALL OIL, GAS, MINERALS AND OTHER HYDROCARBON SUBSTANCES IN AND UNDER SAID LAND, WITHOUT, HOWEVER, ANY RIGHT TO SURFACE ENTRY IN AND TO THE SUBSURFACE THEREOF AT A DEPTH OF LESS THAN 500 FEET BENEATH THE SURFACE FOR DEVELOPMENT OR REMOVAL OF SAID SUBSTANCES, AS RESERVED BY T. G. M. INVESTMENT CO., INC., AS TITLE HOLDING COMPANY FOR OXNARD DEVELOPMENT CO., A JOINT VENTURE UNDER TITLE HOLDING AGREEMENT DATED FEBRUARY 13, 1960 AND RECORDED MARCH 11, 1960 IN BOOK 1842, PAGE 243 OF OFFICIAL RECORDS, IN THE DEED RECORDED DECEMBER 7, 1961, IN BOOK 2081, PAGE 67, OF OFFICIAL RECORDS.

Assessor's Parcel Number: 231-0-093-135 and 231-0-093-155



Tract 3544, M.R. Bk.90, Pg.51
Re-Subdivision Rancho Colonia, M.R. Bk.3, Pg.14

Exhibit B

APPENDIX B

VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT - RULE 74.29 – SOIL DECONTAMINATION OPERATIONS

VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT

RULE 74.29 - SOIL DECONTAMINATION OPERATIONS
(Adopted 10/10/95, Revised 1/8/02, Revised 4/08/08 Effective July 1, 2008)

A. Applicability

This rule is applicable to soils that contain gasoline, diesel fuel, or jet fuel.

B. Requirements

1. No person shall cause or allow the aeration of soil that contains gasoline, diesel fuel, or jet fuel, if such aeration:

   a. Emits reactive organic compounds (ROC), as measured by a certified organic vapor analyzer, in excess of 50 parts per million by volume (ppmv) above background, as hexane, except nonrepeatable momentary readings. In determining compliance, a portion of soil measuring three inches in depth and no less than six inches in diameter shall be removed from the soil surface and the probe inlet shall be placed near the center of the resulting hole, level with the soil surface surrounding the hole; or

   b. Causes a nuisance, as defined in the California Health and Safety Code Section 41700 and Rule 51, Nuisance.

   Offsite aeration is prohibited.

2. No person shall excavate an underground storage tank and/or transfer piping currently or previously used to store an applicable compound, or excavate or grade soil containing an applicable compound, unless ROC emissions are monitored with a certified organic vapor analyzer at least once every 15 minutes during the excavation period commencing at the beginning of excavation or grading. Soil with emission measurements in excess of 50 parts per million by volume (ppmv), as hexane, a shall be considered contaminated.

   During excavation, all inactive exposed contaminated soil surfaces shall be treated with a vapor suppressant or covered with continuous heavy duty plastic sheeting (4 mil or greater) or other covering to minimize emissions of ROC to the atmosphere. Covering shall be in good condition, overlapped at the seams, and securely anchored to minimize headspace where vapors may accumulate.

3. No person shall operate a vapor extraction, bioremediation, or bioventing system unless: ROC emissions, as measured by a certified organic vapor analyzer, are less than or equal to 100 ppmv, as methane. If the total system flow rate is greater

than 300 standard cubic feet per minute (scfm) and the system would emit ROC at a rate greater than 0.08 lb/hour, a Health Risk Assessment shall be required.

4. No person shall operate an in situ soil bioventing or bioremediation system unless ROC emissions, as measured by a certified organic vapor analyzer, are less than or equal to 50 ppmv, as hexane, except nonrepeatable momentary readings, when measured at a distance of three inches from the soil surface.

5. The owner or operator of any applicable underground storage tank shall notify the District Compliance Division at least 24 hours prior to beginning the excavation of said storage tank and/or transfer piping.

6. Contaminated soil in active storage piles shall be kept visibly moist by water spray, treated with a vapor suppressant, or covered with continuous heavy duty plastic sheeting (4 mil or greater) or other covering to minimize emissions of ROC to the atmosphere. Covering shall be in good condition, overlapped at the seams, and securely anchored to minimize headspace where vapors may accumulate. For any active storage pile, the surface area not covered by plastic sheeting or other covering shall not exceed 6,000 square feet.

7. Contaminated soil in inactive storage piles shall be with covered with continuous heavy duty plastic sheeting (4 mil or greater) or other covering to minimize emissions to the atmosphere. The covering shall be in good condition, overlapped at the seams, and securely anchored to minimize headspace where vapors may accumulate.

8. If not removed within 30 days of excavation, on-site treatment to remove contamination from contaminated soil at an excavation or grading site shall be initiated. The treatment of contaminated soil shall be subject to all applicable District Rules and Regulations.

9. Trucks used to transport contaminated soil must meet the following requirements:

    a. The truck and trailer shall be tarped prior to leaving the site. Contaminated material shall not be visible beyond the tarp and shall not extend above the sides or rear of the truck or trailer; and

    b. The exterior of the truck, trailer and tires shall be cleaned prior to leaving the site.

C. Exemptions

1. The provisions of this rule shall not apply to soil that was contaminated by a leaking storage tank used in an agricultural operation engaged in the growing of crops or the raising of fowl or animals.

2. The requirements of Subsection B.1.a shall not apply to:

   a. Soil excavation activities necessary for the removal of in situ soil such as in the removal of an underground storage tank, pipe or piping system, provided the exposed soil is covered as specified in Subsection B.7 while inactive; or

   b. Soil moving, loading, or transport activities performed for the sole purpose of complying with local, state, or federal laws, provided the soil is handled in accordance with such laws; or

   c. Soil excavation or handling occurring as a result of an emergency as declared by an authorized health officer, agricultural commissioner, fire protection officer, or other authorized agency officer. Whenever possible, the APCO shall be notified prior to commencing such excavation; or

   d. Any soil aeration project involving less than 1 cubic yard; or

   e. Situations where the soil contamination resulted from a spill or release of less than five (5) gallons of diesel fuel, jet fuel, or gasoline; or

   f. Contaminated soil used as daily cover at permitted Class III Solid Waste Disposal Sites if such soils do not have a gasoline concentration exceeding 100 parts per million by weight (ppmw) or a diesel fuel concentration exceeding 1,000 ppmw as determined by the method specified in Subsection F.1.

D. Recordkeeping Requirements

For any soil aeration project subject to this rule, the records specified in Subsection D.1 shall be made available to the Air Pollution Control Officer upon request for at least two years after initial entry.

For any other soil decontamination project subject to this rule, the following information shall be made available to the Air Pollution Control Officer upon request for at least two years after initial entry.

1. All dates that soil was disturbed and the quantity of soil disturbed on each date.

2. Reasons for excavation or grading.

3. Cause of VOC soil contamination and history of the site.

4. Description of tanks or piping associated with the soil contamination.

5. Description of mitigation measures employed for dust, odors and ROC emissions.

6. Details of treatment and/or disposal of ROC contaminated soil, including the ultimate receptor.

7. Description of monitoring equipment and techniques.

8. All ROC emission measurements shall be recorded on a continuous permanent strip-chart or in a format approved by the Air Pollution Control Officer (APCO).

9. A map showing the facility layout, property line, and surrounding area up to 2500 feet away, and including any schools, residential areas or other sensitive receptors such as hospitals or locations where children or elderly people live or work.

E. Violations

Failure to comply with any provision of this rule shall constitute a violation of this rule.

F. Test Methods

1. The percent by weight of contaminant in soil samples shall be determined by EPA Method 8015B. Samples shall be introduced using Method 5035 (Purge and Trap) and shall be taken in accordance with the Los Angeles Regional Water Quality Control Board's guidelines for contaminated soil sampling. Standards shall be the same as the contaminant believed to be in the soil. If the soil is contaminated with methanol 85 (M85) the standard used shall be M85.

2. To determine if the 0.08 lb/hr threshold in Subsection B.3, will be exceeded, the emission rate (ER) shall be determined as:

$$ER = \frac{(MR)(ppmv)(16\ lb/lbmole)(60\ min/hour)}{(387\ scf/lbmole)(10^6)}$$

Where:

MR = Maximum rating of the system's fan or blower in scfm.

ppmv = Contaminant concentration in parts per million by volume, as methane, in the system's exhaust or vent as determined in a manner consistent Subsection F.3 and according to a monitoring schedule approved by the District.

3. The ROC concentration measurements required in Subsections B.1, B.2, B.3, and B.4 shall be made using an organic vapor analyzer certified according to the requirements of EPA Method 21. For stack measurements, the probe inlet of the analyzer shall be placed on the centerline of the exhaust or vent, upstream of the point where the exhaust gases meet the atmosphere.

G. Definitions

1. "Active": A worksite to which soil is currently being added or from which soil is currently being removed. Activity must occur within one hour to be current.

2. "Aeration": The exposure of excavated contaminated soil to the atmosphere without the use of air pollution control equipment or vapor extraction equipment.

3. "Bioremediation system": A system that uses endogenous or exogenous biological agents to degrade soil contaminants to less hazardous compounds. In bioremediation, microbial processes are controlled by factors such as soil pH, salinity, oxygen level, water content, and nutrient level.

4. "Bioventing system": A type of bioremediation system in which air or oxygen is supplied to the unsaturated zone of contaminated soil to stimulate aerobic biodegradation of soil contaminants. Bioventing systems are designed to provide only the necessary amount of oxygen for biodegradation while minimizing contaminant volatilization. Bioventing may be implemented by injecting air or oxygen through a screened well in the contaminated zone or withdrawing air through a screened well, thereby drawing air into the contaminated soil from the surrounding clean soil. Bioventing systems may or may not have a vent to the atmosphere.

5. "Certified organic vapor analyzer": An applicable instrument meeting the specifications and performance criteria in Section 6.0 of EPA Method 21.

6. "Contaminant": Diesel fuel, gasoline, or jet fuel.

7. "Contaminated": Emitting ROC in excess of 50 parts per million by volume (ppmv), as hexane.

8. "Daily Cover": Soil that is applied on a daily basis or less frequently as a covering over landfill waste.

9. "Diesel Fuel": A blend of petroleum called middle distillates (heavier than gasoline but lighter than lubrication oil) that may contain additional additives.

10. “Excavation”: The process of digging out and removing soil. Included is the digging out and removal of any material necessary to expose soil, such as asphalt or concrete.

11. "Gasoline": Any petroleum distillate having a Reid vapor pressure of 4.0 pounds per square inch or greater, which is sold or intended for sale for use in motor vehicles or engines and is commonly or commercially known or sold as gasoline. Under this definition, methanol 85 (M85) shall be considered gasoline.

12. “Grading”: The process of leveling off material to produce a smooth surface. Included is the removal of any material necessary to expose the contaminated soil, such as asphalt or concrete.

13. "Health Risk Assessment": For the purpose of this rule, a study conducted by the District to determine the potential for health risks caused by emissions from a proposed soil decontamination operation. The applicant is subject to fees pursuant to Rule 42 to recover the District's costs of conducting the assessment.

14. "Jet Fuel": A kerosene-based product having a maximum distillation temperature of 400 degrees Fahrenheit at the 10 percent recovery point and a final maximum boiling point of 572 degrees Fahrenheit and meeting the American Society of Testing and Materials Specification D 1655 and Military Specifications MIL-T-5624P and MIL-T-83133D (Grades JP-5 and JP-8), used for commercial and military turbojet and turboprop aircraft engines.

15. "Methanol 85 (M85)": A blend consisting of 85 percent methanol and 15 percent gasoline.

16. "Nonrepeatable Momentary Readings": "Indications of the presence of organic gasses using a detector meeting the apparatus requirements of EPA Method 21 which persist for less than five seconds and do not recur when the sampling probe is placed in the same location for at least twice the response time of the instrument.

17. "Owner or operator": Any person or authorized representative who has legal title to, leases, operates, controls, or supervises the operation of:

    a. An underground storage tank, including pipes connected thereto, or the real property on which such tank or pipes are located, or

    b. Real property on which surface or subsurface soil will undergo aeration to remove contaminants.

18. "School": Any public or private establishment used for the purpose of educating more than 12 children in kindergarten or any of the grades 1 to 12, inclusive, but does not include any private establishment in which education is primarily conducted in private homes.

19. "Soil Aeration Project": One or more operations conducted at a stationary source in which excavated and contaminated soil is exposed to the atmosphere without the use of air pollution control equipment or a vapor extraction, bioremediation, or bioventing system.

20. "Underground Storage Tank:" Any one or combination of tanks, having at least 10 percent of the underground tank system volume, including the volume of any connected piping, below the ground surface or enclosed below earthen materials.

21. "Vapor Extraction System": An underground or aboveground system that extracts contaminants from soil or ground water using air injection and/or suction and routes the vapors to the surface of the contaminated soil. This definition does not include equipment designed or used to expose soil openly to the atmosphere to facilitate evaporation of ROCs.

APPENDIX C

EXAMPLE FIELD FORMS

FIELD ACTIVITY REPORT

northgate environmental management, inc.
92 Argonaut, Suite 100, Aliso Viejo, CA 92656
main (949) 716-0050; fax (949) 203-1555

Date: _____
Recorded By: _____

Project Name: _____ **Project No.:** _____
Client Name: _____
Weather: _____ **Temperature:** _____
Site Conditions: _____

Purpose of Field Work:

NORTHGATE PERSONNEL ON-SITE

VISITORS

Name	Company/Agency	Time Arrived	Time Left

CONTRACTORS
Contractor Name _____ **Phone No.:** _____
Supervisor: _____ **Task:** _____

Company	No. of Supervisors and Names	No. of Workers	Remarks

EQUIPMENT
Vehicle: Starting Mileage: Ending Mileage: Total Miles:

FIELD ACTIVITY REPORT

northgate
environmental management, inc.
92 Argonaut, Suite 100, Aliso Viejo, CA 92656
main (949) 716-0050; fax (949) 203-1555

Page _____ of _____

Date: _____

Recorded By: _____

Project Name: _____ **Project No.:** _____

Client Name: _____

ACTIVITIES

Time:	Activities (include event, time, observations, observers, etc.)

northgate
environmental management, inc.
92 Argonaut, Suite 100, Aliso Viejo, CA 92656
main (949) 716-0050; fax (949) 203-1555

DAILY SITE SAFETY MEETING RECORD

Recorded By: _____

Date & Time: _____ **Project No.:** _____

Project Name: _____ **Project Location:** _____

Field Activities: _____

_____

Chemicals Present: _____

_____

SAFETY TOPICS DISCUSSED

Protective Clothing/Equipment _____

_____

Hazards of Chemicals Present: _____

_____

Physical Hazards: _____

_____

Special Hazards: _____

_____

Other Topics of Concern: _____

_____

SITE SAFETY CHECKLIST	YES	NO
Attached Signature Page		
Written Health and Safety Plan (HASP) is on-site		
Information in the HASP matches conditions and activities at the site		
Site personnel have appropriate training and certification and medical clearance		
Air monitoring equipment has been calibrated daily		
Site zones are set up and observed where appropriate		
Access to Work Areas is limited to authorized personnel		
Decontamination stations (including hand/face wash) are set up and used		
Personal protective equipment used matches HASP requirements		
Emergency and First Aid equipment is on-site as described in the HASP		
Drinking water is readily available		

Note: All "NO" answers must be addressed & corrected immediately. Note additionally health and safety observations here.

_____

_____

_____

_____

Conducted By

Print Initials: **Signature:** **Date:**

92 Argonaut, Suite 100, Aliso Viejo, CA 92656
main (949) 716-0050; fax (949) 716-0055

Data RAM Calibration Record

Project Name:		Date:	
Project Number:		Name:	
Site Location:			

MIE Personal Data RAM Serial No:

Time	AM	PM	Notes:
Cleaned			
Battery Change			
Zero Set			
Data Download			
Set Logging Interval			
Comments:			

MIE Personal Data RAM Serial No:

Time	AM	PM	Notes:
Cleaned			
Battery Change			
Zero Set			
Data Download			
Set Logging Interval			
Comments:			

MIE Personal Data RAM Serial No:

Time	AM	PM	Notes:
Cleaned			
Battery Change			
Zero Set			
Data Download			
Set Logging Interval			
Comments:			

northgate
environmental management, inc.
92 Argonaut, Suite 100, Aliso Viejo, CA 92656
main (949) 716-0050; fax (949) 716-0055

AIR MONITORING EQUIPMENT CALIBRATION RECORD

Project Name:			**Date:**		
Project Number:			**Name:**		
Site Location:					
Q RAE-II PGM-2400P			**4-Gas Meter**		
Serial No:			**Value**	**Units**	**Calibration Gas Lot # and Date Expires**
CO			**50**	**ppm**	
H2S			**10**	**ppm**	
Oxygen			**18**	**%**	
LEL			**50**	**% LEL**	
Comments:					
Mini RAE 3000 PGM-7320			**10.6 ev PID**		
Serial No:					**Calibration Gas Lot # and Date Expires**
100 ppm Hex					
Zero Filter					
Background:					
Comments:					
Ultra RAE 3000 PGM-7360			**Benzene Meter**		
Serial No:					**Calibration Gas Lot # and Date Expires**
5 ppm Benzene					
Zero Filter					
Background					
Comments:					
Sampling Interval =	**seconds**				
RAE SEP Benzene Tubes Lot # and Expiration Date:					
RAE Hand Pump Model LP-1500			**Hand Pump**		
Serial No:					**Benz Tube Lot # and Expiration Date**
0.5 - 10 ppm					**0.5 -10 ppm**
2 - 100 ppm					**2 - 100 ppm**
Background:					
Comments:					
Leak Check Results =			**Leak Check Performed at:**		

92 Argonaut, Suite 100, Aliso Viejo, CA 92656
(949) 716-0050 fax (949) 203-1555

METEROLOGICAL MONITORING LOG

Station ID:

Name:	**Date:**
Project Name:	**Project No:**
Equipment Used:	**Calibrated On:** -------
Serial No:	**Calibrated By:** -------

TIME	Wind Speed (mph)	Wind Direction	10-Minute Average (mph)	Temp. (deg.F)	Baro. Pres. (mmHG)	Precip. (inches)	COMMENTS

northgate
environmental management, inc.
92 Argonaut, Suite 100, Aliso Viejo, CA 92656
(949) 716-0050 fax (949) 716-0055

PARTICULATE AIR MONITORING LOG

Station ID:

Name:		Date:	
Project Name:		Project No:	
Sensor Type:		Manufacturer:	
Model:		Serial No.:	

TIME	LOCATION/ACTIVITY	CONC ($mg/m^{3)}$	TWA (mg/m3)	COMMENTS

northgate
environmental management, inc.
92 Argonaut, Suite 100, Aliso Viejo, CA 92656
(949) 716-0050 fax (949) 203-1555

AIR MONITORING FORM

Name:		Date:	
Project Name:		Project No:	
Equipment Used:		Calibrated On:	
Serial No:		Calibrated By:	
Calibration Std:		Calibration Conc:	

TIME	LOCATION	VALUE	PPE	COMMENTS

northgate environmental management, inc.

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92 Argonaut, Suite 100, Aliso Viejo, CA 92656
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Site Map

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INCIDENT REPORT FORM

INSTRUCTIONS: Complete, obtain Ops. Mgr.'s signature and route original to your Administrative Manager within 3 days of the Incident.

Office:	Department:	Supervisor:
Name:	Occupation:	
Exact Location Incident Occurred: (Street Address, City, State)	Project No.:	Project Name:
Date and Time of Occurrence:	Time Began Work on Day Injury Occurred:	
Date and to Whom Initially Reported:		
Nature of Incident: (e.g. strain, contusion, laceration, abrasion)		
Parts of Body Affected:		
Type of Activity Engaged in and Equipment Being Used When Incident Occurred: (e.g. water/soil/air sampling, site assessment, hand augering)		
Person with Most Control of Object/Equipment/Substance:		
Witness:		

Describe clearly how the incident occurred:_____

_____

_____

Were Safety Equipment/Safeguards Required for this Particular Job/Activity? ☐ Yes ☐ No If yes, were they used?

Indicate by an "x" if in your opinion the incident was caused by:

Physical Causes

- ❑ Defective Equipment
- ❑ Hazardous Equipment
- ❑ Improper Dress
- ❑ Improper Guarding
- ❑ Improper Ventilation
- ❑ Other _____

Unsafe Acts

- ❑ Operating Without Authority
- ❑ Failure to Wear Protective Equipment
- ❑ Horseplay
- ❑ Failure to Secure or Warn
- ❑ Took Unsafe Position
- ❑ Used Unsafe Equipment or Hands Instead of Equipment
- ❑ Worked on Moving/Energized Equipment
- ❑ Unsafe Equipment
- ❑ Unsafe Loading

Do you require medical attention at this time? ☐ No ☐ Yes Treated in an emergency room? ☐ No ☐ Yes

Hospital Name & Address: _____

Physician Name & Address: _____

What actions will be taken to prevent reoccurrence?

_____

Employee Signature:	Group Manager Signature:
Date:	Print Name:
Phone No.:	Date:

APPENDIX D

SGMP CERTIFICATION FORM

5980 and 6000 Arcturus Avenue, Oxnard

Soil and Groundwater Management Plan

ACKNOWLEDGEMENT AND CERTIFICATION FORM

As an authorized agent to act on the Contractor's behalf, I acknowledge that I have received and reviewed the *Soil and Groundwater Management Plan, 5980 and 6000 Arcturus Avenue, Oxnard, California* prepared by Northgate Environmental Management, Inc. dated June 9, 2023 ("SGMP"). I further certify that I will comply with the rules and procedures in the SGMP, including but not limited to the following topics:

- Rules and Regulations related to soil and groundwater handling
- Required training for site workers
- Operations and procedures for potentially impacted materials
- Site conditions including soil and groundwater quality
- Potential health hazards
- Spill / leak procedures.

[see signature pages below]

FOR CONTROLLED ENVIRONMENTS CONSTRUCTION (CEC):

Print Name and Title of Responsible Person: _____

Signature: _____

Date: _____ Location: _____

Key Staff Safety Members:

Print Name & Title	Staff Signatures	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

FOR ENVIRONMENTAL PROFESSIONALS:

1. NORTHGATE ENVIROMENTAL MANAGEMENT, INC.:

Print Name and Title of Responsible Person: _____

Signature: _____

Date: _____ Location: _____

Key Staff Safety Members:

Print Name & Title	Staff Signatures	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

SUBCONTRACTOR SIGNATURES:

Executed by Authorized Agent and Responsible Person for Contractor on behalf of its construction workers.

Date: _____ Print Name: _____ Title:_____

Signature: _____ Company_____

Date: _____ Print Name: _____ Title:_____

Signature: _____ Company_____

Date: _____ Print Name: _____ Title:_____

Signature: _____ Company_____

Date: _____ Print Name: _____ Title:_____

Signature: _____ Company_____

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Date: _____ Print Name: _____ Title:_____

Signature: _____ Company_____

Date: _____ Print Name: _____ Title:_____

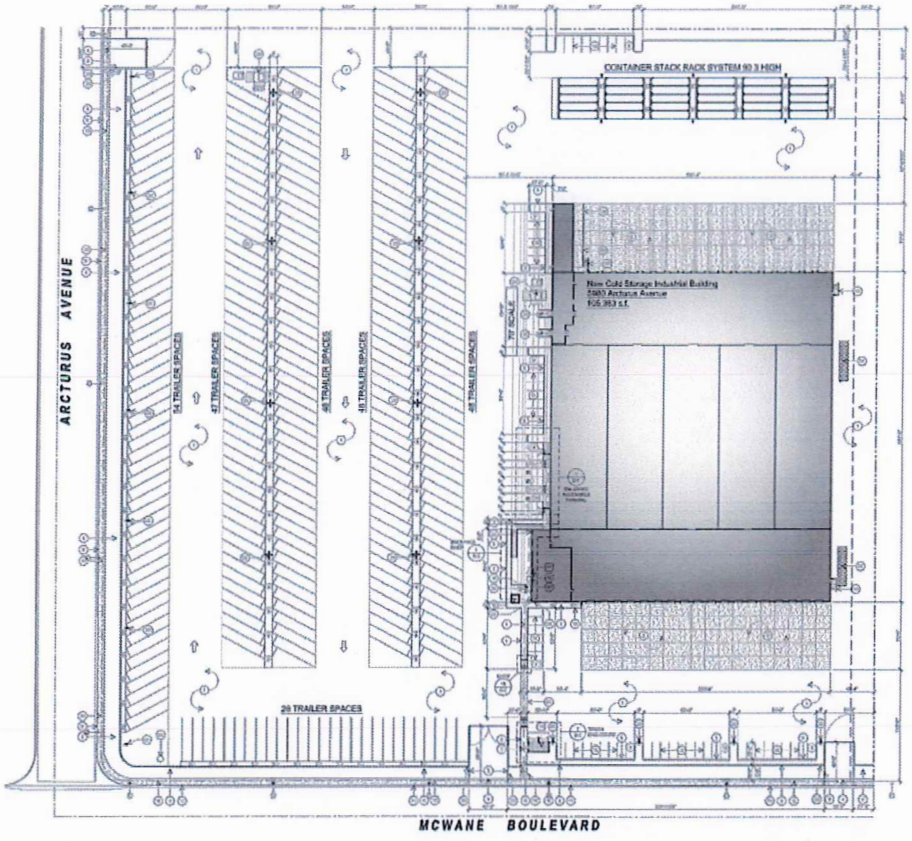
Signature: _____ Company_____

Appendix H
Traffic Study

ESA

ARCTURUS AVENUE COLD STORAGE FACILITY
OXNARD, CALIFORNIA

REVISED TRAFFIC STUDY



February 21, 2023 **ATE Project 21025**

Prepared for:

Controlled Environments Construction, Inc.
1562 Parkway Loop, Suite "E"
Tustin, California 92780

ASSOCIATED TRANSPORTATION ENGINEERS
100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110-1686 • (805) 687-4418 • FAX (805) 682-8509

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Since 1978

Richard L. Pool, P.E.
Scott A. Schell

February 21, 2023

Mr. Gary Guesman, President
Controlled Environment Construction, Inc.
1562 Parkway Loop, Suite "E"
Tustin, California 92780

REVISED TRAFFIC STUDY FOR THE
ARCTURUS AVENUE COLD STORAGE FACILITY - CITY OF OXNARD

Associated Transportation Engineers (ATE) has prepared the following revised traffic study for the Arcturus Cold Storage Facility. It addresses comments provided by ESA on the April 2021 traffic study prepared by ATE for the proposed cold storage warehouse. It is our understanding that the results of the revised traffic study will be used by the City of Oxnard to process the Project's development application.

We appreciate the opportunity to assist Controlled Environment Construction, Inc. with this Project.

Associated Transportation Engineers

By: Scott A. Schell
Vice President

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INTRODUCTION

The following study contains an analysis of the potential traffic and circulation impacts associated with the Arcturus Cold Storage Facility (the "Project"), located in the City of Oxnard. The guidelines set forth in the City of Oxnard's Traffic Impact Study guidelines were utilized in formatting the various sections of the traffic study. The study provides information relative to "Existing", "Existing + Project", "Cumulative" (existing + approved/pending projects) and "Cumulative + Project" traffic conditions. Site access, on-site parking, construction traffic and Vehicle Miles Traveled (VMT) are also addressed.

PROJECT DESCRIPTION



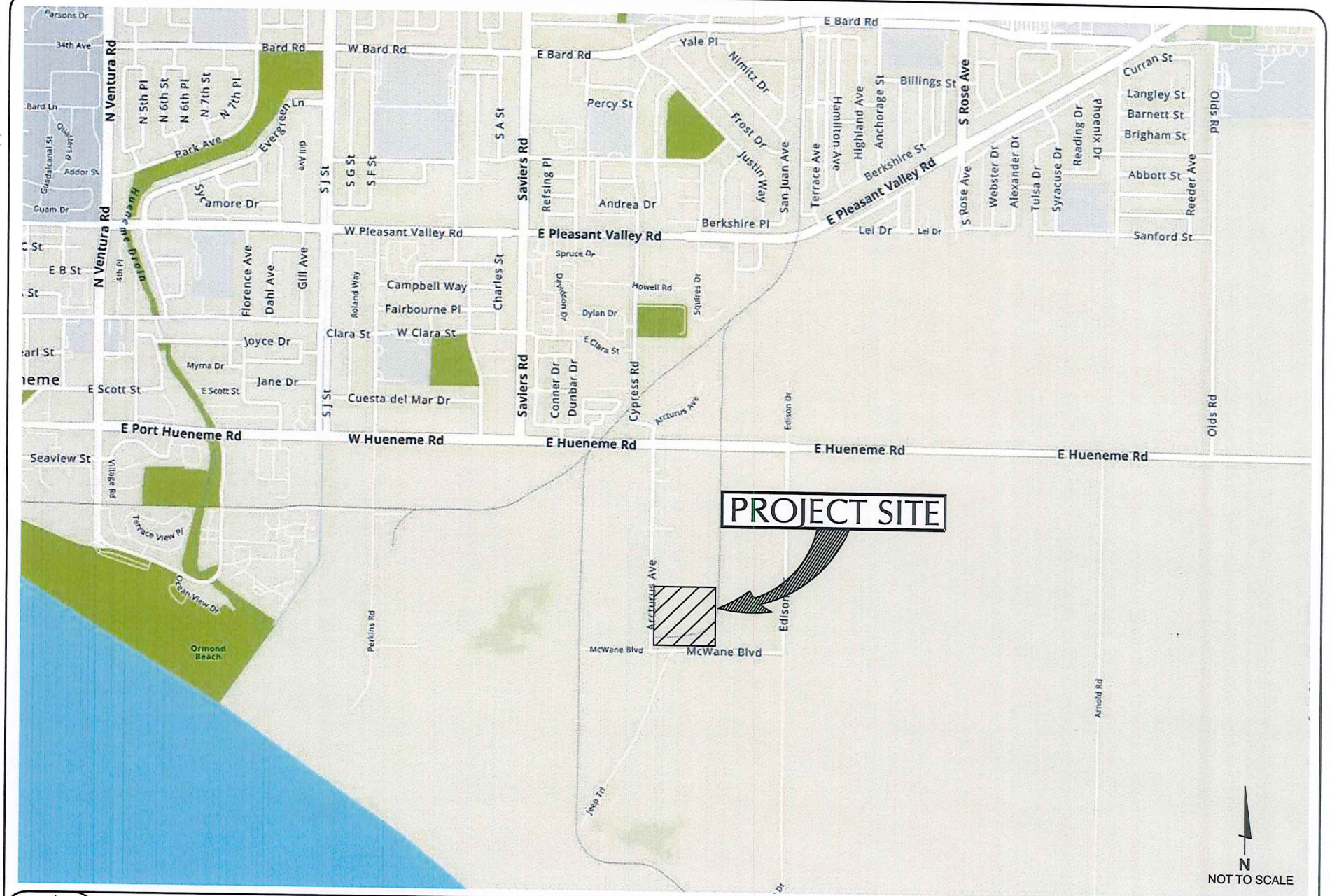
As shown on Figure 1, the Project is located at northeast quadrant of the Arcturus Avenue/McWane Boulevard intersection in the City of Oxnard. The Project is proposing to develop a 14-acre site currently used to store shipping containers.

The Project will construct a 105,383 square-foot refrigerated logistics/distribution center. The Project site location (approximately 1 ½ miles) near the Port of Hueneme is ideal for providing third party logistics (3PL) services for importers and exporters through the Port. In response to the demand for "Green" development, the completed facility will provide a total of 397 electrified container slots, thus eliminating the use of diesel generators as the power source for container refrigeration systems. There will be 271-yard plugs in the staging areas and each dock door and container stacking area is equipped with plugs totaling 126. As an import/export facility, approximately 80 percent of the containers will be shipped to/from the Port of Huemene. The remaining containers will be shipped to/from customers in and throughout the state of California. Containers are loaded and unloaded as quickly as possible and not used as on-site storge for refrigerated product. The facility will operate Monday through Saturday between the hours of 6:00 AM and 10:00 PM. The facility will employee 25 people daily during two 8-hour shifts. On-site employee break facilities will be provided. Direct access to the Project site will be provided via gated driveway connections on McWane Boulevard and Arcturus Avenue. The Project site plan is illustrated on Figure 2.

EXISTING CONDITIONS

Existing Street Network

The Project site is served by a circulation system comprised of arterial and collector streets, which are illustrated on Figure 1. The major roadways serving the site are discussed in the following text.

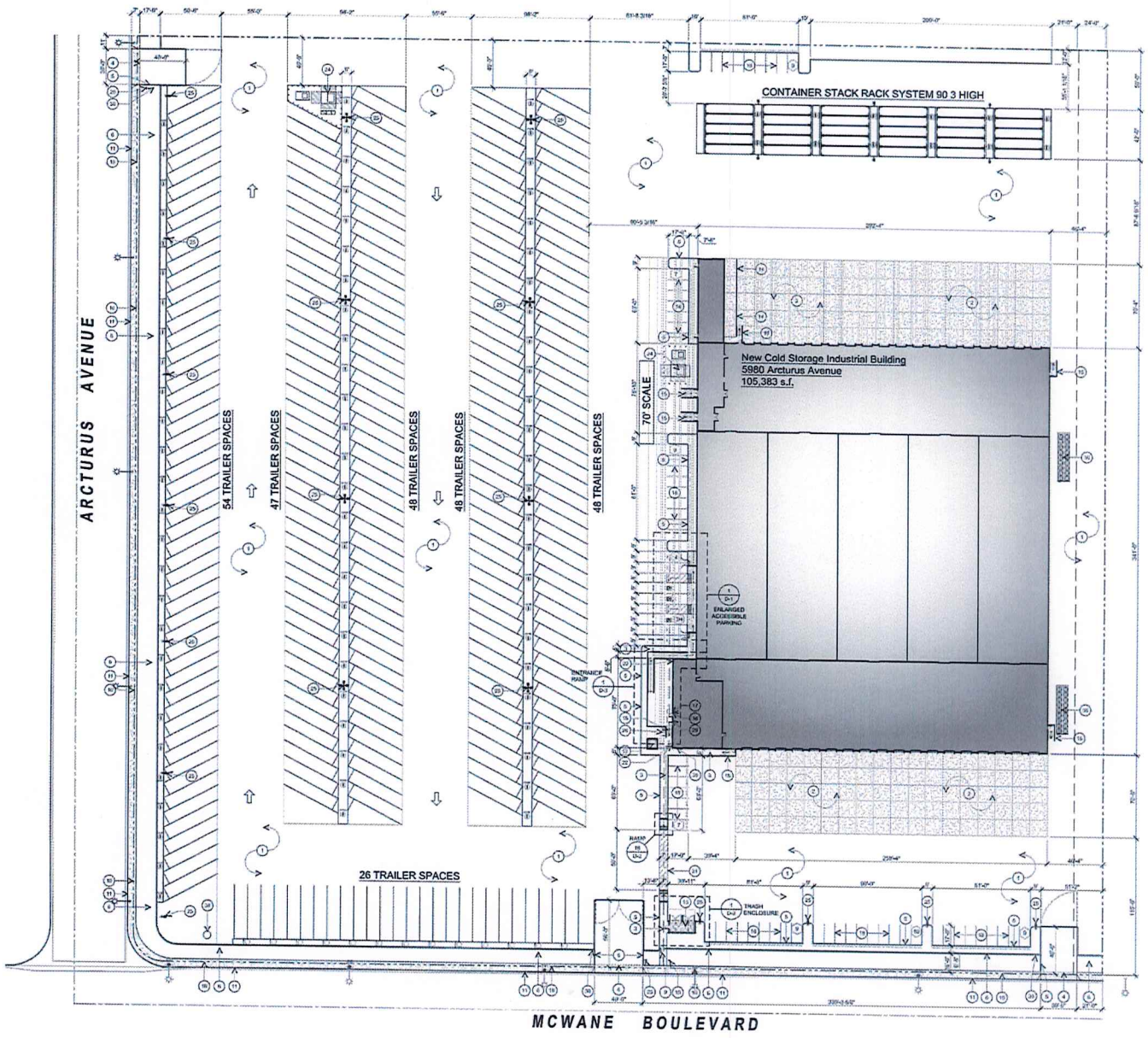


ASSOCIATED TRANSPORTATION ENGINEERS

PROJECT SITE LOCATION

FIGURE 1

JH - ATE#21025



ASSOCIATED
TRANSPORTATION
ENGINEERS

PROJECT SITE PLAN

FIGURE 2

JH - ATE#21025

Port Huemene Road (City of Port Huemene) /Hueneme Road (City of Oxnard), located north of the Project site, is a 2- to 4-lane divided roadway extending from the Port of Hueneme gate to Wood Road where it becomes Lewis Road. Hueneme Road serves the Port, residential, commercial, light industrial and agricultural land uses. The study-area intersections along Hueneme Road are signalized.



Ventura Road is a 2- to 6-lane north-south divided roadway that extends north from Surf Drive in the City of Port Hueneme to Oxnard Boulevard. Ventura Road serves residential and commercial land uses. Ventura Road is signalized at Port Hueneme Road.

"J Street is a 2-lane north-south divided roadway that extends north from Hueneme Road to Wooley Road where it becomes Hobson Way. "J" Street serves residential and commercial land uses. "J"Street is signalized at Port Hueneme Road.

Saviers Road is a 2- to 6-lane divided arterial roadway that extends north from Hueneme Road to the Five Points intersection. Saviers Road serves residential and commercial land uses. Saviers Road is signalized at Hueneme Road

Perkins Road is a 2- to 4-lane north-south roadway that extends south from Pleasant Valley Road terminating south of McWane Boulevard. Perkins Road serves residential, commercial, and light industrial land uses. Perkins Road is signalized at Hueneme Road



Arcturus Avenue is a 2-lane north-south roadway that extends north from McWane Boulevard to Hueneme Road. Arcturus Avenue serves primarily light industrial and agricultural land uses. Arcturus Avenue is signalized at Hueneme Road. Arcturus Avenue will provide secondary emergency vehicle access to the Project site via a gated driveway connection.



McWane Boulevard is a 2-lane east-west roadway that extends west from Edison Drive to Perkins Road. There is a gap in the connectivity between Arcturus Avenue and Perkins Road created by a slough. McWane Boulevard serves primarily light industrial land and agricultural uses south of Port Hueneme Road. McWane Boulevard will provide direct access to the Project site via two gated driveway connections.

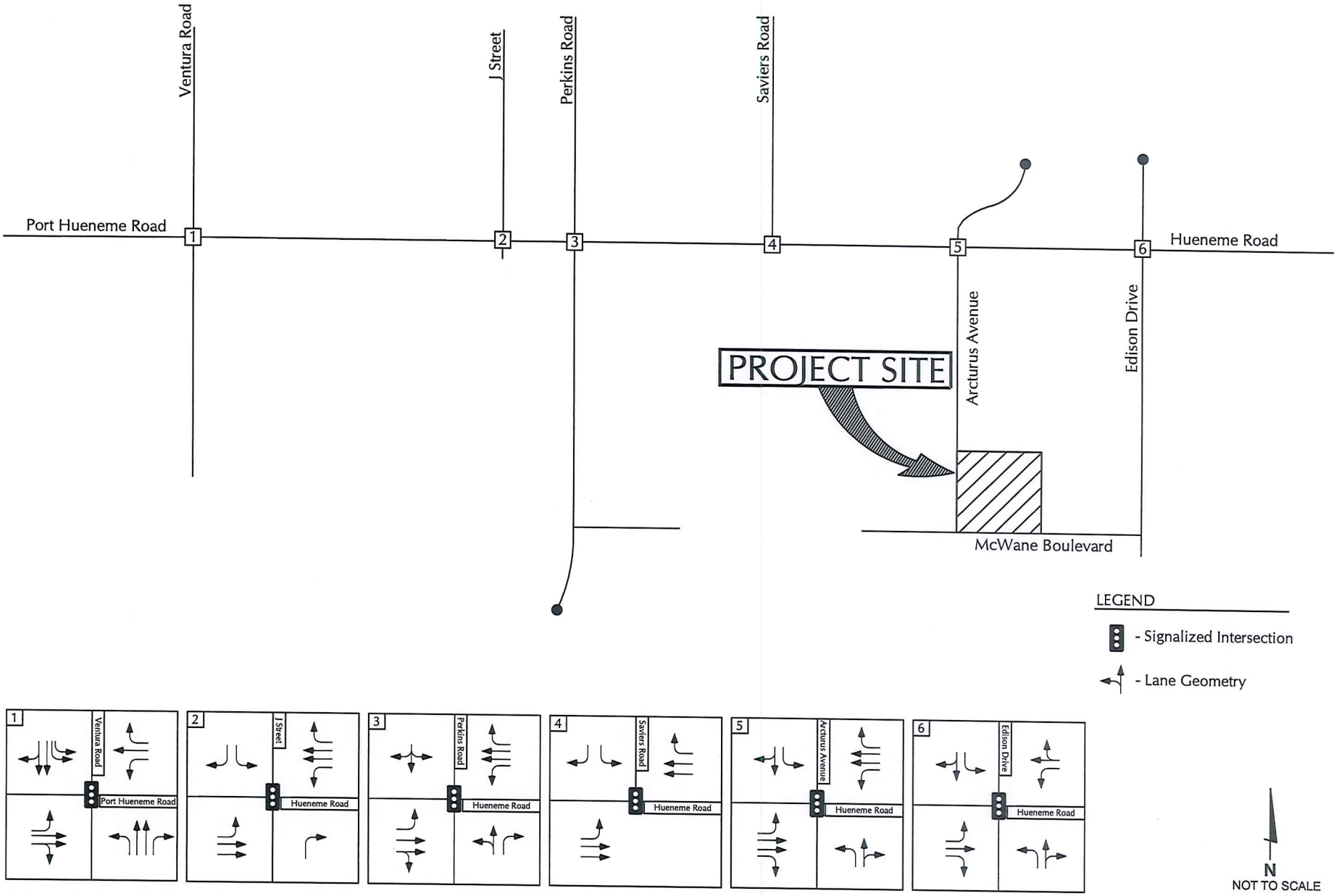
Edison Drive located east of the Project site, is a 2-lane north-south roadway that provides access to agricultural and light industrial uses. Edison Drive extends south from Hueneme Road terminating at the Reliant Energy power plant. Edison Drive is signalized at Port Hueneme Road.



Existing Intersection Volumes and Levels of Service

Traffic flow on urban arterials is most constrained at intersections. Therefore, a detailed analysis of traffic flows must examine the operating conditions of critical intersections during peak travel periods. In rating intersection operations, "Levels of Service" (LOS) A through F are used, with LOS A indicating free flow operations and LOS F indicating congested operations (more complete definitions of levels of service are included in the Technical Appendix). In the City of Oxnard LOS "C" is the acceptable operating standard for intersections.

Due to the closures of businesses and schools related to the COVID19 pandemic, 6:00 – 9:00 AM and 3:00 - 6:00 PM peak hour turning movement volumes for the study-area intersections were developed from existing traffic counts collected by ATE in June of 2016 and March of 2018 (count sheets are contained in Technical Appendix). The 2016 count data was factored to 2021 conditions assuming a 1 percent per year for 5 years. The 2018 count data was factored to 2021 conditions assuming a 1 percent per year for 3 years. Figure 3 illustrates the existing traffic controls and geometries for the study-area intersections. The adjusted existing 6:00 - 9:00 AM and 3:00 - 6:00 PM peak hour traffic volumes at the study-area intersections are illustrated on Figure 4.



ASSOCIATED TRANSPORTATION ENGINEERS

EXISTING STREET NETWORK

FIGURE 3

JH - ATE#21025

ASSOCIATED TRANSPORTATION ENGINEERS

YEAR 2021 TRAFFIC VOLUMES

FIGURE 4

JH - ATE#21025

Existing levels of service for the study-area intersections were calculated using the Intersection Capacity Utilization (ICU) methodology as required by the City of Oxnard (Level of service worksheets contained in Technical Appendix). Table 1 lists the existing levels of service for the study-area intersections for the AM and PM peak hour periods.

Table 1
Year 2021 Peak Hour Levels of Service

No.	Intersection	Control Type	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
1.	Port Hueneme Road/Ventura Road	Signal	0.32	LOS A	0.35	LOS A
2.	Hueneme Road/"J" Street	Signal	0.34	LOS A	0.31	LOS A
3.	Hueneme Road/Perkins Road	Signal	0.33	LOS A	0.33	LOS A
4.	Hueneme Road/Saviers Road	Signal	0.48	LOS A	0.49	LOS A
5.	Hueneme Road/Arcturus Avenue	Signal	0.41	LOS A	0.62	LOS B
6.	Hueneme Road/Edison Drive	Signal	0.35	LOS A	0.66	LOS B

The data presented in Table 1 indicate that the study-area intersections currently operate at LOS B or better during the AM peak hour and PM peak hour periods, which meet the City's LOS C standard.

Pedestrian, Bicycle and Transit Facilities

Currently there are pedestrian facilities located along Arcturus Avenue and Huemene Road in the study-area. The pedestrian facilities connect the Project to the pedestrian and transit facilities north and west of the Project. Curb, gutter and sidewalks will be provided on Arcturus Avenue and McWane Boulevard adjacent to the Project site. The nearest pedestrian crosswalks across Hueneme Road are provided at the Arcturus Avenue signalized intersection. Striped pedestrian crosswalks, ADA ramps and pedestrian call buttons are provided at the Huemene Road/Arcturus Avenue intersection. The proposed Project would not have an adverse effect on the existing pedestrian facilities.

The Project site is served by the City of Oxnard Bikeway System. The existing bicycle facilities located in the study-area consist of Class II bike lanes along Hueneme Road, "J" Street, Saviers Road and Perkins Road, These Class II bike lanes connect the Project to residential and commercial areas north, east and west of the Project. The portion of Huemene Road east of Edison Drive is identified as a future Class II bike lane facility in the "City of Oxnard Bicycle & Pedestrian Facilities Master Plan". In addition to the on-street facilities, the Project will provide on-site bicycle storage and bike racks. The proposed Project would not have an adverse effect on the existing bicycle facilities.

The City of Oxnard is served by Gold Coast Transit. Gold Coast Transit buses are equipped with bike racks. In the study-area, the Project site is served by 2 bus routes. The #1A/1B Route (Port Huemene-Oxnard Transit Center) operates daily providing fixed route bus service on Huemene Road and Perkins road in the vicinity of the Project site. During the peak commute hours, the #1A/1B Route operates with 45-minute headways. Existing bus stops

are located on both sides of Perkins Road just north of Huemene Road, a mile from the Project site. The #23 Route (Oxnard College - Naval Base - Esplanade) operates daily providing fixed route bus service on Ventura Road, Hueneme Road and Saviers Road in the vicinity of the Project site. During the peak commute hours, the #23 Route operates with 45-minute headways. An existing bus stop is located on the north side of Huemene Road just west of Saviers Road less than a mile from the Project site. The proposed Project has the potential to increase transit ridership and the demand for bus service in the study-area, however these increases would be accommodated by the existing transit services provided.

CITY GENERAL PLAN POLICY

City of Oxnard. The City of Oxnard has established LOS C as the acceptable standard for intersection operation. If the addition of project traffic increases the ICU by 0.02 or more at an intersection operating at LOS C or worse, it should be mitigated to the ICU level identified without the project traffic. These criteria were used to determine the effects of the traffic generated by the Project added to the study-area intersections.

PROJECT GENERATED TRAFFIC VOLUMES

Project Trip Generation

Trip generation estimates were calculated for the proposed cold warehouse building space based on the rates presented in the Institute of Transportation Engineers (ITE), Trip Generation, 11th Edition for High-Cube Cold Storage Warehouse (Land-Use Code #157)[1]. Table 2 summarizes the average daily, AM and PM peak hour trip generation estimates for the proposed cold storage warehouse. Given the nature of the cold storage operation, employees are not expected to make multiple trips in and out for lunch or errands. Lunch breaks will be on-site utilizing the employee break facilities.

Table 2
Project Peak Trip Generation Estimates

Land Use	Size	ADT	AM Peak Hour	PM Peak Hour
			Trips (Entering/Exiting)	Trips (Entering/Exiting)
Cold Storage Warehouse	105,383 SF	223	12 (6/6)	13 (7/6)

Note: Of the total 223 ADT, 173 are truck trips and 50 are employee trips. Employees are not expected to make multiple in and out trips on a daily basis.

The data presented in Table 2 indicate that the proposed cold storage warehouse would generate 223 average daily trips (ADT), 12 AM peak hour trips and 13 PM peak hour trips. Based on the anticipated employee loads, the Project would generate a

[1]Trip Generation, Institute of Transportation Engineers, 11th Edition, 2021.

total of 50 passenger vehicle trips which will be used for the VMT analysis pursuant to the new CEQA guidelines. The projected 173 daily truck trips are consistent with the number of daily truck trips estimated by the applicant.

Project Trip Distribution and Assignment



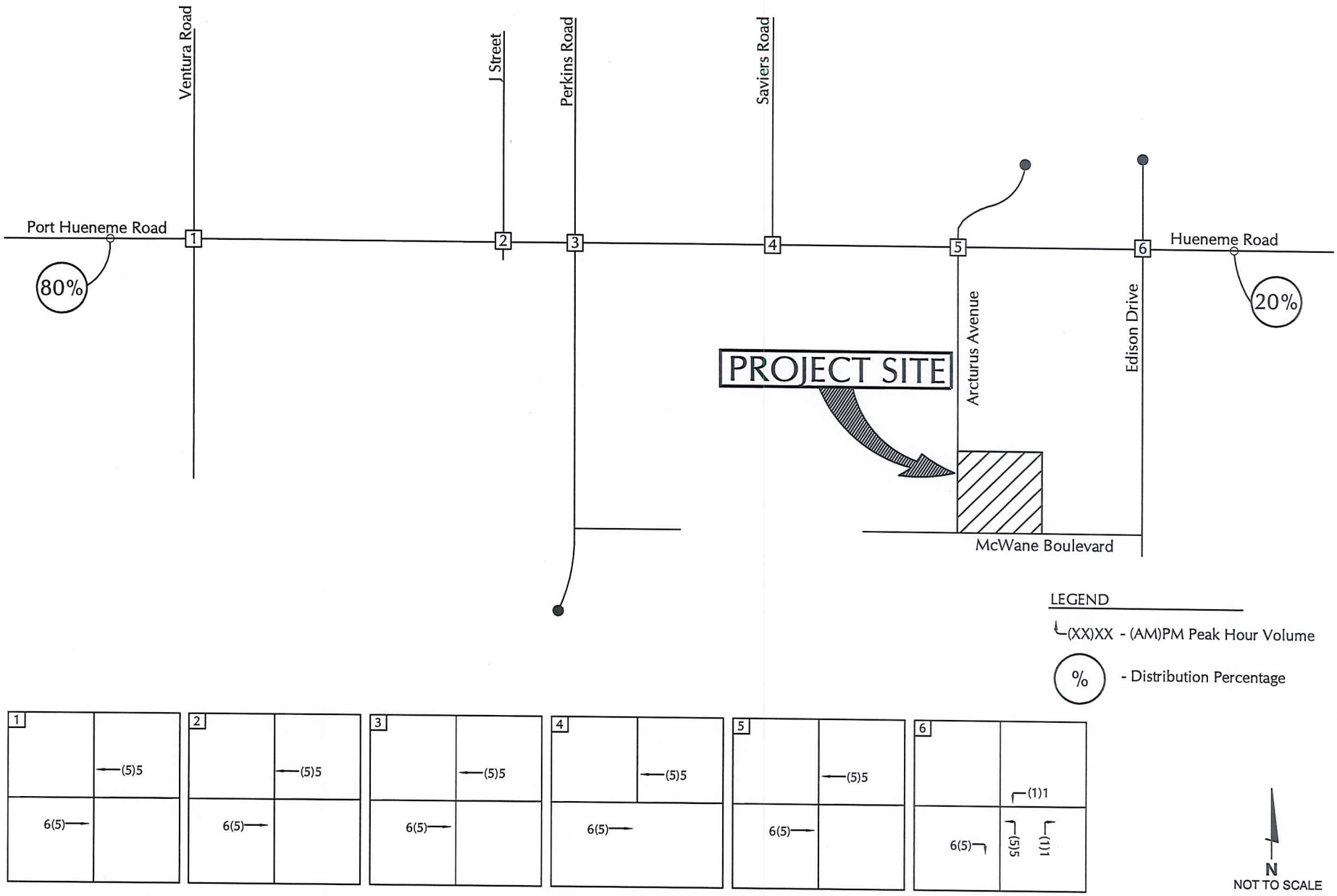
Approximately 80 percent of the containers will be shipped to/from the Port of Huemene. The remaining 20 percent will he shipped to/from customers throughout the state of California. Import/export container shipments were assigned based on the route to and from the Port of Hueneme via Port Hueneme Road. All trucks will use the Hueneme Road/Edison Drive intersection to/from McWane Boulevard. Figure 5 illustrates the trip assignment assumed for the Project's trips. Figure 6 illustrates the Existing + Project traffic volumes. Note that there will be 0 employee vehicle trips traveling through the study-area intersections during the 3:00 - 6:00 PM peak hour period since the shift change would occur at 2:00 PM.

PROJECT-SPECIFIC IMPACTS

Levels of service were calculated for the study-area intersections assuming the Year 2021 + Project volumes. A Passenger Car Equivalent (P.C.E.) factor of 2.0 was applied to the Project truck trips to account for the effect of the "heavy duty" trucks. Tables 3 and 4 show the results of the calculations and identify the Project's impacts based on the City of Oxnard thresholds.

Table 3
Year 2021 + Project AM Peak Hour Levels of Service

No.	Intersection	Year 2021		Year 2021 + Project		Change	Impact?
		ICU	LOS	ICU	LOS		
1.	Port Hueneme Road/Ventura Road	0.32	LOS A	0.32	LOS A	0.00	No
2.	Hueneme Road/"J" Street	0.34	LOS A	0.35	LOS A	0.01	No
3.	Hueneme Road/Perkins Road	0.33	LOS A	0.34	LOS A	0.01	No
4.	Hueneme Road/Saviers Road	0.48	LOS A	0.49	LOS A	0.01	No
5.	Hueneme Road/Arcturus Avenue	0.41	LOS A	0.41	LOS A	0.00	No
6.	Hueneme Road/Edison Drive	0.35	LOS A	0.35	LOS A	0.00	No

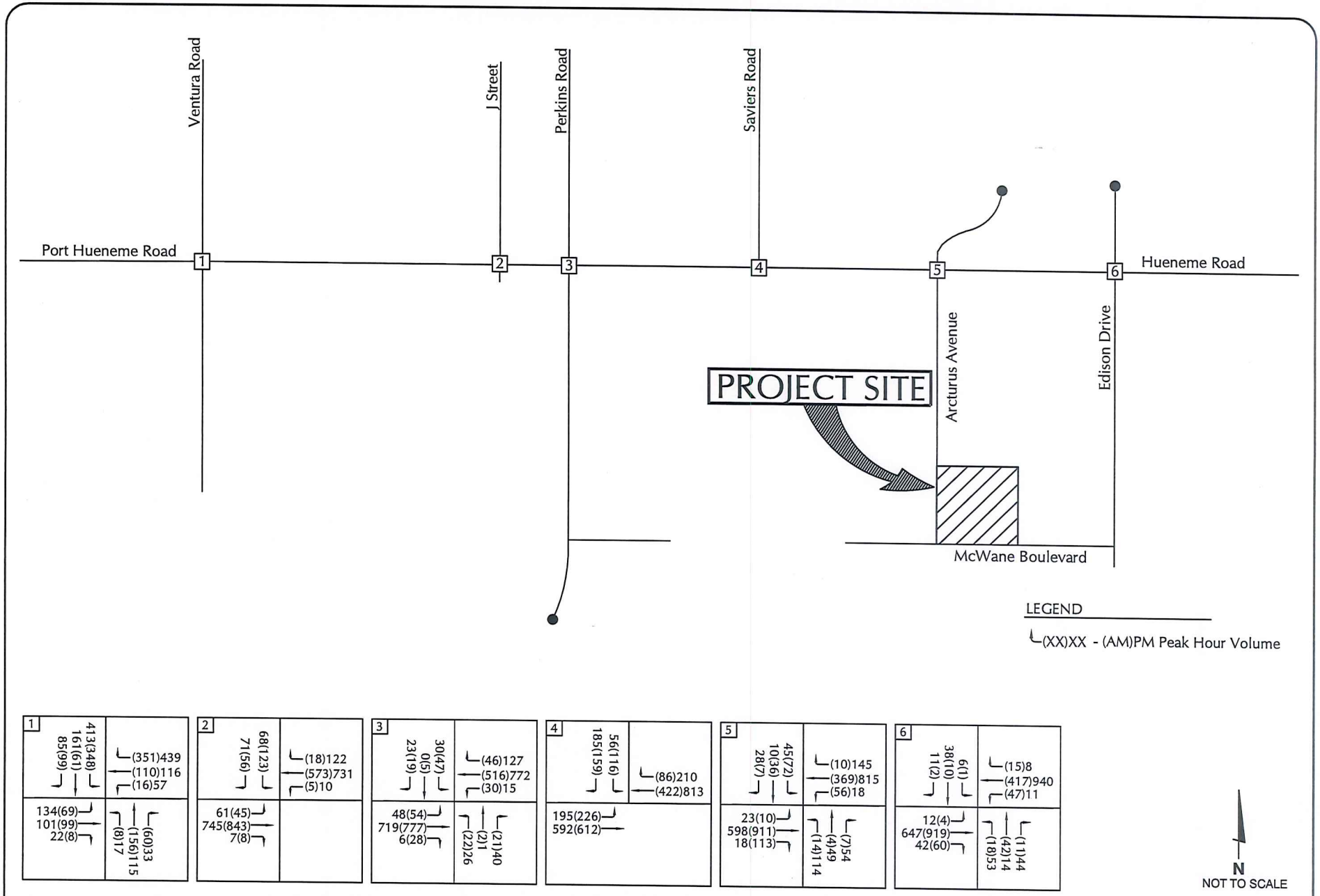


ASSOCIATED TRANSPORTATION ENGINEERS

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

FIGURE 5

JH - ATE#21025



ASSOCIATED TRANSPORTATION ENGINEERS

YEAR 2021 + PROJECT TRAFFIC VOLUMES

FIGURE 6

JH - ATE#21025

Table 4
Year 2021 + Project PM Peak Hour Levels of Service

No.	Intersection	Year 2021		Year 2021 + Project		Change	Impact?
		ICU	LOS	ICU	LOS		
1.	Port Hueneme Road/Ventura Road	0.35	LOS A	0.36	LOS A	0.01	No
2.	Hueneme Road/"J" Street	0.31	LOS A	0.31	LOS A	0.00	No
3.	Hueneme Road/Perkins Road	0.33	LOS A	0.33	LOS A	0.00	No
4.	Hueneme Road/Saviers Road	0.49	LOS A	0.50	LOS A	0.01	No
5.	Hueneme Road/Arcturus Avenue	0.62	LOS B	0.62	LOS B	0.00	No
6.	Hueneme Road/Edison Drive	0.66	LOS B	0.67	LOS B	0.01	No

The data presented in Tables 3 and 4 indicate that the study-area intersections are forecast to operate at LOS B or better with Existing and Existing + Project traffic, which meets the City's General Plan LOS C standard. The Project trip additions would not result in an adverse effect on the adjacent street system.

CUMULATIVE (EXISTING + APPROVED/PENDING PROJECTS) CONDITIONS

The City of Oxnard requires that intersection operations be analyzed with the addition of traffic generated by projects which have been approved or are pending within the Project study-area. The cumulative projects account for future traffic growth. Trip generation estimates were developed for the cumulative developments using the rates presented in the ITE, Trip Generation, 11th Edition. Table 5 summarizes the average daily, AM and PM peak hour trip generation estimates for the approved/pending projects.

Table 5
Approved/Pending Projects Trip Generation

No.	Project	Land Use	Units/Size	ADT	AM Peak Hour	PM Peak Hour
1.	Garden City	Farmworker Res.	30 Units	251	20	22
2.	JBGR Investments, LLC	Townhomes	20 Units	146	9	11
3.	Oscar Tirado	Multi-Family Res.	3 Units	22	1	2
4.	Cypress Court	Multi-Family Res.	30 Units	251	20	22
5.	Peoples Self-Help	Multi-Family Res.	150 Units	699	75	70
6.	Daya Enterprises	Convenience Store/Fuel	2121	2,121	128	147
7.	Pleasant Valley Plaza	Retail Commercial	11,392 SF	430	11	43
8.	Pantoja Trucking	Warehouse	7,865 SF	14	1	2
9.	Port Hueneme Outdoor Storage Facility			316	48	12
			Total Trips:	4,250	313	331

The data presented in Table 5 indicate that the approved/pending projects would generate a total of 4,250 average daily trips, 313 AM peak hour trips and 331 PM peak hour trips. The traffic generated by the approved/pending projects was distributed and assigned to the study-area intersections based on the location of each project, recent traffic studies, existing traffic patterns observed in the study area as well as a general knowledge of the population, employment and commercial centers in Oxnard and surrounding Ventura County area. Figure 7 illustrates the Cumulative peak hour traffic volumes at the study-area intersections. The Cumulative levels of service for the study-area intersections are shown in Table 6.

Table 6
Cumulative AM and PM Peak Hour Levels of Service

No.	Intersection	Control Type	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
1.	Port Hueneme Road/Ventura Road	Signal	0.35	LOS A	0.37	LOS A
2.	Hueneme Road/"J" Street	Signal	0.36	LOS A	0.32	LOS A
3.	Hueneme Road/Perkins Road	Signal	0.36	LOS A	0.35	LOS A
4.	Hueneme Road/Saviers Road	Signal	0.49	LOS A	0.50	LOS A
5.	Hueneme Road/Arcturus Avenue	Signal	0.43	LOS A	0.64	LOS B
6.	Hueneme Road/Edison Drive	Signal	0.36	LOS A	0.78	LOS C

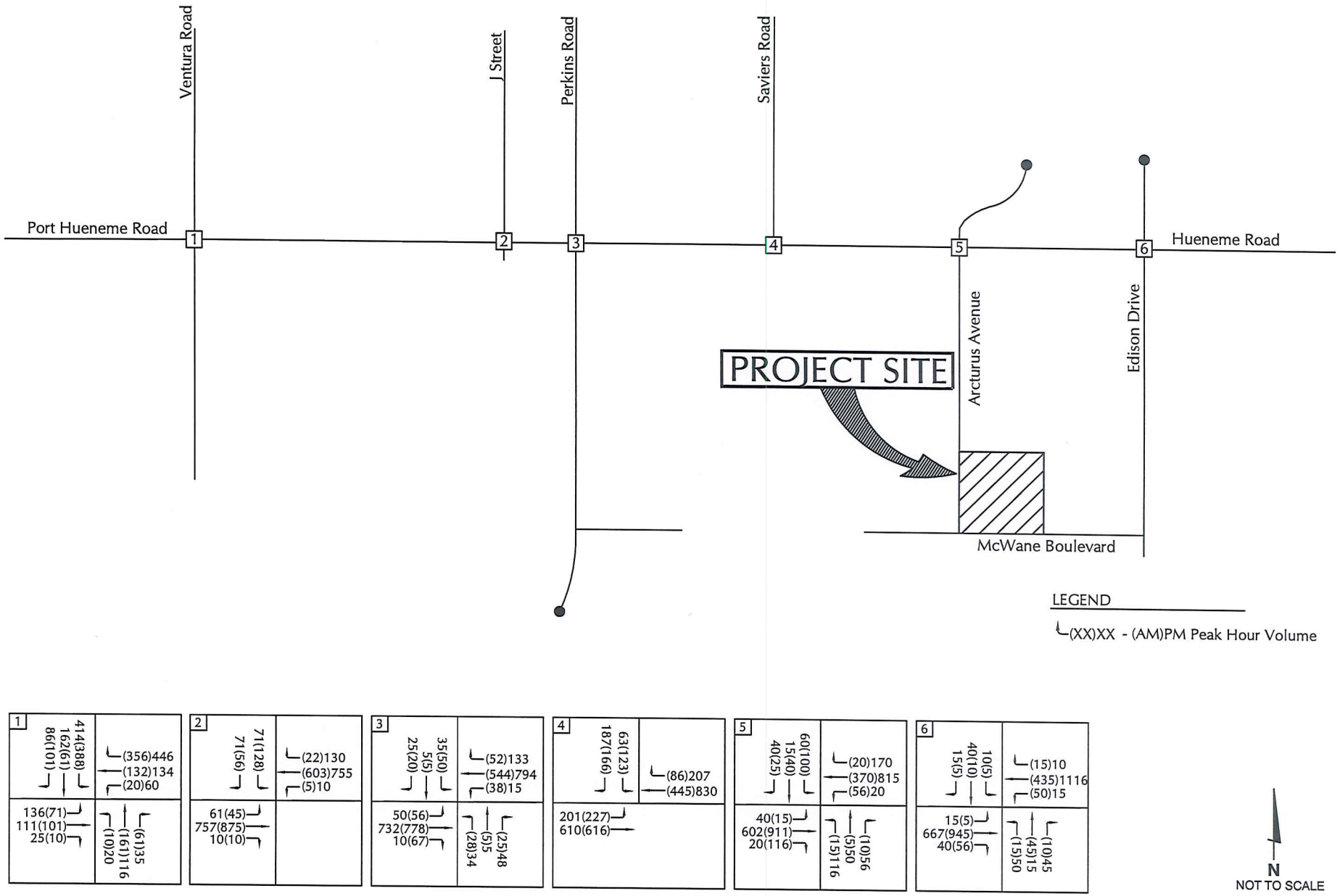
The data presented in Table 6 indicate that the study-area intersections would operate at LOS C or better during the AM and PM peak hour periods with cumulative traffic volumes, which meets the City's desired LOS C standard.

Cumulative + Project Levels of Service

Levels of service were calculated for the study-area intersections assuming the Cumulative + Project volumes illustrated on Figure 8. Tables 7 and 8 show the results of the calculations and identify the impacts of the Project based on City of Oxnard thresholds.

Table 7
Cumulative + Project AM Peak Hour Levels of Service

No.	Intersection	Cumulative		Cumulative+ Project		Change	Impact?
		ICU	LOS	ICU	LOS		
1.	Port Hueneme Road/Ventura Road	0.35	LOS A	0.36	LOS A	0.01	No
2.	Hueneme Road/"J" Street	0.36	LOS A	0.36	LOS A	0.00	No
3.	Hueneme Road/Perkins Road	0.36	LOS A	0.36	LOS A	0.00	No
4.	Hueneme Road/Saviers Road	0.49	LOS A	0.50	LOS A	0.01	No
5.	Hueneme Road/Arcturus Avenue	0.43	LOS A	0.43	LOS A	0.00	No
6.	Hueneme Road/Edison Drive	0.36	LOS A	0.37	LOS A	0.01	No

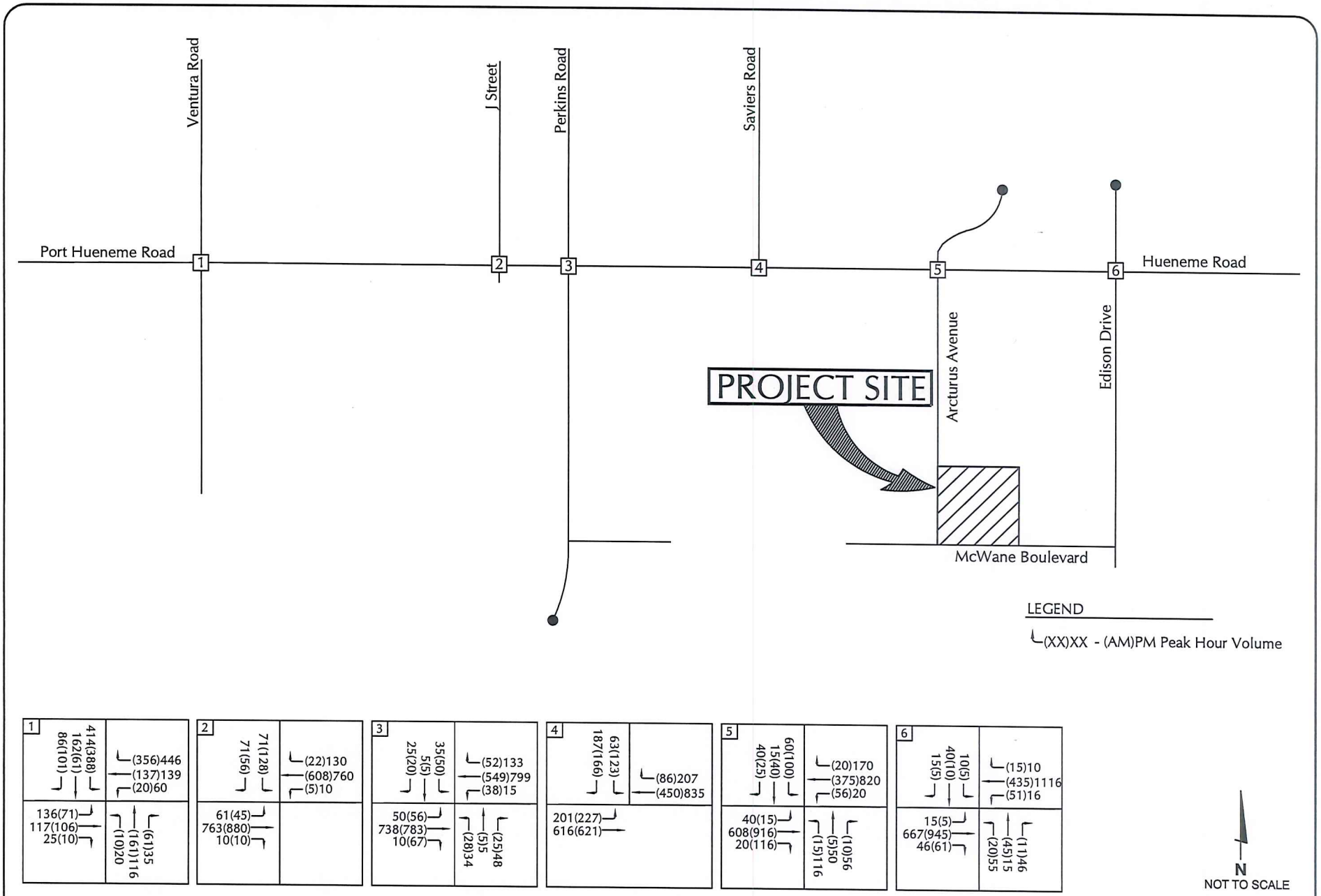


ASSOCIATED TRANSPORTATION ENGINEERS

CUMULATIVE TRAFFIC VOLUMES

FIGURE 7

JH - ATE#21025



ASSOCIATED TRANSPORTATION ENGINEERS

CUMULATIVE + PROJECT TRAFFIC VOLUMES

FIGURE 8

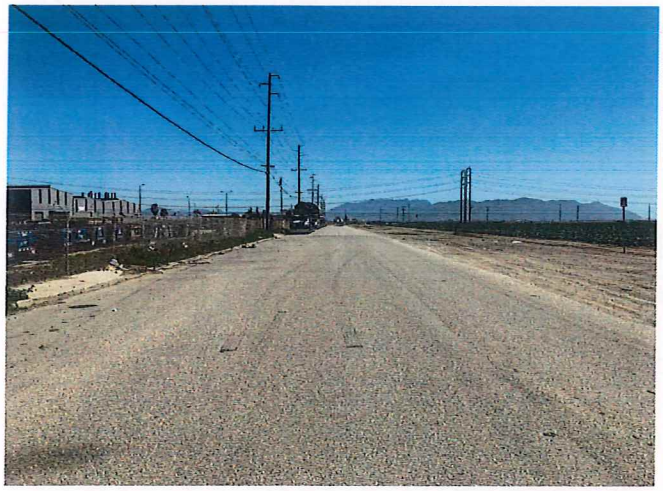
JH - ATE#21025

Table 8
Cumulative + Project PM Peak Hour Levels of Service

No.	Intersection	Cumulative		Cumulative + Project		Change	Impact?
		ICU	LOS	ICU	LOS		
1.	Port Hueneme Road/Ventura Road	0.37	LOS A	0.38	LOS A	0.01	No
2.	Hueneme Road/"J" Street	0.32	LOS A	0.32	LOS A	0.00	No
3.	Hueneme Road/Perkins Road	0.35	LOS A	0.35	LOS A	0.00	No
4.	Hueneme Road/Saviers Road	0.50	LOS A	0.51	LOS A	0.01	No
5.	Hueneme Road/Arcturus Avenue	0.64	LOS B	0.65	LOS B	0.01	No
6.	Hueneme Road/Edison Drive	0.78	LOS C	0.79	LOS C	0.01	No

The data presented in Tables 7 and 8 indicate that the study-area intersections are forecast to operate at LOS C or better with Cumulative and Cumulative + Project Traffic, which meets the City's General Plan LOS C standard. The Project trip additions would not result in an adverse effect on the adjacent street system.

SITE ACCESS



As illustrated on Figure 2, access to the Project site would be provided by two gated driveways on McWane Boulevard. Emergency access only will be provided via a gated driveway on Arcturus Avenue. Vehicles will enter the site via McWane Boulevard. McWane Boulevard is a collector street that its approximately 40-feet wide. The roadway provides access to the adjacent light industrial uses and the agricultural fields located to the south. The roadway has adequate capacity to accommodate the traffic generated by the Project. The Project driveways will be designed and constructed to City of Oxnard design standards. Given the estimated Project trip generation and traffic on McWane Boulevard and Arcturus Avenue, the driveways would operate at an acceptable level of service. The Project will be required to complete any and all necessary frontage improvements on McWane Boulevard and Arcturus Avenue.

PARKING ANALYSIS

The City's Zoning Ordinance parking requirements were calculated for the 105,383-square feet of cold storage warehouse space including 5,400 square feet of office space. The parking space requirement for Project is as follows.

- Warehousing - 1 space per 1,000 SF of gross floor area for the first 20,000 SF; 2,000 SF of gross floor area for the second 20,000 SF; 4,000 SF of gross floor

area in excess of 40,000 SF devoted to warehousing plus the required parking for gross floor area devoted to other uses.

- Office - 1 space per 250 SF of gross floor area.

Table 9
City of Oxnard Zoning Ordinance Requirements

Building Area	Size	Parking Requirement	Space Required
Office Space	5,400 SF	1 space/250 SF	22 spaces
Warehouse Space	20,000 SF	1 space/1,000 SF	20 spaces
- 2nd 20,000 SF	20,000 SF	1 space/2,000 SF	10 spaces
- In Excess of 40,000 SF	59,983 SF	1 space/4,000 SF	15 spaces
		Total Required Parking:	67 spaces

As shown in Table 9, The City of Oxnard Zoning Ordinance requires 67 on-site spaces for the Project. The Project site plan provides 67 on-site parking spaces which satisfies the City's on-site parking requirement.

CONSTRUCTION TRAFFIC ANALYSIS

Project building construction is estimated to occur over 12 months. The average number of workers on the site for the construction duration is 15 workers. The workers make one trip onto the job site at 7 AM, and one trip off the job site at 3 PM. The vast majority of workers bring their own lunch or eat from a food truck that comes to the site, thus never leaving the site during work hours. Construction workers would travel to the site in private vehicles. If adequate parking areas are not available onsite, off-site parking would need to be obtained with shuttles provided to transport employees to and from the site.

Construction of the Project would also require the delivery of construction equipment and materials to the site. Adequate construction staging and storage areas would need to be provided on-site to accommodate construction equipment and the delivery and storage of materials. The average heavy work trucks on site every day is 4. During the grading portion of the Project (first stage of construction) this number will go up slightly. The Project will have to have dirt imported to the site, so during this process there will be 8 heavy trucks hauling dirt from an offsite location. Each truck will make an estimated 2 - 3 trips per day for up to 3 days.

Construction of project-related improvements along Arcturus Avenue and McWane Boulevard would have the potential to disrupt traffic flows within the corridor. Certain construction activities - such as roadway improvements, utility relocation or extensions, and drainage facility reconstruction - could require temporary lane closures, which would in turn temporarily reduce existing street capacity. Such impacts would be short-term in duration. Potential sidewalk and lane closures could affect pedestrian and bicycle flows and therefore should be managed to minimize potential impacts. Traffic control plans would be required to mitigate these potential construction impacts.

VEHICLE MILES TRAVELED ANALYSIS

Per the State's Natural Resource Agency Updated Guidelines for the Implementation of the CEQA adopted in 2018, VMT has been designated as the most appropriate measure of transportation impacts. VMT refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. For land use projects, vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. The County has adopted draft VMT thresholds of significance that generally follow the State guidelines.

CEQA Guidelines. The California Governor's Office of Planning and Research (OPR) published a Technical Advisory on Transportation that includes recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. The Technical Advisory provides screening tools to determine when a project may have a significant VMT impacts, as follows:

"Many agencies use "screening thresholds" to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. (See e.g., CEQA Guidelines, §§ 15063(c)(3)(C), 15128, and Appendix G.). As explained below, this technical advisory suggests that lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing.

Screening Threshold for Small Projects

Many local agencies have developed screening thresholds to indicate when detailed analysis is needed. Absent substantial evidence indicating that a Project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than significant transportation impact."

The traffic impact study completed for the Project utilized the standard rates contained in the ITE, Trip Generation, 11th Edition[2] to determine the amount of traffic that would be generated by the Project. The ITE trip rates include both passenger vehicles and trucks that would be generated by the cold storage warehouse activities. The VMT thresholds and analysis procedures outlined in the California Governor's Office of Planning and Research (OPR) Technical Advisory on Transportation Impacts in CEQA[3] provide the following guidance on the types of vehicles that are subject to the VMT significance criteria:

> **"Vehicle Types**. Proposed Section 15064.3, subdivision (a), states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of

2 Trip Generation Manual, Institute of Transportation Engineers, 11th Edition, 2021.

3 Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, December 2018.

automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks."

As discussed in the Trip Generation section of this traffic impact study, the Project is forecast to generate 50 employee vehicle ADT which is fewer than the screening criteria of110 trips per day, and thus would have a less-than-significant VMT impact based on the new CEQA guidelines.

PROJECT MITIGATION MEASURES

Based on the City of Oxnard traffic impact thresholds, it was determined that the Project would not generate significant impacts at the study-area intersections. No mitigation measures were therefore developed for the study-area intersections under the City's jurisdiction. The Project would, however, be required to pay the City's traffic mitigation fees to offset its contribution to cumulative traffic volumes in the City.

VENTURA COUNTY GENERAL PLAN CONSISTENCY

The City of Oxnard and Ventura County have executed a "Reciprocal Traffic Mitigation Agreement" wherein the City and the County agree that a pro-rata share of the cost of mitigations will be collected by each agency for identified traffic impacts in the other jurisdiction. The Project would be consistent with the Ventura County General Plan by complying with the terms of the "Reciprocal Traffic Mitigation Agreement" between the City of Oxnard and the County of Ventura approved on February 2, 1993.

■ ■ ■

REFERENCES AND PERSONS CONTACTED

Associated Transportation Engineers

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Darryl F. Nelson, Senior Transportation Planner
Jiho Ha, Traffic Engineer I
Glenn Manaois, Traffic Engineer I

Persons Contacted

Earnel Bihis, City of Oxnard
Gary Guesman, Controlled Environments Construction, Inc.
Gabriela Huizar, Controlled Environments Construction, Inc.

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Highway Capacity Manual, Transportation Research Board, National Research Council, 2000.

Trip Generation, Institute of Transportation Engineers, 11th Edition, 2021.

Traffic LOS Monitoring for the Ventura County Congestion Management Program, Ventura County Transportation Commission, 2009.

TECHNICAL APPENDIX

CONTENTS

INTERSECTION LEVEL OF SERVICE CRITERIA/DEFINITIONS

TRAFFIC COUNTS

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

Reference 1 – Port Hueneme Road/Ventura Road
Reference 2 – Port Hueneme Road/"J" Street
Reference 3 – Port Hueneme Road/Perkins Road
Reference 4 – Port Hueneme Road/Saviers Road
Reference 5 – Port Hueneme Road/Arcturus Avenue
Reference 6 – Port Hueneme Road/Edison Drive

INTERSECTION LEVEL OF SERVICE CRITERIA/DEFINITIONS

DISCUSSION OF INTERSECTION CAPACITY UTILIZATION (ICU)

The ability of a roadway to carry traffic is referred to as capacity. The capacity is usually less at intersections because traffic flows continuously between them and only during the green phase at them. Capacity at intersections is best defined in terms of vehicles per lane per hour of green. The technique used to compare the volumes and capacity of an intersection is known as Intersection Capacity Utilization (ICU). ICU or volume-to-capacity ratio, usually expressed as a percentage, is the proportion of an hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. If an intersection is operating at 80 percent of capacity, then 20 percent of the signal cycle is not used.

The ICU calculation assumes that an intersection is signalized and that the signal is ideally timed. Although calculating ICU for an unsignalized intersection is invalid, the presumption is that a signal can be installed and the calculation shows whether the geometrics are capable of accommodating the expected volumes. It is possible to have an ICU well below 100 percent, yet have severe traffic congestion. This would occur if one or more movements is not getting sufficient time to satisfy its demand, and excess time exists on other movements. This is an operational problem which should be addressed.

Capacity is often defined in terms of roadway width. However, standard lanes have approximately the same capacity whether they are 11 or 14 feet wide. Data collected by Kunzman Associates indicates a typical lane, whether a through-lane or a left-turn lane, has a capacity of approximately 1,700 vehicles per hour, with nearly all locations showing a capacity greater than 1,600 vehicles per hour per lane. This finding is published in the August, 1978 issue of ITE Journal in the article entitled, "Another Look at Signalized Intersection Capacity" by William Kunzman. For this study, a capacity of 1,600 vehicles per hour per lane will be assumed for left-turn, through, and right-turn lanes as per City policy.

The yellow time can either be assumed to be completely used and no penalty applied, or it can be assumed to be only partially usable. Total yellow time accounts for less than 10 percent of a cycle, and a penalty of up to five percent is reasonable. On the other hand, during peak hour traffic operation, the yellow times are nearly completely used. In this study, no penalty will be applied for the yellow because the capacities have been assumed to be only 1,600 vehicles per hour per lane when in general they are 1,700-1,800 vehicles per hour per lane.

The ICU technique is an ideal tool to quantify existing as well as future intersection operations. The impact of adding a lane can be quickly determined by examining the effect the lane has on the intersection capacity utilization.

Source: Oxnard Airport Business Park Traffic Study, Kunzman Assoc., City of Oxnard, 1985.

LEVEL OF SERVICE DEFINITIONS

"Levels of Service" (LOS) A through F are used to rate roadway and intersection operating conditions, with LOS A indicating very good operations and LOS F indicating poor operations. More complete level of service definitions are:

LOS	Definition
A	Low volumes; primarily free flow operations. Density is low and vehicles can freely maneuver within traffic stream. Drivers can maintain their desired speeds with little or no delay.
B	Stable flow with potential for some restriction of operating speeds due to traffic conditions. Maneuvering is only slightly restricted. Stopped delays are not bothersome and drivers are not subject to appreciable tension.
C	Stable operations, however the ability to maneuver is more restricted by the increase in traffic volumes. Relatively satisfactory operating speeds prevail but adverse signal coordination or longer queues cause delays.
D	Approaching unstable traffic flow where small increases in volume could cause substantial delays. Most drivers are restricted in their ability to maneuver and their selection of travel speeds. Comfort and convenience are low but tolerable.
E	Operations characterized by significant approach delays and average travel speeds of one-half to one-third of free flow speed. Flow is unstable and potential for stoppages of brief duration. High signal density, extensive queuing, or signal progression/timing are the typical causes of delays.
F	Forced flow operations with high approach delays at critical signalized intersections. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of downstream congestion.

Signalized Intersection Level of Service Definitions

LOS	Delay[a]	V/C Ratio	Definition
A	< 10.0	< 0.60	Progression is extremely favorable. Most vehicles arrive during the green phase. Many vehicles do not stop at all.
B	10.1 - 20.0	0.61 - 0.70	Good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20.1 - 35.0	0.71 - 0.80	Only fair progression, longer cycle lengths, or both, result in higher cycle lengths. Cycle lengths may fail to serve queued vehicles, and overflow occurs. Number of vehicles stopped is significant, though many still pass through intersection without stopping.
D	35.1 - 55.0	0.81 - 0.90	Congestion becomes more noticeable. Unfavorable progression, long cycle lengths and high v/c ratios result in longer delays. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55.1 - 80.0	0.91 - 1.00	High delay values indicate poor progression, long cycle lengths and high v/c ratios. Individual cycle failures are frequent
F	> 80.0	> 1.00	Considered unacceptable for most drivers, this level occurs when arrival flow rates exceed the capacity of lane groups, resulting in many individual cycle failures. Poor progression and long cycle lengths may also contribute to high delay levels.

[a] Average control delay per vehicle in seconds.

Unsignalized Intersection Level of Service Definitions

The HCM[1] uses *control delay* to determine the level of service at unsignalized intersections. Control delay is the difference between the travel time actually experienced at the control device and the travel time that would occur in the absence of the traffic control device. Control delay includes deceleration from free flow speed, queue move-up time, stopped delay and acceleration back to free flow speed.

LOS	Control Delay Seconds per Vehicle
A	< 10.0
B	10.1 - 15.0
C	15.1 - 25.0
D	25.1 - 35.0
E	35.1 - 50.0
F	> 50.0

[1] Highway Capacity Manual, National Research Board, 2000

TRAFFIC COUNT DATA

Prepared by National Data & Surveying Services

J St & Hueneme Rd

Peak Hour Turning Movement Count

ID: 18-05165-101
City: Oxnard

Day: Thursday
Date: 03/08/2018

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 04:00 PM - 05:00 PM

COUNT PERIODS

AM: 06:00 AM - 09:00 AM
NOON: NONE
PM: 03:00 PM - 05:00 PM

SOUTHBOUND (J St)

AM	0	0	0	0	58	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	170	PM

EASTBOUND (Hueneme Rd)

AM	NOON	PM	
548	0	703	⇦
3	0	5	↶ 0
41	0	53	↑ 0
806	0	710	→ 0
8	0	7	↷ 0

AM NOON PM

WESTBOUND (Hueneme Rd)

PM	NOON	AM	
117	0	17	0 ↰
698	0	545	0 ⇦
5	0	4	0 ↙
5	0	1	0 ↶
717	0	808	⇨

PM NOON AM

CONTROL

0

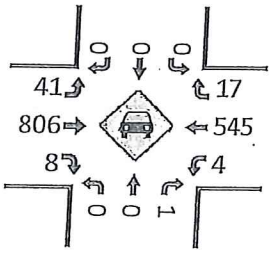
TEV	1426	0	1602
	AM	NOON	PM
PHF	0.80		0.91

NORTHBOUND (J St)

PM	12	0	0	0	2	PM
NOON	0	0	0	0	0	NOON
AM	12	0	0	0	1	AM

0 0 0 0

Total Vehicles (AM)



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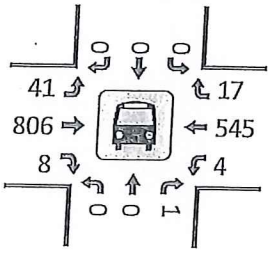

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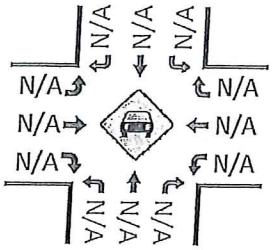

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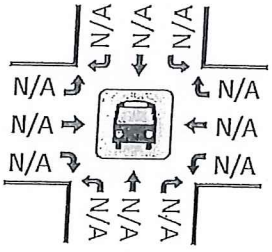

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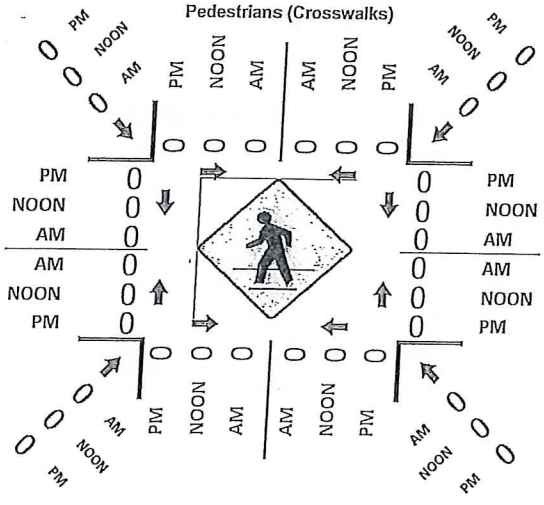

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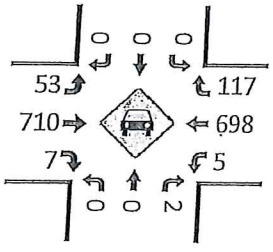

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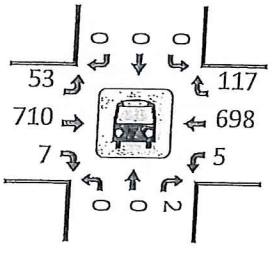


Prepared by National Data & Surveying Services

J St & Hueneme Rd

Peak Hour Turning Movement Count

ID: 18-05165-001
City: Oxnard

Day: Thursday
Date: 03/08/2018

PEAK HOURS: 07:00 AM - 08:00 AM; NONE; 04:00 PM - 05:00 PM

COUNT PERIODS: 06:00 AM - 09:00 AM; NONE; 03:00 PM - 05:00 PM

SOUTHBOUND (J St)

AM	53	0	118	0	0	AM
NOON	0	0	0	0	0	NOON
PM	68	0	65	0	0	PM

EASTBOUND (Hueneme Rd)

AM	NOON	PM	
605	0	770	⇦
0	0	0	↶ 0
0	0	0	↑ 0
744	0	705	→ 0
1	0	9	↷ 0
AM	NOON	PM	

WESTBOUND (Hueneme Rd)

PM	NOON	AM	
0	0	0	0 ↶
702	0	552	0 ←
0	0	0	0 ↷
0	0	0	0 ↷
776	0	864	⇨
PM	NOON	AM	

NORTHBOUND (J St)

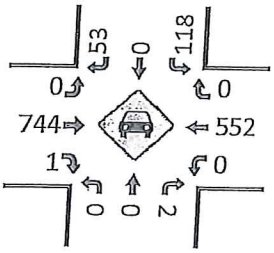
PM	9	0	0	0	6	PM
NOON	0	0	0	0	0	NOON
AM	1	0	0	0	2	AM

CONTROL

0

TEV	1470	0	1555
	AM	NOON	PM
PHF	0.82		0.91

Total Vehicles (AM)



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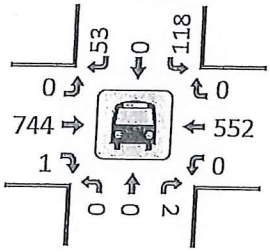

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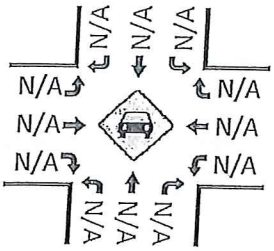

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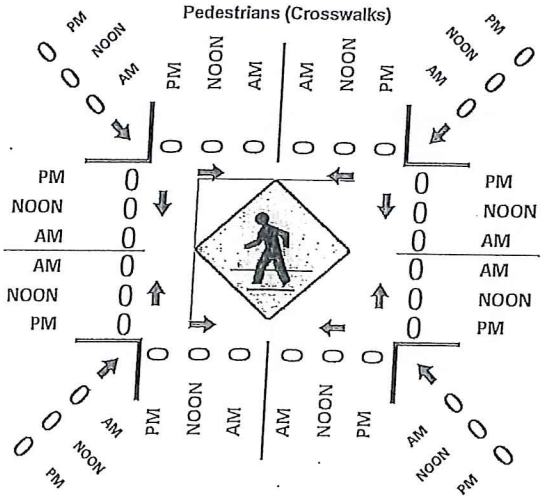

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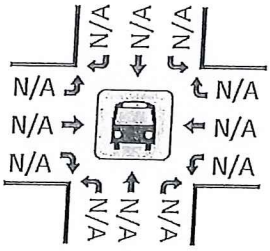

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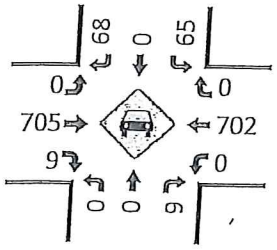

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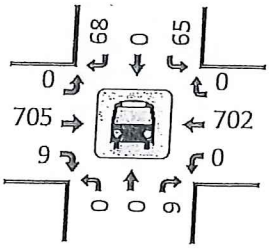


Prepared by National Data & Surveying Services

Perkins Rd & Hueneme Rd

Peak Hour Turning Movement Count

ID: 18-05165-002
City: Oxnard

Day: Thursday
Date: 03/08/2018

PEAK HOURS

AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	06:00 AM - 09:00 AM
NOON	NONE
PM	03:00 PM - 05:00 PM

Perkins Rd — SOUTHBOUND

AM	18	5	46	0	96	AM
NOON	0	0	0	0	0	NOON
PM	22	0	29	0	160	PM

0 0 0 0

Hueneme Rd — EASTBOUND

AM	NOON	PM	
532	0	794	⇦
2	0	10	↶ 0
49	0	37	↑ 0
742	0	685	→ 0
27	0	6	↷ 0

AM NOON PM

CONTROL

0

TEV	1497	0	1728
	AM	NOON	PM
PHF	0.82		0.90

Hueneme Rd — WESTBOUND

PM	NOON	AM	
122	0	45	0 ↶
737	0	491	0 ⇦
11	0	26	0 ↶
4	0	3	0 ↷
757	0	811	⇨

PM NOON AM

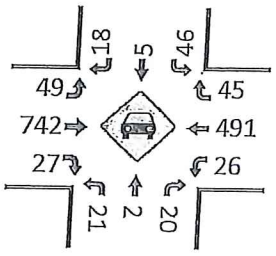
0 0 0 0

Perkins Rd — NORTHBOUND

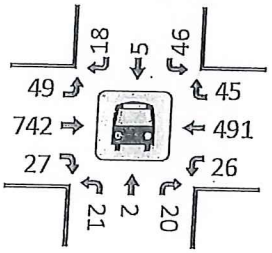
PM	17	0	25	1	39	PM
NOON	0	0	0	0	0	NOON
AM	58	0	21	2	20	AM

Perkins Rd

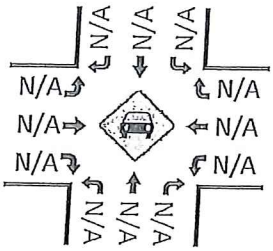
Total Vehicles (AM)



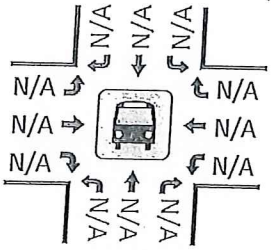
(AM)



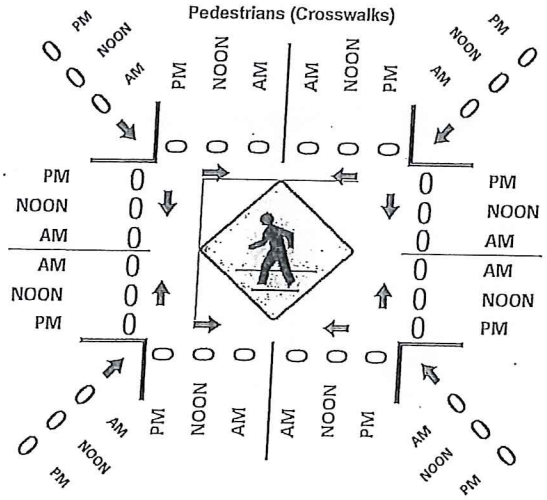
Total Vehicles (Noon)



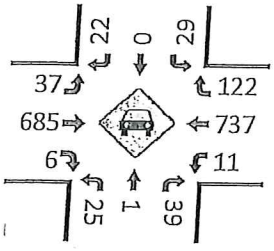
(NOON)



Pedestrians (Crosswalks)



Total Vehicles (PM)



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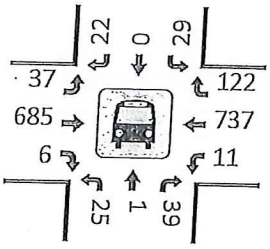


Prepared by National Data & Surveying Services

Saviers Rd & Hueneme Rd

Peak Hour Turning Movement Count

ID: 18-05165-003
City: Oxnard

Day: Thursday
Date: 03/08/2018

PEAK HOURS: 07:15 AM - 08:15 AM; NONE; 04:00 PM - 05:00 PM

COUNT PERIODS: 06:00 AM - 09:00 AM; NONE; 03:00 PM - 05:00 PM

Saviers Rd — SOUTHBOUND

AM	152	0	100	12	307	AM
NOON	0	0	0	0	0	NOON
PM	178	0	46	7	391	PM

Hueneme Rd — EASTBOUND

AM	NOON	PM	
558	0	959	⇦
0	0	0	↶ 0
217	0	187	↑ 0
583	0	563	→ 0
0	0	0	↷ 0
AM	NOON	PM	

CONTROL

0

TEV	1548	0	1959
	AM	NOON	PM
PHF	0.74		0.89

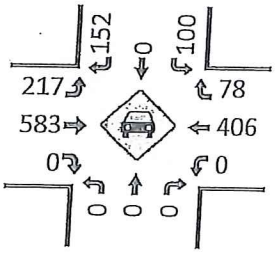
Hueneme Rd — WESTBOUND

PM	NOON	AM	
197	0	78	↶ 0
781	0	406	← 0
0	0	0	↶ 0
0	0	0	↶ 0
609	0	683	⇨
PM	NOON	AM	

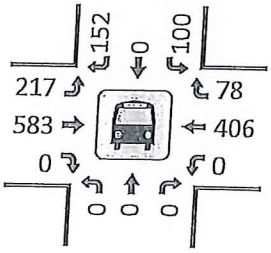
Saviers Rd — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

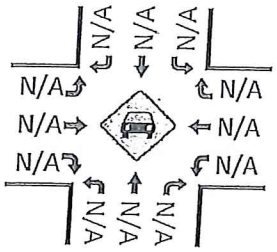
Total Vehicles (AM)



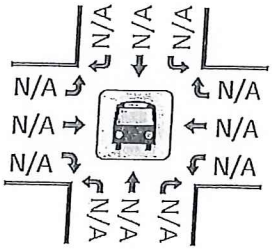
(AM)



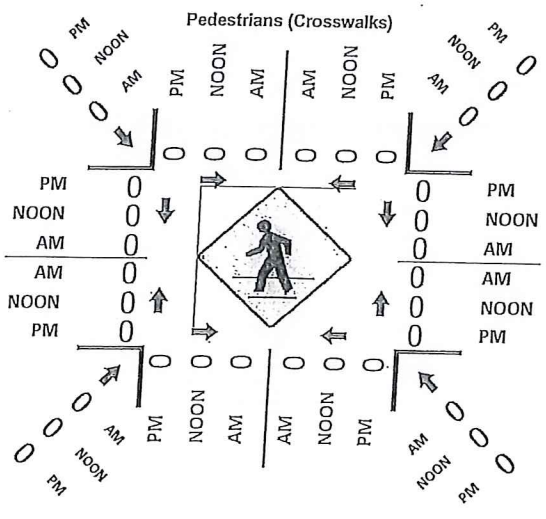
Total Vehicles (Noon)



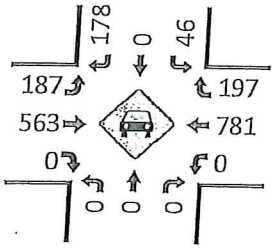
(NOON)



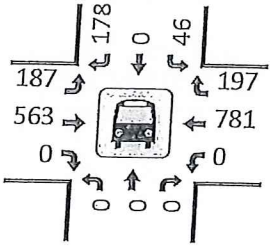
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Prepared by National Data & Surveying Services

Arcturus Ave & Hueneme Rd

Peak Hour Turning Movement Count

ID: 18-05165-004
City: Oxnard

Day: Thursday
Date: 03/08/2018

PEAK HOURS: 06:00 AM - 07:00 AM; NONE; 03:15 PM - 04:15 PM

COUNT PERIODS: 06:00 AM - 09:00 AM; NONE; 03:00 PM - 05:00 PM

Arcturus Ave

SOUTHBOUND

AM	7	32	69	0	23	AM
NOON	0	0	0	0	0	NOON
PM	27	10	44	0	210	PM

Hueneme Rd

EASTBOUND

AM	NOON	PM	
371	0	915	
1	0	0	0
9	0	22	0
871	0	569	0
109	0	17	0
AM	NOON	PM	

WESTBOUND

PM	NOON	AM	
0	140	0	10
0	778	0	349
0	17	0	47
0	0	0	6
	664	0	953
PM	NOON	AM	

Hueneme Rd

CONTROL

0

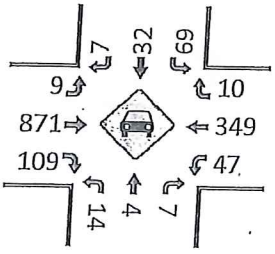
TEV	1535	0	1833
	AM	NOON	PM
PHF	0.90		0.82

NORTHBOUND

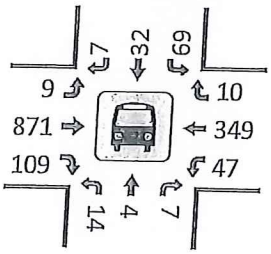
PM	44	0	110	48	51	PM
NOON	0	0	0	0	0	NOON
AM	188	0	14	4	7	AM

Arcturus Ave

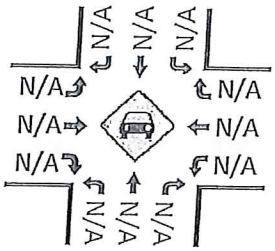
Total Vehicles (AM)



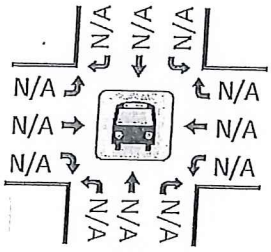
(AM)



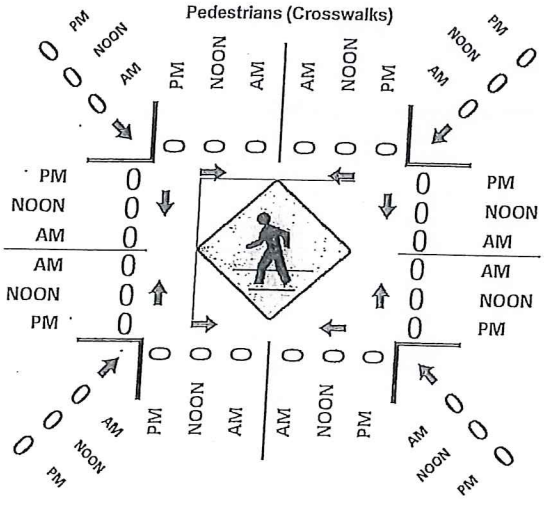
Total Vehicles (Noon)



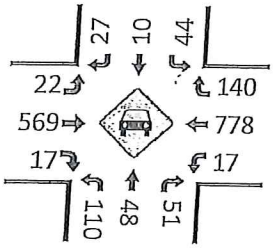
(NOON)



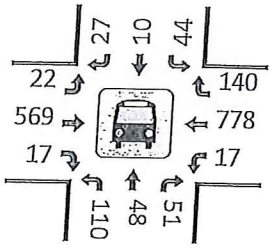
Pedestrians (Crosswalks)



Total Vehicles (PM)



(PM)



Prepared by National Data & Surveying Services

Edison Dr & Hueneme Rd

Peak Hour Turning Movement Count

ID: 18-05165-005
City: Oxnard

Day: Thursday
Date: 03/08/2018

PEAK HOURS: AM 06:00 AM - 07:00 AM; NOON NONE; PM 04:00 PM - 05:00 PM

COUNT PERIODS: AM 06:00 AM - 09:00 AM; NOON NONE; PM 03:00 PM - 05:00 PM

Edison Dr — SOUTHBOUND

AM	2	10	1	0	60	AM
NOON	0	0	0	0	0	NOON
PM	11	37	6	0	29	PM

0 0 0 0

Hueneme Rd — EASTBOUND

AM	NOON	PM	
416	0	967	
0	0	5	0
4	0	7	0
883	0	622	0
52	0	35	0
AM	NOON	PM	

CONTROL

0

TEV	1477 AM	0 NOON	1748 PM
PHF	0.94		0.89

Hueneme Rd — WESTBOUND

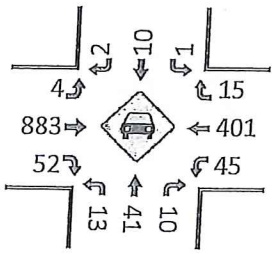
PM	NOON	AM	
0	8	0	15
0	904	0	401
0	10	0	45
0	0	0	0
	670	0	894
PM	NOON	AM	

0 0 0 0

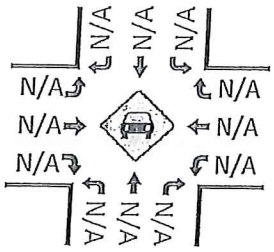
PM	82	0	47	14	42	PM
NOON	0	0	0	0	0	NOON
AM	107	0	13	41	10	AM

Edison Dr — NORTHBOUND

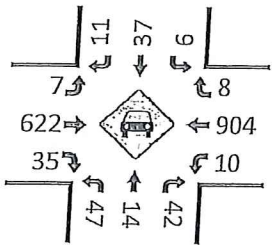
Total Vehicles (AM)



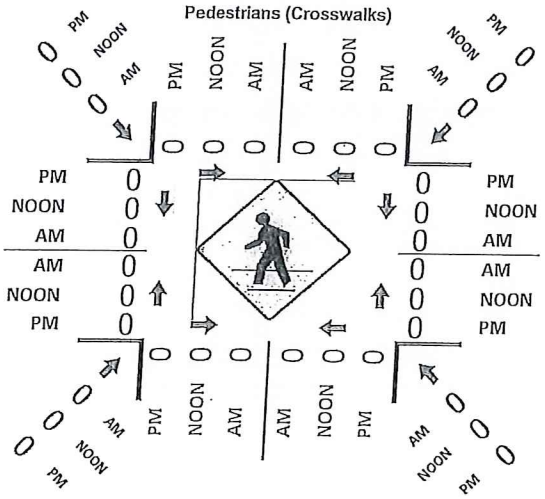
Total Vehicles (Noon)



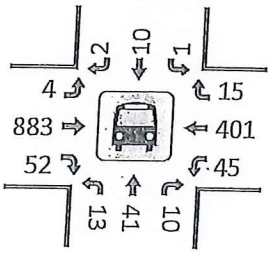
Total Vehicles (PM)



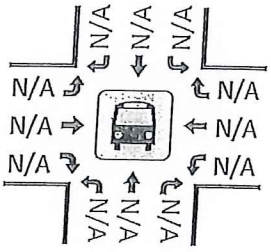
Pedestrians (Crosswalks)



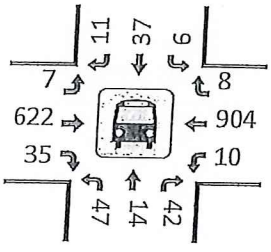
(AM)



(NOON)



(PM)



#8 AM

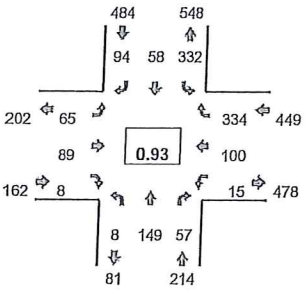
Type of peak hour being reported: Intersection Peak

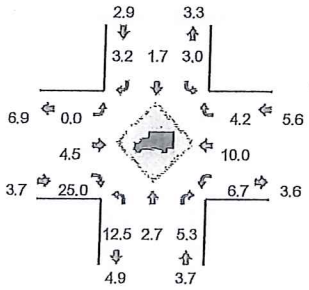
Method for determining peak hour: Total Entering Volume

LOCATION: Ventura Rd -- Hueneme Rd
CITY/STATE: Oxnard, CA

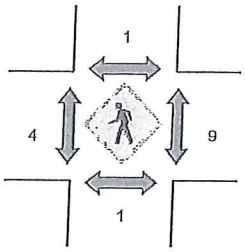
QC JOB #: 13825117
DATE: Thu, Jun 09 2016

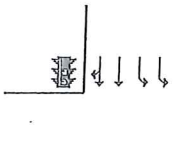
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

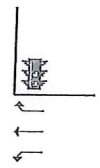


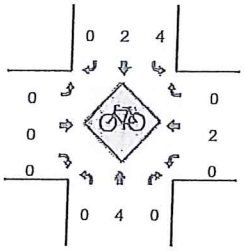


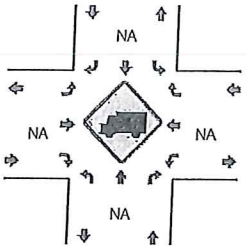
Quality Counts
TRANSPORTATION DATA COLLECTION SERVICES

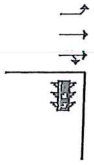


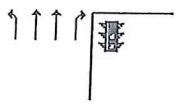


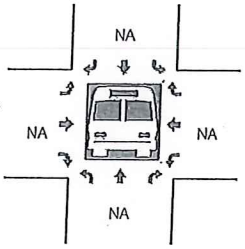












15-Min Count Period Beginning At	Ventura Rd (Northbound)				Ventura Rd (Southbound)				Hueneme Rd (Eastbound)				Hueneme Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:30 AM	1	22	6	0	61	9	15	0	13	10	0	0	0	19	61	0	217	
6:45 AM	2	19	11	0	71	18	49	0	10	6	0	0	7	31	72	0	296	
7:00 AM	2	34	11	0	72	20	47	0	10	8	2	0	3	33	74	0	316	
7:15 AM	4	36	13	0	70	14	17	0	16	32	2	0	4	15	75	0	298	1127
7:30 AM	1	41	18	0	99	11	13	0	23	27	0	0	3	24	82	0	342	1252
7:45 AM	1	38	15	0	91	13	17	0	16	22	4	0	5	28	103	0	353	1309
8:00 AM	1	22	12	0	73	22	16	0	17	47	0	0	7	22	60	0	299	1292
8:15 AM	3	28	10	0	72	22	9	0	12	52	2	0	4	22	66	0	302	1296
8:30 AM	3	19	6	0	50	10	9	0	17	39	2	0	7	16	70	0	248	1202
8:45 AM	2	17	8	0	79	11	16	0	11	22	3	0	3	16	63	1	252	1101

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	152	60	0	364	52	68	0	64	88	16	0	20	112	412	0	1412
Heavy Trucks	0	8	8		16	0	8		0	4	4		4	4	4		60
Pedestrians		0				0				12				16			28
Bicycles	0	3	0		4	1	0		0	0	0		0	1	0		9
Railroad																	
Stopped Buses																	

Comments:

Report generated on 6/24/2016 10:48 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

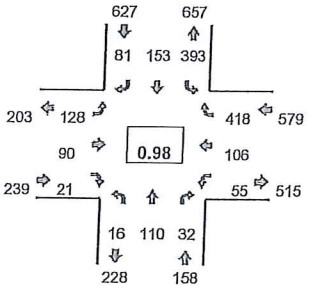
Type of peak hour being reported: Intersection Peak

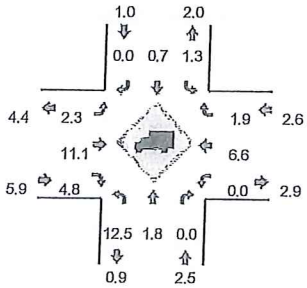
Method for determining peak hour: Total Entering Volume

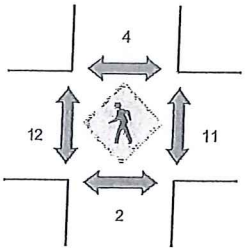
LOCATION: Ventura Rd -- Hueneme Rd
CITY/STATE: Oxnard, CA

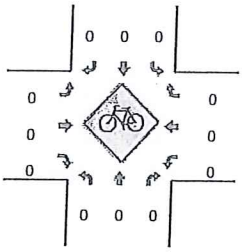
QC JOB #: 13825118
DATE: Thu, Jun 09 2016

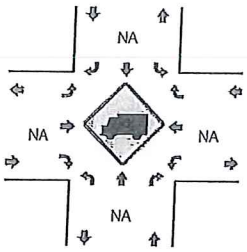
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

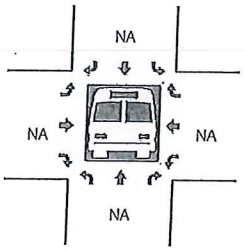












15-Min Count Period Beginning At	Ventura Rd (Northbound)				Ventura Rd (Southbound)				Hueneme Rd (Eastbound)				Hueneme Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	1	28	11	0	71	30	3	0	12	14	4	0	7	13	51	1	246	
3:15 PM	2	17	3	0	70	31	15	0	16	39	2	0	9	20	84	0	308	
3:30 PM	3	25	4	0	90	26	13	0	16	23	4	0	10	15	95	1	325	
3:45 PM	1	32	6	0	86	41	15	0	15	19	2	0	11	14	78	0	320	1199
4:00 PM	4	23	11	0	105	33	15	0	13	19	3	0	9	17	103	0	355	1308
4:15 PM	4	23	7	0	115	41	18	0	27	12	6	0	3	27	89	0	372	1372
4:30 PM	1	25	9	0	114	36	19	0	28	26	3	0	5	25	118	0	409	1456
4:45 PM	3	25	4	0	96	33	30	0	26	22	4	0	10	33	112	1	399	1535
5:00 PM	5	33	11	0	82	39	17	1	31	28	3	0	17	31	99	0	397	1577
5:15 PM	7	27	8	0	100	45	15	0	43	14	11	0	22	17	89	0	398	1603
5:30 PM	5	25	5	0	83	36	16	0	51	31	5	0	22	18	81	1	379	1573
5:45 PM	2	26	6	0	81	48	7	0	35	23	5	0	14	27	87	0	361	1535

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	100	36	0	456	144	76	0	112	104	12	0	20	100	472	0	1636
Heavy Trucks	4	0	0		8	0	0		4	28	0		0	4	20		68
Pedestrians		4				4				8				4			20
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad Stopped Buses																	

Comments:

Report generated on 6/24/2016 10:48 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

INTERSECTION LOS CALCULATION WORKSHEETS

Reference 1 – Port Hueneme Road/Ventura Road
Reference 2 – Port Hueneme Road/"J" Street
Reference 3 – Port Hueneme Road/Perkins Road
Reference 4 – Port Hueneme Road/Saviers Road
Reference 5 – Port Hueneme Road/Arcturus Avenue
Reference 6 – Port Hueneme Road/Edison Drive

ARCTURUS COLD STORAGE WAREHOUSE (#210025) REF: 01 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *03/08/2018*

TIME PERIOD: *AM PEAK HOUR*

N/S STREET: *VENTURA ROAD*

E/W STREET: *HUENEME ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	8	156	60	348	61	99	69	94	8	16	105	351
(B) PROJECT-ADDED:	0	0	0	0	0	0	0	10	0	0	10	0
(C) CUMULATIVE:	10	161	61	388	61	101	71	101	10	20	132	356

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND L T R	SOUTH BOUND LL T TR	EAST BOUND L T TR	WEST BOUND L T R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	8	8	10	10	0.005	0.005	0.006	0.006
NBT	1	1600	156	156	161	161	0.098 *	0.098 *	0.101 *	0.101 *
NBR	1	1600	60	60	61	61	0.038	0.038	0.038	0.038
SBL	2	3200	348	348	388	388	0.109 *	0.109 *	0.121 *	0.121 *
SBT	2	3200	61	61	61	61	0.050	0.050	0.051	0.051
SBR	0	0	99	99	101	101	-	-	-	-
EBL	1	1600	69	69	71	71	0.043 *	0.043 *	0.044 *	0.044 *
EBT	2	3200	94	104	101	111	0.032	0.035	0.035	0.038
EBR	0	0	8	8	10	10	-	-	-	-
WBL	1	1600	16	16	20	20	0.010	0.010	0.013	0.013
WBT	1	1600	105	115	132	142	0.066 *	0.072 *	0.083 *	0.089 *
WBR	1	1600	351	351	356	356	0.219	0.219	0.223	0.223
		TOTAL INTERSECTION CAPACITY UTILIZATION:					0.32	0.32	0.35	0.36
		SCENARIO LEVEL OF SERVICE:					A	A	A	A

NOTES:

Printed: 02/23/23

ARCTURUS COLD STORAGE WAREHOUSE (#21025) **REF:** 01 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***03/08/2018***

TIME PERIOD: ***PM PEAK HOUR***

N/S STREET: ***VENTURA ROAD***

E/W STREET: ***HUENEME ROAD***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	**17**	**115**	**33**	**413**	**161**	**85**	**134**	**95**	**22**	**57**	**111**	**439**
(B) PROJECT-ADDED:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**10**	**0**
(C) CUMULATIVE:	**20**	**116**	**35**	**414**	**162**	**86**	**136**	**111**	**25**	**60**	**134**	**446**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L T R	LL T TR	L T TR	L T R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	17	17	20	20	0.011	0.011	0.013	0.013
NBT	1	1600	115	115	116	116	0.072 *	0.072 *	0.073 *	0.073 *
NBR	1	1600	33	33	35	35	0.021	0.021	0.022	0.022
SBL	2	3200	413	413	414	414	0.129 *	0.129 *	0.129 *	0.129 *
SBT	2	3200	161	161	162	162	0.077	0.077	0.078	0.078
SBR	0	0	85	85	86	86	-	-	-	-
EBL	1	1600	134	134	136	136	0.084 *	0.084 *	0.085 *	0.085 *
EBT	2	3200	95	107	111	123	0.037	0.040	0.043	0.046
EBR	0	0	22	22	25	25	-	-	-	-
WBL	1	1600	57	57	60	60	0.036	0.036	0.038	0.038
WBT	1	1600	111	121	134	144	0.069 *	0.076 *	0.084 *	0.090 *
WBR	1	1600	439	439	446	446	0.274	0.274	0.279	0.279
		TOTAL INTERSECTION CAPACITY UTILIZATION:					**0.35**	**0.36**	**0.37**	**0.38**
		SCENARIO LEVEL OF SERVICE:					**A**	**A**	**A**	**A**

NOTES:

Printed: 02/23/23

ARCTURUS AVENUE COLD STORAGE WAREHOUSE (#21025) REF: 02 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *03/08/2018*

TIME PERIOD: *AM PEAK HOUR*

N/S STREET: *J" STREET*

E/W STREET: *HUENEME ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	0	0	0	122	0	56	45	838	8	5	568	18
(B) PROJECT-ADDED:	0	0	0	0	0	0	0	10	0	0	10	0
(C) CUMULATIVE:	0	0	0	128	0	56	45	875	10	5	603	22

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	LTR	LT R	L T TR	L TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	0	0	0	0	0	0	-	-	-	-
NBT	1	1600	0	0	0	0	0.000	0.000	0.000	0.000
NBR	0	0	0	0	0	0	-	-	-	-
SBL	0	0	122	122	128	128	-	-	-	-
SBT	1	1600	0	0	0	0	0.076 *	0.076 *	0.080 *	0.080 *
SBR	1	1600	56	56	56	56	0.035	0.035	0.035	0.035
EBL	1	1600	45	45	45	45	0.028	0.028	0.028	0.028
EBT	2	3200	838	848	875	885	0.264 *	0.268 *	0.277 *	0.280 *
EBR	0	0	8	8	10	10	-	-	-	-
WBL	1	1600	5	5	5	5	0.003 *	0.003 *	0.003 *	0.003 *
WBT	2	3200	568	578	603	613	0.178	0.181	0.188	0.192
WBR	1	1600	18	18	22	22	0.011	0.011	0.014	0.014
		TOTAL INTERSECTION CAPACITY UTILIZATION:					0.34	0.35	0.36	0.36
		SCENARIO LEVEL OF SERVICE:					A	A	A	A

NOTES:

Printed: 02/23/23

ARCTURUS COLD STORAGE WAREHOUSE (#21025) **REF:** 02 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *03/08/2018*

TIME PERIOD: *PM PEAK HOUR*

N/S STREET: *J" STREET*

E/W STREET: *HUENEME ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	0	0	0	68	0	71	61	739	7	10	726	122
(B) PROJECT-ADDED:	0	0	0	0	0	0	0	12	0	0	10	0
(C) CUMULATIVE:	0	0	0	71	0	71	61	757	10	10	755	130

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	LTR	LT R	L T TR	L TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	0	0	0	0	0	0	-	-	-	-
NBT	1	1600	0	0	0	0	0.000	0.000	0.000	0.000
NBR	0	0	0	0	0	0	-	-	-	-
SBL	0	0	68	68	71	71	-	-	-	-
SBT	1	1600	0	0	0	0	0.043	0.043	0.044 *	0.044 *
SBR	1	1600	71	71	71	71	0.044 *	0.044 *	0.044	0.044
EBL	1	1600	61	61	61	61	0.038 *	0.038 *	0.038 *	0.038 *
EBT	2	3200	739	751	757	769	0.233	0.237	0.240	0.243
EBR	0	0	7	7	10	10	-	-	-	-
WBL	1	1600	10	10	10	10	0.006	0.006	0.006	0.006
WBT	2	3200	726	736	755	765	0.227 *	0.230 *	0.236 *	0.239 *
WBR	1	1600	122	122	130	130	0.076	0.076	0.081	0.081
		TOTAL INTERSECTION CAPACITY UTILIZATION:					**0.31**	**0.31**	**0.32**	**0.32**
		SCENARIO LEVEL OF SERVICE:					A	A	A	A

NOTES:

Printed: 02/23/23

ARCTURUS COLD STORAGE WAREHOUSE (#21025) **REF:** 03 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *03/08/2018*

TIME PERIOD: *AM PEAK HOUR*

N/S STREET: *PERKINS ROAD*

E/W STREET: *HUENEME ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	22	2	21	47	5	19	54	772	28	30	511	46
(B) PROJECT-ADDED:	0	0	0	0	0	0	0	10	0	8	10	0
(C) CUMULATIVE:	28	5	25	50	5	20	56	778	67	38	544	52

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	LT R	LTR	L TTR	L TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	0	0	22	22	28	28	-	-	-	-
NBT	1	1600	2	2	5	5	0.015 *	0.015 *	0.021 *	0.021 *
NBR	1	1600	21	21	25	25	0.013	0.013	0.016	0.016
SBL	0	0	47	47	50	50	-	-	-	-
SBT	1	1600	5	5	5	5	0.044 *	0.044 *	0.047 *	0.047 *
SBR	0	0	19	19	20	20	-	-	-	-
EBL	1	1600	54	54	56	56	0.034	0.034	0.035	0.035
EBT	2	3200	772	782	778	788	0.250 *	0.253 *	0.264 *	0.267 *
EBR	0	0	28	28	67	67	-	-	-	-
WBL	1	1600	30	38	38	46	0.019 *	0.024 *	0.024 *	0.029 *
WBT	2	3200	511	521	544	554	0.160	0.163	0.170	0.173
WBR	1	1600	46	46	52	52	0.029	0.029	0.033	0.033
		TOTAL INTERSECTION CAPACITY UTILIZATION:					**0.33**	**0.34**	**0.36**	**0.36**
		SCENARIO LEVEL OF SERVICE:					A	A	A	A

NOTES:

Printed: 02/23/23

ARCTURUS COLD STORAGE WAREHOUSE (#21025) **REF:** 03 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *03/08/2018*

TIME PERIOD: *PM PEAK HOUR*

N/S STREET: *PERKINS ROAD*

E/W STREET: *HUENEME ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	NORTH BOUND T	NORTH BOUND R	SOUTH BOUND L	SOUTH BOUND T	SOUTH BOUND R	EAST BOUND L	EAST BOUND T	EAST BOUND R	WEST BOUND L	WEST BOUND T	WEST BOUND R
(A) EXISTING:	26	1	40	30	0	23	48	713	6	15	767	127
(B) PROJECT-ADDED:	0	0	0	0	0	0	0	12	0	0	10	0
(C) CUMULATIVE:	34	5	48	35	5	25	50	732	10	15	794	133

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	LT R	LTR	L TTR	L TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	0	0	26	26	34	34	-	-	-	-
NBT	1	1600	1	1	5	5	0.017	0.017	0.024	0.024
NBR	1	1600	40	40	48	48	0.025 *	0.025 *	0.030 *	0.030 *
SBL	0	0	30	30	35	35	-	-	-	-
SBT	1	1600	0	0	5	5	0.033 *	0.033 *	0.041 *	0.041 *
SBR	0	0	23	23	25	25	-	-	-	-
EBL	1	1600	48	48	50	50	0.030 *	0.030 *	0.031 *	0.031 *
EBT	2	3200	713	725	732	744	0.225	0.228	0.232	0.236
EBR	0	0	6	6	10	10	-	-	-	-
WBL	1	1600	15	15	15	15	0.009	0.009	0.009	0.009
WBT	2	3200	767	777	794	804	0.240 *	0.243 *	0.248 *	0.251 *
WBR	1	1600	127	127	133	133	0.079	0.079	0.083	0.083
		TOTAL INTERSECTION CAPACITY UTILIZATION:					**0.33**	**0.33**	**0.35**	**0.35**
		SCENARIO LEVEL OF SERVICE:					**A**	**A**	**A**	**A**

NOTES:

Printed: 02/23/23

ARCTURUS COLD STORAGE WAREHOUS (#21025) **REF:** 04 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *03/08/2018*

TIME PERIOD: *AM PEAK HOUR*

N/S STREET: *SAVIERS ROAD*

E/W STREET: *HUENEME ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	0	0	0	116	0	159	226	607	0	0	422	81
(B) PROJECT-ADDED:	0	0	0	0	0	0	0	10	0	0	10	0
(C) CUMULATIVE:	0	0	0	123	0	166	227	616	0	0	445	86

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND L R	EAST BOUND L T	WEST BOUND TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	0	0	0	0	0	0	-	-	-	-
NBT	0	0	0	0	0	0	-	-	-	-
NBR	0	0	0	0	0	0	-	-	-	-
SBL	1	1600	116	116	123	123	0.073	0.073	0.077	0.077
SBT	0	0	0	0	0	0	-	-	-	-
SBR	1	1600	159	159	166	166	0.099 *	0.099 *	0.104 *	0.104 *
EBL	1	1600	226	226	227	227	0.141	0.141	0.142	0.142
EBT	1	1600	607	617	616	626	0.379 *	0.386 *	0.385 *	0.391 *
EBR	0	0	0	0	0	0	-	-	-	-
WBL	0	0	0	0	0	0	-	-	-	-
WBT	2	3200	422	432	445	455	0.132	0.135	0.139	0.142
WBR	1	1600	81	81	86	86	0.051	0.051	0.054	0.054
		TOTAL INTERSECTION CAPACITY UTILIZATION:					**0.48**	**0.49**	**0.49**	**0.50**
		SCENARIO LEVEL OF SERVICE:					**A**	**A**	**A**	**A**

NOTES:

Printed: 02/23/23

ARCTURUS COLD STORAGE WAREHOUSE (#21025) REF: 04 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: ***03/08/2018***

TIME PERIOD: ***PM PEAK HOUR***

N/S STREET: ***SAVIERS ROAD***

E/W STREET: ***HUENEME ROAD***

CONTROL TYPE: ***SIGNAL***

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	**0**	**0**	**0**	**56**	**0**	**185**	**195**	**586**	**0**	**0**	**813**	**205**
(B) PROJECT-ADDED:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**10**	**0**
(C) CUMULATIVE:	**0**	**0**	**0**	**63**	**0**	**187**	**201**	**610**	**0**	**0**	**830**	**207**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND L R	EAST BOUND L T	WEST BOUND TT R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	0	0	0	0	0	0	-	-	-	-
NBT	0	0	0	0	0	0	-	-	-	-
NBR	0	0	0	0	0	0	-	-	-	-
SBL	1	1600	56	56	63	63	0.035	0.035	0.039	0.039
SBT	0	0	0	0	0	0	-	-	-	-
SBR	1	1600	185	185	187	187	0.116 *	0.116 *	0.117 *	0.117 *
EBL	1	1600	195	195	201	201	0.122 *	0.122 *	0.126 *	0.126 *
EBT	1	1600	586	598	610	622	0.366	0.374	0.381	0.389
EBR	0	0	0	0	0	0	-	-	-	-
WBL	0	0	0	0	0	0	-	-	-	-
WBT	2	3200	813	823	830	840	0.254 *	0.257 *	0.259 *	0.263 *
WBR	1	1600	205	205	207	207	0.128	0.128	0.129	0.129
TOTAL INTERSECTION CAPACITY UTILIZATION:							**0.49**	**0.50**	**0.50**	**0.51**
SCENARIO LEVEL OF SERVICE:							**A**	**A**	**A**	**A**

NOTES:

Printed: 02/23/23

ARCTURUS COLD STORAGE WAREHOUSE (#21025) REF: 05 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *03/08/2018*

TIME PERIOD: *AM PEAK HOUR*

N/S STREET: *ARCTURUS AVENUE*

E/W STREET: *HUENEME ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	**14**	**4**	**7**	**72**	**36**	**7**	**10**	**906**	**113**	**56**	**364**	**10**
(B) PROJECT-ADDED:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**10**	**0**
(C) CUMULATIVE:	**15**	**5**	**10**	**100**	**40**	**25**	**15**	**911**	**116**	**56**	**370**	**20**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L TR	L TR	L T TR	L T R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	14	14	15	15	0.009	0.009	0.009	0.009
NBT	1	1600	4	4	5	5	0.007 *	0.007 *	0.009 *	0.009 *
NBR	0	0	7	7	10	10	-	-	-	-
SBL	1	1600	72	72	100	100	0.045 *	0.045 *	0.063 *	0.063 *
SBT	1	1600	36	36	40	40	0.027	0.027	0.041	0.041
SBR	0	0	7	7	25	25	-	-	-	-
EBL	1	1600	10	10	15	15	0.006	0.006	0.009	0.009
EBT	2	3200	906	916	911	921	0.318 *	0.322 *	0.321 *	0.324 *
EBR	0	0	113	113	116	116	-	-	-	-
WBL	1	1600	56	56	56	56	0.035 *	0.035 *	0.035 *	0.035 *
WBT	1	1600	364	374	370	380	0.228	0.234	0.231	0.238
WBR	1	1600	10	10	20	20	0.006	0.006	0.013	0.013
		TOTAL INTERSECTION CAPACITY UTILIZATION:					**0.41**	**0.41**	**0.43**	**0.43**
		SCENARIO LEVEL OF SERVICE:					**A**	**A**	**A**	**A**

NOTES:

Printed: 02/23/23

ARCTURUS COLD STORAGE WAREHOUSE (#210025) REF: 05 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *03/08/2018*

TIME PERIOD: *PM PEAK HOUR*

N/S STREET: *ARCTURUS AVENUE*

E/W STREET: *HUENEME ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	**114**	**49**	**54**	**45**	**10**	**28**	**23**	**592**	**18**	**18**	**810**	**145**
(B) PROJECT-ADDED:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**10**	**0**
(C) CUMULATIVE:	**116**	**50**	**56**	**60**	**15**	**40**	**40**	**602**	**20**	**20**	**815**	**170**

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L TR	L TR	L T TR	L T R

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	114	114	116	116	0.071 *	0.071 *	0.073 *	0.073 *
NBT	1	1600	49	49	50	50	0.064	0.064	0.066	0.066
NBR	0	0	54	54	56	56	-	-	-	-
SBL	1	1600	45	45	60	60	0.028	0.028	0.038	0.038
SBT	1	1600	10	10	15	15	0.024 *	0.024 *	0.034 *	0.034 *
SBR	0	0	28	28	40	40	-	-	-	-
EBL	1	1600	23	23	40	40	0.014 *	0.014 *	0.025 *	0.025 *
EBT	2	3200	592	604	602	614	0.191	0.194	0.194	0.198
EBR	0	0	18	18	20	20	-	-	-	-
WBL	1	1600	18	18	20	20	0.011	0.011	0.013	0.013
WBT	1	1600	810	820	815	825	0.506 *	0.513 *	0.509 *	0.516 *
WBR	1	1600	145	145	170	170	0.091	0.091	0.106	0.106
		TOTAL INTERSECTION CAPACITY UTILIZATION:					**0.62**	**0.62**	**0.64**	**0.65**
		SCENARIO LEVEL OF SERVICE:					**B**	**B**	**B**	**B**

NOTES:

Printed: 02/23/23

ARCTURUS COLD STORAGE WAREHOUSE (#210025) REF: 06 AM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *03/08/2018*

TIME PERIOD: *AM PEAK HOUR*

N/S STREET: *EDISON dRIVE*

E/W STREET: *HUENEME ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	13	42	10	1	10	2	4	919	55	46	417	15
(B) PROJECT-ADDED:	10	0	2	0	0	0	0	0	10	2	0	0
(C) CUMULATIVE:	15	45	10	5	10	5	5	945	56	50	435	15

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L TR	L TR	L TT R	L TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	13	23	15	25	0.008	0.014	0.009	0.016
NBT	1	1600	42	42	45	45	0.033 *	0.034 *	0.034 *	0.036 *
NBR	0	0	10	12	10	12	-	-	-	-
SBL	1	1600	1	1	5	5	0.001 *	0.001 *	0.003 *	0.003 *
SBT	1	1600	10	10	10	10	0.008	0.008	0.009	0.009
SBR	0	0	2	2	5	5	-	-	-	-
EBL	1	1600	4	4	5	5	0.003	0.003	0.003	0.003
EBT	2	3200	919	919	945	945	0.287 *	0.287 *	0.295 *	0.295 *
EBR	1	1600	55	65	56	66	0.034	0.041	0.035	0.041
WBL	1	1600	46	48	50	52	0.029 *	0.030 *	0.031 *	0.033 *
WBT	1	1600	417	417	435	435	0.270	0.270	0.281	0.281
WBR	0	0	15	15	15	15	-	-	-	-
		TOTAL INTERSECTION CAPACITY UTILIZATION:					0.35	0.35	0.36	0.37
		SCENARIO LEVEL OF SERVICE:					A	A	A	A

NOTES:

Printed: 02/23/23

ARCTURUS COLD STORAGE WAREHOUSE (#210025) REF: 06 PM

INTERSECTION CAPACITY UTILIZATION WORKSHEET

COUNT DATE: *03/08/2018*

TIME PERIOD: *PM PEAK HOUR*

N/S STREET: *EDISON dRIVE*

E/W STREET: *HUENEME ROAD*

CONTROL TYPE: *SIGNAL*

TRAFFIC VOLUME SUMMARY

VOLUMES	NORTH BOUND L	T	R	SOUTH BOUND L	T	R	EAST BOUND L	T	R	WEST BOUND L	T	R
(A) EXISTING:	48	14	43	6	38	11	12	647	36	10	940	8
(B) PROJECT-ADDED:	10	0	2	0	0	0	0	0	12	2	0	0
(C) CUMULATIVE:	50	15	45	10	40	15	15	667	40	15	1116	10

GEOMETRICS

LANE GEOMETRICS	NORTH BOUND	SOUTH BOUND	EAST BOUND	WEST BOUND
	L TR	L TR	L TT R	L TR

TRAFFIC SCENARIOS

SCENARIO 1 = EXISTING VOLUMES (A)
SCENARIO 2 = EXISTING + PROJECT VOLUMES (A+B)
SCENARIO 3 = CUMULATIVE (C)
SCENARIO 4 = CUMULATIVE + PROJECT VOLUMES (B+C)

LEVEL OF SERVICE CALCULATIONS

MOVE-MENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES 1	2	3	4	SCENARIO V/C RATIOS 1	2	3	4
NBL	1	1600	48	58	50	60	0.030 *	0.036 *	0.031 *	0.038 *
NBT	1	1600	14	14	15	15	0.036	0.037	0.038	0.039
NBR	0	0	43	45	45	47	-	-	-	-
SBL	1	1600	6	6	10	10	0.004	0.004	0.006	0.006
SBT	1	1600	38	38	40	40	0.031 *	0.031 *	0.034 *	0.034 *
SBR	0	0	11	11	15	15	-	-	-	-
EBL	1	1600	12	12	15	15	0.008 *	0.008 *	0.009 *	0.009 *
EBT	2	3200	647	647	667	667	0.202	0.202	0.208	0.208
EBR	1	1600	36	48	40	52	0.023	0.030	0.025	0.033
WBL	1	1600	10	12	15	17	0.006	0.008	0.009	0.011
WBT	1	1600	940	940	1116	1116	0.593 *	0.593 *	0.704 *	0.704 *
WBR	0	0	8	8	10	10	-	-	-	-
		TOTAL INTERSECTION CAPACITY UTILIZATION:					0.66	0.67	0.78	0.79
		SCENARIO LEVEL OF SERVICE:					B	B	C	C

NOTES:

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