CITY OF PALMDALE

Avenue R Apartments Project

INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION

Prepared for:

CITY OF PALMDALE
38250 SIERRA HIGHWAY
PALMDALE, CA 93550

Prepared by:

RANEY PLANNING & MANAGEMENT, INC. 20 years
1501 Sports Drive, Suite A, Sacramento, CA 95834

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Appendix I: Exterior-to-Interior Noise Study, 2021
Appendix J: Public Comment Letters Received on the Initial Study/Mitigated Negative Declaration
Appendix K: Mitigation Monitoring and Reporting Program

[1] A Phase I Cultural Resources Survey was prepared for the proposed project by McKenna et al.; however, due to the confidentiality of the information contained therein, the document is not included in this IS/MND.

1. INTRODUCTION

A. Purpose and Background of the Initial Study

This Initial Study/Mitigated Negative Declaration (IS/MND) identifies and analyzes the potential environmental impacts of the Avenue R Apartments Project (proposed project). The information and analysis presented in this document is organized in accordance with the order of the California Environmental Quality Act (CEQA) checklist in Appendix G of the CEQA Guidelines. Where the analysis provided in this document identifies potentially significant environmental effects of the project, mitigation measures sufficient to reduce the impacts to less than significant levels are prescribed.

In 1993, the City of Palmdale adopted a General Plan for the City and certified an associated Environmental Impact Report (EIR).[2] The General Plan EIR is a program EIR, prepared pursuant to Section 15168 of the CEQA Guidelines (Title 14, California Code of Regulations, Sections 15000 *et seq*.). The General Plan EIR analyzed full implementation of the General Plan and identified measures to mitigate the significant adverse impacts associated with buildout of the General Plan. Consistent with Section 15150 of the CEQA Guidelines, applicable portions of the General Plan and General Plan EIR are incorporated by reference as part of this Initial Study.

The City of Palmdale is currently processing a comprehensive update to the City's 1993 General Plan. Adoption of the update to the General Plan is anticipated to occur prior to Fall 2022. Given that the update to the General Plan has not been adopted at this time, the update is not discussed further in this IS/MND.

The final CEQA documents for the project include:

- Introduction to the Final IS/MND, which provides the context for the Final IS/MND, with applicable citations pursuant to CEQA and the State CEQA Guidelines.
- Introduction/Environmental Checklist Form, which provides the Project Description, a brief discussion of the existing environmental setting, and environmental impact assessment.
- References/List of Prepares/Appendices, which includes a list of reference sources, list of prepares, and list of appendices to support the IS/MND.

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[2] City of Palmdale. *City of Palmdale General Plan.* Adopted January 25, 1993.
City of Palmdale. *Program Environmental Impact Report for the City of Palmdale Draft General Plan.* Certified January 25, 1993.

- Responses to Comments, which includes a copy of each comment letter received regarding the IS/MND (Appendix J). CEQA does not require the Lead Agency to provide a formal response to each of the comments received on an IS/MND; however, text revisions based on comments received have been incorporated into this Final IS/MND where necessary in order to provide the City of Palmdale Hearing Officer with additional information upon which to base their decision.
- Mitigation Monitoring and Reporting Program (MMRP) (Appendix K) prepared pursuant to State CEQA Guidelines Section 15097 to provide a mechanism for the City of Palmdale to verify implementation of the mitigation measures adopted for the proposed Project.

The textual changes to the Final IS/MND do not constitute "substantial revision" as defined in State CEQA Guidelines Section 15073.5(b); therefore, recirculation of the Draft IS/MND is not required.

B. Lead Agency

City of Palmdale
Economic and Community Development Department
Planning Division
38250 Sierra Highway
Palmdale, CA 93550

C. Technical Studies

- Air Quality and Greenhouse Gas Analysis Memo – LSA Associates
- Biological Assessment – Pacific Southwest Biological Services, Inc.
- Phase I Cultural Resources Survey – McKenna et al.
- Geotechnical Engineering Investigation – Krazan & Associates, Inc.
- Phase I Environmental Site Assessment – Krazan & Associates, Inc.
- Preliminary Drainage Concept – Hunsaker and Associates, LA Inc.

- Environmental Noise Study – Acoustics Group, Inc.
- Exterior-to-Interior Noise Study – Acoustics Group, Inc.

2. PROJECT DESCRIPTION

A. Project Location

Northeast corner of Avenue R and 30th Street East

Palmdale, CA 93550
APN: 3020-005-031

B. Project Setting

The project site consists of approximately 5.5 acres located on the northeast corner of Avenue R and 30th Street East in the City of Palmdale, California (see Figure 1 and Figure 2). The site is identified by Assessor's Parcel Number (APN) 3020-005-031. The City of Palmdale General Plan designates the site as Medium Residential (MR) and the site is within the R-2 (Medium Residential) zone. An unnamed drainage runs northeasterly through the project site, extending off-site through the vacant land to the northeast of the site; the remainder of the site consists of ruderal vegetation, with a strip of bare, disturbed soil extending along the length of the Avenue R frontage. The site is relatively flat, with an elevation ranging from 2,625 feet in the southwestern corner of the site to 2,620 feet in the northeastern corner of the site.

The site is bounded by Avenue R to the south and 30th Street East to the west. Surrounding uses include a church (Berean Fellowship), vacant land, and multi-family residential uses to the north; single-family residential uses to the east; single-family residential uses to the south, across Avenue R; a convenience store (7-Eleven), mobile homes, and William J. McAdam Park to the west, across 30th Street East; and Villa Sierra Apartments to the southeast, across the Avenue R/30th Street East intersection.

C. Proposed Actions Addressed in the IS/MND

The proposed project would include development of the southeastern portion of the project site with a 57-unit permanent supportive housing community and associated improvements, including a central services building (see Figure 3). The northwestern portion of the site would be used for drainage/flood control purposes, and would not be developed.

Figure 1
Project Location and Vicinity

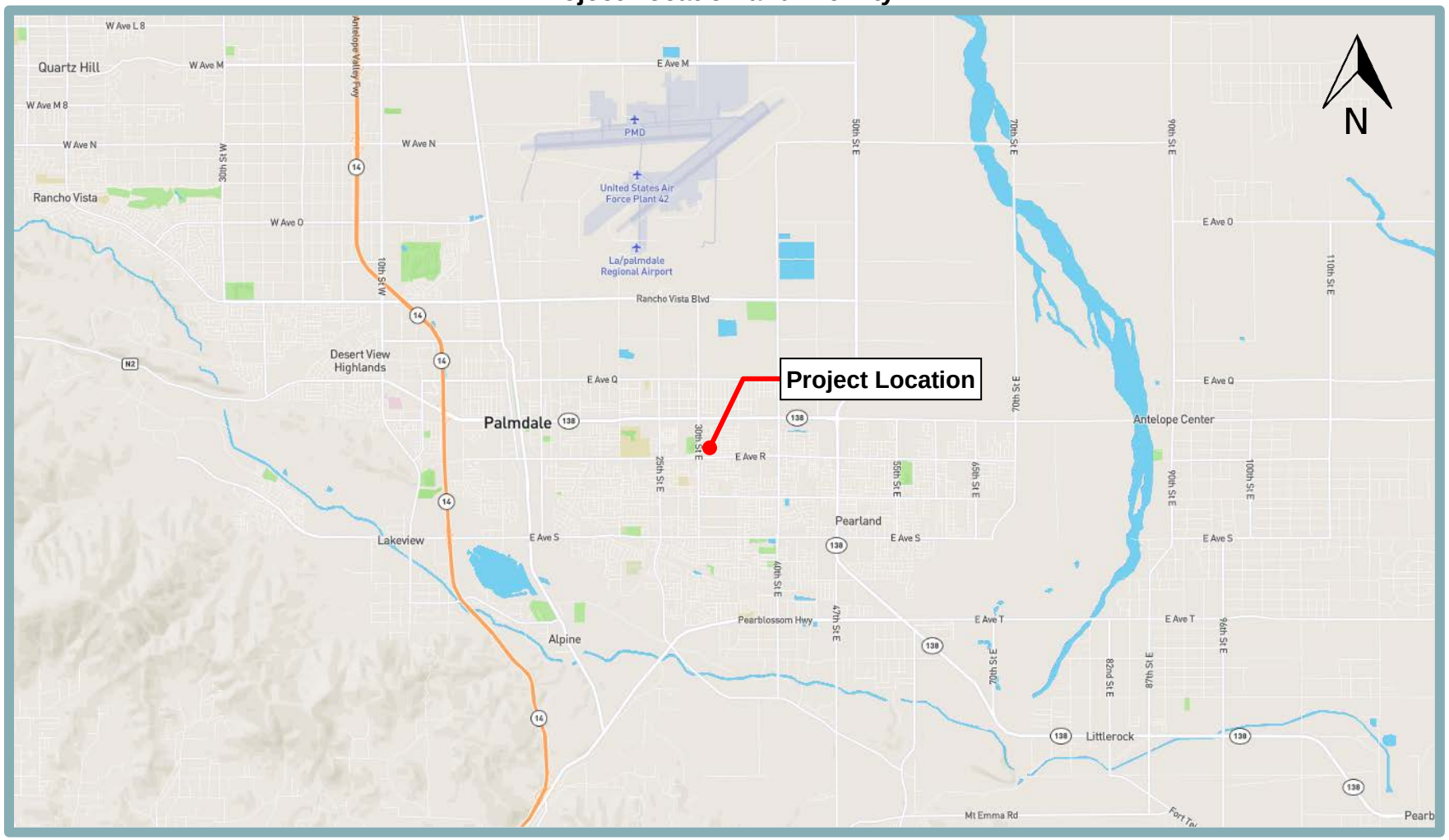


Figure 2
Project Area

Figure 3
Conceptual Site Plan

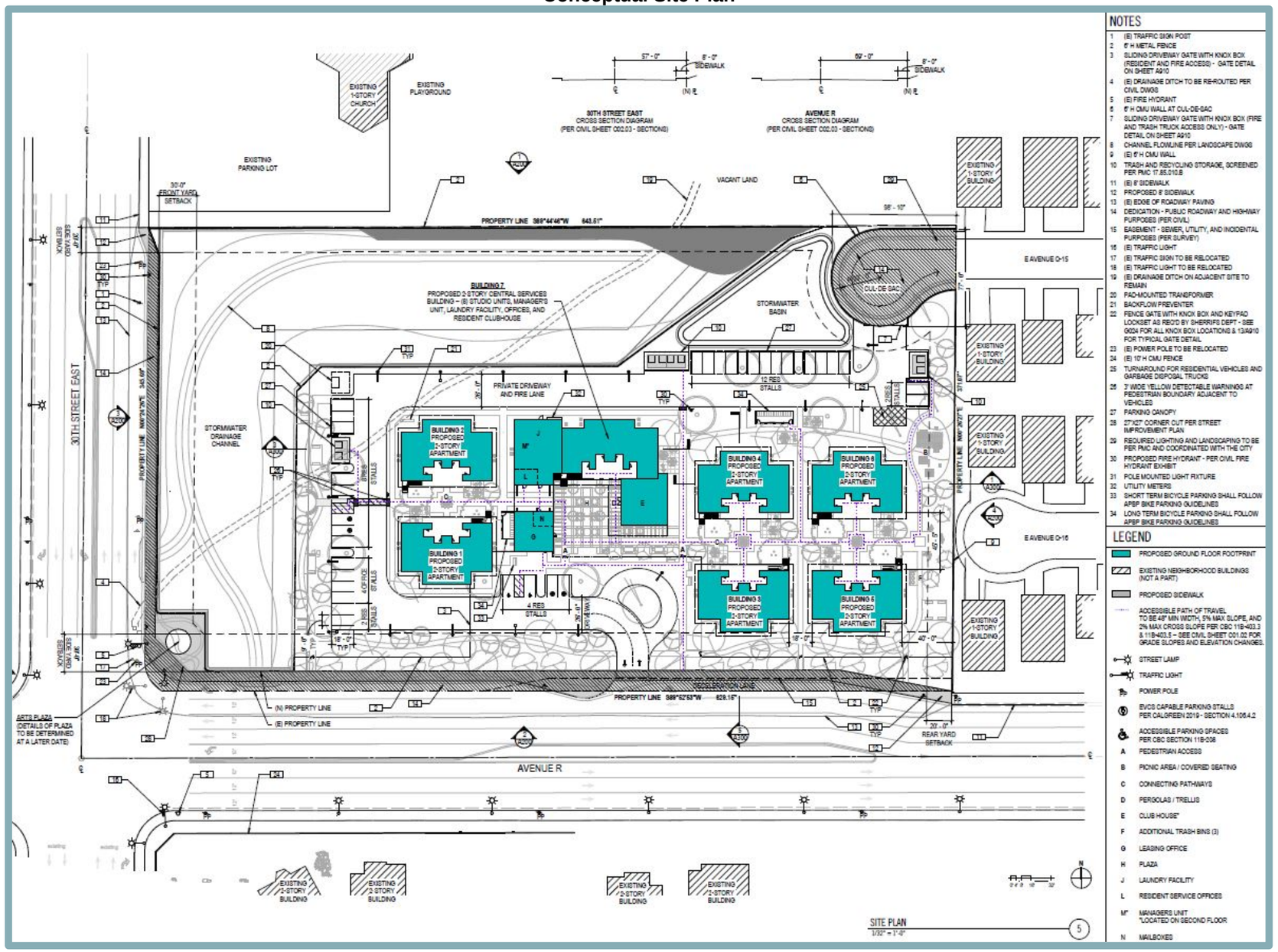
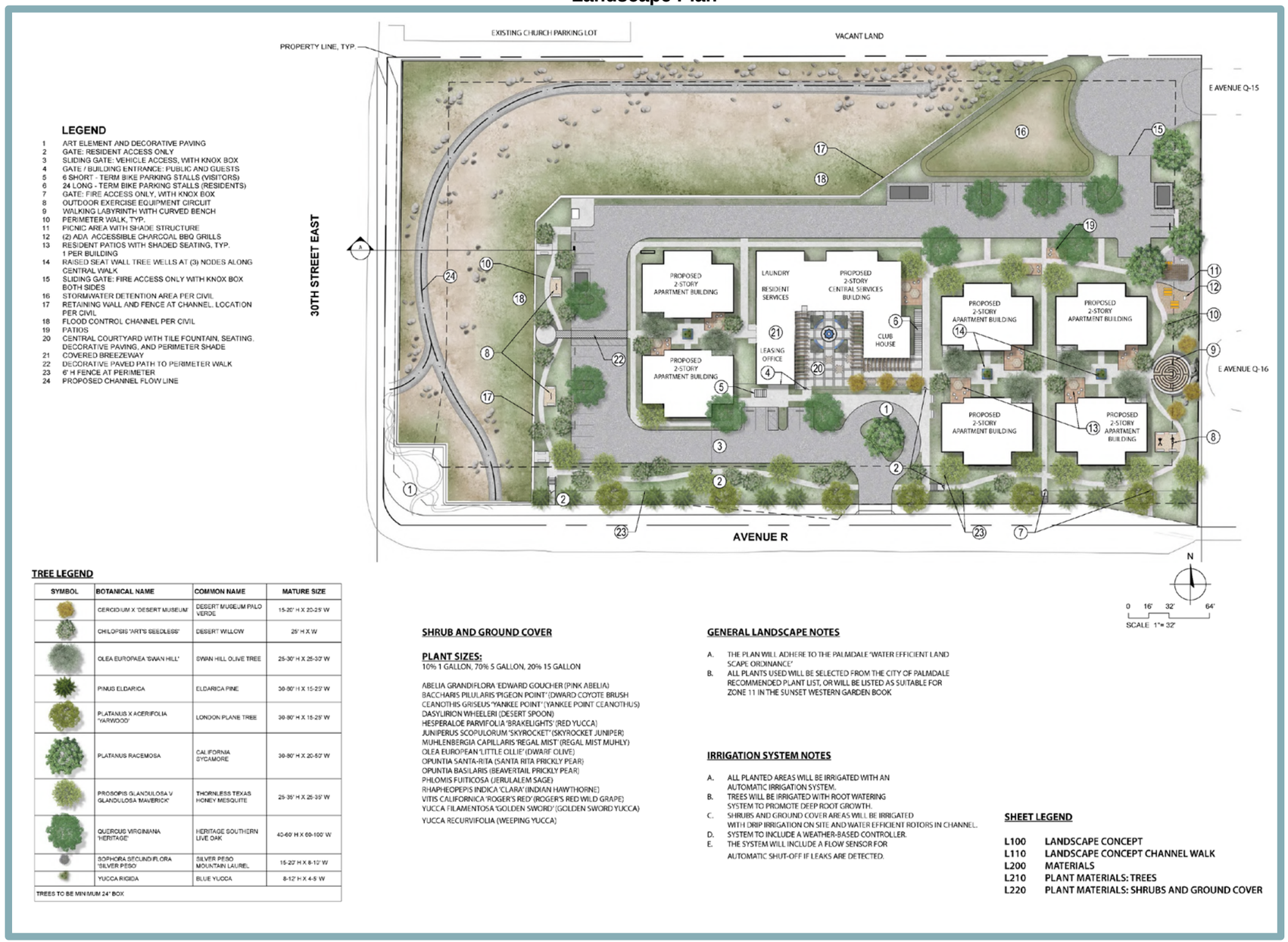


Figure 4
Landscape Plan



TREE LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	MATURE SIZE
	CERCIDIUM X 'DESERT MUSEUM'	DESERT MUSEUM PALO VERDE	15-20' H X 20-25' W
	CHILOPSIS 'ART'S SEEDLESS'	DESERT WILLOW	25' H X W
	OLEA EUROPAEA 'SWAN HILL'	SWAN HILL OLIVE TREE	25-30' H X 25-30' W
	PINUS ELDARICA	ELDARICA PINE	30-50' H X 15-25' W
	PLATANUS X ACERIFOLIA 'YARWOOD'	LONDON PLANE TREE	30-80' H X 15-25' W
	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	30-80' H X 20-50' W
	PROSOPIS GLANDULOSA V GLANDULOSA 'MAVERICK'	THORNLESS TEXAS HONEY MESQUITE	25-35' H X 25-35' W
	QUERCUS VIRGINIANA 'HERITAGE'	HERITAGE SOUTHERN LIVE OAK	40-60' H X 60-100' W
	SOPHORA SECUNDIFLORA 'SILVER PESO'	SILVER PESO MOUNTAIN LAUREL	15-20' H X 8-10' W
	YUCCA RIGIDA	BLUE YUCCA	8-12' H X 4-5' W
TREES TO BE MINIMUM 24" BOX			

SHRUB AND GROUND COVER

PLANT SIZES:
10% 1 GALLON, 70% 5 GALLON, 20% 15 GALLON

ABELIA GRANDIFLORA 'EDWARD GOUCHER (PINK ABELIA)
BACCHARIS PILULARIS 'PIGEON POINT' (DWARD COYOTE BRUSH
CEANOTHIS GRISEUS 'YANKEE POINT' (YANKEE POINT CEANOTHUS)
DASYLIRION WHEELERI (DESERT SPOON)
HESPERALOE PARVIFOLIA 'BRAKELIGHTS' (RED YUCCA)
JUNIPERUS SCOPULORUM 'SKYROCKET' (SKYROCKET JUNIPER)
MUHLENBERGIA CAPILLARIS 'REGAL MIST' (REGAL MIST MUHLY)
OLEA EUROPEAN 'LITTLE OLLIE' (DWARF OLIVE)
OPUNTIA SANTA-RITA (SANTA RITA PRICKLY PEAR)
OPUNTIA BASILARIS (BEAVERTAIL PRICKLY PEAR)
PHLOMIS FUITICOSA (JERULALEM SAGE)
RHAPHEOPEPIS INDICA 'CLARA' (INDIAN HAWTHORNE)
VITIS CALIFORNICA 'ROGER'S RED' (ROGER'S RED WILD GRAPE)
YUCCA FILAMENTOSA 'GOLDEN SWORD' (GOLDEN SWORD YUCCA)
YUCCA RECURVIFOLIA (WEEPING YUCCA)

GENERAL LANDSCAPE NOTES

A. THE PLAN WILL ADHERE TO THE PALMDALE 'WATER EFFICIENT LAND SCAPE ORDINANCE'
B. ALL PLANTS USED WILL BE SELECTED FROM THE CITY OF PALMDALE RECOMMENDED PLANT LIST, OR WILL BE LISTED AS SUITABLE FOR ZONE 11 IN THE SUNSET WESTERN GARDEN BOOK

IRRIGATION SYSTEM NOTES

A. ALL PLANTED AREAS WILL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM.
B. TREES WILL BE IRRIGATED WITH ROOT WATERING SYSTEM TO PROMOTE DEEP ROOT GROWTH.
C. SHRUBS AND GROUND COVER AREAS WILL BE IRRIGATED WITH DRIP IRRIGATION ON SITE AND WATER EFFICIENT ROTORS IN CHANNEL.
D. SYSTEM TO INCLUDE A WEATHER-BASED CONTROLLER.
E. THE SYSTEM WILL INCLUDE A FLOW SENSOR FOR AUTOMATIC SHUT-OFF IF LEAKS ARE DETECTED.

SHEET LEGEND

L100 LANDSCAPE CONCEPT
L110 LANDSCAPE CONCEPT CHANNEL WALK
L200 MATERIALS
L210 PLANT MATERIALS: TREES
L220 PLANT MATERIALS: SHRUBS AND GROUND COVER

D. Project Components

The proposed project would include development of the southeastern portion of the project site with a 57-unit permanent supportive housing community and associated improvements, including a central services building providing a leasing office, intensive case management office rooms, a common laundry room, and a clubhouse. The northwestern portion of the site would be used for drainage/flood control purposes and would not be developed with any new housing. Access to the project site would be provided by a new, full-access driveway along Avenue R. A total of 32 parking stalls would be provided on-site. A portion of the proposed development area would be retained as common open space for passive and active recreational uses (see Figure 4).

Site Plan Review

Pursuant to PMC Chapter 17.76, the proposed permanent supportive housing development would require City approval of a Site Plan Review application. Per PMC Section 17.21.010, the purpose of the Site Plan Review process is to ensure that the site plan, building layout, size, shape, scale, mass, height, architectural design, architectural components, materials, colors, landscaping, and other aspects of the physical plan for the development project are compatible with neighboring developments, are appropriate for the site, and achieve the highest level of design that is feasible for the project.

Density Bonus Agreement

Consistent with PMC Section 17.25.110, the proposed project would include a Density Bonus Agreement to allow for development of 57 units on the 5.47-acre project site. Density bonus concessions provided as part of the Density Bonus Agreement would include a reduction in open space for the site and no private open space from the open space requirements specified in PMC Section 17.42.090(G)(2)(a), and a reduction in the washers/dryers required in common laundry.

E. Regulatory Requirements, Permits, and Approvals

The following discretionary approvals from the City would be required for the proposed project:

- Adoption of the IS/MND and Mitigation Monitoring and Reporting Program;
- Site Plan Review; and,
- Density Bonus Agreement.

In addition, a number of permits would be required for the project including, but not limited to, the following:

- Grading permit;
- Building permit;
- Encroachment permit; and,
- Antelope Valley Air Quality Management District permit.

3. ENVIRONMENTAL CHECKLIST

A. Background

1. Project Title:

Avenue R Apartments Project

2. Lead Agency Name and Address:

City of Palmdale
Economic and Community Development Department
Planning Division
38250 Sierra Highway
Palmdale, CA 93550

3. Contact Person and Phone Number:

Justin Sauder, Associate Planner
City of Palmdale
Economic and Community Development Department
Planning Division
38250 Sierra Highway
Palmdale, CA 93550
(661) 267-5372

4. Project Location:

Northeast corner of Avenue R and 30th Street East
Palmdale, CA 93550
APN: 3020-005-031

5. Project Applicant's Name and Address:

Mohannad H. Mohanna, President
Highridge Costa Development Company, LLC.
330 W. Victoria Street
Gardena, CA 90248

6. Existing Land Use / Zoning / General Plan:

	SURROUNDING LAND USE	ZONING	GENERAL PLAN
SITE	Vacant	R-2 (Medium Residential)	MR (Medium Residential)
NORTH	Church, Vacant Land, and Multi-Family Residences	R-2 (Medium Residential)/R-3 (Multiple Residential)	MR (Medium Residential)/MFR (Multifamily Residential)
SOUTH	Single-Family Residences, across Avenue R	R-1-7,000 (Single-Family Residential, minimum lot size of 7,000 sf)	SFR-3 (Single-Family Residential)
EAST	Single-Family Residences	R-1-7,000 (Single-Family Residential, minimum lot size of 7,000 sf)	SFR-3 (Single-Family Residential)
WEST	Convenience Store, Mobile Homes, and William J. McAdam Park, across 30th Street East	C-1 (Light Commercial)/ R-2 (Medium Residential)	NC (Neighborhood Commercial)/MR (Medium Residential)

7. Surrounding Land Uses and Setting:

The site is bounded by Avenue R to the south and 30th Street East to the west. Surrounding uses include a church (Berean Fellowship) and vacant land to the north; multi-family residential uses further to the north, beyond the church and vacant land; single-family residential uses to the east; single-family residential uses to the south, across Avenue R; a convenience store (7-Eleven), mobile homes, and William J. McAdam Park to the west, across 30th Street East; and Villa Sierra Apartments to the southeast, across the Avenue R/30th Street East intersection.

B. 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”, as indicated by the

checklist on the following pages. Potentially significant impacts that are mitigated to "Less Than Significant" are not shown here.

❑ Aesthetics	❑ Agriculture and Forestry Resources	❑ Air Quality
☒ Biological Resources	☒ Cultural Resources	❑ Energy
☒ Geology and Soils	☒ Greenhouse Gas Emissions	❑ Hazards and Hazardous Materials
❑ Hydrology and Water Quality	❑ Land Use and Planning	❑ Mineral Resources
☒ Noise	❑ Population and Housing	❑ Public Services
❑ Recreation	❑ Transportation	☒ Tribal Cultural Resources
❑ Utilities and Service Systems	❑ Wildfire	☒ Mandatory Findings of Significance

C. Determination

On the basis of this initial evaluation: (Select one)

☐ 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 the mitigation measures described on an attached sheet have been added to the project. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

☐ I find that the proposed project MAY have a significant effect(s) 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, if the effect is a "potentially significant impact" or "potentially significant unless mitigated". 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, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project.

This initial study was reviewed by:

8/12/21
Date

Megan Taggart
Megan Taggart
Planning Manager

D. Evaluation of Environmental Impacts

Each of the responses in the following environmental checklist considers the whole action involved, including project-level, cumulative, on-site, off-site, indirect, construction, and operational impacts. A brief explanation is provided for all answers and supported by the information sources cited.

1. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone).

2. A “Less Than Significant Impact” applies when the proposed project would not result in a substantial and adverse change in the environment. This impact level does not require mitigation measures.

3. A “Less Than Significant Impact With Mitigation Incorporated” applies when the proposed project would not result in a substantial and adverse change in the environment after additional mitigation measures are applied.

4. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect is significant. If there are one or more “Potentially Significant” entries when the determination is made, an EIR is required.

4. ENVIRONMENTAL ANALYSIS

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
I	AESTHETICS. Except as provided in Public Resources Code Section 21099, would the Project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☑	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☑	☐
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☑	☐
d)	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☑	☐

Project Impacts and Mitigation Measures

a) Would the project have a substantial adverse effect on a scenic vista?
b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less Than Significant Impact. Examples of typical scenic vistas include mountain ranges, ridgelines, or bodies of water as viewed from a highway, public space, or other area designated for the express purpose of viewing and sightseeing. In general, a project's impact to a scenic vista would occur if development of the project would substantially change or remove a scenic vista. Scenic vistas and view corridors in the City of Palmdale are identified in the Community Design Element and Environmental Resources Element of the City's General Plan. The General Plan identifies the following Scenic Routes: Barrel Springs Road, Tierra Subida Avenue, Sierra Highway south of Avenue S, Elizabeth Lake Road, Pearblossom Highway, Bouquet Canyon Road, Godde Hill Road, and the Antelope Valley Freeway south of Rayburn Road (General Plan Exhibit ER-1). The General Plan does not identify any scenic vistas in the project vicinity.

According to the California Scenic Highway Mapping System, the project site is not located within the vicinity of any State Scenic Highways.[3]

Based on the above, development of the proposed project would not have a substantial adverse effect on a scenic vista and would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway. Thus, a less than significant impact would occur.

Mitigation Measures

None required.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact. Currently, the site is vacant and consists primarily of ruderal vegetation. An unnamed drainage extends northeasterly through the project site. Surrounding uses include a church (Berean Fellowship) to the northwest; multi-family residential uses further to the north; single-family residential uses to the east; single-family residential uses to the south, across Avenue R; Villa Sierra Apartments to the southeast, across the Avenue R/30th Street East intersection; and a convenience store (7-Eleven), mobile homes, and William J. McAdam Park to the west, across 30th Street East. The area to the northeast of the site consists of vacant land.

The project site is designated MR (Medium Residential) per the City's General Plan and is within the R-2 (Medium Residential) zone. The current land use and zoning designations are intended to provide for residences at a density of 6.1 to 10 dwelling units per acre; however, given that the project includes 100 percent affordable units, the proposed project is eligible for a Density Bonus Agreement consistent with PMC Section 17.25.110. The Density Bonus Agreement would allow for development of the site at an increased density beyond the maximum density permitted per the site's R-2 zoning designation. The project would be consistent with the type of use anticipated for the site in the General Plan and

[3] Caltrans. *California State Scenic Highway System Map.* Available at: https://www.arcgis.com/apps/webappviewer/index.html?id=2e921695c43643b1aaf7000dfcc19983. Accessed August 2020.

would act as an extension of the existing residential uses to the south and east of the site. Thus, buildout of the project site with residential uses and associated changes to the visual character and quality of the site have been anticipated by the City and analyzed in the General Plan EIR. The General Plan EIR concluded that buildout of the General Plan would not substantially degrade the existing visual character of the City.[4]

In addition, the proposed project would require approval of Site Plan Review and Density Bonus Agreement applications pursuant to PMC Sections 17.21.010 and 17.25.110. As part of the Site Plan Review process, the project would be reviewed for conformance with existing design regulations (building setbacks, height, scale, landscaping, etc.) and compatibility with surrounding land uses. Additionally, while the project site has been anticipated for buildout with residential uses with a density of up to 10 units per acre (or approximately 55 units), concessions per the Density Bonus Agreement process would allow the development of 57 units on the 5.47-acre site. However, such deviations are subject to review and approval by the City. Therefore, compliance with existing design regulations and the Density Bonus Agreement process would help ensure that the project would not substantially degrade the character or quality of the site or its surroundings.

Based on the above, because the project site is predominantly surrounded by existing development, with the exception of the lot immediately to the northeast, the general vicinity of the site is considered urban. The proposed project would be consistent with the Density Bonus Agreement concessions to allow for development within the R-2 zoning designation. In addition, the Site Plan Review process would ensure that all project elements are consistent with the City's General Plan and other applicable guidelines. Thus, the proposed project would not conflict with applicable zoning and other regulations governing scenic quality, and a less than significant impact would occur.

Mitigation Measures

None required.

d) Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Due to the undeveloped nature of the project site, existing sources of light and glare do not currently exist on-site. Existing sources

[4] City of Palmdale. *Program Environmental Impact Report for the City of Palmdale Draft General Plan* [pg. 1-28]. Certified January 25, 1993.

of light in the project vicinity include streetlights on Avenue R and 30th Street East, as well as light from vehicles travelling on the roadways in the site vicinity. Other existing sources of light include parking lot lighting within the church parking lot to the northwest of the site and lighting fixtures on the church exterior.

Development of the project site with apartment buildings and associated improvements would involve sources of light associated with interior light spilling through windows, vehicle headlights entering and exiting the project site, exterior lighting on the proposed structures, parking lot lighting, and light reflected off windows. However, such sources of light and glare would be consistent with the type of lighting anticipated for the project site per the City's General Plan land use and zoning designations for the site. Furthermore, the proposed project would be required to comply with the lighting requirements established by PMC Section 17.86.030, including standards related to shielding of exterior lighting fixtures and limiting light spillage beyond the project site boundaries.

Given the proposed project's required compliance with PMC Section 17.86.030, implementation of the project would result in a less than significant impact with respect to creating a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Mitigation Measures

None required.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
II	AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997), prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the Project:				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	☐	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☑
d)	Result in the loss of forestland or conversion of forestland to non-forest use?	☐	☐	☐	☑
e)	Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forestland to non-forest use?	☐	☐	☐	☑

Project Impacts and Mitigation Measures

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

e) Would the project involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forestland to non-forest use?

No Impact. Per the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP), the entirety of the project site is characterized as

"Other Land".[5] The project site does not contain, and is not located adjacent to, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Given the designation of the site as Other Land, development of the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use, or otherwise result in the loss of Farmland to non-agricultural use. Therefore, no impact would occur as a result of the proposed project.

Mitigation Measures

None required.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The project site is not under a Williamson Act contract and is not zoned for agricultural uses. The site is currently within the R-2 (Medium Residential) zone. Therefore, buildout of the proposed project would not conflict with an agricultural use or a Williamson Act contract, and no impact would occur.

Mitigation Measures

None required.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

d) Would the project result in the loss of forestland or conversion of forestland to non-forest use?

No Impact. The project site is not considered forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), and is not zoned Timberland Production (as defined by Government Code Section 51104[g]). Therefore, the proposed project would have no impact with regard to conversion of forest land or any potential conflict with forest land, timberland, or Timberland Production zoning.

[5] Department of Conservation. *California Important Farmland Finder.* Available at: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed August 2020.

Mitigation Measures

None required.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III	AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project:				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑	☐
b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☑	☐
c)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☑	☐

Project Impacts and Mitigation Measures

The following discussion is based primarily on an Air Quality and Greenhouse Gas Analysis Memo (AQ/GHG Memo) prepared for the proposed project by LSA Associates (see Appendix A).[6]

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact. The City of Palmdale is located in the Mojave Desert Air Basin (MDAB), which is under the jurisdiction of the Antelope Valley Air Quality Management District (AVAQMD). Under the federal criteria, the AVAQMD is currently designated as nonattainment for 8-hour ozone. The AVAQMD is an attainment/unclassified area under the national ambient air quality standards (AAQS) for carbon monoxide CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and

[6] LSA Associates. *Air Quality and Greenhouse Gas Analysis – Avenue R Apartments Project.* August 14, 2019.

lead. The AVAQMD is unclassified for suspended particulate matter 2.5 and 10 microns in diameter ($PM_{2.5}$ and PM_{10}) under the national AAQS. Under the State criteria, the AVAQMD is currently designated as nonattainment for ozone (classified as extreme nonattainment) and PM_{10}. The AVAQMD is an attainment/unclassified area for State $PM_{2.5}$, CO, NO_2, SO_2, and lead standards. The AVAQMD is an unclassified area for the state hydrogen sulfide standard, visibility-reducing particle standard, and particulate sulfate standard.

In compliance with regulations, due to the nonattainment designations of the area, the AVAQMD periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the AAQS, including control strategies to reduce air pollutant emissions through regulations, incentive programs, public education, and partnerships with other agencies. To bring the AVAQMD into attainment, the AVAQMD adopted the Federal 75 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Area) in 2017.

The most recent federal ozone plan is the 2001 Ozone Attainment Plan, which was adopted on October 24, 2001 and approved by the California Air Resources Board (CARB) on November 1, 2001. The plan was submitted to the USEPA on November 30, 2001 for review and approval. The most recent State ozone plan is the 2017 Clean Air Plan, adopted on April 19, 2017. The 2017 Clean Air Plan was developed as a multi-pollutant plan that provides an integrated control strategy to reduce ozone, PM, toxic air contaminants (TACs), and greenhouse gases (GHGs).

The aforementioned air quality plans contain mobile source controls, stationary source controls, and transportation control measures to be implemented in the region to attain the State and federal AAQS within the MDAB. Adopted AVAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans. The AVAQMD's established significance thresholds associated with development projects for emissions of the ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NO_X), as well as for PM_{10} and $PM_{2.5}$, expressed in pounds per day (lbs/day) and tons per year (tons/yr), are listed in Table 1. Thus, by exceeding the AVAQMD's mass emission thresholds for construction or operational emissions of CO, NO_X, volatile organic compounds (VOCs), oxides of sulfur (SO_X), PM_{10}, or $PM_{2.5}$, a project would be considered to conflict with or obstruct implementation of the AVAQMD's air quality planning efforts.

Table 1 AVAQMD Thresholds of Significance		
Pollutant	**Annual Threshold (tons per year)**	**Daily Threshold (lbs per day)**
CO	100	548
NO_x	25	137
VOCs	25	137
SO_X	25	137
PM_{10}	15	82
$PM_{2.5}$	100	548
Source: LSA Associates, 2019.		

As part of the AQ/GHG Memo, the proposed project's construction and operational emissions were quantified using the California Emissions Estimator Model (CalEEMod) software version 2016.3.2 – a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including construction data, trip generation rates, vehicle mix, trip length, average speed, etc. All CalEEMod results are included as Attachment A to the AQ/GHG Memo (see Appendix A to this IS/MND).

The proposed grading activities would require the import of 10,000 cubic yards (CY) of soil. The proposed project's construction emissions from soil hauling have been estimated using the Sacramento Metropolitan Air Quality Management District (SMAQMD)'s Road Construction Emissions Model (RoadMod), Version 9.0.0. While the project site is not located within the jurisdiction of SMAQMD, the model is an industry standard tool for evaluating construction emissions throughout the State. SMAQMD's RoadMod requires the user to input information related to the area of disturbance, the length of time a project would occur, and, for linear non-roadway projects, a list of equipment that would be used during project construction. All RoadMod results are included as Appendix B to this IS/MND.

The proposed project's estimated emissions associated with construction and operations are presented and discussed in further detail below. A discussion of the proposed project's contribution to cumulative air quality conditions is provided below as well.

Construction Emissions

According to the CalEEMod results, the proposed project would result in maximum unmitigated construction criteria air pollutant emissions as shown in Table 2. As

shown in the table, the proposed project's construction emissions would be below the applicable thresholds of significance for CO, NO_X, VOCs, SO_X, PM_{10}, and $PM_{2.5}$.

Table 2
Maximum Unmitigated Construction Emissions

	CO	NO_x	VOCs	SO_X	PM_{10}	$PM_{2.5}$
Lbs per Day						
Project Development	22.3	42.5	99.9	<0.1	20.4	12.0
Soil Hauling	0.0	0.3	0.0	0.0	54.7	11.4
Total Maximum Daily Emissions	*22.3*	*42.8*	*99.9*	*<0.1*	*75.1*	*23.4*
AVAQMD Thresholds	548.0	137.0	137.0	137.0	82.0	65.0
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Tons per Year						
Project Development	2.4	2.6	0.9	<0.1	0.3	0.2
Soil Hauling	0.0	0.0	0.0	0.0	0.4	0.1
Total Maximum Daily Emissions	*2.4*	*2.6*	*0.9*	*<0.1*	*0.7*	*0.3*
AVAQMD Thresholds	100.0	25.0	25.0	25.0	15.0	12.0
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: LSA Associates, 2019.

All projects under the jurisdiction of AVAQMD are required to comply with Rule 403, which requires implementation of dust suppression techniques, including applying water to the site and covering storage piles, to prevent fugitive dust from creating a nuisance off site. Compliance with Rule 403 would be included as a condition of approval for the proposed project. The proposed project's required implementation of such dust suppression measures was assumed in the project modeling.

As shown in Table 2, construction of the proposed project would result in emissions of criteria air pollutants below AVAQMD's thresholds of significance. Consequently, the proposed project would not conflict with or obstruct implementation of the applicable air quality plans during project construction.

Operational Emissions

According to the CalEEMod results, the proposed project would result in maximum unmitigated operational criteria air pollutant emissions as shown in Table 3. As shown in the table, the proposed project's operational emissions would be below the applicable thresholds of significance.

Table 3
Maximum Unmitigated Operational Emissions

	CO	NO_x	VOCs	SO_X	PM_{10}	$PM_{2.5}$
Lbs per Day						
Area Source Emissions	5.1	0.9	2.0	<0.1	0.1	0.1
Energy Source Emissions	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Mobile Source Emissions	11.1	4.1	1.0	<0.1	2.4	0.7
Total Project Emissions	16.3	5.3	3.0	<0.1	2.6	0.8
AVAQMD Thresholds	548.0	137.0	137.0	137.0	82.0	65.0
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Tons per Year						
Area Source Emissions	4.8	0.1	3.9	<0.1	0.6	0.6
Energy Source Emissions	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile Source Emissions	1.7	0.7	0.1	<0.1	<0.1	0.1
Total Project Emissions	6.6	0.8	4.0	<0.1	0.6	0.7
AVAQMD Thresholds	100.0	25.0	25.0	25.0	15.0	12.0
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: LSA Associates, 2019.

The proposed project's operational emissions would be below the applicable thresholds of significance. Consequently, the proposed project would not conflict with or obstruct implementation of the applicable air quality plans during project operation.

Cumulative Emissions

Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By nature, air pollution is largely a cumulative impact. A single project is not sufficient in size to, by itself, result in nonattainment of AAQS. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, AVAQMD' considered the emission levels for which a project's individual emissions would be cumulatively considerable. The thresholds of significance presented in Table 1 represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to

the AVAQMD's existing air quality conditions.[7] If a project exceeds the significance thresholds presented in Table 1, that project's emissions would be cumulatively considerable, resulting in significant adverse cumulative air quality impacts to the region's existing air quality conditions. As presented above, the proposed project would be below all applicable thresholds for criteria pollutants during construction and operation. Thus, the project would not result in a cumulatively considerable contribution to the region's existing air quality conditions.

Conclusion

As stated previously, the applicable regional air quality plans include the 2001 Ozone Attainment Plan and the 2017 Clean Air Plan. Because the proposed project would not result in construction-related or operational emissions of criteria air pollutants in excess of AVAQMD's thresholds of significance, conflicts with or obstruction of implementation of the applicable regional air quality plans would not occur. In addition, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State AAQS. Thus, a less than significant impact would result.

Mitigation Measures

None required.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Sensitive receptors are typically defined as facilities where sensitive receptor population groups (i.e., children, the elderly, the acutely ill, and the chronically ill) are likely to be located. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest existing sensitive

[7] Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines* [pg. 2-1]. May 2017.

receptors in the project vicinity are the single-family residences to the east of the site.

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions and TAC emissions, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. Emissions of CO are of potential concern, as the pollutant is a toxic gas that results from the incomplete combustion of carbon-containing fuels such as gasoline or wood.

Construction and operation of the proposed project would not result in exceedances of the applicable AVAQMD thresholds for CO emissions. As such, the proposed project would result in a less than significant impact related to localized CO emissions concentrations and would not expose sensitive receptors to substantial concentrations of localized CO.

TAC Emissions

Another category of environmental concern is TACs. The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk.

The proposed residential development would not involve any land uses or operations that would be considered major sources of TACs, including DPM.[8] As such, the project would not generate any substantial pollutant concentrations

[8] Antelope Valley Air Quality Management District. *California Environmental Quality Act (CEQA) and Federal Conformity Guidelines* [pg. 6]. August 2016.

during operations. However, short-term, construction-related activities could result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. Construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project. Health risks are typically associated with exposure to high concentrations of TACs over extended periods of time (e.g., 30 years or greater), whereas the construction period associated with the proposed project would likely be limited to approximately one year.

All construction equipment and operation thereof would be regulated per the CARB In-Use Off-Road Diesel Vehicle Regulation, which is intended to help reduce emissions associated with off-road diesel vehicles and equipment, including DPM. Project construction would also be required to comply with all applicable AVAQMD rules and regulations, particularly associated with permitting of air pollutant sources. In addition, construction equipment would operate intermittently throughout the day and only on portions of the site at a time.

Because construction equipment on-site would not operate for long periods of time and would be used at varying locations within the site, associated emissions of DPM would not occur at the same location (or be evenly spread throughout the entire project site) for long periods of time. Due to the temporary nature of construction and the relatively short duration of potential exposure to associated emissions, the potential for any one sensitive receptor in the area to be exposed to concentrations of pollutants for a substantially extended period of time would be low.

Therefore, construction of the proposed project would not be expected to expose any sensitive receptors to substantial pollutant concentrations.

Conclusion

Based on the above, the proposed project would not expose any sensitive receptors to substantial concentrations of localized CO or TACs during construction or operation. Therefore, the proposed project would result in a less than significant impact related to the exposure of sensitive receptors to substantial pollutant concentrations.

Mitigation Measures

None required.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. Emissions of concern include those leading to odors, emission of dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in sections “a” through “d” above. Therefore, the following discussion focuses on emissions of odors and dust.

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person’s reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The presence of an odor impact is dependent on a number of variables including: the nature of the odor source; the frequency of odor generation; the intensity of odor; the distance of odor source to sensitive receptors; wind direction; and sensitivity of the receptor.

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative analysis to determine the presence of a significant odor impact is difficult. Typical odor-generating land uses include, but are not limited to, wastewater treatment plants, landfills, and composting facilities. The proposed project would not introduce any such land uses and is not located in the vicinity of any such existing or planned land uses.

Construction activities often include diesel-fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable. However, construction activities would be temporary, and hours of operation for construction equipment would be restricted per PMC Section 8.28.030. Project construction would also be required to comply with all applicable AVAQMD rules and regulations, particularly associated with permitting of air pollutant sources. The aforementioned regulations would help to minimize emissions, including emissions leading to odors. Accordingly, substantial objectionable odors would not be expected to occur during construction activities.

As noted previously, all projects under the jurisdiction of AVAQMD are required to comply with Rule 403, which requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. The rule limits actions that would result in a source of dust that causes 20 percent opacity or greater during an observation of three minutes or more in any one hour. Rule 403 also limits PM_{10} concentrations to under 50 micrograms per cubic meter ($\mu g/m^3$). Compliance with Rule 403 would ensure that emissions of dust associated with

project construction are minimized. Following project construction, all areas of the project site not developed with structures, except for the stormwater drainage area, would be paved or landscaped. Thus, project operations would not generate significant amounts of dust that could adversely affect a substantial number of people.

For the aforementioned reasons, construction and operation of the proposed project would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and a less than significant impact would result.

Mitigation Measures

None required.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV	BIOLOGICAL RESOURCES. Would the Project:				
a)	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 Wildlife or U.S. Fish and Wildlife Service?	☐	☑	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☑	☐	☐
c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☑	☐	☐
d)	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 nesting sites?	☐	☐	☑	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☑	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

Project Impacts and Mitigation Measures

The following discussion is based primarily on a Biological Assessment, Jurisdictional Delineation, and Burrowing Owl Protocol Survey (Biological Assessment) prepared for the proposed project by Pacific Southwest Biological Services, Inc. (Pacific Southwest) (see Appendix C).[9]

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

[9] Pacific Southwest Biological Services, Inc. *Biological Assessment, Jurisdictional Delineation, and Burrowing Owl Protocol Survey, (Phase I Habitat Assessment and Phase II Burrow Survey).* Revised May 19, 2021.

status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less Than Significant Impact with Mitigation Incorporated. An unnamed drainage runs northeasterly through the project site, extending off-site through the vacant land to the northeast of the site. The remainder of the site consists of ruderal vegetation, with a strip of bare, disturbed soil extending along the length of the Avenue R frontage. The site does not contain any existing trees; however, riparian vegetation occurs along the length of the on-site drainage.

As part of the Biological Assessment, Pacific Southwest conducted a search of published records of special-status plant and wildlife species using the California Natural Diversity Database (CNDDB). Pacific Southwest also reviewed a soil survey map (Woodruff 1970) of the project site and vicinity for soil types, including hydric soils. The intent of the database review was to identify documented occurrences of special-status species in the vicinity of the project area, to determine their locations relative to the project site, and to evaluate their habitat requirements. Special-status species include the following:

- Plant and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal and State Endangered Species Acts. Both acts afford protection to listed species;
- California Department of Fish and Wildlife (CDFW) Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue;
- CDFW fully protected species; and
- Species on California Native Plant Society (CNPS) Lists 1 and 2.

Although CDFW Species of Special Concern generally do not have special legal status, they are given special consideration under CEQA. In addition to regulations for special-status species, most birds in the U.S., including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under the MBTA, destroying active nests, eggs, and young is illegal.

On April 5, 2021, the Biological Assessment was updated to include the results of an on-site field survey conducted to examine ground squirrel burrows within the project site for evidence of burrowing owl presence. The April 2021 survey followed the previous on-site general zoological and botanical survey conducted as part of the Biological Assessment in December 2018 to identify and map vegetation communities and to determine the presence or potential presence of sensitive

plant species and habitats, and sensitive wildlife species. A prior survey of the site was also conducted in 2009.

The results of the database search and site surveys are discussed below.

Special-Status Plants

According to the General Plan EIR, vegetation in the City's General Plan Study Area consists of six plant communities: desert scrub, Joshua Tree woodland, ruderal vegetation, chaparral, oak woodland, and riparian. Joshua Trees are recognized as a special-status plant species, as they are currently protected under the California Endangered Species Act. However, per the Biological Assessment, on-site vegetation consists of non-native grassland, southern willow scrub (represented by narrow-leaved willow and red willow), and rabbitbrush scrub (represented by rubber rabbitbrush, desert tea, and fourwing saltbrush). The project site does not contain Joshua trees. Therefore, the proposed project would not result in adverse effects to Joshua trees.

Based on the results of the CNDDB search, only one special-status plant species, has been documented to occur within the general project area: short-joint beavertail. Special-status plant species were not detected on or adjacent to the site during the December 2018 botanical survey. Therefore, development of the proposed project would not result in adverse effects to any special-status plant species.

Special-Status Wildlife

Based on the results of the CNDDB search, a total of nine special-status wildlife species have been documented to occur within the project region. Of the nine species, six are unlikely to occur on-site due to habitat requirements (i.e., coastal sage scrub, open desert scrub, Joshua tree woodland, etc.) that are not present on the site. The remaining wildlife species with the potential to occur on-site are discussed in the following sections.

<u>Silvery Legless Lizard</u>

Silvery legless lizard is classified as a Species of Special Concern per the CDFW. The species primarily occurs in sparse vegetation of chaparral and riparian habitat, with loose soil for burrowing. While the sandy soil along the on-site drainage matches some of the habitat requirements for the species, the distribution and abundance of the species does not warrant special attention at the project site due

to the relict nature of the drainage within prior development, the disturbed nature of the drainage with debris, and the heavy storm flows and associated erosion that accompanies storms from the hardened watershed. Therefore, silvery legless lizard is not likely to occur on-site and would not be adversely affected by the proposed development.

Burrowing Owl

Burrowing owl is listed as a California Species of Special Concern and is protected under the federal MBTA. Burrowing owl habitat typically consists of annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation, or trees and shrubs if the canopy covers less than 30 percent of the ground surface. Burrows are the essential component of burrowing owl habitat; both natural and artificial burrows provide protection, shelter, and nests for the species. The burrowing owl typically uses burrows made by fossorial mammals, such as the California ground squirrel and American badger, but may also use manmade structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement.

A Phase I habitat assessment and Phase II burrow survey were conducted in December 2018 as part of the Biological Assessment. While the Phase I habitat assessment determined that potential habitat for burrowing owl was present on the project site and within 500 feet of the northern site boundary, the Phase I assessment determined the on-site habitat was not optimal and residential development in the project vicinity limited the extent of the habitat. As part of the Phase II burrow survey, the entire project site was walked, using survey transects spaced to allow 100 percent visual coverage of the ground surface. Evidence of burrowing owl was not observed on or within 500 feet of the site. As noted above, a subsequent on-site field survey was conducted in April 2021 as an update to the Biological Assessment prepared for the proposed project. The survey included examination of ground squirrel burrows and all other potential habitat within the project site for evidence of burrowing owl presence such as molted feathers, cast pellets, prey remains, eggshell fragments, and excrement. Evidence of burrowing owl was not observed on or within 500 feet of the site, and the disturbed, exposed nature of the site precludes any use of the site by burrowing owl. The conclusions of the April 2021 survey concerning Burrowing Owl are consistent with the findings of previous surveys of the project site. Therefore, ground-disturbing activities associated with the proposed project would not result in substantial adverse effects to burrowing owl, as the burrowing owl was not observed on or near the property during the most recent or past surveys.

Nesting Birds and Raptors

Nesting birds and raptors, including Cooper's hawk, are protected under the MBTA. The potential exists for Cooper's hawk and other nesting birds and raptors protected by the MBTA to occur within the riparian vegetation associated with the existing on-site drainage feature. Mechanized work and vehicle traffic associated with construction of the proposed project could disturb nesting birds and result in nest abandonment if individuals are present during initiation of ground-disturbing activity.

Conclusion

Based on the above, the proposed project would not result in substantial adverse effects to special-status plant species, silvery legless lizard, or burrowing owl. However, the project could have an adverse effect, either directly or through habitat modifications, on species identified as special-status wildlife species in local or regional plans, policies, or regulations, or by the CDFW or the U.S. Fish and Wildlife Service, including nesting birds and raptors. Thus, a potentially significant impact could occur.

Mitigation Measures

Implementation of the following mitigation measure would reduce the above potential impact to a *less than significant* level.

BIO-1: *Ground-disturbing activities and vegetation removal associated with the proposed project shall occur, to the extent feasible, outside of the combined breeding season February 1 through September 15 (as early as January 1 for some raptors and March 1 through September 30 for plant species). The applicant shall retain a qualified biologist(s) to conduct a pre-construction survey to determine the presence or absence of nesting birds, reptiles, raptors and their foraging habitat on and within 300 feet of the construction area; the survey radius shall be extended to 500 feet for nesting raptors. The biologist(s) shall be trained to identify nesting birds, burrowing owl, reptiles, raptors and their foraging habitat. Survey protocol for breeding season owl surveys states to conduct 4 survey visits: 1) at least one site visit between 15 February and 15 April, and 2) a minimum of three survey visits, at least three weeks apart, between 15 April and 15 July, with at least one visit after 15 June. The results of the survey shall be submitted to the City for review and approval*

prior to initiating any construction activities. If nesting birds are detected by the biologist, a bio-monitor shall be present on-site during construction to minimize construction impacts and ensure that nests are not removed or disturbed until all young have fledged.

Based on local conditions, the nesting bird surveys shall be conducted at appropriate nesting times and concentrate on potential roosting or perch sites. Surveys shall be conducted no more than 7 days prior to the start of any construction. If Project activities are delayed or suspended for more than 7 days during the breeding seasons, surveys shall be repeated prior to the start of construction, the results of which must be submitted to the City for review and approval prior to reinitiating construction activities.

In addition, a qualified biologist shall prepare a species-specific list of proper handling and relocation protocols and a map of suitable habitat and safe relocation areas for species of special concern. If other State-listed species are found during project surveys or otherwise encountered during construction activities, the project applicant shall avoid take of state-listed species to demonstrate compliance with California Endangered Species Act, and all work shall stop until the site is properly analyzed by a qualified biologist. If implementation of the project as proposed may result in take of a state-listed species, the project applicant shall consult with CDFW and shall seek related take authorization as provided by the Fish and Game Code.

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 or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant Impact with Mitigation Incorporated. As part of the Biological Assessment, Pacific Southwest Biological Services, Inc. conducted a wetlands delineation at the project site. Three key agencies regulate activities within inland streams, wetlands, and riparian areas in California. The U. S. Army Corps of Engineers (USACE) Regulatory Program regulates activities pursuant to

Section 404 of the federal Clean Water Act, and Section 10 of the Rivers and Harbors Act. The Regional Water Quality Control Board (RWQCB) regulates activities under Section 401 of the federal Clean Water Act (CWA) and the California Porter-Cologne Act Water Quality Control Act. The CDFW regulates activities under Fish and Game Code Sections 1600 through 1607. Per the Biological Assessment, all drainages within the Palmdale area flow to Rosamond Dry Lake and Rogers Dry Lake in the region; because the drainages are isolated from navigable drainages, do not cross state boundaries, and are not involved in interstate commerce, the USACE does not have jurisdiction over any local drainages within the City. Thus, under the current interpretation of the CWA, the sole RWQCB jurisdiction in the project region is through the California Porter-Cologne Act Water Quality Control Act, not the CWA.

Within the project region, any development proposal that involves impacting the jurisdictional drainages, streams, or wetlands through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification requires permits from the RWQCB and the CDFW before development may commence. Both permanent and temporary impacts are regulated and may trigger the need for permits. Processing of a Porter-Cologne Waste Discharge Permit and Section 1600 Streambed Alteration Agreement would be required.

As described in the Biological Assessment, the existing on-site drainage feature runs northeast diagonally through the central portion of the site, entering the site through a culvert north of the intersection of Avenue R and 30th Street East. On the USGS 7.5' Palmdale, California quadrangle, the drainage is not mapped as a blueline stream. Overall, a total of 0.36-acre of potentially jurisdictional waters of the State are present within the site. Of the 0.36-acre of potentially jurisdictional waters, 0.35-acre is vegetated and 0.01-acre is unvegetated.

The proposed project would include realignment of the unnamed drainage feature to the western portion of the site. Thus, the proposed project could result in a potentially significant impact related to causing a substantial adverse effect on riparian habitat or other sensitive natural communities, on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Mitigation Measures

Implementation of the following mitigation measures would reduce the above potential impacts to a *less than significant* level.

BIO-2: Prior to initiation of construction activities, the project applicant shall obtain Waste Discharge Requirements for Projects Involving Discharge of Dredged and/or Fill Material to Waters of the State from the Lahontan Regional Water Quality Control Board. Proof of the adopted Waste Discharge Requirements shall be submitted to the City of Palmdale Economic and Community Development Department.

BIO-3: Prior to initiating construction activities, the project applicant shall obtain a Streambed Alteration Agreement and implement all necessary actions required by the CDFW. Proof of compliance shall be submitted to the City of Palmdale.

CDFW recommends an LSA Notification include the following: 1) an analysis to demonstrate whether concrete-lined or soft-bottom channels would be impaired (e.g., aggraded, incised, increased suspended sediment), 2) a hydrological evaluation of the 100, 50, 25, 10, 5, and 2-year frequency storm event for existing and proposed conditions, 3) whether dewatering/diversion of water may be necessary, and (if applicable) 4), an analysis of whether Project development would impact stormwater and water flow on-site and downstream, and the extent of those impacts, during the wet season (November through March), dry season (April through October), and both above-average and below-average water year. To compensate for any on- and off-site impacts to riparian resources, additional mitigation conditioned in any LSA Agreement may include the following: erosion and pollution control measures, avoidance of resources, protective measures for downstream resources, on- and/or off-site habitat creation, enhancement or restoration, and/or protection, and management of mitigation lands in perpetuity.

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 nesting sites?

Less Than Significant Impact. The extent of urban development in the project area precludes the potential for the site to act as a substantial corridor for wildlife movement or wildlife nursery site. While the site contains an existing drainage, the drainage is not connected with any downstream waterways and does not provide habitat for migratory fish species. Thus, a less than significant impact would occur

related to interfering substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impeding the use of wildlife nursery sites.

Mitigation Measures

None required.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact. Chapter 14.04 of the PMC includes standards related to the preservation of desert vegetation, defined to include Joshua trees, California juniper, and other living plants identified pursuant to the California Desert Native Plants Act (Food and Agricultural Code Section 80001, et seq.) as protected or designated on any State or federal rare and endangered species list.

Per the Biological Assessment, on-site vegetation consists of non-native grassland, southern willow scrub (represented by narrow-leaved willow and red willow), and rabbitbrush scrub (represented by rubber rabbitbrush, desert tea, and fourwing saltbrush). The project site does not contain Joshua trees, California juniper, or desert vegetation protected under Chapter 14.04 of the PMC. Thus, the proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, a less than significant impact would occur.

Mitigation Measures

None required.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The City of Palmdale is not covered by an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur as a result of the proposed project.

Mitigation Measures

None required.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V	CULTURAL RESOURCES. Would the Project:				
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	☐	☐	☑	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource as defined in Public Resources Code Section 21083.2 and 21084.1, and CEQA Guidelines Section 15064.5, respectively?	☐	☑	☐	☐
c)	Disturb any Native American tribal cultural resources or human remains, including those interred outside of dedicated cemeteries?	☐	☑	☐	☐

Project Impacts and Mitigation Measures

The following discussion is based primarily on a Phase I Cultural Resources Survey prepared for the project site by McKenna et al. in April 2006.[10] McKenna et al. prepared an updated memorandum, dated July 1, 2019, confirming the findings of the original 2006 Phase I Cultural Resources Survey.

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?

Less Than Significant Impact. Currently, the site is vacant and undeveloped. Thus, the site does not contain any existing structures or other features which would be considered historical. Based on the results of a records search of the California Historic Resources Information System (CHRIS) conducted as part of the Phase I Cultural Resources Survey, recorded historical resources have not been identified on or near the project site. Archival research conducted as part of the Phase I Cultural Resources Survey did not identify any historic built environments within a one-mile radius of the project area, and a review of historic City of Palmdale 1903, 1908, and 1947 maps did not yield evidence of historic

[10] McKenna et al. *A Phase I Cultural Resources Survey of the Simpson Housing Solutions, LLC Project Area (APN 3020-005-013); Approximately 5.5 Acres in Palmdale, Los Angeles Co., CA. California.* April 14, 2006.

structures on the project site. Therefore, the proposed project would not cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5, and a less than significant impact would occur.

Mitigation Measures

None required.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource as defined in Public Resources Code Section 21083.2 and 21084.1, and CEQA Guidelines Section 15064.5, respectively?

c) Would the project disturb any Native American tribal cultural resources or human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact with Mitigation Incorporated. As part of the Phase I Cultural Resources Survey, McKenna et al. conducted a pedestrian survey of the project site. The project site was surveyed by traversing the site on foot in parallel transects. Based on the results of the CHRIS record search and other archival research conducted as part of the Phase I Cultural Resources Survey, the project area is considered to have a low level of sensitivity for prehistoric archaeological resources.

While known archaeological resources have not been identified on the project site, unrecorded archaeological resources, including human remains, have the potential to exist on-site, and such resources could be encountered during ground-disturbing activity related to project construction. Therefore, the proposed project could cause a substantial adverse change in the significance of a historic or archaeological resource pursuant to CEQA Guidelines Section 15064.5 and/or disturb human remains, including those interred outside of formal cemeteries, during construction. Consequently, impacts could be considered potentially significant.

Mitigation Measures

Implementation of the following mitigation measures would reduce the above potential impacts to a *less than significant* level.

CUL-1: *In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work*

on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) and Fernandeño Tataviam Band of Mission Indians (FTBMI) shall be contacted, as detailed within TCR-1, regarding any pre-contact and/or post-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.

CUL-2: *If significant pre-contact and/or post-contact cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to SMBMI and FTBMI for review and comment, as detailed within TCR-1. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly.*

CUL-3: *In the event that any human remains are discovered within the project area, ground disturbing activities shall be suspended 100 feet around the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. The on-site lead/foreman shall then immediately notify SMBMI, FTBMI, the applicant/developer, and the Lead Agency. The Lead Agency and the applicant/developer shall then immediately contact the County Coroner regarding the discovery. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code § 7050.5 (c). The NAHC-identified Most Likely Descendant (MLD), shall be allowed, under California Public Resources Code § 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The MLD, Lead Agency, and landowner agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes. The MLD shall complete its inspection and make recommendations within forty-eight (48) hours of the site visit, as required by California Public Resources Code § 5097.98.*

Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The MLD, in consultation with the landowner, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties are aware that the MLD may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The applicant/developer/landowner should accommodate on-site reburial in a location mutually agreed upon by the Parties.

It is understood by all Parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code § 6254 (r).

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI	ENERGY. Would the Project:				
a)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☑	☐
b)	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☑	☐

Project Impacts and Mitigation Measures

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. The main forms of available energy supply are electricity, natural gas, and oil. A description of the 2019 California Green Building Standards Code and the Building Energy Efficiency Standards, with which the proposed project would be required to comply, as well as discussions regarding the proposed project's potential effects related to energy demand during construction and operations are provided below.

California Green Building Standards Code

The 2019 California Green Building Standards Code, otherwise known as the CALGreen Code (CCR Title 24, Part 11), is a portion of the CBSC, which became effective with the rest of the CBSC on January 1, 2020. The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California. Requirements of the CALGreen Code include, but are not limited to, the following measures:

- Compliance with relevant regulations related to future installation of Electric Vehicle charging infrastructure in residential and non-residential structures;

- Indoor water use consumption is reduced through the establishment of maximum fixture water use rates;
- Outdoor landscaping must comply with the California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), or a local ordinance, whichever is more stringent, to reduce outdoor water use;
- Diversion of 65 percent of construction and demolition waste from landfills; and
- Mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particle board.

Building Energy Efficiency Standards

The 2019 Building Energy Efficiency Standards is a portion of the CBSC, which expands upon energy-efficiency measures from the 2016 Building Energy Efficiency Standards. The 2019 Building Energy Efficiency Standards went into effect for building permit applications submitted on or after January 1, 2020. Non-residential buildings built in compliance with the 2019 standards are anticipated to use approximately 30 percent less energy compared to the 2016 standards, primarily due to lighting upgrades.[11]

Construction Energy Use

Construction of the proposed project would involve on-site energy demand and consumption related to the use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and material delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary on-site lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met via a hookup to the existing electricity grid. Project construction would not involve the use of natural gas appliances or equipment.

Even during the most intense period of construction, due to the different types of construction activities (e.g., site preparation, grading, building construction), only portions of the project site would be disturbed at a time, with operation of construction equipment occurring at different locations on the project site, rather than a single location. In addition, all construction equipment and operation thereof would be regulated per the CARB In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from

[11] California Energy Commission. *Title 24 2019 Building Energy Efficiency Standards FAQ*. November 2018.

in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. The In-Use Off-Road Diesel Vehicle Regulation would subsequently help to improve fuel efficiency and reduce GHG emissions. Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and emissions associated with construction, as well as the energy demand associated with the fueling of construction vehicles and equipment.

The CARB prepared the *2017 Climate Change Scoping Plan Update* (2017 Scoping Plan),[12] which builds upon previous efforts to reduce GHG emissions and is designed to continue to shift the California economy away from dependence on fossil fuels. Appendix B of the 2017 Scoping Plan includes examples of local actions (municipal code changes, zoning changes, policy directions, and mitigation measures) that would support the State's climate goals. The examples provided include several measures related to energy efficiency, such as enforcing idling time restrictions for construction vehicles, utilizing existing grid power for electric energy rather than operating temporary gasoline/diesel-powered generators, and increasing use of electric and renewable fuel-powered construction equipment. The In-Use Off Road regulation described in the Air Quality section of this IS/MND, with which the proposed project must comply, would be consistent with the intention of the 2017 Scoping Plan and the recommended actions included in Appendix B of the 2017 Scoping Plan which promote fuel efficiency and energy conservation efforts.

Based on the above, the temporary increase in energy use during construction of the proposed project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. The proposed project would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand.

Operational Energy Use

Starting October 2020, electricity within the City of Palmdale will be provided through Energy for Palmdale's Independent Choice (EPIC), which is Palmdale's Community Choice Aggregation (CCA) program. A CCA program allows jurisdictions to acquire electricity on behalf of its participants rather than an

[12] California Air Resources Board. *The 2017 Climate Change Scoping Plan Update.* January 20, 2017.

investor-owned utility. Under the program, the City will purchase electricity to sell to residents, and Southern California Edison provides and maintains the infrastructure necessary to deliver the purchased electricity. Natural gas within the City is provided by the Southern California Gas Company (SoCalGas). Energy use associated with operation of the proposed project would be typical of residential uses, requiring electricity for interior and exterior building lighting, operation of stoves, kitchen and cleaning appliances, security systems, and more. Maintenance activities during operations, such as landscape maintenance, would involve the use of electric or gas-powered equipment. In addition to on-site energy use, the proposed project would result in transportation energy use associated with vehicle trips generated by project residents and workers.

The proposed project would be subject to all relevant provisions of the most recent update of the CBSC, including the Building Energy Efficiency Standards. Adherence to the most recent CALGreen Code and Building Energy Efficiency Standards would ensure that the proposed structures would consume energy efficiently. On-site renewable energy would be provided in the form of rooftop solar panels, consistent with the requirements of the 2019 CBSC. The project would also include a connection with the existing energy grid, as is required per the CBSC and other local standards. Required compliance with the CBSC would ensure that the building energy use associated with the proposed project would not be wasteful, inefficient, or unnecessary. Any electricity supplied to the project through the California Choice Energy Authority would comply with the State's Renewable Portfolio Standard (RPS), which requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020 and to 60 percent by 2030. Thus, a portion of any electricity provided from the grid, during project operations would originate from renewable sources as well.

Due to the proposed project's use of solar panels, the project would be generally consistent with the applicable goals and measures related to energy efficiency identified in the City of Palmdale's adopted Energy Action Plan (EAP). Such measures include Measure 1.3, which encourages new development to exceed Title 24 efficiency standards by 15 percent, and Measure 3.3, which encourages residential uses to meet energy demands through on-site renewable energy sources. With regard to transportation energy use, the proposed project would comply with all applicable regulations associated with vehicle efficiency and fuel economy. In addition, as discussed in Section XVII, Transportation, of this IS/MND, the project site is located within close proximity to existing pedestrian infrastructure, and four EV-ready charging stations would be included in the

project. Bicycle parking would be included on-site, which would encourage patrons to use alternative transportation.

Based on the above, compliance with the State's latest Energy Efficiency Standards and the City's EAP would ensure that the proposed project would implement all necessary energy efficiency regulations.

Conclusion

Based on the above, construction and operation of the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Thus, a less than significant impact would occur.

Mitigation Measures

None required.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII	GEOLOGY AND SOILS. Would the Project:				
a)	Directly or indirectly cause potential substantial adverse effects, including the risk of injury, damage or death involving?				
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Map issued by the State Geologist for the area or based upon on other substantial evidence of a known fault?	☐	☐	☑	☐
	ii) Strong seismic ground shaking?	☐	☐	☑	☐
	iii) Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐
	iv) Landslides?	☐	☐	☐	☑
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑	☐
c)	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- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☑	☐	☐
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☑	☐
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☑
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☑	☐	☐

Project Impacts and Mitigation Measures

The following discussion is based primarily on a Geotechnical Engineering Investigation prepared for the proposed project by Krazan & Associates, Inc. (see Appendix D).[13]

[13] Krazan & Associates, Inc. *Geotechnical Engineering Investigation, Proposed Palmdale Apartments, NEC Avenue R & 30th Street, Palmdale, California*. June 19, 2019.

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of injury, damage or death involving?
   i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Map issued by the State Geologist for the area or based upon on other substantial evidence of a known fault?
   ii) Strong seismic ground shaking?

Less Than Significant Impact. The project site is not located within the boundaries of an Earthquake Fault Zone, as designated pursuant to the Alquist-Priolo Earthquake Fault Zoning Act. Per the Geotechnical Engineering Investigation, both the Tehachapi and the San Gabriel mountain ranges to the northwest and south of the project site, respectively, are geologically young mountain ranges that possess active and potentially active fault zones. However, the project site does not contain any mapped faults, and evidence of surface faulting was not observed on the site during site reconnaissance conducted by Krazan & Associates, Inc. Thus, fault rupture hazard is not a significant geologic hazard at the site.

The nearest significant active fault is the San Andreas fault zone, which is located approximately 2.3 miles from the project site. The San Gabriel and Sierra Madre faults are located approximately 21.2 and 24.0 miles from the site, respectively. Based on the proximity of several dominant active faults, the project area is considered subject to relatively high ground shaking risk and related effects. However, the CBSC provides minimum standards to ensure that the proposed structure would be designed using sound engineering practices and appropriate engineering standards for the seismic area in which the project site is located. Projects designed in accordance with the CBSC should be able to: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage, but with some non-structural damage; and 3) resist major earthquakes without collapse, but with some structural, as well as non-structural, damage. Although conformance with the CBSC does not guarantee that substantial structural damage would not occur in the event of a maximum magnitude earthquake, conformance with the CBSC can reasonably be assumed to ensure that the proposed structures would be survivable, allowing occupants to safely evacuate in the event of a major earthquake.

Conformance with the design standards is enforced through plan review and approval by the City of Palmdale Building and Safety Division prior to the issuance of building permits. Proper engineering of the proposed project would ensure that seismic-related effects would not cause adverse impacts. Therefore, a less than

significant impact would occur related to seismic rupture of a known earthquake fault or strong seismic ground shaking.

Mitigation Measures

None required.

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of injury, damage or death involving?
iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. 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 is known to occur in soils other than clean sand. Liquefaction usually occurs under vibratory conditions, such as those induced by seismic events.

The project site is not located in an area designated by the State as a liquefaction hazard zone. Per the California Geological Survey, the project site is located within an Earthquake Zone of Required Investigation. Based on soil borings conducted as part of the Geotechnical Engineering Investigation, the soil underlying the project site consists of medium dense to dense silty sand and poorly-graded sand with varying silt content. Groundwater was not encountered during advancement of the soil borings. Thus, liquefaction risks at the project site are relatively low. Therefore, the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death associated with seismic-related ground failure, including liquefaction, and a less than significant impact would occur.

Mitigation Measures

None required.

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of injury, damage or death involving?
iv) Landslides?

No Impact. Seismically-induced landslides are triggered by earthquake ground shaking. The risk of landslide hazard is greatest in areas with steep, unstable slopes. The project site does not contain, and is not located adjacent to, any such slopes. Thus, the proposed project would not directly or indirectly cause potential

substantial adverse effects, including the risk of loss, injury, or death involving landslides, and no impact would occur.

Mitigation Measures

None required.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Issues related to erosion are discussed in Section X, Hydrology and Water Quality, of this IS/MND. As noted therein, the proposed project would not result in substantial soil erosion or the loss of topsoil. Thus, a less than significant impact would occur.

Mitigation Measures

None required.

c) 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- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact with Mitigation Incorporated. As noted above, the project site is relatively level, and the site is not located on or near any slopes, nor are liquefiable soils located within the project site. Therefore, the proposed project is not subject to risk from landslide, or liquefaction. Potential risks related to lateral spreading, settlement, and corrosive soils are discussed below.

Lateral spreading is horizontal/lateral ground movement of relatively flat-lying soil deposits towards a free face such as an excavation, channel, or open body of water; typically, lateral spreading is associated with liquefaction of one or more subsurface layers near the bottom of the exposed slope. The amount of movement depends on the soil strength, duration and intensity of seismic shaking, topography, and free face geometry. Given that the proposed development would not be located directly adjacent to any free faces, the potential for lateral spreading to pose a risk to the proposed development is negligible.

Per the Geotechnical Engineering Investigation, one of the most common phenomena during seismic ground shaking is induced settlement of loose unconsolidated soils. Based on subsurface conditions at the project site and the moderate to high seismicity of the project region, loose fill materials at the site

could be vulnerable to seismic settlement. Implementation of the recommendations provided within the Geotechnical Engineering Investigation, including over-excavation and rework of loose soils and/or fill, would be necessary to avoid risks related to settlement.

Excessive sulfate in soils or water has the potential to result in adverse reactions between cement in concrete and the soil. Soil samples were collected from the project site and tested in accordance with the State of California Material Manual Test Designation 417. The sulfate concentration detected in the soil samples indicated a moderate sulfate exposure value. Thus, per the Geotechnical Engineering Investigation, concrete that would be in contact with soils is recommended to use Type II cement and have a minimum compressive strength of 4,000 pounds per square inch (psi). In addition, electrical resistivity testing of the on-site soils indicates that the soils may have a severe potential for metal loss from electrochemical corrosion processes.

Based on the above, the proposed project could result in a potentially significant impact related to being 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- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

Mitigation Measures

Implementation of the following mitigation measures would reduce the above potential impact to a *less than significant* level.

GEO-1: *All Improvement Plans for the development shall be designed by a Civil and Structural Engineer and reviewed and approved by the City Engineer, or other authorized City of Palmdale staff, prior to issuance of grading permits to ensure that all geotechnical recommendations specified in the Geotechnical Engineering Investigation prepared for the proposed project are properly incorporated into the project design, including recommendations related to seismic settlement, collapsible soils, and soil corrosion.*

GEO-2: *Prior to issuance of grading permits, the project applicant shall retain a qualified corrosion engineer to evaluate the corrosive effects of on-site soils on underground utilities and provide recommendations to avoid adverse corrosion effects. The project applicant shall ensure that such recommendations are incorporated into the Improvement Plans for the proposed project to the satisfaction of the City Engineer.*

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less Than Significant Impact. Expansive soils can undergo significant volume change with changes in moisture content. Specifically, such soils shrink and harden when dried and expand and soften when wetted. Expansive soils can shrink or swell and cause heaving and cracking of slabs-on-grade, pavements, and structures founded on a shallow foundation. Building damage due to volume changes associated with expansive soil can be reduced by a variety of solutions. If structures are underlain by expansive soils, foundation systems must be capable of tolerating or resisting any potentially damaging soil movements, and building foundation areas must be properly drained. Exposed soils must be kept moist prior to placement of concrete for foundation construction.

Per Exhibit 3-3 in the General Plan EIR, the project site is located within an area characterized by low potential for expansive soils. Thus, a less than significant impact would occur related to proposed structures being located on expansive soil, as defined in Table 18-1B of the Uniform Building Code, thereby creating substantial direct or indirect risks to life or property.

Mitigation Measures

None required.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The proposed project would connect to existing ~~City~~ Sanitation Districts of Los Angeles County sewer services. Thus, the construction or operation of septic tanks or other alternative wastewater disposal systems is not included as part of the project. Therefore, no impact regarding the capability of soil to adequately support the use of septic tanks or alternative wastewater disposal systems would occur.

Mitigation Measures

None required.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Less Than Significant Impact with Mitigation Incorporated. As part of the Phase I Cultural Resources Survey prepared for the project site by McKenna et al., a paleontological overview was prepared by Dr. Samuel McLeod of the Los Angeles County Museum of Natural History.[14] Based on the results of the paleontological overview, vertebrate fossil localities have not been identified within the project site.

Most of the project site contains surficial deposits of younger quaternary alluvium of unknown thickness. The uppermost layers of younger quaternary alluvium in this area usually do not contain significant vertebrate fossils. While the uppermost layers of soil and younger quaternary alluvium in most of the project area are unlikely to contain significant vertebrate remains, deeper excavations in the sediments or any excavations in surficial older quaternary, or even Pliocene sediments, may encounter remains of fossil vertebrates. Should previously unknown paleontological resources exist within the project site, ground-disturbing activity, such as grading, trenching or excavating, associated with implementation of the proposed project would have the potential to disturb or destroy such features. Therefore, the proposed project could result in the direct or indirect destruction of a unique paleontological resource, and a potentially significant impact could occur.

Mitigation Measures

Implementation of the following mitigation measure would reduce the above potential impact to a *less than significant* level.

GEO-3: Prior to initiation of ground-disturbing activities, a consultant and construction worker paleontological resources training program shall be provided for all personnel involved in project implementation, to be administered by a qualified paleontologist. The training program shall include relevant information regarding sensitive paleontological resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The training program shall also describe appropriate avoidance and minimization measures for resources that have the potential to be

[14] McKenna et al. *A Phase I Cultural Resources Survey of the Simpson Housing Solutions, LLC Project Area (APN 3020-005-013); Approximately 5.5 Acres in Palmdale, Los Angeles Co., CA. California.* April 14, 2006.

located on the project site, and shall outline what to do and whom to contact if any potential paleontological resources are encountered. The program shall also underscore the requirement for confidentiality for any find of significance. Proof of the construction crew awareness training shall be recorded through a sign-in sheet distributed to all participants of the training program and submitted to the City's Economic and Community Development Department in the form of a copy of training materials and the completed training attendance roster.

GEO-4: *Should any vertebrate fossils (e.g., teeth, bones), an unusually large or dense accumulation of intact invertebrates, or well-preserved plant material (e.g., leaves) be unearthed by the construction crew, then ground-disturbing activity shall be diverted to another part of the project site and a qualified paleontologist shall be contacted and called on-site to assess the find and, if significant, recover the find in a timely matter. Finds determined significant by the paleontologist shall then be conserved and deposited with a recognized repository, such as the University of California Museum of Paleontology. The alternative mitigation would be to leave the significant finds in place, determine the extent of significant deposit, and avoid further disturbance of the significant deposit. A report documenting any encountered paleontological resources shall be submitted to the City.*

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII	GREENHOUSE GAS EMISSIONS. Would the Project:				
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☑	☐	☐
b)	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☑	☐	☐

Project Impacts and Mitigation Measures

The following discussion is based primarily on the AQ/GHG Memo prepared for the proposed project by LSA Associates (see Appendix A).[15]

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?

Less Than Significant Impact with Mitigation Incorporated. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Implementation of the proposed project would cumulatively contribute to increases of GHG emissions. Estimated GHG emissions attributable to future development would be primarily associated with increases of carbon dioxide (CO_2) and, to a lesser extent, other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O) associated with area sources, mobile sources or vehicles, utilities (electricity

[15] LSA Associates. *Air Quality and Greenhouse Gas Analysis – Avenue R Apartments Project.* August 14, 2019.

and natural gas), water usage, wastewater generation, and the generation of solid waste. The primary source of GHG emissions for the project would be mobile source emissions. The common unit of measurement for GHG is expressed in terms of annual metric tons of CO_2 equivalents ($MTCO_2e$/yr).

In 2016, the AVAQMD developed a threshold of significance for project-level GHG emissions; AVAQMD's approach to developing the threshold was to identify a threshold level of GHG emissions for which a project would not be expected to substantially conflict with existing California legislation. At the time that the thresholds were developed, the foremost legislation regarding GHG emissions was AB 32, which established an emissions reduction goal of reducing statewide emissions to 1990 levels by 2020. The GHG emissions thresholds of significance recommended by AVAQMD to determine compliance with AB 32 are 100,000 $MTCO_2e$/yr and 548,000 lbs/day. If a project generates GHG emissions above AVAQMD's adopted threshold levels for either construction or operation, the project is considered to generate significant GHG emissions and conflict with AB 32.

Since the adoption of AVAQMD's GHG thresholds of significance, the State legislature has passed SB 32, which builds upon AB 32 and establishes a statewide GHG reduction target of 40 percent below 1990 levels by 2030. Considering the legislative progress that has occurred regarding statewide reduction goals since the adoption of AVAQMD's standards, the emissions thresholds presented above would determine whether a proposed project would be in compliance with the 2020 emissions reductions goals of AB 32, but would not necessarily demonstrate whether a project would be in compliance with SB 32. As such, GHG emissions resulting from the proposed project have been assessed in relation to other existing statewide and Citywide plans related to climate change, including the 2017 Scoping Plan and the City of Palmdale EAP.

Based on the above, project-related GHG emissions have been quantitatively assessed in comparison to AVAQMD's adopted emissions thresholds for compliance with AB 32, and qualitatively assessed in comparison with the recommended mitigation measures in the 2017 Scoping Plan for compliance with SB 32. In addition, the project's consistency with the City's EAP is discussed.

AVAQMD Thresholds

During construction of the proposed project, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. Short-term GHG

emissions from on-site construction activities would vary daily as construction activity levels change. As part of the AQ/GHG Memo prepared for the proposed project, GHG emissions associated with construction of the project were evaluated with CalEEMod, using the modeling assumptions discussed in Section III, Air Quality, of this IS/MND. Per the AQ/GHG Memo, construction of the proposed project would generate a maximum of 3,859.1 lbs/day of CO_2e, which is below the AVAQMD's threshold of 548,000 lbs/day. In addition, construction of the proposed project would generate approximately 368.9 $MTCO_2e$/yr, which would be below AVAQMD's threshold of 100,000 $MTCO_2e$/yr.

Long-term GHG emissions are typically generated from mobile sources (e.g., cars, trucks and buses), area sources (e.g., maintenance activities and landscaping), indirect emissions from sources associated with energy consumption, waste sources (land filling and waste disposal), and water sources (water supply and conveyance, treatment, and distribution). Mobile-source GHG emissions associated with the proposed development would include project-generated vehicle trips to and from the project site. Area source emissions would be associated with activities such as landscaping and maintenance on the project site. Waste source emissions generated by the proposed project would include energy generated by land filling and other methods of disposal related to transporting and managing project generated waste. In addition, water source emissions associated with the proposed project would include emissions generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

As part of the AQ/GHG Memo prepared for the proposed project, GHG emissions associated with operation of proposed project were evaluated with CalEEMod, using the modeling assumptions discussed in Section III, Air Quality, of this IS/MND. The resulting daily and annual GHG emissions are summarized in Table 4 below. As shown in the table, the project's total unmitigated operational GHG emissions were estimated to be approximately 4,762.2 lbs CO_2e/day, or 687.6 $MTCO_2e$/yr, which is below AVAQMD's applicable thresholds of significance for GHG emissions.

Based on the above, construction and operation of the proposed project would not be considered to conflict with the applicable AVAQMD thresholds or the emissions reduction target of AB 32.

Consistency with 2017 Scoping Plan

In the absence of adopted GHG emissions thresholds to assess compliance with SB 32, the proposed project has been qualitatively assessed for compliance with

the recommended mitigation measures within the *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan) as an alternative means of assessing a project's potential impacts related to GHG emissions.

Table 4
Maximum Unmitigated Operational GHG Emissions

Emissions Source	Operational Emissions			
	CO_2	CH_4	N_2O	CO_2e
Daily (lbs/day)				
Area Source	1,094.8	<0.1	<0.1	1,101.5
Energy	300.2	0.1	0.1	302.0
Mobile	3,355.2	0.1	-	3,358.7
Solid Waste	-	-	-	-
Water	-	-	-	-
Total Daily				**4,762.2**
AVAQMD Threshold				**548,000**
Threshold Exceeded?				**No**
Annual (MT/yr)				
Area Source		<0.1	<0.1	41.3
Energy		<0.1	<0.1	128.9
Mobile		<0.1	0.0	475.4
Solid Waste		0.3	0.0	13.2
Water		0.1	<0.1	28.8
Total Annual				**687.6**
AVAQMD Threshold				**100,000**
Threshold Exceeded?				**No**

Source: LSA Associates, 2019.

Appendix B to the CARB's 2017 Scoping Plan provides examples of potentially feasible mitigation measures that could be considered to assess a project's compliance with the State's 2030 GHG emissions reductions goals. Thus, general compliance with the Local Actions within the 2017 Scoping Plan could be considered to demonstrate the project's compliance with SB 32.

The proposed project would generally comply with many of the suggested measures. For example, SB 743 defines "infill site" as a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban areas. As more than 75 percent of the project site adjoins developed, urban areas, the proposed project would be considered an infill residential development, and would, thus, be in compliance with the lead agency's standards for mitigating

transportation impacts under SB 743. In addition, four EV-charging parking spaces and 30 bicycle parking spaces would be provided to promote the use of energy efficient vehicles and alternative forms of transportation. Furthermore, the proposed project would include on-site renewable energy in the form of rooftop solar panels, consistent with the requirements of the 2019 CBSC. However, in the absence of mitigation, the project's compliance with the construction-related measures in the 2017 Scoping Plan cannot be ensured. Because the 2017 Scoping Plan is the CARB's strategy for meeting the State's 2030 emissions goals established by SB 32, the project would be considered to potentially conflict with SB 32, unless Mitigation Measure GHG-1 is implemented.

City of Palmdale EAP

In 2011, the City of Palmdale approved the City's EAP.[16] The EAP included emissions reduction targets for the City, as well as reduction measures, but did not specify project-level emissions thresholds. The project's consistency with the applicable reduction measures is assessed in Table 5 Table 5below. As shown in the table, the proposed project would be consistent with many of the reduction measures.

Table 5
Project Consistency with the Palmdale EAP

Reduction Measure	Consistency Discussion
Operation	
Measure 1.3: Energy Efficiency in New Development Encourage new development to exceed Title 24 energy use requirements by 15%.	The City has not yet adopted building energy efficiency requirements that are more stringent than State standards. However, the proposed project would be designed to comply with the most recent 2019 Title 24 efficiency standards and would provide on-site generation of renewable energy. Therefore, the proposed project would generally comply with the suggested measure.
Measure 1.4: Heat Island Effect Reduce the urban heat island effect to cool the local climate and reduce energy consumption by increased shading on private property, high albedo surfaces in sidewalks and parking lots, and cool surfaces.	The 2019 Building Energy Efficiency Standards contains requirements for the thermal emittance, three-year aged reflectance, and SRI of roofing materials used in new construction and re-roofing projects. Such standards, with which the project would be required to comply, would help to reduce heating and cooling costs associated with the

Continued on next page

[16] City of Palmdale. *Energy Action Plan.* August 3, 2011.

Table 5
Project Consistency with the Palmdale EAP

Reduction Measure	Consistency Discussion
	proposed project. Therefore, the proposed project would generally comply with the suggested measure.
Measure 1.3: Residential Renewable Energy Encourage the residential sector to meet energy needs through on-site renewable energy sources.	The proposed project would be designed to comply with the most recent 2019 Title 24 efficiency standards and would provide on-site generation of renewable energy. Therefore, the proposed project would comply with the suggested measure.
Measure 4.5: On-Road Vehicle Emissions Reductions Reduce emissions from on-road vehicle sources.	The proposed parking areas would include a total of four EV-capable parking spaces, which would help to reduce on-road emissions associated with vehicle traffic to and from the project site, and bicycle racks to encourage use of alternative modes of transportation. Thus, the proposed project would comply with the suggested measure.
Measure 5.1: Accessible Housing Promote accessible housing near transit and services.	The proposed project would include construction of 100 percent affordable housing, as part of a permanent supportive housing development, within close proximity to existing bus stops along Avenue R. The proposed units would meet ADA standards for accessibility. Therefore, the proposed project would comply with the suggested measure.
Source: City of Palmdale, 2011.	

Conclusion

Based on the above, the proposed project would not conflict with the applicable AVAQMD thresholds and the City's EAP. However, the potential exists for the project to conflict with the measures included in Appendix B to the CARB's 2017 Scoping Plan. Thus, the project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and could conflict with applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of GHGs. Therefore, a potentially significant impact could occur.

Mitigation Measures

Implementation of the following mitigation measure would reduce the above potential impacts to a *less than significant* level.

GHG-1 *Prior to issuance of a grading permit, the project applicant shall depict on the grading plans via notation that the contractor will comply with the following requirements, to the maximum extent feasible determined by the City:*

- *Idling shall be limited to five minutes or less for all on-road related and/or delivery trucks in accordance with CARB standards, with clear signage regarding idling restrictions placed at the entrances to the construction site;*
- *To the maximum extent feasible, off-road heavy-duty diesel-powered equipment (e.g., rubber-tired dozers, excavators, graders, scrapers, pavers, paving equipment, and cranes) to be used for each phase of construction of the project (i.e., owned, leased, and subcontractor vehicles) shall meet CARB Tier 4 emissions standards or cleaner;*
- *To the maximum extent feasible, temporary power necessary for construction activities shall be supplied by the existing power grid, as opposed to portable generators; and,*
- *Alternatively-fueled construction equipment and renewable diesel shall be used for on-site construction, if such equipment is commercially available.*

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX	HAZARDS AND HAZARDOUS MATERIALS. Would the Project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, emission or disposal of hazardous materials?	☐	☐	☑	☐
b)	Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑
d)	Be located on a site which 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)	For a project located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or a public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☑
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑	☐
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☑	☐

Project Impacts and Mitigation Measures

The following discussion is based primarily on a Phase I Environmental Site Assessment (ESA) prepared for the proposed project by Krazan & Associates, Inc. (see Appendix E).[17]

[17] Krazan & Associates, Inc. *Phase I Environmental Site Assessment Proposed Residential Development Property Northeast Corner of Avenue R and 30th Street East Los Angeles County Assessor's Parcel Number 3020-005-031 (5.04 Acres) Palmdale, California.* April 16, 2019.

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, emission or disposal of hazardous materials?

Less Than Significant Impact. Residential uses are not typically associated with the routine transport, use, disposal, or generation of substantial amounts of hazardous materials. Maintenance and operation of the proposed residential development may involve the use of common household cleaning products, fertilizers, and herbicides on-site, any of which could contain potentially hazardous chemicals; however, such products would be expected to be used in accordance with label instructions. Due to the regulations governing use of such products and the amount anticipated to be used on the site, routine use of such products would not represent a substantial risk to public health or the environment. Therefore, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and a less than significant impact would occur.

Mitigation Measures

None required.

b) Would the project create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

d) Would the project be located on a site which 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?

Less Than Significant Impact. The following discussion provides an analysis of potential hazards and hazardous materials associated with upset or accident conditions related to the proposed construction activities and existing on-site conditions.

Construction activities associated with the proposed project would involve the use of heavy equipment, which would contain fuels and oils, and various other products such as concrete, paints, and adhesives. Small quantities of potentially toxic substances (e.g., petroleum and other chemicals used to operate and maintain construction equipment) would be used at the project site and transported to and from the site during construction. However, the project contractor would be required to comply with all California Health and Safety Codes and local City ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. Thus, construction of the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable

upset and accident conditions involving the likely release of hazardous materials into the environment.

A Phase I ESA was prepared for the proposed project for the purpose of identifying potential recognized environmental conditions (RECs) associated with the project site. The Phase I ESA included a reconnaissance of the site and neighboring properties and a review of regulatory agency database reports of public records for the site area, aerial photography, historic maps, and various other documentation. Sources reviewed as part of the Phase I ESA indicate that the project site has not been subject to prior development and has remained vacant up to present day. Per the Phase I ESA, features such as stressed vegetation, wells, septic systems, above-ground storage tanks (ASTs), or underground storage tanks (USTs) were not identified on the site. The Phase I ESA did not make note of any existing on-site or off-site hazards that could be exacerbated by development of the project. Furthermore, the project site is not included in the California Department of Toxic Substances Control EnviroStor Database.[18] The Envirostor Database includes information provided by the Department of Toxic Substances Control (DTSC) and included in the State's Hazardous Waste and Substances Sites (Cortese) List, which is compiled pursuant to Government Code Section 65962.5.

Based on the above, construction and operation of the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment. In addition, the proposed project would not create a significant hazard to the public or the environment related to being located on a site which is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5. Thus, a less than significant impact would occur.

Mitigation Measures

None required.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

[18] California Department of Toxic Substances Control. *Hazardous Waste and Substances Site List*. Available at: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=palmdale%2C+ca. Accessed November 2019.

No Impact. The nearest school relative to the project site is Desert Rose Elementary School, located approximately 0.28-mile southwest of the site. As such, the project site would not be within one-quarter mile of an existing or proposed school. Furthermore, the proposed project would not involve the routine transport, use, emission, or disposal of hazardous materials or involve any activities or operations that would have the potential to cause any upset or accidental conditions involving the release of hazardous materials. Therefore, the proposed project would have no impact related to hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Mitigation Measures

None required.

e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The nearest airport to the project site is the Palmdale Regional Airport, located approximately three miles north of the site. The site is not covered by an airport land use plan.[19] Therefore, no impact would occur related to a safety hazard or excessive noise for people residing or working in the project area.

Mitigation Measures

None required.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The City of Palmdale adopted the City of Palmdale Emergency Operations Plan (EOP) in January 2012.[20] The EOP is a multi-hazard document that addresses the City of Palmdale's planned response and short-term recovery to emergency/disaster situations associated with natural disasters, technological incidents, and national security emergencies. Per the Los Angeles County Department of Public Works, Avenue R within the project vicinity is

[19] Los Angeles County Airport Land Use Commission. *Palmdale Airport/USAF Plant 42, Airport Influence Area.* May 13, 2003.

[20] City of Palmdale. *Emergency Operations Plan*. 2012.

identified as a Disaster Route.[21] Disaster Routes are freeways, highways, and arterial routes pre-identified for use during times of crisis.

Implementation of the proposed project would not result in any substantial modifications to the existing roadway system; improvements would be primarily limited to new curb, gutters, and sidewalks along the project site frontages, and a new deceleration lane at the project access to allow vehicles to safely enter and exit the project site at Avenue R. Thus, the project would not impede access to the identified Disaster Route in the project vicinity or otherwise physically interfere with the EOP or the Disaster Routes identified by the Los Angeles County Department of Public Works. Furthermore, the proposed project would be consistent with what has been planned for the site and would not include land uses or operations that could impair implementation of the EOP. Therefore, the proposed project would not interfere with an emergency evacuation or response plan, and a less than significant impact would occur.

Mitigation Measures

None required.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less Than Significant Impact. Issues related to wildfire hazards are discussed in Section XX, Wildfire, of this IS/MND. As noted therein, the project site is not located within or near a Very High Fire Hazard Severity Zone.[22] In addition, the project site is located within an urbanized area of the City of Palmdale and is neighbored by existing development to the east, west, south, and northwest. The developed nature of the area surrounding the project site precludes the spread of wildfire to the site. Thus, the potential for wildland fires to reach the project site would be relatively limited. The proposed project would not expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, and a less than significant impact would occur.

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21 Los Angeles County Department of Public Works. *City of Palmdale Disaster Route Map*. November 2008.

22 California Department of Forestry and Fire Protection. *Palmdale, Very High Fire Hazard Severity Zones in LRA, As Recommended by CAL FIRE.* September 2011.

Mitigation Measures

None required.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X	HYDROLOGY AND WATER QUALITY. Would the Project:				
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☑	☐
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☑	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course or a stream or river or through the addition of impervious surfaces, in a manner that would:				
	i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☑	☐
	ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☑	☐
	iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☑	☐
	iv) impede or redirect flood flows?	☐	☐	☑	☐
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☑
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☑	☐

Project Impacts and Mitigation Measures

The following discussion is based primarily on a Preliminary Drainage Concept (Drainage Study) prepared for the proposed project by Hunsaker and Associates, LA Inc. (see Appendix F).[23]

[23] Hunsaker and Associates, LA Inc. *Preliminary Drainage Concept (Hydrology/Hydraulics) For Avenue R Apartments, City of Palmdale*. November 22, 2019.

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. The following discussion provides a summary of the proposed project's potential to violate water quality standards/waste discharge requirements or otherwise degrade water quality during construction and operation.

Construction

During the early stages of construction activities, topsoil would be exposed due to grading and excavation of the site. After grading and prior to overlaying the ground surface with impervious surfaces and structures, the potential exists for wind and water erosion to discharge sediment and/or urban pollutants into stormwater runoff, which could adversely affect water quality downstream.

The State Water Resources Control Board (SWRCB) regulates stormwater discharges associated with construction activities where clearing, grading, or excavation results in a land disturbance of one or more acres. The City's National Pollutant Discharge Elimination System (NPDES) permit requires applicants to show proof of coverage under the State's General Construction Permit prior to receipt of any construction permits. The State's General Construction Permit requires a Storm Water Pollution Prevention Plan (SWPPP) to be prepared for the site. A SWPPP describes Best Management Practices (BMPs) to control or minimize pollutants from entering stormwater and must address both grading/erosion impacts and non-point source pollution impacts of the development project. Because the proposed project would disturb greater than one acre of land, the proposed project would be subject to the requirements of the State's General Construction Permit. Therefore, the proposed project would not discharge sediment or urban pollutants through soil erosion, violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality during construction.

Operation

The proposed residential development would not involve operations typically associated with the generation or discharge of polluted water. Thus, typical operations on the project site would not violate any water quality standards or waste discharge requirements, nor degrade water quality. However, the addition of the impervious surfaces on the site would result in the generation of urban runoff, which could contain pollutants if the runoff comes into contact with such sources as vehicle fluids on parking surfaces and/or landscape fertilizers or herbicides.

Stormwater runoff from new impervious surfaces created by the project would be captured by a series of drain inlets and routed, through new underground storm drain pipes, to a new bio-retention basin to be located in the northeast portion of the site. The bio-retention basin would treat stormwater primarily by filtering runoff slowly through an active layer of soil, allowing for removal of pollutants. During large storm events, the bio-retention basin would allow excess runoff to flow into the adjacent on-site drainage channel. The bio-retention basin would be sized to exceed the minimum volume requirement necessary to adequately handle all runoff from the proposed impervious surfaces and landscaping within the project site. Thus, the proposed project would comply with all relevant water quality standards and waste discharge requirements, and would not degrade water quality.

Conclusion

Based on the above, the proposed project would not result in the violation of water quality standards or degradation of water quality during construction or operation, and a less than significant impact would occur.

Mitigation Measures

None required.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact. Water supplies in the central and southern portions of the City of Palmdale, including the project site, are provided by the Palmdale Water District. The Palmdale Water District currently receives water from three sources: groundwater, surface water from Littlerock Dam Reservoir, and imported water from the State Water Project (SWP).[24] Groundwater is obtained from the Pearland subbasin of the Antelope Valley Groundwater Basin. Groundwater supplies accounted for 26 to 64 percent of the District's total water supplies between 2011 and 2015. The percentage of water demand met with groundwater supplies is expected to decrease over time as the District grows and increases in demand are served by purchases of surface water supplies.

[24] Palmdale Water District. *2020 Urban Water Management Plan, Palmdale Water District*. May 14, 2021.

In 2014, the Sustainable Groundwater Management Act (SGMA) was passed. SGMA requires the formation of local groundwater sustainability agencies (GSAs) that must assess conditions in their local groundwater basins and adopt locally-based management plans. For those basins that the Department of Water Resources (DWR) has identified as medium to high priority (the Antelope Valley Groundwater Basin is a high-priority basin), the SGMA requires GSA's to implement plans and achieve long-term groundwater sustainability. However, based on a final judgment that was issued in 2015 regarding the adjudication of the Antelope Valley Basin, the Antelope Valley Basin is exempt from the requirements of SGMA. The most recent version of DWR's Bulletin 118, California's Groundwater (2003), does not characterize the Antelope Valley Basin as overdrafted.

Therefore, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the Antelope Valley Basin. Thus, a less than significant impact would occur.

Mitigation Measures

None required.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course or a stream or river or through the addition of impervious surfaces, in a manner that would:
   i) Result in substantial erosion or siltation on- or off-site?
   ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?
   iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. As noted in the Preliminary Drainage Concept prepared for the proposed project, the project site is part of the Pearland watershed identified in the City of Palmdale Master Plan of Drainage Update (MPD).[25] An unnamed drainage runs northeasterly through the project site, draining to the vacant land to the northeast of the site. The drainage receives flows from the developed areas to the southwest of the project site.

[25] Hunsaker and Associates, LA Inc. *Preliminary Drainage Concept (Hydrology/Hydraulics) For Avenue R Apartments, City of Palmdale*. November 22, 2019.

As part of the Preliminary Drainage Concept, the HEC-RAS model was used to determine the amount of off-site stormwater flowing to the on-site drainage channel. Upstream flows were calculated using values from the MPD, which includes estimates of 50-year storm flows for various watersheds throughout the City. Based on the results of the analysis, the project site drainage currently receives approximately 806 cubic feet per second (cfs) of off-site flows for the 50-year event.

Development of the proposed project would result in an increase in impervious surfaces associated with the proposed apartment complex, which would alter the existing drainage pattern of the site. However, as discussed above, runoff from impervious areas within the proposed apartment complex would be routed to a new on-site bio-retention basin, which would allow for runoff to infiltrate the underlying soils in a manner similar to what currently occurs on-site. During large storm events, the bio-retention basin would allow excess runoff to flow into the adjacent on-site drainage channel, subject to the Streambed Alteration Agreement from CDFW.

As part of the proposed project, the existing on-site drainage channel would be rerouted through a new concrete trapezoidal channel. A 200-foot weir and riprap would be added at the drainage outlet in the northern portion of the project site to prevent erosion and normalize flows. The proposed trapezoidal channel would include a minimum depth of 18 inches and a minimum width of 110 feet.

The Preliminary Drainage Concept included an evaluation of post-project hydrology associated with the proposed trapezoidal channel. The LACDPW's approved stormwater modeling program, Water Surface Pressure Gradient (WSPG), was used to model hydraulic conditions within the channel for the 50-year storm event. Based on the results of the modeling, the proposed weir and riprap at the outlet of the new on-site trapezoidal channel would ensure that flows are normalized before exiting the project site, thereby ensuring that neighboring properties to the north are not adversely affected by high flow conditions. Therefore, the proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion, siltation, or flooding on- or off-site, create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff. Consequently, the proposed project would result in a less than significant impact.

Mitigation Measures

None required.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course or a stream or river or through the addition of impervious surfaces, in a manner that would:
iv) impede or redirect flood flows?

Less Than Significant Impact. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map number 06037C0700F, the project site is located within an area characterized by a 0.2% Annual Chance Flood Hazard (Zone X).[26] The site is not classified as a Special Flood Hazard Area or otherwise located within a 100-year floodplain. As noted above, the proposed project would include improvements to the existing on-site drainage channel to ensure that on-site or off-site flooding does not occur during storm events. Therefore, development of the proposed project would not impede or redirect flood flows and a less than significant impact would result.

Mitigation Measures

None required.

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

No Impact. As discussed under response 'c.iv' above, the project site is not located within a flood hazard zone. Thus, the proposed residential development would not be subject to substantial flooding risks. Tsunamis are defined as sea waves created by undersea fault movement, whereas a seiche is a long-wavelength, large-scale wave action set up in a closed body of water such as a lake or reservoir. Due to the project site's substantial distance from the coast, the proposed project would not be exposed to flooding risks associated with tsunamis. Seiches do not pose a risk to the proposed project, as the project site is not located adjacent to any closed body of water. Therefore, the proposed project would not pose a risk related to the release of pollutants due to project inundation due to flooding, tsunami, or seiche, and no impact would occur.

[26] Federal Emergency Management Agency. *Flood Insurance Rate Map 06037C0700F.* Effective September 26, 2008.

Mitigation Measures

None required.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI	LAND USE AND PLANNING. Would the Project:				
a)	Physically divide an established community?	☐	☐	☑	☐
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☑	☐

Project Impacts and Mitigation Measures

a) Would the project physically divide an established community?

Less Than Significant Impact. A project risks dividing an established community if the project would introduce infrastructure or alter land uses so as to change the land use conditions in the surrounding community, or isolate an existing land use. Currently, the project site is vacant. Existing residential development exists to the east, south, and west of the project site.

Given that the proposed project would introduce new residential development into a substantially urbanized area neighbored by existing residential uses, the project would not alter the existing land use conditions in the project vicinity or isolate an existing land use. In addition, buildout of the project site with residential uses has been anticipated by the City and analyzed in the General Plan EIR, because the site is designated as MR (Medium Residential), which allows the development of apartment complexes. The proposed project would not physically divide an established community, and a less than significant impact would occur.

Mitigation Measures

None required.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant Impact. The project site is currently designated MR (Medium Residential) per the City's General Plan and is within the R-2 (Medium Residential) zone. The current land use and zoning designations are intended to provide for medium-density residential development and other similar uses.

The current land use and zoning designations are intended to provide for residences at a density of 6.1 to 10 dwelling units per acre. The proposed project, which would include the development of 57 units on the 5.47-acre project site, would result in a density of 10.42 dwelling units per acre, above the density allowed for the site. However, given that the project includes 100 percent affordable units, as explained in PMC Section 17.25.110, the proposed project is eligible for a density bonus of up to 35 percent, which would allow for development of the site at a density of up to 13.5 dwelling units per acre. As such, with City approval of the Density Bonus Agreement, the project would be within the allowed density for the project site and would be consistent with the site's current General Plan land use and zoning designations. As discussed throughout this IS/MND, the proposed project would not result in any significant environmental effects that cannot be mitigated to a less than significant level by the mitigation measures provided herein. In addition, the proposed project would not conflict with City policies and regulations adopted for the purpose of avoiding or mitigating an environmental effect, including, but not limited to, the City's noise standards, applicable SWRCB regulations related to stormwater, and the City's EAP. Therefore, the proposed project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact. Thus, a less than significant impact would occur.

Mitigation Measures

None required.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII	MINERAL RESOURCES. Would the Project:				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☑

Project Impacts and Mitigation Measures

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. The City's General Plan Land Use Map includes a Mineral Resource Extraction (MRE) overlay that is contiguous with the State's designated Mineral Resource Areas. Per the City's General Plan Land Use Map, the project site is not included within the City's MRE overlay. Thus, the City has not planned for use of the project site for mineral resource extraction. Therefore, no impact to mineral resources would occur as a result of development of the project.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII NOISE. Would the Project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☑	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

Project Impacts and Mitigation Measures

The following analysis is based primarily on the Environmental Noise Study (see Appendix G)[27] and Exterior-to-Interior Noise Study (see Appendix I)[28] prepared for the proposed project by Acoustics Group, Inc. (AGI). For the purposes of this section, the sensitive receptors surrounding the project site will be referred to by the following labels as provided in the Noise Report:

Table 6
Sensitive Receptor Labels

Sensitive Receptor	Reference Label
Multi-Family Residential Community to the North	R1
Berean Fellowship Church	R2
Single-Family Residential Community to the East	R3
Single-Family Residential Community to the South	R4
Mobile Home Community to the West	R5

Source: AGI, 2020

[27] Acoustics Group, Inc. *Environmental Noise Study for Ave R Apartments Project.* September 10, 2020.
[28] Acoustics Group, Inc. *Avenue R Apartments Exterior-to-Interior Noise Study*. July 13, 2021.

R1 and R2 represent the multi-family residential community and the Berean Fellowship Church to the north, respectively. The single-family residential community to the east is represented by R3, the single-family residential community to the south is represented by R4, and the mobile home community to the west is represented by R5.

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact with Mitigation Incorporated. The following sections provide a discussion of the existing noise-sensitive receptors in the project vicinity, the existing noise environment, the City's noise standards, and construction and operational noise sources associated with the proposed development.

Sensitive Receptors

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the primary intended use of the land. Places where people live, sleep, recreate, worship, and study are considered to be sensitive to noise because intrusive noise can be disruptive to such activities. Within the project vicinity, the nearest sensitive receptors include the multi-family residential community and the Berean Fellowship Church to the north, single-family residential communities to the east, single-family residential community to the south, and mobile home community to the west (see Table 6).

Existing Noise Environment

As part of the Environmental Noise Study, AGI conducted one 24-hour ambient noise measurement on the project site and five short-term 20-minute noise measurements at the nearest noise sensitive receptors. The long-term measurement was conducted on September 1 through September 2, 2020, and the short-term measurements were conducted on September 4, 2020. Figure 5 shows the locations of the noise measurement locations. The noise measurement results are summarized in Table 7 below, in terms of decibels (dB).

Figure 5
Noise Measurement Locations

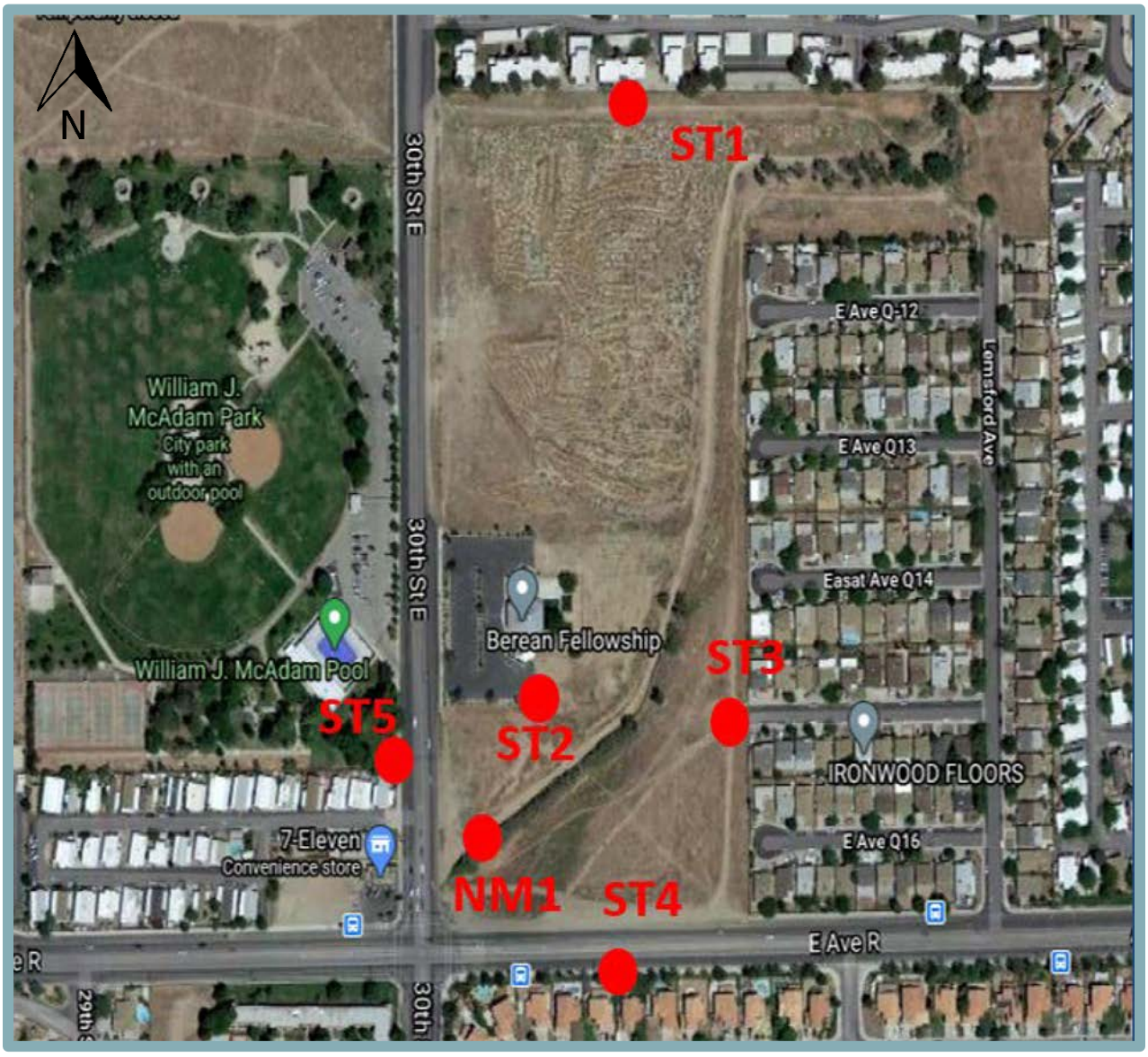

Table 7
Existing Noise Levels

Receiver Location		Date and Time	Noise Level (dB)					Contributing Noise Sources
			L_{min}	L_{max}	L_{eq}	CNEL	DNL	
NM1	Project Site	9/1/20 1 PM to 9/2/20 1 PM	37.9	102.6	56.7 to 72.5	71.4	70.4	Vehicular traffic, aircraft
ST1	Nearest Residential Area to the North	9/4/20 12:32 PM to 12:52 PM	36.4	55.5	45.7	62	61	Wildlife, Vehicular Traffic
ST2	Church Property to the North	9/4/20 11:12AM to 11:44PM	41.1	65.9	52.2	65	64	Vehicular Traffic
ST3	Nearest Residential Area to the East	9/4/20 11:20AM to 11:41PM	35.8	53.7	43.1	63	62	Wildlife, Vehicular Traffic
ST4	Nearest Residential Area to the South	9/4/20 11:52AM to 12:12PM	44.7	103.2	77.0	71	70	Vehicular Traffic
ST5	Nearest Residential Area to the West	9/4/20 12:06AM to 12:26PM	42.1	77.7	62.8	71	70	Vehicular Traffic

Notes:

- L_{min} = The minimum noise level measured during a specified measurement period.
- L_{max} = The maximum noise level measured during a specified measurement period.
- L_{eq} = The average noise level during the specified measurement period.
- CNEL = An average sound level during a 24-hour day, obtained after addition of five dB to sound levels in the evening from 7:00 PM to 10:00 PM, and after addition of 10 dB to sound levels in the night before 7:00 AM and after 10:00 PM.
- DNL = The average noise level during a 24-hour day, which is obtained by adding 10 dB to sound levels measured at night between 10:00 PM and 7:00 AM.

Source: AGI, 2020.

City Noise Standards

The Noise Element of the City of Palmdale General Plan establishes Land Use - Noise Compatibility Guidelines, which identify the limits for acceptable noise levels for different land use categories. For multi-family residential development and churches, noise levels of 65 dB CNEL or less are considered “normally acceptable”. For single-family residential uses, noise levels of 60 dB CNEL or less are considered normally acceptable. For all the sensitive receptors in the project vicinity, including single-family residential uses, noise levels of 70 dB or less are considered “conditionally acceptable”, provided that a noise analysis is conducted and noise reduction features are implemented. For noise levels at all exterior living spaces, the City’s General Plan establishes a standard of 65 dB CNEL or less. For

interior noise levels, the General Plan establishes a standard of 45 dB CNEL or less.

PMC Section 17.84.050 establishes that "all existing or proposed uses shall conform to the Noise Element of the General Plan. All construction activity shall conform to PMC Chapter 8.28, Building Construction Hours of Operation and Noise Control." PMC Section 8.28.030 contains provisions that restrict construction "on any Sunday, or any other day after 8:00 p.m. or before 6:30 a.m., in any residential zone or within 500 feet of any residence, hotel, motel or recreational vehicle park."

Project Construction Noise

Although typically short-term, construction can be a substantial source of noise. Construction activities related to implementation of the proposed project would not take place all at once; however, future development accommodated by the proposed project would have the potential to temporarily generate construction noise resulting in short-term elevated noise levels at nearby noise sensitive land uses. Noise levels generated by construction equipment vary greatly depending on factors such as weather, the type, model, and condition of equipment, the amount of time that the equipment operates, and the activity performed. The dominant source of noise from most construction equipment is the engine, although in a few cases, noise generated by the process dominates. Table 8 shows the maximum noise levels for a variety of construction equipment at a distance of 50 feet. The reference sound levels shown in the table are representative of the noise levels that would occur during the most noise-intensive construction activities associated with development of the proposed project.

Table 8
Typical Construction Equipment Noise Emissions

Construction Phase	Noisiest Construction Equipment by Phase	L_{max} at 50 feet from Source (dB)	Acoustical Usage Factor (%)
Ground Clearing	Truck	80	40
	Scraper	84	40
Excavation	Truck	80	40
Foundation	Pneumatic Tools	89	20
	Concrete Mixer	79	40
Erection	Pneumatic Tools	81	16
	Concrete Mixer	89	20
	Truck	80	40

Source: AGI, 2020.

Average site construction noise levels would vary with the numbers and types of equipment operating onsite at once and the proximity of the equipment to noise-sensitive receptors. Based on the reference noise levels shown in the table above, exterior peak hour construction noise levels (L_{eq}) from the proposed project's center of the construction would be expected to be as high as 68.3, 60.4, 70.9, 70.9, and 60.4 dB at receivers R1, R2, R3, R4, and R5, respectively (refer to Table 6 for description of receptor labels). For a worst-case scenario in which construction activity is occurring closest to the nearest sensitive receptor, exterior L_{eq} levels would be expected to be as high as 82.3, 74.4, 84.8, 82.3, and 74.4, dBA at receivers R1, R2, R3, R4, and R5, respectively.

While the City of Palmdale does not specify an L_{eq} noise standard for short-term construction activities, consistent with PMC Section 8.28.030, construction activities would be prohibited from taking place between 8:00 PM and 6:30 AM, Monday through Saturday, and all day on Sunday. Furthermore, construction activities would generally be short-term, with equipment and vehicles operating within different areas of the site at different times of the day. As a result, construction-related noise experienced at the nearest receptor would be lower than the estimates stated above. Therefore, with compliance with the limits specified in the PMC, a less than significant impact would occur related to construction noise.

Project Operational Noise

An analysis of traffic noise, community noise sources, and stationary noise sources associated with operation of the proposed project is provided in the following sections.

Traffic Noise

The primary source of noise in the project vicinity is traffic noise from Avenue R and 30th Street East. Avenue R and 30th Street East are currently four-lane arterials with a posted speed limit of 50 miles per hour. As discussed in Section XXVII, Transportation, of this IS/MND, the proposed project would generate approximately 27 total vehicle trips during the AM peak hour and 33 trips during the PM peak hour. Given that a doubling of traffic is necessary for a minimally audible three dB increase in noise to occur, the maximum of 32 trips generated by the project during the peak hours would not result in a noticeable increase in traffic noise levels along local roadways. Thus, impacts related to project traffic noise increases at sensitive receptors located along roadways in the project vicinity would be less than significant.

Noise at Proposed Development

Impacts of the environment on a project (as opposed to impacts of a project on the environment) are beyond the scope of required CEQA review. "[T]he purpose of an EIR is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project." (*Ballona Wetlands Land Trust v. City of Los Angeles,* (2011) 201 Cal.App.4th 455, 473 (*Ballona*).) The California Supreme Court recently held that "CEQA does not generally require an agency to consider the effects of existing environmental conditions on a proposed project's future users or residents. What CEQA does mandate… is an analysis of how a project might exacerbate existing environmental hazards." (*California Building Industry Assn. v. Bay Area Air Quality Management Dist.* (2015) 62 Cal.4th 369, 392; see also *Mission Bay Alliance v. Office of Community Investment & Infrastructure* (2016) 6 Cal.App.5th 160, 197 ["identifying the effects on the project and its users of locating the project in a particular environmental setting is neither consistent with CEQA's legislative purpose nor required by the CEQA statutes"], quoting *Ballona*, *supra*, 201 Cal.App.4th at p. 474.)

Based on the above, for the purposes of the CEQA analysis, the relevant inquiry is not whether future residents, workers, and guests at the proposed project will be exposed to preexisting environmental noise-related hazards, but instead whether project-generated noise will exacerbate the pre-existing conditions. However, an evaluation of estimated noise levels at the exterior of the proposed buildings is provided herein for informational purposes and project conditioning.

As part of the Environmental Noise Study, traffic noise levels along Avenue R and 30th Street East were calculated for future peak hour conditions. Based on the results of the analysis, the future peak hour traffic noise at the project site would be as high as 71.2 dB at the nearest building elevation facing Avenue R. The 24-hour CNEL would be as high as ~~72.3~~ 72.2 dB at the same location, based on a worst-case ~~1.1~~ 1.0 dB calibration factor between future peak hour L_{eq} and 24-hour CNEL. However, per the Exterior-to-Interior Noise Study, the future CNEL at the project's outdoor courtyard, picnic, and patio areas would be 61.5, 53.9, and 58.3 dBA, respectively. With respect to aircraft noise, the project site is situated more than three miles south of Palmdale Regional Airport, substantially outside of the airport's 65 dB CNEL noise contour. Therefore, exterior noise levels at the proposed exterior recreational areas would be below the City of Palmdale's 65 dBA CNEL standard.

With regard to interior noise levels, modern construction typically provides a 25 dB exterior-to-interior noise level reduction with windows closed. Accordingly, sensitive receptors exposed to exterior noise levels of 70 dB CNEL, or less, would typically comply with the City's 45 dB CNEL interior noise level standard. Given that noise levels at the building exteriors would be 72.2 dB CNEL or less, interior noise levels could exceed the City's interior noise standard. Therefore, interior noise control measures would be required in order to reduce traffic noise exposure.

Community Noise Sources

During operations, the proposed project would generate noise associated with people talking at the proposed patio and plaza areas and cars exiting and entering the project site. The future peak hour noise level from such community activities would be as high as 12.7, 27.6, 27.6, 25.3, and 25.9 dBA at receptors R1 through R5, respectively. The operational noise from community activity would comply with the City of Palmdale Noise Standard of 65 dB at sensitive receptor property lines and would not increase the ambient noise levels by more than three dB. Thus, operational community noise would have a less than significant impact on the adjacent noise sensitive receptors.

Stationary Noise Sources

Future peak hour L_{eq} from the exterior mechanical condensers at the proposed buildings would be as high as 23.4, 35.3, 46.8, 40.7, and 32.4 dB at receptors R1 through R5, respectively. The operational noise from exterior mechanical units would comply with the City of Palmdale Noise Standard of 65 dBA at sensitive receptor property lines and would not increase the ambient noise levels by more than three dB. Thus, exterior mechanical condenser noise would have a less than significant impact on the adjacent noise sensitive receptors.

Conclusion

Based on the above, the proposed project would not exceed the City's applicable noise standards at existing noise-sensitive receptors in the project vicinity. However, noise levels at the proposed outdoor common areas and the exteriors of the proposed apartments closest to Avenue R could exceed the City's 65 dB exterior noise standard for multi-family residential uses. Thus, the proposed project could generate a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, and a significant impact could occur.

Mitigation Measures

Implementation of the following mitigation measures would reduce the above potential impact to a *less than significant* level.

NOI-1: *Prior to the issuance of a building permit, the project applicant shall ensure the following noise control recommendations provided in the site-specific Exterior-to-Interior Noise Study prepared for the proposed project by Acoustics Group, Inc. (July 13, 2021) have been incorporated into the project building plans to ensure compliance with City noise standards:*

1. *Sound-rated windows and glass door assemblies shall have a minimum Sound Transmission Class (STC) rating as specified in Figure 4 and Table 3 of the Exterior-to-Interior Noise Study (see Appendix I);*
2. *STC shall be calculated per ASTM E336 and related standards;*
3. *The manufacturer's sound transmission loss test data shall be reviewed to ensure compliance with the applicable noise standards and criteria;*
4. *Non-glass exterior doors shall be solid core assemblies;*
5. *All doors shall be fitted with drop-down door thresholds and air-tight seals to minimize sound transmission;*
6. *Exterior wall detail:*
    a. *Two layers of 5/8-inch gypsum board;*
    b. *2x studs with two, 2x top plates and one 2x bottom plate;*
    c. *R-13 fiberglass insulation, 3.5-inch thick, snugly fitted in the wall cavities between studs, plates, and cross bracing; and*
    d. *Portland cement or synthetic stucco system 7/8-inch thick or cement fiber/composite wood siding.*
7. *Roof detail:*
    a. *Minimum one layer of 5/8-inch thick tongue-in-groove plywood sheathing;*
    b. *Roof joist;*
    c. *One layer of 5/8-inch thick gypsum board; and*
    d. *R-38 fiberglass insulation, snuggly fitted in the roof cavities.*

8. *Exterior building openings shall not face the north or west directions, other than windows and doors;*
9. *Air conditioning which provides at least two exhaust changes per hour shall be required to maintain a habitable environment per the California Mechanical Code. The air conditioning system shall be a split system with fresh air intake ducted from rooftop vents facing away from the roadway;*
10. *Party walls separating non-common residential units shall meet or exceed the CBSC requirements of STC 50 for designated assemblies (CCR Title 24, Part 2);*
11. *Floor-ceiling assemblies separating non-common residential units shall meet or exceed the CBSC requirements of STC 50 and Impact Isolation Class (IIC) 50 for designated assemblies (CCR Title 24, Part 2); and*
12. *The final design of the project shall be reviewed by a qualified Acoustical Consultant to ensure compliance with all applicable noise standards.*

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Construction activities associated with development of the proposed project have the potential to generate short-term vibration in the project vicinity. Vibration from construction equipment spreads through the ground and diminishes in amplitude with distance from the source. Table 9 shows vibration levels for typical construction equipment in peak particle velocity (PPV) in inches per second (in/sec) and root mean squared (RMS) velocity level (VdB) at reference distances of 25, 50, 100, and 200 feet from the source.

Table 9
Vibration Velocities for Construction Equipment

Equipment	PPV Velocity, in/sec				RMS Velocity Level, VdB			
	25 feet	50 feet	100 feet	200 feet	25 feet	50 feet	100 feet	200 feet
Vibratory Roller	0.210	0.074	0.026	0.009	94	85	76	67
Large Bulldozer	0.089	0.031	0.011	0.004	87	78	69	60
Caisson Drilling	0.089	0.031	0.011	0.004	87	78	69	60
Loaded Trucks	0.076	0.027	0.010	0.003	86	77	68	58
Jackhammer	0.035	0.012	0.004	0.002	79	70	61	52
Small Bulldozer	0.003	0.001	0.000	0.000	58	48	39	30

Note: A crest factor of 4 (representing a PPV-RMS difference of 12 VdB) was used to calculate the approximate RMS vibration velocity levels from the PPV values

Source: AGI, 2020.

Based on the Federal Transit Administration (FTA) Guidelines Manual Transit Noise and Vibration Impact Assessment, a vibration impact would occur if construction activities generate vibration that is strong enough to physically damage buildings. The threshold for vibration-induced architectural damage is 0.2 PPV in/sec for typical wood-framed buildings. The threshold for human annoyance at residential receptors during the daytime is 78 VdB.

Table 10 shows the vibration levels PPV in/sec and RMS VdB from typical construction equipment at the nearest noise sensitive receptors. It should be noted that piledriving and rock blasting activities are not anticipated during project construction.

Table 10
Project Vibration Velocities at Sensitive Receptors

Equipment	PPV Velocity, in/sec					RMS Velocity Level, VdB				
	R1	R2	R3	R4	R5	R1	R2	R3	R4	R5
Hoe Ram	0.000	0.001	0.004	0.004	0.001	35	51	60	60	49
Large Bulldozer	0.000	0.001	0.004	0.004	0.001	35	51	60	60	49
Caisson Drilling	0.000	0.001	0.004	0.004	0.001	35	51	60	60	49
Loaded Trucks	0.000	0.001	0.003	0.003	0.001	34	50	58	58	48
Jackhammer	0.000	0.001	0.002	0.002	0.000	27	43	52	52	41
Small Bulldozer	0.000	0.000	0.000	0.000	0.000	6	22	30	30	20

Note: A crest factor of 4 (representing a PPV-RMS difference of 12 VdB) was used to calculate the approximate RMS vibration velocity levels from the PPV values

Source: AGI, 2020.

As shown in Table 10, because vibration dissipates quickly with distance, and because construction would mostly require the use of small earthmoving equipment that do not generate considerable amounts of vibration, the maximum construction-related vibration level would be well below the 0.20 PPV in/sec criteria for vibration induced architectural damage at the nearby structures. Construction vibration experienced at residential receptors would also be below the 78 VdB threshold for human annoyance during the daytime. Thus, a less than significant impact would occur related to generation of excessive groundborne vibration or groundborne noise levels.

Mitigation Measures

None required.

c) For a project located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The nearest airport to the project site is the Palmdale Regional Airport, located approximately three miles north of the site. The site is not covered by an airport land use plan.[29] As noted above, the project site is situated outside of the airport's 65 dB CNEL noise contour. Given that the project site is not located within two miles of a public airport or public use airport, the proposed project would not expose people residing or working in the project area to excessive noise levels associated with such. Thus, no impact would occur.

Mitigation Measures

None required.

[29] Los Angeles County Airport Land Use Commission. *Palmdale Airport/USAF Plant 42, Airport Influence Area.* May 13, 2003.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV	POPULATION AND HOUSING. Would the Project:				
a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☑	☐
b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Project Impacts and Mitigation Measures

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less Than Significant Impact. The proposed project would include the development of a 57-unit permanent supportive housing community and associated improvements, including a central services building providing a leasing office, intensive case management office rooms, a common laundry room, and a clubhouse. Per the City's General Plan, the project site has been anticipated for buildout with residential uses with a density of up to 10 units per acre, or approximately 55 units. Given that the project includes 100 percent affordable units, the proposed project is eligible for a Density Bonus Agreement consistent with PMC Section 17.25.110. The Density Bonus Agreement would allow for development of the site at an increased density beyond the maximum density permitted per the site's R-2 zoning designation. While the proposed project would include two additional multi-family units beyond what has been anticipated for the site per the City, such a minor increase would not result in substantial unplanned population growth. Furthermore, the project site is neighbored by existing development to the east, west, south, and northwest; thus, the proposed project would not require extension of major infrastructure.

Based on the above, the proposed project would not induce substantial unplanned population growth in an area, either directly or indirectly, and a less than significant impact would occur.

Mitigation Measures

None required.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The project site is currently vacant and does not include existing housing or other habitable structures. As such, the proposed project would not displace existing housing or people and would not necessitate the construction of replacement housing elsewhere. Therefore, no impact would occur.

Mitigation Measures

None required.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV	PUBLIC SERVICES. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
a)	Fire protection?	☐	☐	☑	☐
b)	Police protection?	☐	☐	☑	☐
c)	Schools?	☐	☐	☑	☐
d)	Parks?	☐	☐	☑	☐
e)	Other public facilities?	☐	☐	☑	☐

Project Impacts and Mitigation Measures

Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for:

a) Fire protection?
b) Police protection?

Less Than Significant Impact. Fire protection and emergency medical services are currently provided to the project area by the Los Angeles County Fire Department. The nearest fire station to the project site is Station #131, located approximately 1.3 miles south of the project site. Police protection services within the City are provided by the Los Angeles Sheriff's Department from the Palmdale Sheriff's station, located approximately 3.4 miles northwest of the project site.

Because the proposed project is consistent with the project site's current General Plan and zoning designations with approval of the Density Bonus Agreement, potential increases in demand for fire and police protection services associated with buildout of the site have been anticipated by the City and analyzed in the General Plan EIR. Furthermore, the project would comply with all applicable State and local requirements related to fire safety and security, including installation of fire sprinklers. Compliance with such standards would minimize fire and police protection demands associated with the project. Additionally, the project applicant would be subject to the City of Palmdale's Public Facility Development Impact Fee, as required by PMC Section 3.45.020 for new residential development projects.

Revenues generated through payment of the Public Facilities Development Impact Fee would be used to help meet the demand for expanded public facilities created by new development.

The CEQA Guidelines do not require identification of impacts associated with changes to staffing levels for public services; rather, determination of impacts is based on whether the project would result in substantial adverse physical impacts associated with construction of new or physically altered governmental facilities. Given that new or expanded fire protection facilities would not be required as a result of the proposed project, the proposed project would have a less than significant impact related to the need for new or physically altered fire or police protection facilities, the construction of which could cause significant environmental impacts.

Mitigation Measures

None required.

Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for:

c) Schools?
d) Parks?
e) Other public facilities?

Less Than Significant Impact. The proposed project would include construction of new residential uses on the project site. Thus, the project has the potential to house school-age residents, thereby increasing demand for school services, park facilities, and other public services. However, per PMC Chapter 5.48, the project would be subject to payment of impact fees to fund school facilities. Proposition 1A/SB 50 prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any "[…] legislative or adjudicative act…involving …the planning, use, or development of real property" (Government Code 65996(b)). Satisfaction of the Proposition 1A/SB 50 statutory requirements by a developer is deemed to be "full and complete mitigation." In addition, the project would be subject to payment of the City's parkland development fee and public facility development impact fee. Based on the above, and given that the proposed project is consistent with the project site's current General Plan land use

and zoning designations with approval of the Density Bonus Agreement, the proposed project would have a less than significant impact related to the need for new or physically altered schools, parks, or other public facilities, the construction of which could cause significant environmental impacts.

Mitigation Measures

None required.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI RECREATION				
a) Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☑	☐
b) Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☑	☐

Project Impacts and Mitigation Measures

a) Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b) Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less Than Significant Impact. The proposed project would include new residential development and, thus, would have the potential to increase demand for park facilities. Within the eastern portion of the site, the project would include a new passive greenspace area with a garden and seating area, for use by project residents. A landscaped art and watershed walk would be provided along the site's southern boundary. At the southwest corner of the site, adjacent to the Avenue R/30th Street East intersection, the project would include a new arts plaza. Thus, the project would provide on-site recreational facilities for project residents.

PMC Section 17.42.090(G)(2)(a) requires at least 30 percent of the project site to be retained as common open space for passive and active recreational uses. As part of the proposed project, a total of 39,272 sf (0.90 acres) of common open space would be provided on-site, representing 16.49 percent of the gross site acreage. Thus, the project applicant is requesting reduction of the 30 percent open space requirement as part of the Density Bonus Agreement.

In addition, pursuant to PMC Chapter 3.34, the project would be subject to payment of the City's parkland development fee, which is used to provide park and recreational facilities for the benefit of the City. Furthermore, given that the

proposed project is consistent with the site's current General Plan land use and zoning designations with approval of the Density Bonus Agreement, potential increases in demand for park facilities associated with buildout of the project site have been anticipated by the City and analyzed in the General Plan EIR.

Based on the above, the proposed project would provide for on-site recreational facilities and would contribute funding towards park facilities within the City. Thus, a less than significant impact would occur related to recreation.

Mitigation Measures

None required.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII	TRANSPORTATION. **Would the Project:**				
a)	Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☑	☐
b)	Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?	☐	☐	☑	☐
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curve or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☑	☐
d)	Result in inadequate emergency access?	☐	☐	☑	☐

Project Impacts and Mitigation Measures

a) Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact. A discussion of the potential for the proposed project to conflict with a program, plan, ordinance, or policy addressing the circulation system, including roadway, bicycle, pedestrian, and transit facilities, is provided below.

Construction

During construction, an increase in traffic along Avenue R and 30th Street East would occur due to trucks transporting materials to the project site and construction employees commuting to the site. However, construction of the proposed project would be relatively short-term compared to the lifetime of the proposed project, as construction is anticipated to occur over approximately 13 months. The total number of vehicle trips during construction would be relatively few, and local roadways have adequate capacity to support the small increase in traffic. Due to the small project size and temporary nature of construction, the minor increase in traffic would not cause a substantial impact to transportation infrastructure.

Operation – Roadway Facilities

Policy C1.4.2 of the City's General Plan requires that approvals of new development are correlated with any roadway improvements that would be necessary to maintain the existing level of service (LOS) or LOS C, whichever is less, and other performance characteristics applicable to the affected roadways. The City's LOS standards represent the minimum threshold for acceptable operations based on average vehicle delay at a given roadway facility. Ongoing improvements to the City's roadway system are partially funded through traffic impact fees levied on new residential development per PMC Section 3.40.020.

As discussed under response b below, as of July 2020, vehicle-delay based LOS calculations cannot be a metric used to evaluate a project's impacts to the environment and, instead, a vehicle miles traveled (VMT) metric or other appropriate metric determined by the lead agency shall be applied. Specifically, per Section 15064.3, analysis of VMT attributable to a project is the most appropriate evaluation metric for determining transportation impacts under CEQA. Furthermore, the proposed project would be subject to payment of the City's applicable traffic impact fees prior to final inspection or issuance of a certificate of occupancy for the for the first dwelling constructed as part of the proposed project, whichever occurs first. Thus, for the purpose of this IS/MND, the proposed project would not conflict with adopted programs, plans, ordinances, or policies addressing the City's roadway system.

For informational purposes, the total number of vehicle trips that would be generated by the proposed project have been estimated. Per the Institute of Traffic Engineers (ITE) Trip Generation Manual, the proposed project would be anticipated to result in the vehicle trip generation shown in Table 11 below. As shown in the table, the proposed project would generate approximately 376 average daily trips (ADT), with 27 trips occurring during the AM peak hour and 33 trips occurring during the PM peak hour.

It should be noted that because the proposed residential development would include 100 percent affordable units to house qualified low-income tenants, future residents are anticipated to use alternative forms of transportation, such as public transit and bicycle infrastructure, at higher rates as compared to market-rate housing. Therefore, the actual trip generation associated with the proposed project would likely be lower than the estimates shown in the table below.

Table 11
Operational Trip Generation Estimates

Land Use	ITE Code	Size	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Apartments	#221 – Low Rise Apartment	57	376	6	21	27	21	12	33

Note: ADT = Average Daily Trips.

Source: ITE Trip Generation Manual.

Pedestrian, Bicycle, and Transit Facilities

The following provides a discussion of the proposed project's potential impacts to pedestrian, bicycle, and transit facilities.

Pedestrian Impacts

Pedestrian facilities are comprised of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access the destinations such as institutions, businesses, public transportation, and recreation facilities. In the immediate project vicinity, the Avenue R/30th Street East intersection is signalized and includes pedestrian crossings for each intersection leg. Sidewalks are provided on the west side of 30th Street East in the project vicinity; on the east side of the roadway, sidewalks are limited to the portion of the roadway fronting Berean Fellowship. Sidewalks are also provided on both sides of Avenue R in the project vicinity, excluding the project frontage.

As part of the project, new sidewalks would be provided along the project frontage at Avenue R and 30th Street East, connecting to the existing sidewalks east and north of the site, respectively. Thus, adequate pedestrian facilities would be available for the proposed project, and the project would not conflict with any existing or planned pedestrian facilities in the project vicinity. A less than significant impact related to pedestrian facilities would occur.

Bicycle Impacts

Bicycle facilities include the following:

- Bike Paths (Class I) – Paved trails that are separated from roadways;
- Bike Lanes (Class II) – Lanes on roadways designated for use by bicycles through striping, pavement legends, and signs; and

- Bike Routes (Class III) – Designated roadways for bicycle use by signs or other markings may or may not include additional pavement width for cyclists.

Currently, designated bicycle facilities do not exist in the project vicinity. However, portions of 30th Street East include paved shoulders that permit bicycle traffic. The Circulation Element of the City of Palmdale General Plan does not identify any planned bicycle facilities along Avenue R or 30th Street East in the project vicinity. Consistent with PMC Section 17.42.090(G)(2)(w), bicycle racks with a total of 30 bicycle parking spaces would be provided on-site for use by project residents.

Thus, adequate bicycle facilities would be available to serve the proposed project; and the project would not conflict with any existing or planned bicycle facilities in the project vicinity. A less than significant impact related to bicycle facilities would occur.

Public Transit Impacts

Existing westbound bus stops are located along the north side of Avenue R, 0.13-mile west of the site and 0.10-mile east of the site (measured from the location of the proposed project access at Avenue R). An eastbound bus stop is located approximately 0.15-mile from the proposed project access, on the south side of Avenue R. The bus stops are served by the Antelope Valley Transit Authority (AVTA) through Route 2, which currently operates with 30-minute headways during weekdays and one-hour headways on Saturday and Sunday.[30] Thus, future residents and workers at the project site would have reasonably convenient access to public transit services, and the proposed project would not conflict with any existing or planned transit facilities. A less than significant impact would occur.

Conclusion

Based on the above, the proposed project would not conflict with an applicable plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, and a less than significant impact would occur.

[30] Antelope Valley Transit Authority. *Route 2 - East/West Palmdale via Avenue R Schedule.* Available at: https://www.avta.com/route-2-east-west-palmdale-via-avenue-R-schedule.php. Accessed August 2020.

Mitigation Measures

None required.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?

Less Than Significant Impact. Section 15064.3 of the CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts. Per Section 15064.3, analysis of VMT attributable to a project is the most appropriate measure of transportation impacts. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in Section 15064.3 (b)(2) regarding roadway capacity, a project's effect on automobile delay does not constitute a significant environmental impact under CEQA.

The screening criteria identified in Los Angeles County's Transportation Impact Analysis Guidelines consider types, characteristics, and/or locations of projects. The screening criteria are intended to identify when a project would be expected to result in a less than significant impact without requiring detailed quantification of VMT associated with the project. The screening criteria are based on project size, proximity to urban areas, transit availability, and provision of affordable housing. The Los Angeles County's recommendations include the following screening criteria:

- Los Angeles County recommends that non-retail projects that generate or attract fewer than 110 trips per day generally may be assumed to have a less than significant impact on VMT.
- Los Angeles County recommends that projects proposed within a 0.5-mile (2,640-foot) radius of an existing major transit stop or an existing stop along a high-quality transit corridor may be presumed to have a less than significant impact on VMT.
- Los Angeles County recommends that residential projects with 100 percent affordable units (excluding manager's units) may be presumed to have a less than significant impact on VMT.

A development project is only required to meet one of the above screening thresholds to result in a less than significant impact.

Excluding the manager's unit, 100 percent of the proposed units would be affordable. Thus, the proposed project would meet the Los Angeles County's third

screening criterion listed above. In addition, given that existing development is located to the east, west, south, and northwest of the project site, and considering that the proposed project would be consistent with the site's General Plan land use and zoning designations, the project would be considered infill development, as defined by SB 743 and the Governor's Office of Planning and Research (OPR). OPR's Technical Advisory on Evaluating Traffic Impacts in CEQA (December 2018) states that adding affordable housing to infill locations generally improves the jobs-housing balance, in turn shortening commutes and reducing VMT.

Furthermore, existing westbound bus stops are located along the north side of Avenue R, 0.13-mile west of the site and 0.10-mile east of the site (measured from the location of the proposed project access at Avenue R). An eastbound bus stop is located approximately 0.15-mile from the proposed project access, on the south side of Avenue R. The bus stops are served by the Antelope Valley Transit Authority (AVTA) through Route 2, which currently operates with 30-minute headways during weekdays and one-hour headways on Saturday and Sunday.[31]

The proposed project would also include construction of new sidewalks along the Avenue R and 30th Street East frontages and a network of pedestrian walkways throughout the proposed on-site buildings, thereby increasing pedestrian connectivity in the project vicinity and providing incentive for alternative modes of transportation. A total of 30 bicycle parking spaces would be provided on-site for project residents and workers, which would further encourage the use of alternative modes of transportation. The aforementioned improvements would help to further reduce VMT associated with the project.

Conclusion

Based on the above, the proposed project would meet the Los Angeles County screening criteria for identifying when a project would be expected to result in a less than significant impact without requiring detailed quantification of VMT. Therefore, according to the Los Angeles County screening criteria and CEQA Guidelines, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and a less than significant impact would occur.

Mitigation Measures

None required.

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[31] Antelope Valley Transit Authority. *Route 2 - East/West Palmdale via Avenue R Schedule.* Available at: https://www.avta.com/route-2-east-west-palmdale-via-avenue-R-schedule.php. Accessed August 2020.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curve or dangerous intersections) or incompatible uses (e.g. farm equipment)?

d) Would the project result in inadequate emergency access?

Less Than Significant Impact. Primary access to the project site would be provided by a new, full-access driveway along Avenue R along the southern site boundary. The driveway would connect to an internal drive aisle that would loop around the proposed buildings, connecting to a new cul-de-sac within the northeast portion of the site. The newly-paved cul-de-sac would be located within the existing public right-of-way associated with Avenue Q-15. A fire access gate would be provided between the cul-de-sac and the on-site drive aisle, thereby limiting access to emergency vehicles. New curb, gutters, and sidewalks would be provided along the site's frontages at Avenue R and 30th Street East, connecting to the existing sidewalks to the north and east of the site.

Aside from minor curb and gutter improvements along the project frontages at Avenue R and 30th Street East, as well as striping improvements at the project entrances, the project would not require substantial modifications to the existing roadway facilities in the project vicinity. The proposed internal parking lot and drive aisle would be designed to be consistent with all applicable City roadway engineering standards, and would not include sharp curves or create a dangerous intersection at the proposed connection to Avenue R. Furthermore, the proposed emergency vehicle access within the northeast portion of the site would ensure that two points of ingress and egress are available for emergency vehicles in the event of an emergency.

Based on the above, the project would not substantially increase hazards due to design features or incompatible uses, and emergency access to the site would be adequate. Therefore, the project would result in a less than significant impact.

Mitigation Measures

None required.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII	TRIBAL CULTURAL RESOURCES. 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)	Listed or eligible for listing 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), or	☐	☑	☐	☐
b)	A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) to Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☑	☐	☐

Project Impacts and Mitigation Measures

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) Listed or eligible for listing 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)?

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) to Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant Impact with Mitigation Incorporated. A search of the NAHC Sacred Lands File conducted as part of the Phase I Cultural Resources Survey did not yield any information regarding the presence of cultural resources within the project site or the immediate area. Furthermore, based on the results of the CHRIS record search and other archival research conducted as part of the Phase I Cultural Resources Survey, the project area is considered to have a low

level of sensitivity for archaeological resources, including Tribal Cultural Resources.

Based on lack of identified cultural resources at the site and the extensive disturbance that has occurred within the project vicinity, known Tribal Cultural Resources do not exist within the site. Nevertheless, the possibility exists that construction of the proposed project could result in a substantial adverse change in the significance of a Tribal Cultural Resource if previously unknown Tribal Cultural Resources are uncovered during grading or other ground-disturbing activities. Thus, a potentially significant impact to Tribal Cultural Resources could occur.

In compliance with AB 52 (Public Resources Code Section 21080.3.1), a project notification letter was distributed to local Native American tribes that requested notification of new development projects within the City. The City received responses from the SMBMI and the FTBMI who have provided mitigation measures in the event that archaeological and/or Native American tribal cultural resources, including human remains, are discovered at the project site.

Mitigation Measures
Implementation of the following mitigation measure would reduce the above potential impacts to a *less than significant* level.

TCR-1: *The SMBMI Cultural Resources Department and FTBMI shall be contacted, as detailed in CUL-1, of any pre-contact and/or post-contact cultural resources discovered during project implementation, and shall be provided information regarding the nature of the find so as to provide tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a Cultural Resources Monitoring and Treatment Plan shall be created by the archaeologist in coordination with SMBMI and FTBMI, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents SMBMI or FTBMI for the remainder of the project, should SMBMI or FTBMI elect to place a monitor on-site.*

TCR-2: *Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency for dissemination to SMBMI and FTBMI. The Lead Agency and/or applicant shall, in good faith, consult with SMBMI and FTBMI throughout the life of the project.*

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX	UTILITIES AND SERVICE SYSTEMS. Would the Project:				
a)	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?	☐	☐	☑	☐
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☑	☐
c)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☑	☐
d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☑	☐
e)	Comply with federal, state and local management and reduction statutes and regulations related to solid waste?	☐	☐	☑	☐

Project Impacts and Mitigation Measures

a) 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?

Less Than Significant Impact. Sewer utilities for the proposed development would be provided by the ~~City of Palmdale~~ Los Angeles County Sanitation Districts and water services for the proposed project would be provided by the Palmdale Water District. As part of the proposed project, new sewer and water connections would be extended to existing sewer and water conveyance infrastructure within the project vicinity. Stormwater runoff from new impervious surfaces created by the project would be captured by a series of drain inlets and routed, through new underground storm drain pipes, to a new bio-retention basin to be located in the northeast portion of the site. During large storm events, the bio-retention basin would allow excess runoff to flow into the adjacent on-site drainage channel.

Electricity, natural gas, and telecommunications utilities would be provided by way of connections to existing infrastructure located within the immediate project vicinity. Therefore, the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, or other utility infrastructure would not be required. In addition, per PMC Section 3.38.020, the proposed project would be subject to one-time payment of the City's drainage fees; such fees are used to construct drainage facilities within the City pursuant to the City's master drainage plan. In accordance with the California Health and Safety Code, the proposed project would also be subject to a connection fee assessed by the Sanitation Districts of Los Angeles County, with revenues generated by such fee used to upgrade or expand the sewerage system.

Furthermore, given that the proposed project is consistent with the site's General Plan land use and zoning designations with approval of the Density Bonus Agreement, standard utility improvements associated with development of the site have been anticipated by the City. Therefore, the project would result in a less than significant impact related to 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.

Mitigation Measures

None required.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less Than Significant Impact. Water supplies in the City of Palmdale are provided by the Palmdale Water District. Per the Palmdale Water District 2020 Urban Water Management Plan (UWMP), water supplies are anticipated to be adequate to meet projected demands during normal year conditions.[32] The Palmdale Water District anticipates that during single-dry year conditions, demands may exceed existing supplies starting in 2030 and that during multiple-dry year conditions, demands will exceed existing supplies starting in 2045. In order to accommodate the identified deficit, the Palmdale Water District is currently in the process of developing the Palmdale Regional Water Augmentation Project (PRWAP), which is anticipated to provide 5,325 acre-feet per year (AFY) for surface water augmentation or groundwater injection. In addition, the Palmdale

[32] Palmdale Water District. *2020 Urban Water Management Plan, Palmdale Water District*. May 14, 2021.

Water District has identified numerous short- and long-term transfer and exchange opportunities, as described in Section 4.3.3.2 of the UWMP, that would provide additional supplies to help overcome supply shortages. Therefore, existing supplies in combination with identified future and potential water supply opportunities will enable the Palmdale Water District to meet all future water demands under all hydrologic conditions through the end of the planning period.

Water demand associated with buildout of the project site with residential uses has been anticipated by the City and accounted for in regional planning efforts, including the 2020 UWMP. Per the City's General Plan, the project site has been anticipated for buildout with residential uses with a density of up to 10 units per acre, or approximately 55 units. Consistent with PMC Section 17.25.110, the proposed project would include a Density Bonus Agreement to allow for development of 57 units on the 5.47-acre project site. Although City approval of the project's Density Bonus Agreement would allow a higher density from the site's current General Plan land use and zoning designations, the project's additional two units would not substantially increase demand for water supply from what has been anticipated for the site such that the City could not meet the project's demand. In addition, the project would comply with PMC Chapter 14.05, which contains the City's Water Efficient Landscape Ordinance, as well as all applicable design criteria set forth in the Palmdale Water District's 2016 Water System Master Plan. Therefore, the Palmdale Water District would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years, and a less than significant impact would occur.

Mitigation Measures

None required.

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less Than Significant Impact. Within the City of Palmdale, sewer service is provided by the Sanitation Districts of Los Angeles County. Wastewater is treated at the WRP, which has a design capacity of 12 million gallons per day (mgd) and serves a population of approximately 150,000 people.[33]

[33] Sanitation Districts of Los Angeles County. *Palmdale Reclamation Plant*. Available at: https://www.lacsd.org/services/wastewatersewage/facilities_information/wwtreatmentplant/palmdalewrp.asp. Accessed August 2020.

The project site has been anticipated for buildout with residential uses per the City's General Plan. Thus, increased demand for wastewater collection and treatment facilities associated with buildout of the site have been anticipated by the City. In addition, as previously discussed, in accordance with the California Health and Safety Code, the proposed project would also be subject to a connection fee assessed by the Sanitation Districts of Los Angeles County, with revenues generated by such fee used to upgrade or expand the sewerage system. Thus, the Sanitation Districts of Los Angeles County would have adequate capacity to serve the wastewater demand projected for the proposed project in addition to the Districts' existing commitments, and a less than significant impact would occur.

Mitigation Measures

None required.

d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e) Would the project comply with federal, state and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. Solid waste, recyclable materials, and organics collection within the City of Palmdale is provided through a franchise agreement with Waste Management. Solid waste from the City is ultimately disposed of at the Antelope Valley Recycling and Disposal Facility, located at 1200 W. City Ranch Road. As of 2017, the landfill had approximately 17,911,225 cubic yards (CY) of remaining capacity, or 59.3 percent of the total permitted capacity of the landfill (30,200,000 CY).[34]

[34] Department of Resources Recycling and Recovery. *SWIS Facility/Site Activity Details, Antelope Valley Public Landfill (19-AA-5624).* Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/3458?siteID=1364. Accessed August 2020.

Construction and operation of the proposed project would result in the generation of solid waste. Per the City's General Plan, the project site has been anticipated for buildout with residential uses. Thus, solid waste generation associated with buildout of the site has been anticipated by the City and accounted for in regional planning efforts. Furthermore, substantial remaining capacity is available at the Antelope Valley Recycling and Disposal Facility to accommodate the proposed project. Therefore, the proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals and would comply with federal, State, and local management and reduction statutes and regulations related to solid waste. Thus, a less than significant impact related to solid waste would occur as a result of the proposed project.

Mitigation Measures

None required.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XX	WILDFIRE - 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?	☐	☐	☑	☐

Project Impacts and Mitigation Measures

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?
b) Would the project, 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) Would the project 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) Would the project 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?

Less Than Significant Impact. According to the California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program, the

project site is not located within or near a Very High Fire Hazard Severity Zone.[35] In addition, the project site is located within an urbanized area of the City of Palmdale and is neighbored by existing development to the east, west, south, and northwest. The developed nature of the area surrounding the project site precludes the spread of wildfire to the site. Furthermore, while not located in an area of high wildfire risk, the proposed residential development would include fire sprinklers, as required by State law and would be designed in a manner that allows sufficient access for the Los Angeles County Fire Department, if needed. Therefore, the proposed project would not be expected to be subject to or result in substantial adverse effects related to wildfires, and a less than significant impact would occur.

Mitigation Measures

None required.

[35] California Department of Forestry and Fire Protection. *Palmdale, Very High Fire Hazard Severity Zones in LRA, As Recommended by CAL FIRE.* September 2011.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI	MANDATORY FINDINGS OF SIGNIFICANCE				
a)	Does 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)	Does 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)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☑	☐	☐

Discussion

The following are Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

a) Does 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?

Less Than Significant Impact with Mitigation Incorporated. As discussed in Section IV, Biological Resources, of this IS/MND, while the potential exists for nesting birds and raptors protected by the MBTA to occur on-site, Mitigation Measure BIO-1 would ensure that impacts to such species would be less than significant. The project site is undeveloped and does not contain any known historic or prehistoric resources. Thus, implementation of the proposed project is not anticipated to have the potential to result in impacts related to historic or

prehistoric resources. Nevertheless, Mitigation Measures CUL-1 through CUL-3 would ensure that in the event that historic or prehistoric resources are discovered within the project site during construction activities, such resources are protected in compliance with the requirements of CEQA.

Considering the above, the proposed project would not: 1) degrade the quality of the environment; 2) substantially reduce or impact the habitat of fish or wildlife species; 3) cause fish or wildlife populations to drop below self-sustaining levels; 4) threaten to eliminate a plant or animal community; 5) reduce the number or restrict the range of a rare or endangered plant or animal; or 6) eliminate important examples of the major periods of California history or prehistory. Therefore, a less than significant impact would occur.

Mitigation Measures

None required.

b) Does 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)?

Less Than Significant Impact. The proposed project in conjunction with other development within the City of Palmdale could incrementally contribute to cumulative impacts in the area. However, as demonstrated in this IS/MND, all potential environmental impacts that could occur as a result of project implementation would be reduced to a less than significant level through compliance with the mitigation measures included in this IS/MND, as well as applicable General Plan policies, Municipal Code standards, and other applicable local and State regulations. In addition, approval of the proposed Density Bonus Agreement would ensure the proposed project is consistent with the land use and zoning designations. Accordingly, buildout of the site with residential uses was generally considered in the cumulative analysis of buildout of the General Plan within the General Plan EIR.

As noted in Section 21083.3 of the CEQA Guidelines, where a project is consistent with zoning and general plan designations for the site, and an EIR has been certified with respect to that general plan, the analysis of potential environmental impacts resulting from the individual project should focus on those effects that are peculiar to the proposed project. As demonstrated throughout this IS/MND, the

proposed project would not result in any significant environmental impacts peculiar to the project, and, thus, the proposed project would not contribute any new or additional impacts not previously analyzed in the General Plan EIR. Therefore, when viewed in conjunction with other closely related past, present, or reasonably foreseeable future projects, development of the proposed project would not result in a cumulatively considerable contribution to cumulative impacts in the City of Palmdale, and the project's incremental contribution to cumulative impacts would be less than significant.

Mitigation Measures

None required.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact with Mitigation Incorporated. As described in this IS/MND, the proposed project would comply with all applicable General Plan policies, Municipal Code standards, other applicable local and State regulations, and mitigation measures included herein. In addition, as discussed in the Air Quality, Geology and Soils, Hazards and Hazardous Materials, Greenhouse Gas Emissions, and Noise sections of this IS/MND, the proposed project would not cause substantial effects to human beings, which cannot be mitigated to less than significant levels, including effects related to exposure to air pollutants, geologic hazards, GHG emissions, hazardous materials, and excessive noise. Therefore, the proposed project's impact would be less than significant.

Mitigation Measures

None required.

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6. PUBLIC COMMENTS

The primary objective and purpose of the Initial Study/Mitigated Negative Declaration public review process is to obtain comments on the adequacy of the analysis of environmental impacts, the mitigation measures presented, and other analyses contained in the Initial Study prepared by the City of Palmdale (City). The California Environmental Quality Act (CEQA) requires that the City decision makers consider the comments received during the public review of the Initial Study/Mitigated Negative Declaration prior to carrying out or approving the project (*CEQA Guidelines* Section 15074[b]). All comments are included in this section so that the decision makers may know the opinions of the commenter.

The Initial Study/Mitigated Negative Declaration was circulated to the public and public agencies for a 30-day public review from July 1, 2021, through July 31, 2021. The comments received regarding the Initial Study/Mitigated Negative Declaration are included in this document as Appendix J. Four comment letters have been received as follows:

- Palmdale Water District – July 14, 2021
- California Department of Transportation – July 13, 2021
- Los Angeles County Fire Department – July 27, 2021
- Los Angeles County Sanitation District – July 30, 2021

None of the comments constitute “significant new information” (*CEQA Guidelines* Section 15073.5) that would require recirculation of the Mitigated Negative Declaration or the necessity to prepare an Environmental Impact Report.

APPENDIX A

AIR QUALITY AND GREENHOUSE GAS ANALYSIS MEMO

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: August 14, 2019

TO: Mohannad H. Mohanna, President

FROM: Amy Fischer, Principal
Cara Carlucci, Planner

SUBJECT: Air Quality and Greenhouse Gas Analysis – Avenue R Apartments Project

INTRODUCTION

This Air Quality and Greenhouse Gas Analysis Memorandum for the proposed Avenue R Apartments Project (project) in the City of Palmdale (City) has been prepared using methods and assumptions recommended in the Antelope Valley Air Quality Management District's (AVAQMD) California Environmental Quality Act (CEQA) and Federal Conformity Guidelines.[1] This analysis includes an assessment of criteria pollutant emissions greenhouse gas (GHG) emissions.

PROJECT DESCRIPTION

The currently vacant project site is located at the northeast corner of East Avenue R and 30th Street East in the City of Palmdale. The project site is bound to the north by a church and vacant land, to the east by single-family residential uses, to the south by East Avenue R, and to the west by 30th Street East. The proposed project would construct 56 studio apartment units and a two-bedroom manager's apartment unit and would include a resident clubhouse, parking, landscaping, and improvements such as driveways, sidewalks, street lights, and utilities.

ENVIRONMENTAL SETTING

Air Quality Background

Both State and federal governments have established health-based Ambient Air Quality Standards (AAQS) for six criteria air pollutants:[2] carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and suspended particulate matter (PM). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These

[1] Antelope Valley Air Quality Management District (AVAQMD). 2016. *CEQA and Federal Conformity Guidelines*. August.

[2] Criteria pollutants are defined as those pollutants for which the Federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Two criteria pollutants, O_3 and NO_2, are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as CO, SO_2, and Pb are considered local pollutants that tend to accumulate in the air locally.

The primary pollutants of concern in the project area are O_3, CO, PM, NO_2, SO_2, and lead. Significance thresholds established by an air quality district are used to manage total regional and local emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual development projects that would contribute to regional and local emissions and could adversely affect or delay the Mojave Desert Air Basin's projected attainment target goals for nonattainment criteria pollutants.

Because of the conservative nature of the significance thresholds, and the basin-wide context of individual development project emissions, there is no direct correlation between a single project and localized air quality-related health effects. One individual project that generates emissions exceeding a threshold does not necessarily result in adverse health effects for residents in the project vicinity. This condition is especially true when the criteria pollutants exceeding thresholds are those with regional effects, such as ozone precursors like nitrogen oxides (NO_X) and volatile organic compounds (VOC).

Occupants of facilities such as schools, day care centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to air pollutants because these population groups have increased susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas, because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise.

Existing Climate and Air Quality

The following provides a discussion of the local and regional air quality and climate in the Palmdale area.

Regional and Local Air Quality

The City of Palmdale is within the jurisdiction of the AVAQMD, which regulates air quality in the northern, desert portion of Los Angeles County. This region includes the incorporated cities of Lancaster and Palmdale, Air Force Plant 42, and the southern portion of Edwards Air Force Base. The Kern County-Los Angeles County boundary forms the northern boundary of the AVAQMD; the San Bernardino-Los Angeles County boundary forms the eastern boundary of the AVAQMD.

Air quality monitoring stations are located throughout the nation and maintained by the local air districts and State air quality regulating agencies. Data collected at permanent monitoring stations

are used by the USEPA to identify regions as "attainment" or "nonattainment" depending on whether the regions meet the requirements stated in the applicable National Air Quality Standards (NAAQS). Nonattainment areas are imposed with additional restrictions as required by the USEPA. In addition, different classifications of attainment, such as marginal, moderate, serious, severe, and extreme, are used to classify each air basin in the State on a pollutant-by-pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and comply with the NAAQS. The AVAQMD attainment statuses for each of the criteria pollutants are listed in Table 1.

As shown in Table 1, under the federal criteria, the AVAQMD is currently designated as nonattainment for 8-hour O_3. The AVAQMD is an attainment/unclassified area under the NAAQS for CO, NO_2, SO_2, and lead. The AVAQMD is unclassified for the PM_{10} and $PM_{2.5}$ NAAQS.

Under the state criteria, the AVAQMD is currently designated as nonattainment for O_3 (classified as extreme nonattainment) and PM_{10}. The AVAQMD is an attainment/unclassified area for state $PM_{2.5}$, CO, NO_2, SO_2, and lead standards. The AVAQMD is an unclassified area for the state hydrogen sulfide standard, visibility-reducing particle standard, and particulate sulfate standard.

Table 1: AVAQMD Air Quality Attainment Status

Pollutant	State	Federal
Ozone (1-hour)	No Federal Standard	Nonattainment (Extreme)
Ozone (8-hour)	Nonattainment (Severe)	Nonattainment (Extreme)
PM_{10}	Attainment/Unclassified	Nonattainment
$PM_{2.5}$	Attainment/Unclassified	Unclassified
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment/Unclassified	Attainment/Unclassified
Lead	Attainment/Unclassified	Attainment/Unclassified
Sulfur Dioxide	Attainment	Attainment

Source: Antelope Valley Air Quality Management District, 2016

Local Climate and Air Quality

Air quality is a function of both local climate and local sources of air pollution. Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses of the environment. Two meteorological factors affect air quality in Palmdale: wind and temperature. Winds affect the direction of transport of any air pollution emissions and wind also controls the volume of air into which pollution is mixed in a given period of time. While winds govern horizontal mixing processes, temperature inversions determine the vertical mixing depth of air pollutants.

The AVAQMD is located within the Mojave Desert Air Basin (MDAB). The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains which dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra

Nevada mountains to the north; air masses pushed onshore in southern California by differential heating are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevadas in the north by the Tehachapi Pass (3,800 feet elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 feet).[3]

During the summer, the MDAB is generally influenced by a Pacific Subtropical High cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB averages between 3 and 7 inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least 3 months have maximum average temperatures over 100.4° F.[4]

Greenhouse Gas and Global Climate Change Background

Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. The Earth's average near-surface atmospheric temperature rose 0.6 ± 0.2° Celsius (°C) or 1.1 ± 0.4° Fahrenheit (°F) in the 20th century. The prevailing scientific opinion on climate change is that most of the warming observed over the last 50 years is attributable to human activities. The increased amounts of carbon dioxide and other GHGs are the primary causes of the human-induced component of warming. GHGs are released by the burning of fossil fuels, land clearing, agriculture, and other activities that lead to an increase in the greenhouse effect.[5]

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)

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3 AVAQMD. 2016. op. cit.

4 Ibid.

5 The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse allows heat from sunlight in and reduces the heat escaping, greenhouse gases like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of greenhouse gas results in global warming, the naturally occurring greenhouse effect is necessary to keep our planet at a comfortable temperature.

- Perfluorocarbons (PFCs)
- Sulfur Hexafluoride (SF_6)

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally occurring GHGs such as CO_2, CH_4, and N_2O, some gases, like HFCs, PFCs, and SF_6, are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this air quality analysis, the term "GHGs" will refer collectively to the six gases listed above only.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e).

REGULATORY FRAMEWORK

Air quality and GHG standards and the regulatory framework are discussed below.

Federal Regulations

At the federal level, the USEPA has been charged with implementing national air quality programs. USEPA air quality mandates are drawn primarily from the Federal Clean Air Act (FCAA), which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the USEPA has the authority to regulate CO_2 emissions under the federal Clean Air Act. While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the USEPA commenced several actions in 2009 to implement a regulatory approach to global climate change. This includes the 2009 USEPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the USEPA Administrator signed an endangerment finding action in 2009 under the Clean Air Act, finding that six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change, leading to national GHG emission standards.

California Air Resources Board

The CARB is the State's "clean air agency." The CARB's goals are to attain and maintain healthy air quality, protect the public from exposure to toxic air contaminants, and oversee compliance with air pollution rules and regulations. CARB is also the lead agency for implementing climate change regulations in the State. Since its formation, the CARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems. Key efforts by the State are described below.

The California Air Resources Board Handbook. The CARB has developed an Air Quality and Land Use Handbook[6] which is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. According to the CARB Handbook, recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. The CARB Handbook recommends that county and city planning agencies strongly consider proximity to these sources when finding new locations for "sensitive" land uses such as homes, medical facilities, daycare centers, schools, and playgrounds.

Land use designations with air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the CARB Handbook include taking steps to avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day;
- Within 1,000 feet of a major service and maintenance rail yard;
- Immediately downwind of ports (in the most heavily impacted zones) and petroleum refineries;
- Within 300 feet of any dry cleaning operation (for operations with two or more machines, provide 500 feet); and
- Within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater).

The CARB Handbook specifically states that its recommendations are advisory and acknowledges land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

6 CARB. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April.

The recommendations are generalized and do not consider site-specific meteorology, freeway truck percentages, or other factors that influence risk for a particular project site. The purpose of this guidance is to further examine project sites for actual health risk associated with the location of new sensitive land uses.

Assembly Bill 32 (2006), California Global Warming Solutions Act. California's major initiative for reducing GHG emissions is AB 32, passed by the State legislature on August 31, 2006. This effort aims at reducing GHG emissions to 1990 levels by 2020. The CARB has established the level of GHG emissions in 1990 at 427 million metric tons (MMT) CO_2e. The emissions target of 427 MMT requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The Scoping Plan was approved by the CARB on December 11, 2008, and contains the main strategies California will implement to achieve the reduction of approximately 169 MMT of CO_2e, or approximately 30 percent, from the State's projected 2020 emission level of 596 MMT of CO_2e under a business-as-usual scenario (this is a reduction of 42 MMT CO_2e, or almost 10 percent from 2002-2004 average emissions). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO_2e);
- The Low-Carbon Fuel Standard (15.0 MMT CO_2e);
- Energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e); and
- A renewable portfolio standard for electricity production (21.3 MMT CO_2e).

The Scoping Plan identifies 18 emission reduction measures that address cap-and-trade programs, vehicle gas standards, energy efficiency, low carbon fuel standards, renewable energy, regional transportation-related GHG targets, vehicle efficiency measures, goods movement, solar roof programs, industrial emissions, high speed rail, green building strategies, recycling, sustainable forests, water, and air. The measures would result in a total reduction of 174 MMT CO_2e by 2020.

On August 24, 2011, the CARB unanimously approved both the new supplemental assessment and reapproved its Scoping Plan, which provides the overall roadmap and rule measures to carry out AB 32. The CARB also approved a more robust CEQA equivalent document supporting the supplemental analysis of the cap-and-trade program. The cap-and-trade took effect on January 1, 2012, with an enforceable compliance obligation that began January 1, 2013.

The CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB climate change priorities until 2020, and also sets the groundwork to reach long-term goals set forth in Executive Orders S-3-05 and B-16-2012. The Update highlights California's progress

toward meeting the "near-term" 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[7] to reflect the 2030 target set by Executive Order B-30-15 and codified by Senate Bill (SB) 32.

Senate Bill 375 (2008). Signed into law on October 1, 2008, SB 375 supplements GHG reductions from new vehicle technology and fuel standards with reductions from more efficient land use patterns and improved transportation. Under the law, the CARB approved GHG reduction targets in February 2011 for California's 18 federally designated regional planning bodies, known as Metropolitan Planning Organizations (MPOs). The CARB may update the targets every 4 years and must update them every 8 years. MPOs in turn must demonstrate how their plans, policies and transportation investments meet the targets set by the CARB through Sustainable Community Strategies (SCS). The SCS are included with the Regional Transportation Plan (RTP), a report required by State law. However, if an MPO finds that their SCS will not meet the GHG reduction target, they may prepare an Alternative Planning Strategy (APS). The APS identifies the impediments to achieving the targets.

Executive Order B-30-15 (2015). Governor Jerry Brown signed Executive Order B-30-15 on April 29, 2015, which added the immediate target of:

- GHG emissions should be reduced to 40 percent below 1990 levels by 2030.

All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target, and therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

Senate Bill 350 (2015) Clean Energy and Pollution Reduction Act. Senate Bill 350 (SB 350), signed by Governor Jerry Brown on October 7, 2015, updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030:

- Raise California's renewable portfolio standard from 33 percent to 50 percent; and

- Increasing energy efficiency in buildings by 50 percent by the year 2030.

The 50 percent renewable energy standard will be implemented by the California Public Utilities Commission for the private utilities and by the California Energy Commission for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other non-renewable resources. The 50 percent increase in energy efficiency in buildings must be achieved through the use of existing energy efficiency retrofit funding and regulatory tools already

[7] California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan*. November.

available to State energy agencies under existing law. The addition made by this legislation requires State energy agencies to plan for, and implement those programs in a manner that achieves the energy efficiency target.

Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197. In summer 2016 the Legislature passed, and the Governor signed, SB 32 and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Governor Brown's April 2015 Executive Order B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an Intergovernmental Panel on Climate Change (IPCC) analysis of the emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million CO_2e and reduce the likelihood of catastrophic impacts from climate change.

The companion bill to SB 32, AB 197, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

Senate Bill 100. On September 10, 2018, Governor Brown signed SB 100, which raises California's renewable portfolio standard requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18. Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant State agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other Statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Antelope Valley Air Quality Management District

CEQA and Federal Conformity Guidelines

Under CEQA, the AVAQMD is a commenting agency on air quality and GHG emissions within its jurisdiction. The CEQA and Federal Conformity Guidelines are intended to assist persons in preparing environmental analysis or reviewing documents for any project within the jurisdiction of the AVAQMD by providing background information and guidance on the preferred analysis approach. The guidelines include annual and daily GHG emission thresholds of significance for project-generated GHGs and criteria pollutants within the jurisdiction of the AVAQMD.

Antelope Valley Air Quality Management District Rule 403—Fugitive Dust

The provisions of this rule include actions to prevent, reduce, or mitigate fugitive dust particulate matter entrained in the ambient air as a result of built sources. The rule limits actions that would result in a source of dust that causes 20 percent opacity or greater during an observation of three minutes or more in any 1 hour. It also limits PM_{10} concentrations to under 50 micrograms per cubic meter ($\mu g/m^3$).

City of Palmdale

General Plan

The City of Palmdale General Plan Environmental Resources Element[8] includes goals, objectives, and policies that work to promote the attainment of State and federal air quality standards, minimize local air pollution caused by vehicles, minimize activities which generate dust, reduce and/or eliminate unnecessary sources of air pollution, minimize emissions of air toxins and pollutants which contribute to global warming and ozone depletion, reduce air pollution caused by energy consumption, and minimize emissions from indirect sources such as commercial, residential, and recreational development. The following policies are applicable to the proposed project.

- **Policy ER5.2.1:** Reduce dust from unpaved roads and parking lots by requiring paving or vegetative stabilization of the unpaved areas; require that measures be taken at construction sites to prevent deposition of soil onto public rights-of-way.

- **Policy ER5.2.2:** Encourage developers to maintain natural contours to the greatest degree possible, to eliminate the need for extensive land clearing, blasting, ground excavation, grading and cut and fill operations.

- **Policy ER5.2.3:** Require erosion control measures on new development, including covering soil with straw mats or use of chemical soil and dust binders, followed by seeding and watering as soon as possible after grading to prevent fugitive dust.

- **Policy ER5.3.1:** Promote the AVAQMD's efforts to eliminate emissions from such sources as excessive car dealership cold starts, excessive curb idling, emissions from advertising vehicles, and emissions from leaf blowers, among others, through assisting with implementation and enforcement of district programs once they are adopted.

- **Policy ER5.3.3:** Reduce reactive organic gas (ROG) and particulate emissions from building materials and construction methods, by promoting the use of nonsolvent-based, high-solid, or water-based coatings, and requiring compliance with all pertinent AVAQMD rules.

- **Policy ER5.4.2:** Through the environmental review process for new development applications, ensure that emissions of air toxins as defined by the AVAQMD are minimized.

[8] Palmdale, City of. 1993. *Palmdale General Plan*. January 25.

- **Policy ER5.5.1:** Encourage energy conservation from all sectors of the community by promoting the use of energy efficient appliances, processes and equipment, and promoting energy audits of existing structures.

- **Policy ER5.5.2:** Require local government, Palmdale citizens, and local businesses and industries to recycle, as mandated by state law, and to otherwise recycle to the extent possible.

- **Policy ER5.6.1:** Ensure that new development reduces project-related vehicle miles traveled to the maximum extent provided by law.

- **Policy ER5.6.3:** Reduce the number of people commuting to the Los Angeles metropolitan area by promoting actions to increase the area's jobs/housing balance.

Energy Action Plan

The City of Palmdale Energy Action Plan[9] was developed to achieve energy independence, energy efficiency and conservation, and land uses that reduce transportation time and costs, to encourage jobs-creation, and to identify strategies to increase investment in the local economy. The primary purpose of the Energy Action Plan is to identify how the City will use energy efficiency and independence strategies to achieve its GHG emission reduction target of 15 percent by the year 2020 consistent with the State's overall target to reduce GHG emissions statewide to 1990 levels by 2020. The Energy Action Plan provides goals and measures focused on energy use, water use, transportation, land use, and solid waste to reduce GHG emissions wherever possible while enhancing the local economy and reducing reliance on inefficient energy imports.

METHODOLOGY

Construction Emissions

Construction activities can generate a substantial amount of air pollution. Construction activities are considered temporary; however, short-term impacts can contribute to exceedances of air quality standards. Construction activities include site preparation, earthmoving, and general construction. The emissions generated from these common construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel and gasoline powered equipment, portable auxiliary equipment, and worker commute trips. The California Emission Estimator Model version 2016.3.2 (CalEEMod) computer program was used to calculate emissions from on-site construction equipment and emissions from worker and vehicle trips to the site.

Operational Emissions

The air quality analysis includes estimating emissions associated with long-term operation of the project. Indirect emissions of criteria pollutants with regional impacts would be emitted by project-generated vehicle trips. Consistent with the AVAQMD guidance for estimating emissions associated with land use development projects, the CalEEMod computer program was used to calculate the long-term operational emissions associated with the project.

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[9] Palmdale, City of. 2011. *City of Palmdale Energy Action Plan*. August 3.

Greenhouse Gas Emissions

There are two aspects of the proposed project that would result in the emissions of GHGs: construction and operation. During construction of the project, GHG emissions would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. During operations, there would be many sources of GHG emissions, including area sources (i.e. landscaping), energy consumption, on-road transportation, solid waste, and water use. CalEEMod was used to estimate the project's GHG emissions.

THRESHOLDS OF SIGNIFICANCE

The *State CEQA Guidelines* indicate that a project would normally have a significant adverse air quality impact if project-generated pollutant emissions would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The CEQA and Federal Conformity Guidelines contains the emissions thresholds used to evaluate the significance of a project's emissions with regard to air quality standards. If a project's emissions are below the significance thresholds listed in Table 2, the impact would be considered less than significant and would not result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or State ambient air quality standard or conflict with an air quality plan.

Table 2: AVAQMD Construction and Operational Thresholds of Significance

Pollutant	Annual Threshold (tons per year)	Daily Threshold (pounds per day)
CO	100	548
NO_x	25	137
VOC	25	137
SO_x	25	137
PM_{10}	15	82
$PM_{2.5}$	100	548

Source: AVAQMD, 2016.

The *State CEQA Guidelines* indicate that a project would normally have a significant adverse green-house gas emission impact if the project would:

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

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reduction the emissions of greenhouse gases.

Section 15064.4 of the CEQA Guidelines states that: "A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." In performing that analysis, the lead agency has discretion to determine whether to use a model or methodology to quantify greenhouse gas emissions, or to rely on a qualitative analysis or performance-based standards. In making a determination as to the significance of potential impacts, the lead agency then considers the extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting, whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project, and the extent to which the project complies with regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

The CEQA and Federal Conformity Guidelines include annual and daily GHG emission thresholds of significance for project-generated GHGs within the jurisdiction of the AVAQMD. The significant emissions thresholds for GHGs are 100,000 tons per year and 548,000 pounds per day of CO_2e emissions.

IMPACTS AND MITIGATION MEASURES

The proposed project would release emissions over the short term as a result of construction activities, and over the long term from traffic generation and operation of the project. Emissions would include criteria air pollutants and GHG emissions. The sections below describe the proposed project's consistency with applicable air quality plans, estimated project emissions, and the significance of impacts with respect to AVAQMD thresholds.

Air Quality Impacts

Consistency with Applicable Air Quality Plans

An air quality plan describes air pollution control strategies to be implemented by a city, county, or region classified as a non-attainment area. The main purpose of the air quality plan is to bring the area into compliance with the requirements of the federal and State air quality standards. To bring the AVAQMD into attainment, the AVAQMD has developed the 2007 Western Mojave Desert Ozone Attainment Plan[10] and 2004 Antelope Valley Ozone Attainment Plan[11].

The Western Mojave Desert nonattainment area, which includes the AVAQMD, was designated nonattainment for the NAAQS for O_3 by the USEPA on April 15, 2004. The USEPA designated the Western Mojave Desert area as a nonattainment area for the 8-hour O_3 NAAQS. The AVAQMD is

[10] AVAQMD. 2004. 2004 Ozone Attainment Plan. April 20.
[11] AVAQMD. 2008. *Western Mojave Desert Ozone Attainment Plan.* May 20.

included in the Western Mojave Desert nonattainment area and has adopted State and federal attainment plans for the region within its jurisdiction. The 2007 Western Mojave Desert Ozone Attainment Plan includes the latest planning assumptions regarding population, vehicle activity, and industrial activity and addresses all existing and forecasted O_3 precursor-producing activities within the Antelope Valley through the year 2020. The document includes updates to the necessary information to allow General and Transportation Conformity findings to be made within the Antelope Valley.

The 2004 Antelope Valley Ozone Attainment Plan includes the AVAQMD's review and update of all elements of the Air Quality Management Plan that had been previously prepared by the South Coast Air Quality Management District when that district had jurisdiction over the Antelope Valley. The plan indicates that the Antelope Valley will also show significant progress toward attainment of the CAAQS for the O_3 standard. The document also includes the latest planning assumptions regarding population, vehicle activity, and industrial activity, and addresses all existing and forecasted O_3 precursor-producing activities within the Antelope Valley through the year 2007. The plan includes all necessary information to allow General and Transportation Conformity findings to be made within the Antelope Valley.

CEQA requires that certain proposed projects be analyzed for consistency with the applicable air quality plan. For a project to be consistent with AVAQMD air quality plans, the pollutants emitted from a project should not exceed the AVAQMD emission thresholds or cause a significant impact on air quality. As discussed below, construction of the proposed project would not result in the generation of criteria air pollutants that would exceed AVAQMD thresholds of significance. Operational emissions associated with the proposed project would also not exceed AVAQMD established significance thresholds. Therefore, the proposed project would not conflict with or obstruct implementation of AVAQMD air quality plans.

Criteria Pollutant Analysis

The AVAQMD is currently designated as nonattainment for federal 8-hour O_3 standards and nonattainment for State O_3 (classified as extreme nonattainment) and PM_{10} standards. The AVAQMD's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the AVAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. The following analysis assesses the potential project-level construction- and operation-related air quality impacts.

Short-Term Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, VOC, directly emitted particulate matter ($PM_{2.5}$ and PM_{10}), and TACs such as diesel exhaust particulate matter.

Project construction activities would include grading, paving, and building activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The AVAQMD has implemented Rule 403 measures for reducing fugitive dust emissions (PM_{10}). With the implementation of Rule 403 measures, fugitive dust emissions from construction activities would not result in adverse air quality impacts.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, volatile organic compounds (VOCs) and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using CalEEMod, consistent with AVAQMD recommendations. Specific construction details are not yet known; therefore, default assumptions (e.g., construction duration and fleet activities) from CalEEMod were used. Based on CalEEMod default assumptions, this analysis assumes a 13-month construction period. Construction-related emissions are presented in Table 3, below. CalEEMod output sheets are provided in Attachment A.

Table 3: Project Construction Emissions

Project Construction	CO	NO_x	VOC	SO_x	PM_{10}	$PM_{2.5}$
Pounds Per Day						
Maximum Daily Emissions	22.3	42.5	99.9	<0.1	20.4	12.0
AVAQMD Thresholds	**548.0**	**137.0**	**137.0**	**137.0**	**82.0**	**65.0**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Tons Per Year						
Annual Emissions	2.4	2.6	0.9	<0.1	0.3	0.2
AVAQMD Thresholds	**100.0**	**25.0**	**25.0**	**25.0**	**15.0**	**12.0**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: LSA (July 2019).
AVAQMD = Antelope Valley Air Quality Management District
PM_{10} = particulate matter less than 10 microns in size
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SO_x = sulfur oxides
VOC = volatile organic compounds

As shown in Table 3, construction emissions associated with the project would not exceed the AVAQMD's daily or annual thresholds for CO, NO_x, VOC, SO_x, PM_{10} and $PM_{2.5}$ emissions. In addition, AVAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Even through the project's construction would not exceed any of the emissions thresholds as noted in Table 3, compliance with Rule 403 dust suppression techniques can further reduce the fugitive dust generation (and thus, the PM_{10} component). As shown in Table 3, construction of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State AAQS.

Long-Term Operational Emissions. Long-term air pollutant emission impacts are those associated with mobile sources (e.g., vehicle trips), energy sources (e.g., electricity and natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment) related to the proposed project.

PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles.

Energy source emissions result from activities in buildings for which electricity and natural gas are used. The quantity of emissions is the product of usage intensity (i.e., the amount of electricity or natural gas) and the emission factor of the fuel source. Major sources of energy demand for the proposed project could include building mechanical systems, such as heating and air conditioning and lighting. Greater building or appliance efficiency reduces the amount of energy for a given activity and thus lowers the resultant emissions. The emission factor is determined by the fuel source, with cleaner energy sources, like renewable energy, producing fewer emissions than

conventional sources. Area source emissions associated with the project would include emissions from the use of landscaping equipment.

Emission estimates for operation of the project were calculated using CalEEMod. Model results are shown in Table 4, below. The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project, emissions are released in other areas of the MDAB. The daily and annual emissions associated with project operational trip generation, energy, and area sources are identified in Table 4 for CO, NO_x, VOC, SO_x, PM_{10} and $PM_{2.5}$.

Table 4: Project Operational Emissions

Project Construction	CO	NO_x	VOC	SO_x	PM_{10}	$PM_{2.5}$
Pounds Per Day						
Area Source Emissions	5.1	0.9	2.0	<0.1	0.1	0.1
Energy Source Emissions	0.1	0.2	<0.1	<0.1	<0.1	<0.1
Mobile Source Emissions	11.1	4.1	1.0	<0.1	2.4	0.7
Total Project Emissions	**16.3**	**5.3**	**3.0**	**<0.1**	**2.6**	**0.8**
AVAQMD Thresholds	**548.0**	**137.0**	**137.0**	**137.0**	**82.0**	**65.0**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Tons Per Year						
Area Source Emissions	4.8	0.1	3.9	<0.1	0.6	0.6
Energy Source Emissions	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile Source Emissions	1.7	0.7	0.1	<0.1	<0.1	0.1
Total Project Emissions	**6.6**	**0.8**	**4.0**	**<0.1**	**0.6**	**0.7**
AVAQMD Thresholds	**100.0**	**25.0**	**25.0**	**25.0**	**15.0**	**12.0**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: LSA (August 2019).
AVAQMD = Antelope Valley Air Quality Management District
PM_{10} = particulate matter less than 10 microns in size
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SO_x = sulfur oxides
VOC = volatile organic compounds

The results shown in Table 4 indicate the project would not exceed the significance criteria for daily or annual CO, NO_x, VOC, SO_x, PM_{10} and $PM_{2.5}$ emissions; therefore, operation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State AAQS.

Sensitive Receptors

Sensitive receptors are defined as people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling units. The closest sensitive receptors to the project site include the single-family residential uses adjacent to the eastern border of the project site.

Construction activities associated with the proposed may expose surrounding sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants associated with the use of construction equipment (i.e., usually diesel-fueled vehicles and equipment).

However, construction contractors would be required to implement measures to reduce or eliminate emissions by following the Rule 403 measures. Project construction emissions would be well below the AVAQMD's significance thresholds. In addition, once the proposed project is constructed, the project would not be a significant source of long-term operational emissions. The project site is not located within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day; within 1,000 feet of a major service and maintenance rail yard; immediately downwind of ports or petroleum refineries; within 300 feet of dry cleaning operations; or within 300 feet of a large gas station. Therefore, the proposed project would not expose sensitive receptors to substantial pollutant concentrations.

Objectionable Odors

During project construction, some odors may be present due to diesel exhaust. However, these odors would be temporary and limited to the construction period. The proposed project would not include any activities or operations that would generate objectionable odors and once operational, the project would not be a source of odors. Therefore, the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and this impact would be less than significant.

Greenhouse Gas Impacts

Generate Greenhouse Gas Emissions

This section discusses the project's impacts related to the release of GHG emissions for both construction and operational phases of the project.

Construction GHG Emissions. Construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

Using CalEEMod, it is estimated that construction of the proposed project would generate a maximum of 3,859.1 pounds of CO_2e per day, which is below the AVAQMD's threshold of 548,000 pounds of CO_2e per day. In addition, it is estimated that construction of the proposed project would generate approximately 368.9 metric tons of CO_2e per year, which would be less than the AVAQMD's numeric threshold of 100,000 metric tons CO_2e per year.

Operational GHG Emissions. Long-term GHG emissions are typically generated from mobile sources (e.g., cars, trucks and buses), area sources (e.g., maintenance activities and landscaping), indirect emissions from sources associated with energy consumption, waste sources (land filling and waste disposal), and water sources (water supply and conveyance, treatment, and distribution). Mobile-source GHG emissions would include project-generated vehicle trips to and from the project. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site. Energy source emissions would be generated at off-site utility providers as a result of

increased electricity demand generated by the project. Waste source emissions generated by the proposed project include energy generated by land filling and other methods of disposal related to transporting and managing project generated waste. In addition, water source emissions associated with the proposed project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

Following guidance from the AVAQMD, GHG emissions were estimated using CalEEMod. Table 5 shows the calculated GHG emissions for the proposed project. CalEEMod output sheets are attached.

Table 5: GHG Emissions

Emissions Source	Operational Emissions			
	CO_2	CH_4	N_2O	CO_2e
Pounds Per Day				
Area Source Emissions	1,094.8	<0.1	<0.1	1,101.5
Energy Source Emissions	300.2	0.1	0.1	302.0
Mobile Source Emissions	3,355.2	0.1	-	3,358.7
Waste Source Emissions	-	-	-	-
Water Source Emissions	-	-	-	-
Total Daily Emissions				**4,762.2**
AVAQMD Threshold				**548,000**
Exceed?				**No**
Tons Per Year				
Area Source Emissions	41.1	<0.1	<0.1	41.3
Energy Source Emissions	128.3	<0.1	<0.1	128.9
Mobile Source Emissions	474.8	<0.1	0.0	475.4
Waste Source Emissions	5.3	0.3	0.0	13.2
Water Source Emissions	24.9	0.1	<0.1	28.8
Total Annual Emissions				**687.6**
AVAQMD Threshold				**100,000**
Exceed?				**No**

Source: LSA (August 2019).

According to the AVAQMD, a project would result in a less-than-significant GHG impact if it would result in operational-related greenhouse gas emissions of less than 548,000 pounds of CO_2e per day and less than 100,000 metric tons of CO_2e per year. Based on the results of the analysis, the project would not generate GHG emissions that would have a significant effect on the environment. The proposed project would generate 4,762.2 pounds of CO_2e per day, which is below the AVAQMD's threshold of 548,000 pounds of CO_2e per day. In addition, the proposed project would generate approximately 687.6 metric tons of CO_2e per year, which would be well below the AVAQMD's numeric threshold of 100,000 metric tons CO_2e per year. Therefore, operation of the proposed project would not generate significant GHG emissions that would have a significant effect on the environment.

Consistency with Greenhouse Gas Reduction Plans

As discussed above, the City of Palmdale Energy Action Plan was developed to achieve energy independence, energy efficiency and conservation, and land uses that reduce transportation time and costs, to encourage jobs-creation, and to identify strategies to increase investment in the local economy. The primary purpose of the Energy Action Plan is to identify how the City will use energy efficiency and independence strategies to achieve its GHG emission reduction target of 15 percent by the year 2020 consistent with the State's overall target to reduce GHG emissions statewide to 1990 levels by 2020. The Energy Action Plan provides goals and measures focused on energy use, water use, transportation, land use, and solid waste to reduce GHG emissions wherever possible while enhancing the local economy and reducing reliance on inefficient energy imports. The proposed project would be consistent with the goals of the Energy Action Plan as the proposed project would comply with the latest Title 24 standards of the California Code of Regulations, established by the California Energy Commission (CEC), regarding energy conservation and green building standards.

Absent any other local or regional Climate Action Plan, the proposed project was analyzed for consistency with the goals of AB 32, the AB 32 Scoping Plan, Executive Order B-30-15, SB 32, and AB 197.

AB 32 is aimed at reducing GHG emissions to 1990 levels by 2020. AB 32 requires CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The AB 32 Scoping Plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation fee to fund the program.

Executive Order Executive Order B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[12] to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Executive Order B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32, AB 197, provides additional direction to the CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 intended to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

As identified above, the AB 32 Scoping Plan contains GHG reduction measures that work towards reducing GHG emissions, consistent with the targets set by AB 32, Executive Order B-30-15 and codified by SB 32 and AB 197. The measures applicable to the proposed project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures, as discussed below.

[12] California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan*. November.

Energy efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. As identified above, the proposed project would comply with the latest Title 24 standards of the California Code of Regulations, regarding energy conservation and green building standards. Therefore, the proposed project would comply with applicable energy measures.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the project would be required to comply with the latest Title 24 standards of the California Code of Regulations, which includes a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project would be required to comply with the California Model Water Efficient Landscape Ordinance. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. However, vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. Vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

Therefore, the proposed project would comply with existing State regulations adopted to achieve the overall GHG emissions reduction goals identified in AB 32, the AB 32 Scoping Plan, Executive Order B-30-15, SB 32, and AB 197 and would be consistent with applicable state plans and programs designed to reduce GHG emissions. In addition, the proposed project would not result in a substantial increase in GHG emissions and, therefore, is consistent with the GHG reduction strategy, and would not generate emissions that would exceed the project-level significance criteria established by the AVAQMD. Therefore, the proposed project would not conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions. This impact would be less than significant.

CONCLUSION

Based on the analysis presented above, construction of the proposed project would not result in the generation of criteria air pollutants that would exceed AVAQMD thresholds of significance. As discussed above, the proposed project's construction emissions of criteria pollutants are estimated to be below the emissions threshold established for the region. Operational emissions associated with the proposed project would also not exceed AVAQMD established significance thresholds. Therefore, the proposed project would not result in a cumulatively considerable contribution to

regional air quality impacts. The proposed project is not expected to produce significant emissions that would affect nearby sensitive receptors. The proposed project would also not result in objectionable odors affecting a substantial number of people. GHG emissions released during construction and operation of the project are estimated to be lower than significance thresholds, and would not be cumulatively considerable. The proposed project would be consistent with the City's Energy Action Plan and with the overall GHG emissions reduction goals identified in AB 32, the AB 32 Scoping Plan, Executive Order B-30-15, SB 32, and AB 197.

Attachment: CalEEMod Output Sheets

ATTACHMENT A

CALEEMOD OUTPUT SHEETS

Avenue R Apartments

Antelope Valley APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	57.00	Dwelling Unit	3.56	57,000.00	163
Parking Lot	35.00	Space	0.32	14,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Default construction schedule

Mobile Land Use Mitigation -

Area Mitigation - Assuming only natural gas hearth

Table Name	Column Name	Default Value	New Value

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					
2020	0.3000	2.6403	2.3879	4.2100e-003	0.1232	0.1451	0.2683	0.0522	0.1362	0.1883	0.0000	366.9781	366.9781	0.0779	0.0000	368.9256
2021	0.9000	0.0249	0.0321	5.0000e-005	8.1000e-004	1.4300e-003	2.2500e-003	2.2000e-004	1.3900e-003	1.6000e-003	0.0000	4.6720	4.6720	7.0000e-004	0.0000	4.6895
Maximum	**0.9000**	**2.6403**	**2.3879**	**4.2100e-003**	**0.1232**	**0.1451**	**0.2683**	**0.0522**	**0.1362**	**0.1883**	**0.0000**	**366.9781**	**366.9781**	**0.0779**	**0.0000**	**368.9256**

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					
2020	0.3000	2.6403	2.3879	4.2100e-003	0.1232	0.1451	0.2683	0.0522	0.1362	0.1883	0.0000	366.9778	366.9778	0.0779	0.0000	368.9253
2021	0.9000	0.0249	0.0321	5.0000e-005	8.1000e-004	1.4300e-003	2.2500e-003	2.2000e-004	1.3900e-003	1.6000e-003	0.0000	4.6720	4.6720	7.0000e-004	0.0000	4.6895
Maximum	**0.9000**	**2.6403**	**2.3879**	**4.2100e-003**	**0.1232**	**0.1451**	**0.2683**	**0.0522**	**0.1362**	**0.1883**	**0.0000**	**366.9778**	**366.9778**	**0.0779**	**0.0000**	**368.9253**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**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	1-6-2020	4-5-2020	0.8051	0.8051
2	4-6-2020	7-5-2020	0.7356	0.7356
3	7-6-2020	10-5-2020	0.7437	0.7437
4	10-6-2020	1-5-2021	0.6823	0.6823
5	1-6-2021	4-5-2021	0.8331	0.8331
		Highest	0.8331	0.8331

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	3.9026	0.0747	4.8393	8.0200e-003		0.6213	0.6213		0.6213	0.6213	58.8786	25.3848	84.2634	0.0550	4.6300e-003	87.0187
Energy	5.0200e-003	0.0429	0.0183	2.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	128.2740	128.2740	4.2000e-003	1.5800e-003	128.8505
Mobile	0.1375	0.7182	1.7060	5.2700e-003	0.4058	4.2300e-003	0.4100	0.1088	3.9500e-003	0.1128	0.0000	483.4944	483.4944	0.0211	0.0000	484.0218
Waste						0.0000	0.0000		0.0000	0.0000	5.3224	0.0000	5.3224	0.3146	0.0000	13.1861
Water						0.0000	0.0000		0.0000	0.0000	1.1782	23.6955	24.8737	0.1220	3.0600e-003	28.8354
Total	**4.0451**	**0.8359**	**6.5636**	**0.0136**	**0.4058**	**0.6290**	**1.0348**	**0.1088**	**0.6288**	**0.7376**	**65.3792**	**660.8488**	**726.2280**	**0.5168**	**9.2700e-003**	**741.9123**

2.2 Overall Operational

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	0.3301	0.0398	0.4393	2.5000e-004		5.1600e-003	5.1600e-003		5.1600e-003	5.1600e-003	0.0000	41.0984	41.0984	1.4500e-003	7.4000e-004	41.3553
Energy	5.0200e-003	0.0429	0.0183	2.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	128.2740	128.2740	4.2000e-003	1.5800e-003	128.8505
Mobile	0.1364	0.7110	1.6790	5.1700e-003	0.3977	4.1500e-003	0.4018	0.1066	3.8800e-003	0.1105	0.0000	474.8389	474.8389	0.0208	0.0000	475.3590
Waste						0.0000	0.0000		0.0000	0.0000	5.3224	0.0000	5.3224	0.3146	0.0000	13.1861
Water						0.0000	0.0000		0.0000	0.0000	1.1782	23.6955	24.8737	0.1220	3.0600e-003	28.8354
Total	**0.4715**	**0.7937**	**2.1366**	**5.6900e-003**	**0.3977**	**0.0128**	**0.4104**	**0.1066**	**0.0125**	**0.1191**	**6.5006**	**667.9069**	**674.4075**	**0.4630**	**5.3800e-003**	**687.5862**

	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	**88.34**	**5.04**	**67.45**	**58.04**	**2.00**	**97.97**	**60.34**	**1.99**	**98.01**	**83.85**	**90.06**	**-1.07**	**7.14**	**10.42**	**41.96**	**7.32**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/6/2020	1/10/2020	5	5	
2	Grading	Grading	1/11/2020	1/22/2020	5	8	
3	Building Construction	Building Construction	1/23/2020	12/9/2020	5	230	
4	Paving	Paving	12/10/2020	1/4/2021	5	18	
5	Architectural Coating	Architectural Coating	1/5/2021	1/28/2021	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0.32

Residential Indoor: 115,425; Residential Outdoor: 38,475; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 840 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	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
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	47.00	8.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4253
Total	**0.0102**	**0.1060**	**0.0538**	**1.0000e-004**	**0.0452**	**5.4900e-003**	**0.0507**	**0.0248**	**5.0500e-003**	**0.0299**	**0.0000**	**8.3577**	**8.3577**	**2.7000e-003**	**0.0000**	**8.4253**

3.2 Site Preparation - 2020

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	1.8000e-004	1.5000e-004	1.6700e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3368	0.3368	1.0000e-005	0.0000	0.3371
Total	**1.8000e-004**	**1.5000e-004**	**1.6700e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.7000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3368**	**0.3368**	**1.0000e-005**	**0.0000**	**0.3371**

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1060	0.0538	1.0000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	8.3577	8.3577	2.7000e-003	0.0000	8.4252
Total	**0.0102**	**0.1060**	**0.0538**	**1.0000e-004**	**0.0452**	**5.4900e-003**	**0.0507**	**0.0248**	**5.0500e-003**	**0.0299**	**0.0000**	**8.3577**	**8.3577**	**2.7000e-003**	**0.0000**	**8.4252**

3.2 Site Preparation - 2020

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	1.8000e-004	1.5000e-004	1.6700e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3368	0.3368	1.0000e-005	0.0000	0.3371
Total	**1.8000e-004**	**1.5000e-004**	**1.6700e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.7000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3368**	**0.3368**	**1.0000e-005**	**0.0000**	**0.3371**

3.3 Grading - 2020

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1055	0.0642	1.2000e-004		5.0900e-003	5.0900e-003		4.6900e-003	4.6900e-003	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	**9.7200e-003**	**0.1055**	**0.0642**	**1.2000e-004**	**0.0262**	**5.0900e-003**	**0.0313**	**0.0135**	**4.6900e-003**	**0.0182**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

3.3 Grading - 2020

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	2.5000e-004	2.1000e-004	2.2200e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4490	0.4490	2.0000e-005	0.0000	0.4494
Total	**2.5000e-004**	**2.1000e-004**	**2.2200e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4490**	**0.4490**	**2.0000e-005**	**0.0000**	**0.4494**

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7200e-003	0.1055	0.0642	1.2000e-004		5.0900e-003	5.0900e-003		4.6900e-003	4.6900e-003	0.0000	10.4235	10.4235	3.3700e-003	0.0000	10.5078
Total	**9.7200e-003**	**0.1055**	**0.0642**	**1.2000e-004**	**0.0262**	**5.0900e-003**	**0.0313**	**0.0135**	**4.6900e-003**	**0.0182**	**0.0000**	**10.4235**	**10.4235**	**3.3700e-003**	**0.0000**	**10.5078**

3.3 Grading - 2020

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	2.5000e-004	2.1000e-004	2.2200e-003	0.0000	4.8000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4490	0.4490	2.0000e-005	0.0000	0.4494
Total	**2.5000e-004**	**2.1000e-004**	**2.2200e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.9000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4490**	**0.4490**	**2.0000e-005**	**0.0000**	**0.4494**

3.4 Building Construction - 2020

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	0.2438	2.2064	1.9376	3.1000e-003		0.1285	0.1285		0.1208	0.1208	0.0000	266.3515	266.3515	0.0650	0.0000	267.9760
Total	**0.2438**	**2.2064**	**1.9376**	**3.1000e-003**		**0.1285**	**0.1285**		**0.1208**	**0.1208**	**0.0000**	**266.3515**	**266.3515**	**0.0650**	**0.0000**	**267.9760**

3.4 Building Construction - 2020

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	3.2900e-003	0.1085	0.0242	2.8000e-004	6.1300e-003	4.7000e-004	6.6000e-003	1.7700e-003	4.5000e-004	2.2200e-003	0.0000	26.3174	26.3174	1.1900e-003	0.0000	26.3471
Worker	0.0221	0.0185	0.2001	4.5000e-004	0.0435	3.7000e-004	0.0439	0.0116	3.4000e-004	0.0119	0.0000	40.4474	40.4474	1.4700e-003	0.0000	40.4842
Total	**0.0254**	**0.1270**	**0.2243**	**7.3000e-004**	**0.0497**	**8.4000e-004**	**0.0505**	**0.0133**	**7.9000e-004**	**0.0141**	**0.0000**	**66.7648**	**66.7648**	**2.6600e-003**	**0.0000**	**66.8312**

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	0.2438	2.2064	1.9376	3.1000e-003		0.1285	0.1285		0.1208	0.1208	0.0000	266.3512	266.3512	0.0650	0.0000	267.9757
Total	**0.2438**	**2.2064**	**1.9376**	**3.1000e-003**		**0.1285**	**0.1285**		**0.1208**	**0.1208**	**0.0000**	**266.3512**	**266.3512**	**0.0650**	**0.0000**	**267.9757**

3.4 Building Construction - 2020

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	3.2900e-003	0.1085	0.0242	2.8000e-004	6.1300e-003	4.7000e-004	6.6000e-003	1.7700e-003	4.5000e-004	2.2200e-003	0.0000	26.3174	26.3174	1.1900e-003	0.0000	26.3471
Worker	0.0221	0.0185	0.2001	4.5000e-004	0.0435	3.7000e-004	0.0439	0.0116	3.4000e-004	0.0119	0.0000	40.4474	40.4474	1.4700e-003	0.0000	40.4842
Total	**0.0254**	**0.1270**	**0.2243**	**7.3000e-004**	**0.0497**	**8.4000e-004**	**0.0505**	**0.0133**	**7.9000e-004**	**0.0141**	**0.0000**	**66.7648**	**66.7648**	**2.6600e-003**	**0.0000**	**66.8312**

3.5 Paving - 2020

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	9.4700e-003	0.0944	0.0983	1.5000e-004		5.2100e-003	5.2100e-003		4.8000e-003	4.8000e-003	0.0000	13.0976	13.0976	4.1200e-003	0.0000	13.2005
Paving	3.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8400e-003**	**0.0944**	**0.0983**	**1.5000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8000e-003**	**4.8000e-003**	**0.0000**	**13.0976**	**13.0976**	**4.1200e-003**	**0.0000**	**13.2005**

3.5 Paving - 2020

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	6.5000e-004	5.5000e-004	5.9200e-003	1.0000e-005	1.2900e-003	1.0000e-005	1.3000e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1973	1.1973	4.0000e-005	0.0000	1.1984
Total	**6.5000e-004**	**5.5000e-004**	**5.9200e-003**	**1.0000e-005**	**1.2900e-003**	**1.0000e-005**	**1.3000e-003**	**3.4000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.1973**	**1.1973**	**4.0000e-005**	**0.0000**	**1.1984**

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	9.4700e-003	0.0944	0.0983	1.5000e-004		5.2100e-003	5.2100e-003		4.8000e-003	4.8000e-003	0.0000	13.0976	13.0976	4.1200e-003	0.0000	13.2005
Paving	3.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.8400e-003**	**0.0944**	**0.0983**	**1.5000e-004**		**5.2100e-003**	**5.2100e-003**		**4.8000e-003**	**4.8000e-003**	**0.0000**	**13.0976**	**13.0976**	**4.1200e-003**	**0.0000**	**13.2005**

3.5 Paving - 2020

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	6.5000e-004	5.5000e-004	5.9200e-003	1.0000e-005	1.2900e-003	1.0000e-005	1.3000e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1973	1.1973	4.0000e-005	0.0000	1.1984
Total	**6.5000e-004**	**5.5000e-004**	**5.9200e-003**	**1.0000e-005**	**1.2900e-003**	**1.0000e-005**	**1.3000e-003**	**3.4000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.1973**	**1.1973**	**4.0000e-005**	**0.0000**	**1.1984**

3.5 Paving - 2021

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	1.0900e-003	0.0108	0.0123	2.0000e-005		5.8000e-004	5.8000e-004		5.3000e-004	5.3000e-004	0.0000	1.6371	1.6371	5.1000e-004	0.0000	1.6499
Paving	5.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1400e-003**	**0.0108**	**0.0123**	**2.0000e-005**		**5.8000e-004**	**5.8000e-004**		**5.3000e-004**	**5.3000e-004**	**0.0000**	**1.6371**	**1.6371**	**5.1000e-004**	**0.0000**	**1.6499**

3.5 Paving - 2021

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	8.0000e-005	6.0000e-005	6.9000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1460	0.1460	1.0000e-005	0.0000	0.1461
Total	**8.0000e-005**	**6.0000e-005**	**6.9000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1460**	**0.1460**	**1.0000e-005**	**0.0000**	**0.1461**

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	1.0900e-003	0.0108	0.0123	2.0000e-005		5.8000e-004	5.8000e-004		5.3000e-004	5.3000e-004	0.0000	1.6371	1.6371	5.1000e-004	0.0000	1.6499
Paving	5.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1400e-003**	**0.0108**	**0.0123**	**2.0000e-005**		**5.8000e-004**	**5.8000e-004**		**5.3000e-004**	**5.3000e-004**	**0.0000**	**1.6371**	**1.6371**	**5.1000e-004**	**0.0000**	**1.6499**

3.5 Paving - 2021

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	8.0000e-005	6.0000e-005	6.9000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1460	0.1460	1.0000e-005	0.0000	0.1461
Total	**8.0000e-005**	**6.0000e-005**	**6.9000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1460**	**0.1460**	**1.0000e-005**	**0.0000**	**0.1461**

3.6 Architectural Coating - 2021

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	0.8965					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**0.8985**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

3.6 Architectural Coating - 2021

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	3.1000e-004	2.5000e-004	2.7800e-003	1.0000e-005	6.5000e-004	1.0000e-005	6.6000e-004	1.7000e-004	1.0000e-005	1.8000e-004	0.0000	0.5911	0.5911	2.0000e-005	0.0000	0.5916
Total	**3.1000e-004**	**2.5000e-004**	**2.7800e-003**	**1.0000e-005**	**6.5000e-004**	**1.0000e-005**	**6.6000e-004**	**1.7000e-004**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**0.5911**	**0.5911**	**2.0000e-005**	**0.0000**	**0.5916**

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	0.8965					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0137	0.0164	3.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	2.2979	2.2979	1.6000e-004	0.0000	2.3019
Total	**0.8985**	**0.0137**	**0.0164**	**3.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.6000e-004**	**0.0000**	**2.3019**

3.6 Architectural Coating - 2021

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	3.1000e-004	2.5000e-004	2.7800e-003	1.0000e-005	6.5000e-004	1.0000e-005	6.6000e-004	1.7000e-004	1.0000e-005	1.8000e-004	0.0000	0.5911	0.5911	2.0000e-005	0.0000	0.5916
Total	**3.1000e-004**	**2.5000e-004**	**2.7800e-003**	**1.0000e-005**	**6.5000e-004**	**1.0000e-005**	**6.6000e-004**	**1.7000e-004**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**0.5911**	**0.5911**	**2.0000e-005**	**0.0000**	**0.5916**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	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	0.1364	0.7110	1.6790	5.1700e-003	0.3977	4.1500e-003	0.4018	0.1066	3.8800e-003	0.1105	0.0000	474.8389	474.8389	0.0208	0.0000	475.3590
Unmitigated	0.1375	0.7182	1.7060	5.2700e-003	0.4058	4.2300e-003	0.4100	0.1088	3.9500e-003	0.1128	0.0000	483.4944	483.4944	0.0211	0.0000	484.0218

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	375.63	408.12	345.99	1,067,991	1,046,631
Parking Lot	0.00	0.00	0.00		
Total	375.63	408.12	345.99	1,067,991	1,046,631

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
Apartments Low Rise	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.615376	0.037728	0.150170	0.105389	0.017165	0.005087	0.018058	0.036632	0.002196	0.001885	0.007444	0.001552	0.001318
Parking Lot	0.615376	0.037728	0.150170	0.105389	0.017165	0.005087	0.018058	0.036632	0.002196	0.001885	0.007444	0.001552	0.001318

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	78.5728	78.5728	3.2400e-003	6.7000e-004	78.8539
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	78.5728	78.5728	3.2400e-003	6.7000e-004	78.8539
NaturalGas Mitigated	5.0200e-003	0.0429	0.0183	2.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	49.7013	49.7013	9.5000e-004	9.1000e-004	49.9966
NaturalGas Unmitigated	5.0200e-003	0.0429	0.0183	2.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	49.7013	49.7013	9.5000e-004	9.1000e-004	49.9966

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					
Apartments Low Rise	931367	5.0200e-003	0.0429	0.0183	2.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	49.7013	49.7013	9.5000e-004	9.1000e-004	49.9966
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
Total		**5.0200e-003**	**0.0429**	**0.0183**	**2.7000e-004**		**3.4700e-003**	**3.4700e-003**		**3.4700e-003**	**3.4700e-003**	**0.0000**	**49.7013**	**49.7013**	**9.5000e-004**	**9.1000e-004**	**49.9966**

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					
Apartments Low Rise	931367	5.0200e-003	0.0429	0.0183	2.7000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	49.7013	49.7013	9.5000e-004	9.1000e-004	49.9966
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
Total		**5.0200e-003**	**0.0429**	**0.0183**	**2.7000e-004**		**3.4700e-003**	**3.4700e-003**		**3.4700e-003**	**3.4700e-003**	**0.0000**	**49.7013**	**49.7013**	**9.5000e-004**	**9.1000e-004**	**49.9966**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	241702	77.0115	3.1800e-003	6.6000e-004	77.2870
Parking Lot	4900	1.5612	6.0000e-005	1.0000e-005	1.5668
Total		**78.5728**	**3.2400e-003**	**6.7000e-004**	**78.8539**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	241702	77.0115	3.1800e-003	6.6000e-004	77.2870
Parking Lot	4900	1.5612	6.0000e-005	1.0000e-005	1.5668
Total		**78.5728**	**3.2400e-003**	**6.7000e-004**	**78.8539**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	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	0.3301	0.0398	0.4393	2.5000e-004		5.1600e-003	5.1600e-003		5.1600e-003	5.1600e-003	0.0000	41.0984	41.0984	1.4500e-003	7.4000e-004	41.3553
Unmitigated	3.9026	0.0747	4.8393	8.0200e-003		0.6213	0.6213		0.6213	0.6213	58.8786	25.3848	84.2634	0.0550	4.6300e-003	87.0187

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	0.0897					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2235					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.5765	0.0699	4.4148	8.0000e-003		0.6190	0.6190		0.6190	0.6190	58.8786	24.6928	83.5714	0.0543	4.6300e-003	86.3099
Landscaping	0.0129	4.9000e-003	0.4245	2.0000e-005		2.3400e-003	2.3400e-003		2.3400e-003	2.3400e-003	0.0000	0.6920	0.6920	6.7000e-004	0.0000	0.7088
Total	**3.9026**	**0.0748**	**4.8393**	**8.0200e-003**		**0.6213**	**0.6213**		**0.6213**	**0.6213**	**58.8786**	**25.3848**	**84.2634**	**0.0550**	**4.6300e-003**	**87.0187**

6.2 Area by SubCategory

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	0.0897					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2235					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.0800e-003	0.0349	0.0149	2.2000e-004		2.8200e-003	2.8200e-003		2.8200e-003	2.8200e-003	0.0000	40.4064	40.4064	7.7000e-004	7.4000e-004	40.6466
Landscaping	0.0129	4.9000e-003	0.4245	2.0000e-005		2.3400e-003	2.3400e-003		2.3400e-003	2.3400e-003	0.0000	0.6920	0.6920	6.7000e-004	0.0000	0.7088
Total	**0.3301**	**0.0398**	**0.4393**	**2.4000e-004**		**5.1600e-003**	**5.1600e-003**		**5.1600e-003**	**5.1600e-003**	**0.0000**	**41.0984**	**41.0984**	**1.4400e-003**	**7.4000e-004**	**41.3553**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	24.8737	0.1220	3.0600e-003	28.8354
Unmitigated	24.8737	0.1220	3.0600e-003	28.8354

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	3.71378 / 2.3413	24.8737	0.1220	3.0600e-003	28.8354
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**24.8737**	**0.1220**	**3.0600e-003**	**28.8354**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	3.71378 / 2.3413	24.8737	0.1220	3.0600e-003	28.8354
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**24.8737**	**0.1220**	**3.0600e-003**	**28.8354**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.3224	0.3146	0.0000	13.1861
Unmitigated	5.3224	0.3146	0.0000	13.1861

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	26.22	5.3224	0.3146	0.0000	13.1861
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**5.3224**	**0.3146**	**0.0000**	**13.1861**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	26.22	5.3224	0.3146	0.0000	13.1861
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**5.3224**	**0.3146**	**0.0000**	**13.1861**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

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

Avenue R Apartments

Antelope Valley APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	57.00	Dwelling Unit	3.56	57,000.00	163
Parking Lot	35.00	Space	0.32	14,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Default construction schedule

Mobile Land Use Mitigation -

Area Mitigation - Assuming only natural gas hearth

Table Name	Column Name	Default Value	New Value

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					
2020	4.1629	42.4724	22.2883	0.0397	18.2141	2.1987	20.4128	9.9699	2.0228	11.9927	0.0000	3,848.4016	3,848.4016	1.1979	0.0000	3,878.3483
2021	99.8733	10.8954	13.0601	0.0207	0.1643	0.5802	0.7445	0.0436	0.5355	0.5791	0.0000	1,981.5006	1,981.5006	0.5732	0.0000	1,995.8297
Maximum	**99.8733**	**42.4724**	**22.2883**	**0.0397**	**18.2141**	**2.1987**	**20.4128**	**9.9699**	**2.0228**	**11.9927**	**0.0000**	**3,848.4016**	**3,848.4016**	**1.1979**	**0.0000**	**3,878.3483**

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					
2020	4.1629	42.4724	22.2883	0.0397	18.2141	2.1987	20.4128	9.9699	2.0228	11.9927	0.0000	3,848.4016	3,848.4016	1.1979	0.0000	3,878.3483
2021	99.8733	10.8954	13.0601	0.0207	0.1643	0.5802	0.7445	0.0436	0.5355	0.5791	0.0000	1,981.5006	1,981.5006	0.5732	0.0000	1,995.8297
Maximum	**99.8733**	**42.4724**	**22.2883**	**0.0397**	**18.2141**	**2.1987**	**20.4128**	**9.9699**	**2.0228**	**11.9927**	**0.0000**	**3,848.4016**	**3,848.4016**	**1.1979**	**0.0000**	**3,878.3483**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	89.0916	1.7580	112.3954	0.1953		15.1236	15.1236		15.1236	15.1236	1,582.9887	672.3575	2,255.3462	1.4691	0.1245	2,329.1779
Energy	0.0275	0.2352	0.1001	1.5000e-003		0.0190	0.0190		0.0190	0.0190		300.1988	300.1988	5.7500e-003	5.5000e-003	301.9828
Mobile	1.0101	4.1420	11.3031	0.0338	2.4673	0.0252	2.4925	0.6605	0.0235	0.6840		3,416.5624	3,416.5624	0.1427		3,420.1306
Total	**90.1293**	**6.1351**	**123.7986**	**0.2306**	**2.4673**	**15.1678**	**17.6351**	**0.6605**	**15.1662**	**15.8267**	**1,582.9887**	**4,389.1188**	**5,972.1074**	**1.6175**	**0.1300**	**6,051.2912**

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	1.9587	0.9054	5.0785	5.6800e-003		0.0948	0.0948		0.0948	0.0948	0.0000	1,094.8281	1,094.8281	0.0291	0.0199	1,101.4894
Energy	0.0275	0.2352	0.1001	1.5000e-003		0.0190	0.0190		0.0190	0.0190		300.1988	300.1988	5.7500e-003	5.5000e-003	301.9828
Mobile	1.0031	4.1023	11.1108	0.0332	2.4179	0.0248	2.4427	0.6473	0.0231	0.6704		3,355.2293	3,355.2293	0.1407		3,358.7460
Total	**2.9893**	**5.2429**	**16.2894**	**0.0404**	**2.4179**	**0.1386**	**2.5565**	**0.6473**	**0.1369**	**0.7842**	**0.0000**	**4,750.2562**	**4,750.2562**	**0.1755**	**0.0254**	**4,762.2181**

	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	96.68	14.54	86.84	82.50	2.00	99.09	85.50	2.00	99.10	95.05	100.00	-8.23	20.46	89.15	80.45	21.30

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/6/2020	1/10/2020	5	5	
2	Grading	Grading	1/11/2020	1/22/2020	5	8	
3	Building Construction	Building Construction	1/23/2020	12/9/2020	5	230	
4	Paving	Paving	12/10/2020	1/4/2021	5	18	
5	Architectural Coating	Architectural Coating	1/5/2021	1/28/2021	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0.32

Residential Indoor: 115,425; Residential Outdoor: 38,475; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 840 (Architectural Coating – sqft)

OffRoad Equipment

Avenue R Apartments - Antelope Valley APCD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	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
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	47.00	8.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.2 Site Preparation - 2020

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
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
Worker	0.0864	0.0551	0.7747	1.6400e-003	0.1479	1.2400e-003	0.1491	0.0392	1.1500e-003	0.0404		163.3000	163.3000	6.0300e-003		163.4508
Total	**0.0864**	**0.0551**	**0.7747**	**1.6400e-003**	**0.1479**	**1.2400e-003**	**0.1491**	**0.0392**	**1.1500e-003**	**0.0404**		**163.3000**	**163.3000**	**6.0300e-003**		**163.4508**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.2 Site Preparation - 2020

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
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
Worker	0.0864	0.0551	0.7747	1.6400e-003	0.1479	1.2400e-003	0.1491	0.0392	1.1500e-003	0.0404		163.3000	163.3000	6.0300e-003		163.4508
Total	**0.0864**	**0.0551**	**0.7747**	**1.6400e-003**	**0.1479**	**1.2400e-003**	**0.1491**	**0.0392**	**1.1500e-003**	**0.0404**		**163.3000**	**163.3000**	**6.0300e-003**		**163.4508**

3.3 Grading - 2020

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.3 Grading - 2020

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
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
Worker	0.0720	0.0459	0.6456	1.3700e-003	0.1232	1.0400e-003	0.1243	0.0327	9.6000e-004	0.0336		136.0834	136.0834	5.0300e-003		136.2090
Total	**0.0720**	**0.0459**	**0.6456**	**1.3700e-003**	**0.1232**	**1.0400e-003**	**0.1243**	**0.0327**	**9.6000e-004**	**0.0336**		**136.0834**	**136.0834**	**5.0300e-003**		**136.2090**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.3 Grading - 2020

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
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
Worker	0.0720	0.0459	0.6456	1.3700e-003	0.1232	1.0400e-003	0.1243	0.0327	9.6000e-004	0.0336		136.0834	136.0834	5.0300e-003		136.2090
Total	**0.0720**	**0.0459**	**0.6456**	**1.3700e-003**	**0.1232**	**1.0400e-003**	**0.1243**	**0.0327**	**9.6000e-004**	**0.0336**		**136.0834**	**136.0834**	**5.0300e-003**		**136.2090**

3.4 Building Construction - 2020

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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.4 Building Construction - 2020

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
Vendor	0.0280	0.9308	0.1952	2.4500e-003	0.0542	4.1000e-003	0.0583	0.0156	3.9200e-003	0.0195		256.5856	256.5856	0.0109		256.8570
Worker	0.2257	0.1438	2.0227	4.2900e-003	0.3861	3.2500e-003	0.3893	0.1024	2.9900e-003	0.1054		426.3945	426.3945	0.0158		426.7882
Total	**0.2537**	**1.0746**	**2.2179**	**6.7400e-003**	**0.4403**	**7.3500e-003**	**0.4476**	**0.1180**	**6.9100e-003**	**0.1249**		**682.9801**	**682.9801**	**0.0266**		**683.6453**

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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.4 Building Construction - 2020

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
Vendor	0.0280	0.9308	0.1952	2.4500e-003	0.0542	4.1000e-003	0.0583	0.0156	3.9200e-003	0.0195		256.5856	256.5856	0.0109		256.8570
Worker	0.2257	0.1438	2.0227	4.2900e-003	0.3861	3.2500e-003	0.3893	0.1024	2.9900e-003	0.1054		426.3945	426.3945	0.0158		426.7882
Total	**0.2537**	**1.0746**	**2.2179**	**6.7400e-003**	**0.4403**	**7.3500e-003**	**0.4476**	**0.1180**	**6.9100e-003**	**0.1249**		**682.9801**	**682.9801**	**0.0266**		**683.6453**

3.5 Paving - 2020

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	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005		1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2303**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**		**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

3.5 Paving - 2020

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
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
Worker	0.0960	0.0612	0.8607	1.8300e-003	0.1643	1.3800e-003	0.1657	0.0436	1.2700e-003	0.0449		181.4445	181.4445	6.7000e-003		181.6120
Total	**0.0960**	**0.0612**	**0.8607**	**1.8300e-003**	**0.1643**	**1.3800e-003**	**0.1657**	**0.0436**	**1.2700e-003**	**0.0449**		**181.4445**	**181.4445**	**6.7000e-003**		**181.6120**

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	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005	0.0000	1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2303**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**	**0.0000**	**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

3.5 Paving - 2020

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
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
Worker	0.0960	0.0612	0.8607	1.8300e-003	0.1643	1.3800e-003	0.1657	0.0436	1.2700e-003	0.0449		181.4445	181.4445	6.7000e-003		181.6120
Total	**0.0960**	**0.0612**	**0.8607**	**1.8300e-003**	**0.1643**	**1.3800e-003**	**0.1657**	**0.0436**	**1.2700e-003**	**0.0449**		**181.4445**	**181.4445**	**6.7000e-003**		**181.6120**

3.5 Paving - 2021

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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.0466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1405**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**		**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

3.5 Paving - 2021

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
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
Worker	0.0900	0.0556	0.7998	1.7800e-003	0.1643	1.3600e-003	0.1657	0.0436	1.2500e-003	0.0448		176.9483	176.9483	6.1800e-003		177.1028
Total	**0.0900**	**0.0556**	**0.7998**	**1.7800e-003**	**0.1643**	**1.3600e-003**	**0.1657**	**0.0436**	**1.2500e-003**	**0.0448**		**176.9483**	**176.9483**	**6.1800e-003**		**177.1028**

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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.0466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1405**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**	**0.0000**	**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

3.5 Paving - 2021

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
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
Worker	0.0900	0.0556	0.7998	1.7800e-003	0.1643	1.3600e-003	0.1657	0.0436	1.2500e-003	0.0448		176.9483	176.9483	6.1800e-003		177.1028
Total	**0.0900**	**0.0556**	**0.7998**	**1.7800e-003**	**0.1643**	**1.3600e-003**	**0.1657**	**0.0436**	**1.2500e-003**	**0.0448**		**176.9483**	**176.9483**	**6.1800e-003**		**177.1028**

3.6 Architectural Coating - 2021

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	99.6139					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**99.8328**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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
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
Worker	0.0405	0.0250	0.3599	8.0000e-004	0.0739	6.1000e-004	0.0745	0.0196	5.6000e-004	0.0202		79.6268	79.6268	2.7800e-003		79.6962
Total	**0.0405**	**0.0250**	**0.3599**	**8.0000e-004**	**0.0739**	**6.1000e-004**	**0.0745**	**0.0196**	**5.6000e-004**	**0.0202**		**79.6268**	**79.6268**	**2.7800e-003**		**79.6962**

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	99.6139					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**99.8328**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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
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
Worker	0.0405	0.0250	0.3599	8.0000e-004	0.0739	6.1000e-004	0.0745	0.0196	5.6000e-004	0.0202		79.6268	79.6268	2.7800e-003		79.6962
Total	**0.0405**	**0.0250**	**0.3599**	**8.0000e-004**	**0.0739**	**6.1000e-004**	**0.0745**	**0.0196**	**5.6000e-004**	**0.0202**		**79.6268**	**79.6268**	**2.7800e-003**		**79.6962**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	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	1.0031	4.1023	11.1108	0.0332	2.4179	0.0248	2.4427	0.6473	0.0231	0.6704		3,355.2293	3,355.2293	0.1407		3,358.7460
Unmitigated	1.0101	4.1420	11.3031	0.0338	2.4673	0.0252	2.4925	0.6605	0.0235	0.6840		3,416.5624	3,416.5624	0.1427		3,420.1306

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	375.63	408.12	345.99	1,067,991	1,046,631
Parking Lot	0.00	0.00	0.00		
Total	375.63	408.12	345.99	1,067,991	1,046,631

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
Apartments Low Rise	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.615376	0.037728	0.150170	0.105389	0.017165	0.005087	0.018058	0.036632	0.002196	0.001885	0.007444	0.001552	0.001318
Parking Lot	0.615376	0.037728	0.150170	0.105389	0.017165	0.005087	0.018058	0.036632	0.002196	0.001885	0.007444	0.001552	0.001318

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	0.0275	0.2352	0.1001	1.5000e-003		0.0190	0.0190		0.0190	0.0190		300.1988	300.1988	5.7500e-003	5.5000e-003	301.9828
NaturalGas Unmitigated	0.0275	0.2352	0.1001	1.5000e-003		0.0190	0.0190		0.0190	0.0190		300.1988	300.1988	5.7500e-003	5.5000e-003	301.9828

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					
Apartments Low Rise	2551.69	0.0275	0.2352	0.1001	1.5000e-003		0.0190	0.0190		0.0190	0.0190		300.1988	300.1988	5.7500e-003	5.5000e-003	301.9828
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
Total		**0.0275**	**0.2352**	**0.1001**	**1.5000e-003**		**0.0190**	**0.0190**		**0.0190**	**0.0190**		**300.1988**	**300.1988**	**5.7500e-003**	**5.5000e-003**	**301.9828**

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					
Apartments Low Rise	2.55169	0.0275	0.2352	0.1001	1.5000e-003		0.0190	0.0190		0.0190	0.0190		300.1988	300.1988	5.7500e-003	5.5000e-003	301.9828
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
Total		**0.0275**	**0.2352**	**0.1001**	**1.5000e-003**		**0.0190**	**0.0190**		**0.0190**	**0.0190**		**300.1988**	**300.1988**	**5.7500e-003**	**5.5000e-003**	**301.9828**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	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	1.9587	0.9054	5.0785	5.6800e-003		0.0948	0.0948		0.0948	0.0948	0.0000	1,094.8281	1,094.8281	0.0291	0.0199	1,101.4894
Unmitigated	89.0916	1.7580	112.3954	0.1953		15.1236	15.1236		15.1236	15.1236	1,582.9887	672.3575	2,255.3462	1.4691	0.1245	2,329.1779

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	0.4913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2248					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	87.2325	1.7036	107.6791	0.1951		15.0976	15.0976		15.0976	15.0976	1,582.9887	663.8824	2,246.8710	1.4608	0.1245	2,320.4971
Landscaping	0.1431	0.0544	4.7164	2.5000e-004		0.0260	0.0260		0.0260	0.0260		8.4751	8.4751	8.2300e-003		8.6808
Total	**89.0917**	**1.7580**	**112.3954**	**0.1953**		**15.1236**	**15.1236**		**15.1236**	**15.1236**	**1,582.9887**	**672.3575**	**2,255.3461**	**1.4691**	**0.1245**	**2,329.1779**

6.2 Area by SubCategory

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	0.4913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2248					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0996	0.8510	0.3621	5.4300e-003		0.0688	0.0688		0.0688	0.0688	0.0000	1,086.3529	1,086.3529	0.0208	0.0199	1,092.8086
Landscaping	0.1431	0.0544	4.7164	2.5000e-004		0.0260	0.0260		0.0260	0.0260		8.4751	8.4751	8.2300e-003		8.6808
Total	**1.9587**	**0.9054**	**5.0785**	**5.6800e-003**		**0.0948**	**0.0948**		**0.0948**	**0.0948**	**0.0000**	**1,094.8281**	**1,094.8281**	**0.0291**	**0.0199**	**1,101.4894**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

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

Avenue R Apartments

Antelope Valley APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	57.00	Dwelling Unit	3.56	57,000.00	163
Parking Lot	35.00	Space	0.32	14,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Default construction schedule

Mobile Land Use Mitigation -

Area Mitigation - Assuming only natural gas hearth

Table Name	Column Name	Default Value	New Value

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					
2020	4.1567	42.4756	22.1374	0.0395	18.2141	2.1987	20.4128	9.9699	2.0228	11.9927	0.0000	3,829.1496	3,829.1496	1.1971	0.0000	3,859.0759
2021	99.8704	10.8986	12.9028	0.0205	0.1643	0.5802	0.7445	0.0436	0.5355	0.5791	0.0000	1,960.6213	1,960.6213	0.5723	0.0000	1,974.9295
Maximum	**99.8704**	**42.4756**	**22.1374**	**0.0395**	**18.2141**	**2.1987**	**20.4128**	**9.9699**	**2.0228**	**11.9927**	**0.0000**	**3,829.1496**	**3,829.1496**	**1.1971**	**0.0000**	**3,859.0759**

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					
2020	4.1567	42.4756	22.1374	0.0395	18.2141	2.1987	20.4128	9.9699	2.0228	11.9927	0.0000	3,829.1496	3,829.1496	1.1971	0.0000	3,859.0759
2021	99.8704	10.8986	12.9028	0.0205	0.1643	0.5802	0.7445	0.0436	0.5355	0.5791	0.0000	1,960.6213	1,960.6213	0.5723	0.0000	1,974.9295
Maximum	**99.8704**	**42.4756**	**22.1374**	**0.0395**	**18.2141**	**2.1987**	**20.4128**	**9.9699**	**2.0228**	**11.9927**	**0.0000**	**3,829.1496**	**3,829.1496**	**1.1971**	**0.0000**	**3,859.0759**

	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	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	89.0916	1.7580	112.3954	0.1953		15.1236	15.1236		15.1236	15.1236	1,582.9887	672.3575	2,255.3462	1.4691	0.1245	2,329.1779
Energy	0.0275	0.2352	0.1001	1.5000e-003		0.0190	0.0190		0.0190	0.0190		300.1988	300.1988	5.7500e-003	5.5000e-003	301.9828
Mobile	0.8296	4.1770	9.6578	0.0306	2.4673	0.0253	2.4926	0.6605	0.0237	0.6842		3,094.3240	3,094.3240	0.1384		3,097.7845
Total	**89.9488**	**6.1701**	**122.1533**	**0.2274**	**2.4673**	**15.1680**	**17.6352**	**0.6605**	**15.1663**	**15.8268**	**1,582.9887**	**4,066.8804**	**5,649.8690**	**1.6132**	**0.1300**	**5,728.9452**

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	1.9587	0.9054	5.0785	5.6800e-003		0.0948	0.0948		0.0948	0.0948	0.0000	1,094.8281	1,094.8281	0.0291	0.0199	1,101.4894
Energy	0.0275	0.2352	0.1001	1.5000e-003		0.0190	0.0190		0.0190	0.0190		300.1988	300.1988	5.7500e-003	5.5000e-003	301.9828
Mobile	0.8230	4.1353	9.5066	0.0300	2.4179	0.0249	2.4428	0.6473	0.0232	0.6705		3,038.6682	3,038.6682	0.1366		3,042.0823
Total	**2.8092**	**5.2758**	**14.6851**	**0.0372**	**2.4179**	**0.1387**	**2.5566**	**0.6473**	**0.1370**	**0.7843**	**0.0000**	**4,433.6951**	**4,433.6951**	**0.1714**	**0.0254**	**4,445.5545**

	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	96.88	14.49	87.98	83.64	2.00	99.09	85.50	2.00	99.10	95.04	100.00	-9.02	21.53	89.38	80.45	22.40

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/6/2020	1/10/2020	5	5	
2	Grading	Grading	1/11/2020	1/22/2020	5	8	
3	Building Construction	Building Construction	1/23/2020	12/9/2020	5	230	
4	Paving	Paving	12/10/2020	1/4/2021	5	18	
5	Architectural Coating	Architectural Coating	1/5/2021	1/28/2021	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0.32

Residential Indoor: 115,425; Residential Outdoor: 38,475; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 840 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	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
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	47.00	8.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.2 Site Preparation - 2020

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
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
Worker	0.0803	0.0583	0.6238	1.4500e-003	0.1479	1.2400e-003	0.1491	0.0392	1.1500e-003	0.0404		144.0480	144.0480	5.2200e-003		144.1784
Total	**0.0803**	**0.0583**	**0.6238**	**1.4500e-003**	**0.1479**	**1.2400e-003**	**0.1491**	**0.0392**	**1.1500e-003**	**0.0404**		**144.0480**	**144.0480**	**5.2200e-003**		**144.1784**

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.2 Site Preparation - 2020

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
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
Worker	0.0803	0.0583	0.6238	1.4500e-003	0.1479	1.2400e-003	0.1491	0.0392	1.1500e-003	0.0404		144.0480	144.0480	5.2200e-003		144.1784
Total	**0.0803**	**0.0583**	**0.6238**	**1.4500e-003**	**0.1479**	**1.2400e-003**	**0.1491**	**0.0392**	**1.1500e-003**	**0.0404**		**144.0480**	**144.0480**	**5.2200e-003**		**144.1784**

3.3 Grading - 2020

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.3 Grading - 2020

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
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
Worker	0.0669	0.0486	0.5198	1.2100e-003	0.1232	1.0400e-003	0.1243	0.0327	9.6000e-004	0.0336		120.0400	120.0400	4.3500e-003		120.1487
Total	**0.0669**	**0.0486**	**0.5198**	**1.2100e-003**	**0.1232**	**1.0400e-003**	**0.1243**	**0.0327**	**9.6000e-004**	**0.0336**		**120.0400**	**120.0400**	**4.3500e-003**		**120.1487**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.3 Grading - 2020

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
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
Worker	0.0669	0.0486	0.5198	1.2100e-003	0.1232	1.0400e-003	0.1243	0.0327	9.6000e-004	0.0336		120.0400	120.0400	4.3500e-003		120.1487
Total	**0.0669**	**0.0486**	**0.5198**	**1.2100e-003**	**0.1232**	**1.0400e-003**	**0.1243**	**0.0327**	**9.6000e-004**	**0.0336**		**120.0400**	**120.0400**	**4.3500e-003**		**120.1487**

3.4 Building Construction - 2020

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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.4 Building Construction - 2020

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
Vendor	0.0294	0.9248	0.2233	2.3500e-003	0.0542	4.1400e-003	0.0583	0.0156	3.9600e-003	0.0196		246.2877	246.2877	0.0120		246.5868
Worker	0.2096	0.1521	1.6288	3.7800e-003	0.3861	3.2500e-003	0.3893	0.1024	2.9900e-003	0.1054		376.1253	376.1253	0.0136		376.4659
Total	**0.2390**	**1.0769**	**1.8521**	**6.1300e-003**	**0.4403**	**7.3900e-003**	**0.4476**	**0.1180**	**6.9500e-003**	**0.1250**		**622.4131**	**622.4131**	**0.0256**		**623.0527**

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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.4 Building Construction - 2020

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
Vendor	0.0294	0.9248	0.2233	2.3500e-003	0.0542	4.1400e-003	0.0583	0.0156	3.9600e-003	0.0196		246.2877	246.2877	0.0120		246.5868
Worker	0.2096	0.1521	1.6288	3.7800e-003	0.3861	3.2500e-003	0.3893	0.1024	2.9900e-003	0.1054		376.1253	376.1253	0.0136		376.4659
Total	**0.2390**	**1.0769**	**1.8521**	**6.1300e-003**	**0.4403**	**7.3900e-003**	**0.4476**	**0.1180**	**6.9500e-003**	**0.1250**		**622.4131**	**622.4131**	**0.0256**		**623.0527**

3.5 Paving - 2020

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	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005		1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2303**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**		**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

3.5 Paving - 2020

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
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
Worker	0.0892	0.0647	0.6931	1.6100e-003	0.1643	1.3800e-003	0.1657	0.0436	1.2700e-003	0.0449		160.0533	160.0533	5.8000e-003		160.1983
Total	**0.0892**	**0.0647**	**0.6931**	**1.6100e-003**	**0.1643**	**1.3800e-003**	**0.1657**	**0.0436**	**1.2700e-003**	**0.0449**		**160.0533**	**160.0533**	**5.8000e-003**		**160.1983**

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	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005	0.0000	1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2303**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**	**0.0000**	**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

3.5 Paving - 2020

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
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
Worker	0.0892	0.0647	0.6931	1.6100e-003	0.1643	1.3800e-003	0.1657	0.0436	1.2700e-003	0.0449		160.0533	160.0533	5.8000e-003		160.1983
Total	**0.0892**	**0.0647**	**0.6931**	**1.6100e-003**	**0.1643**	**1.3800e-003**	**0.1657**	**0.0436**	**1.2700e-003**	**0.0449**		**160.0533**	**160.0533**	**5.8000e-003**		**160.1983**

3.5 Paving - 2021

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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.0466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1405**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**		**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

3.5 Paving - 2021

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
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
Worker	0.0836	0.0588	0.6425	1.5700e-003	0.1643	1.3600e-003	0.1657	0.0436	1.2500e-003	0.0448		156.0691	156.0691	5.3400e-003		156.2025
Total	**0.0836**	**0.0588**	**0.6425**	**1.5700e-003**	**0.1643**	**1.3600e-003**	**0.1657**	**0.0436**	**1.2500e-003**	**0.0448**		**156.0691**	**156.0691**	**5.3400e-003**		**156.2025**

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	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.0466					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1405**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**	**0.0000**	**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

3.5 Paving - 2021

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
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
Worker	0.0836	0.0588	0.6425	1.5700e-003	0.1643	1.3600e-003	0.1657	0.0436	1.2500e-003	0.0448		156.0691	156.0691	5.3400e-003		156.2025
Total	**0.0836**	**0.0588**	**0.6425**	**1.5700e-003**	**0.1643**	**1.3600e-003**	**0.1657**	**0.0436**	**1.2500e-003**	**0.0448**		**156.0691**	**156.0691**	**5.3400e-003**		**156.2025**

3.6 Architectural Coating - 2021

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	99.6139					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**99.8328**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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
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
Worker	0.0376	0.0264	0.2891	7.1000e-004	0.0739	6.1000e-004	0.0745	0.0196	5.6000e-004	0.0202		70.2311	70.2311	2.4000e-003		70.2911
Total	**0.0376**	**0.0264**	**0.2891**	**7.1000e-004**	**0.0739**	**6.1000e-004**	**0.0745**	**0.0196**	**5.6000e-004**	**0.0202**		**70.2311**	**70.2311**	**2.4000e-003**		**70.2911**

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	99.6139					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**99.8328**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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
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
Worker	0.0376	0.0264	0.2891	7.1000e-004	0.0739	6.1000e-004	0.0745	0.0196	5.6000e-004	0.0202		70.2311	70.2311	2.4000e-003		70.2911
Total	**0.0376**	**0.0264**	**0.2891**	**7.1000e-004**	**0.0739**	**6.1000e-004**	**0.0745**	**0.0196**	**5.6000e-004**	**0.0202**		**70.2311**	**70.2311**	**2.4000e-003**		**70.2911**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Pedestrian Network

	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	0.8230	4.1353	9.5066	0.0300	2.4179	0.0249	2.4428	0.6473	0.0232	0.6705		3,038.6682	3,038.6682	0.1366		3,042.0823
Unmitigated	0.8296	4.1770	9.6578	0.0306	2.4673	0.0253	2.4926	0.6605	0.0237	0.6842		3,094.3240	3,094.3240	0.1384		3,097.7845

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	375.63	408.12	345.99	1,067,991	1,046,631
Parking Lot	0.00	0.00	0.00		
Total	375.63	408.12	345.99	1,067,991	1,046,631

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
Apartments Low Rise	10.80	7.30	7.50	40.20	19.20	40.60	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.615376	0.037728	0.150170	0.105389	0.017165	0.005087	0.018058	0.036632	0.002196	0.001885	0.007444	0.001552	0.001318
Parking Lot	0.615376	0.037728	0.150170	0.105389	0.017165	0.005087	0.018058	0.036632	0.002196	0.001885	0.007444	0.001552	0.001318

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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	0.0275	0.2352	0.1001	1.5000e-003		0.0190	0.0190		0.0190	0.0190		300.1988	300.1988	5.7500e-003	5.5000e-003	301.9828
NaturalGas Unmitigated	0.0275	0.2352	0.1001	1.5000e-003		0.0190	0.0190		0.0190	0.0190		300.1988	300.1988	5.7500e-003	5.5000e-003	301.9828

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					
Apartments Low Rise	2551.69	0.0275	0.2352	0.1001	1.5000e-003		0.0190	0.0190		0.0190	0.0190		300.1988	300.1988	5.7500e-003	5.5000e-003	301.9828
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
Total		**0.0275**	**0.2352**	**0.1001**	**1.5000e-003**		**0.0190**	**0.0190**		**0.0190**	**0.0190**		**300.1988**	**300.1988**	**5.7500e-003**	**5.5000e-003**	**301.9828**

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					
Apartments Low Rise	2.55169	0.0275	0.2352	0.1001	1.5000e-003		0.0190	0.0190		0.0190	0.0190		300.1988	300.1988	5.7500e-003	5.5000e-003	301.9828
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
Total		**0.0275**	**0.2352**	**0.1001**	**1.5000e-003**		**0.0190**	**0.0190**		**0.0190**	**0.0190**		**300.1988**	**300.1988**	**5.7500e-003**	**5.5000e-003**	**301.9828**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	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	1.9587	0.9054	5.0785	5.6800e-003		0.0948	0.0948		0.0948	0.0948	0.0000	1,094.8281	1,094.8281	0.0291	0.0199	1,101.4894
Unmitigated	89.0916	1.7580	112.3954	0.1953		15.1236	15.1236		15.1236	15.1236	1,582.9887	672.3575	2,255.3462	1.4691	0.1245	2,329.1779

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	0.4913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2248					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	87.2325	1.7036	107.6791	0.1951		15.0976	15.0976		15.0976	15.0976	1,582.9887	663.8824	2,246.8710	1.4608	0.1245	2,320.4971
Landscaping	0.1431	0.0544	4.7164	2.5000e-004		0.0260	0.0260		0.0260	0.0260		8.4751	8.4751	8.2300e-003		8.6808
Total	**89.0917**	**1.7580**	**112.3954**	**0.1953**		**15.1236**	**15.1236**		**15.1236**	**15.1236**	**1,582.9887**	**672.3575**	**2,255.3461**	**1.4691**	**0.1245**	**2,329.1779**

6.2 Area by SubCategory

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	0.4913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2248					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0996	0.8510	0.3621	5.4300e-003		0.0688	0.0688		0.0688	0.0688	0.0000	1,086.3529	1,086.3529	0.0208	0.0199	1,092.8086
Landscaping	0.1431	0.0544	4.7164	2.5000e-004		0.0260	0.0260		0.0260	0.0260		8.4751	8.4751	8.2300e-003		8.6808
Total	**1.9587**	**0.9054**	**5.0785**	**5.6800e-003**		**0.0948**	**0.0948**		**0.0948**	**0.0948**	**0.0000**	**1,094.8281**	**1,094.8281**	**0.0291**	**0.0199**	**1,101.4894**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

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

APPENDIX B

ROADMOD MODELING RESULTS

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 34 is not summed over overlapping phases.

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Avenue R Apartments(Palmdale)				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	0.00	0.00	0.25	54.70	0.00	54.70	11.38	0.00	11.38	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (pounds/day)	0.00	0.00	0.25	54.70	0.00	54.70	11.38	0.00	11.38	0.00	0.00	0.00	0.00	0.00
Total (tons/construction project)	0.00	0.00	0.00	0.41	0.00	0.41	0.09	0.00	0.09	0.00	0.00	0.00	0.00	0.00

Notes:

Project Start Year ->	2020
Project Length (months) ->	1
Total Project Area (acres) ->	5
Maximum Area Disturbed/Day (acres) ->	5
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	0	0
Grading/Excavation	667	0	0	0	0	0
Drainage/Utilities/Sub-Grade	0	0	0	0	0	0
Paving	0	0	0	0	0	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Avenue R Apartments(Palmdale)				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	PM10 (tons/phase)	PM10 (tons/phase)	PM10 (tons/phase)	PM2.5 (tons/phase)	PM2.5 (tons/phase)	PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	0.00	0.00	0.00	0.41	0.00	0.41	0.09	0.00	0.09	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum (tons/phase)	0.00	0.00	0.00	0.41	0.00	0.41	0.09	0.00	0.09	0.00	0.00	0.00	0.00	0.00
Total (tons/construction project)	0.00	0.00	0.00	0.41	0.00	0.41	0.09	0.00	0.09	0.00	0.00	0.00	0.00	0.00

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model **Version 9.0.0**

Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a
yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Input Type

Project Name	Avenue R Apartments(Palmdale)	
Construction Start Year	2020	Enter a Year between 2014 and 2040 (inclusive)
Project Type For 4: Other Linear Project Type, please provide project specific off-road equipment population and vehicle trip data	4	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	1.00	month
Working Days per Month	15.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	0.12	miles
Total Project Area	5.47	acres
Maximum Area Disturbed/Day	5.47	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing	0.00	0.00	0.00
	Grading/Excavation	20.00	0.00	666.67
	Drainage/Utilities/Sub-Grade	0.00	0.00	0.00
	Paving	0.00	0.00	0.00
Asphalt	Grubbing/Land Clearing	0.00	0.00	0.00
	Grading/Excavation	0.00	0.00	0.00
	Drainage/Utilities/Sub-Grade	0.00	0.00	0.00
	Paving	0.00	0.00	0.00

Mitigation Options

On-road Fleet Emissions Mitigation	No Mitigation	Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation	No Mitigation	Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

The remaining sections of this sheet contain areas that require modification when 'Other Project Type' is selected.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing	0.00	0.10		1/1/2020
Grading/Excavation	1.00	0.45		1/1/2020
Drainage/Utilities/Sub-Grade	0.00	0.30		2/1/2020
Paving	0.00	0.15		2/1/2020
Totals (Months)	1			

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing				0	0.00
Miles/round trip: Grading/Excavation				34	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade				0	0.00
Miles/round trip: Paving				0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/mile)	0.53	1.30	7.55	0.24	0.17	0.02	1,892.05	0.02	0.30	1,981.28
Draining/Utilities/Sub-Grade (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grubbing/Land Clearing (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing				0	0.00
Miles/round trip: Grading/Excavation				0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade				0	0.00
Miles/round trip: Paving				0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/mile)	0.53	1.30	7.55	0.24	0.17	0.02	1,892.05	0.02	0.30	1,981.28
Draining/Utilities/Sub-Grade (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grubbing/Land Clearing (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions User Input	User Override of Worker Commute Default Values	Default Values	Calculated Daily Trips	Calculated Daily VMT
Miles/ one-way trip				
One-way trips/day				
No. of employees: Grubbing/Land Clearing			0	0.00
No. of employees: Grading/Excavation			0	0.00
No. of employees: Drainage/Utilities/Sub-Grade			0	0.00
No. of employees: Paving			0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/mile)	0.02	1.22	0.11	0.05	0.02	0.00	350.90	0.01	0.01	353.67
Draining/Utilities/Sub-Grade (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grubbing/Land Clearing (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	1.25	3.05	0.37	0.00	0.00	0.00	75.08	0.09	0.04	88.34
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions User Input	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Round Trips/Vehicle/Day	Default Values Round Trips/Vehicle/Day	Calculated Trips/day	User Override of Miles/Round Trip	Default Values Miles/Round Trip	Calculated Daily VMT
Grubbing/Land Clearing - Exhaust								0.00
Grading/Excavation - Exhaust								0.00
Drainage/Utilities/Subgrade								0.00
Paving								0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/mile)	0.53	1.30	7.55	0.24	0.17	0.02	1,892.05	0.02	0.30	1,981.28
Draining/Utilities/Sub-Grade (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grubbing/Land Clearing (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing			0.00	0.00	0.00	0.00
Fugitive Dust - Grading/Excavation			54.70	0.41	11.38	0.09
Fugitive Dust - Drainage/Utilities/Subgrade			0.00	0.00	0.00	0.00

Values in cells D195 through D228, D246 through D279, D297 through D330, and D348 through D381 are required when 'Other Project Type' is selected.

Off-Road Equipment Emissions

Grubbing/Land Clearing	Default Number of Vehicles	Override of	Mitigation Option Default		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles		Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing		pounds per day	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing		tons per phase	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Grading/Excavation	Default Number of Vehicles	Override of	Mitigation Option Default		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles	Equipment Tier	Type		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation		pounds per day	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation		tons per phase	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Drainage/Utilities/Subgrade	Default Number of Vehicles	Mitigation Option: Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*		Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equiprr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles	Equipment Tier	Type		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage/Utilities/Sub-Grade		pounds per day	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage/Utilities/Sub-Grade		tons per phase	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Paving	Default Number of Vehicles	Mitigation Option: Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*		Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equiprr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Paving	pounds per day	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	tons per phase	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions all Phases (tons per construction period) =>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Equipment default values for horsepower and hours/day can be overridden in cells D403 through D436 and F403 through F436.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		221		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		231		8
Crawler Tractors		212		8
Crushing/Proc. Equipment		85		8
Excavators		158		8
Forklifts		89		8
Generator Sets		84		8
Graders		187		8
Off-Highway Tractors		124		8
Off-Highway Trucks		402		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		168		8
Pavers		130		8
Paving Equipment		132		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		80		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		247		8
Rubber Tired Loaders		203		8
Scrapers		367		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		263		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		97		8
Trenchers		78		8
Welders		46		8

END OF DATA ENTRY SHEET

APPENDIX C

BIOLOGICAL ASSESSMENT

AVENUE "R" SITE
AVENUE R AND 30TH STREET EAST
PALMDALE, CALIFORNIA

BIOLOGICAL ASSESSMENT, JURISDICTIONAL DELINEATION AND BURROWING OWL PROTOCOL SURVEY (PHASE I HABITAT ASSESSMENT AND PHASE II BURROW SURVEY)

APN #: 3020-005-019
UTM: 11-S: 392,940mE; 3,827,800mN

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14 Janu~~ary 2019 20 Apr~~il 2021
19 May 2021

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AVENUE "R" SITE
AVENUE R AND 30TH STREET EAST
PALMDALE, CALIFORNIA

BIOLOGICAL ASSESSMENT AND JURISDICTIONAL DELINEATION BURROWING OWL SURVEY (PHASE I HABITAT ASSESSMENT AND PHASE II BURROW SURVEY)

~~14 January 2019, 20 April 2021~~
19 May 2021

SUMMARY

A biological assessment, including botany, vegetation mapping, zoology, and Phase I and Phase II Burrowing Owl survey, and a jurisdictional delineation were conducted on the approximately 5.46-acre site in the City of Palmdale, Los Angeles County, California. The assessment was performed to identify biological resources and sensitive species that are present and would be impacted by development or preserved by conservation of portions of the site as biological open space, and to delineate the extent of jurisdictional drainages involved with development of the site.

The survey identified four vegetation/habitat types: Disturbed Habitat, Non-native Grassland, Rabbitbrush Scrub, and Southern Willow Scrub. The property includes a jurisdictional state-defined streambed that would be impacted by the project; a streambed alteration agreement should be obtained from the California Department of Fish and Wildlife. No endemic or other special-status species were detected on the property during the survey.

This report has been updated to also address concerns for the Silvery Legless Lizard (*Anniella pulchra pulchra*) potential on the site.

INTRODUCTION

PURPOSE OF THE STUDY

Pacific Southwest Biological Services, Inc., (Pacific Southwest), at the request of Ms. Caitlin Barrow, conducted a general biological assessment and jurisdictional delineation on the site. The purpose of the survey was to document biological resources and/or any sensitive species occurring on the 5.46-acre site, as well as the extent of jurisdictional drainages affected by the proposed development. This report summarizes the current biological conditions of the property, the results of the surveys, and includes an analysis impacts from the proposed project. This report provides the project applicant, the City of Palmdale, resource agencies, and the public with current biological data to satisfy the review of the project under the California Environmental Quality Act (CEQA) in association with subsequent permits required for development of the lots. It is anticipated that the information herein will be available for public agency review.

Project Location

The project site is located in the eastern portion of the City of Palmdale, Los Angeles County, California (Figure 1). The map location of the site is within the extreme southwest quarter of

Section 29, Township 6 North, Range 12 West, of the San Bernardino Base and Meridian; USGS 7.5' Palmdale, California quadrangle (UTM: 11-S: 392,940mE; 3,827,800mN; Lat. 34° 35' 17.5"N; Long. 118° 10' 2.5"E). Access to the site from State Route 14 (Antelope Valley Freeway) is east on Avenue R to the intersection; the site is in the northeast quadrant (Figures 2 & 3).

Surrounding land uses include residential housing to the east, south, and west. North of the western half of the property are the buildings, grounds, and parking areas of a church. North of the eastern half is undeveloped land where the drainage continues off-site to the northeast.

Project Description
The proposed project consists of a site preparation and construction of residential units, with parking, and a recreation building.

METHODS, SURVEY LIMITATIONS AND DEFINITIONS

METHODS
Prior to the field investigation, Pacific Southwest searched the California Department of Fish and Wildlife's (CDFW) Natural Diversity Data Base (CNDDB) for the USGS 7.5' Palmdale, California quadrangle. This search revealed several federally- and state-listed species that may occur within the vicinity of the property. Pacific Southwest reviewed a recent aerial photograph (via Google Earth-2006) for potential drainage patterns and vegetation types. Pacific Southwest also reviewed a soil survey map (Woodruff 1970) of the project site and vicinity for soil types, including hydric soils. Pacific Southwest reviewed the USGS 7.5' Palmdale, California quadrangle for blue-line streams. Photographs of the property were taken during the field surveys (Attachment 1).

Biologist R. Mitchel Beauchamp performed the wetlands delineation and Phase I Burrowing Owl habitat assessment of the property. This report was prepared by Mr. Beauchamp, who has in excess of 45 years of experience as a biologist in southern California. Mr. Beauchamp is a Certified Wetland Delineator (#1697). A general zoological and botanical survey was conducted by Mr. Beauchamp to identify and map vegetation communities on the property, and to determine the presence or potential presence of sensitive plant species and habitats, and sensitive animal species. All surveys were conducted on foot. The general field conditions during the field visit are summarized in Table 1.

Table 1. Summary of Field Conditions for Biological Surveys

DATE	PERSONNEL	TIME	FIELD CONDITIONS	SURVEY TYPE
5 April 2006	N. Bouscaren	0750-1015	60°F, light intermittent rain, winds calm	Wetland Delineation, Burrowing Owl Phase I
7 April 2006	G. Rogers & B. Primrose	1030-1135	64°F, skies clear, winds calm	Botany, Zoology, Burrowing Owl Phase II
20-21 December 2019	Beauchamp	2300-0750	45°F, winds calm	Wetlands Delineation, Burrowing Owl Phase I Biology Survey

5 April 2021	Beauchamp	0840-0945	65°F, winds calm	Observation of channel clearing to remove drug addict encampment and monitor ground squirrel burrows.

Methods for the botanical survey consisted of walking slowly over the site, observing the flora and vegetation and recording observations as they were made. Methods for the zoological survey consisted of walking slowly through the site while watching and listening for wildlife. "Pishing," a technique commonly used to attract the interest of passerines and draw them into view, was occasionally employed. Binoculars (10x42) were used to assist in the detection and identification of wildlife. Species presence was confirmed by visual observation and/or auditory detection, tracks, scats, bones, dens and burrows. The property area is of such size that the entire area could be covered during one visit. A prior survey was made of the site in 2009 (Pacific Southwest Biological Services 2009).

SURVEY LIMITATIONS

Complete biological inventories of sites often require a large number of field hours during different seasons as well as nocturnal sampling for some animal groups, such as small mammals. Depending on the season during which the field survey is conducted, insects, amphibians, snakes, many mammals, owls and other nocturnal birds, and annual plants are groups that can be difficult to inventory. Many groups of vertebrates are difficult to detect during short-term field surveys. Some, such as migratory or nomadic birds, may be absent from the site while the fieldwork is being conducted. Species that are declining or have naturally patchy patterns of distribution may not be present in areas of what appears to be suitable habitats. However, through literature review, study of museum records, and knowledge of the habitat requirements and distribution patterns of individual species, the probability of a given species being present on a site can often be quite accurately predicted.

DEFINITIONS

Vegetation Communities

Vegetation communities are assemblages of plant species that usually coexist in the same area. The classification of vegetation communities is based upon the life form of the dominant species within that community and the associated flora. The nomenclature for vegetation communities follows Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986) as modified by Oberbauer (1996).

Wildlife Habitats

Wildlife habitats differ from vegetation communities in that a wildlife habitat may contain several vegetation communities that are similar in structure but different in plant species composition, location, and soil substrate. This distinction becomes an important factor when assessing the sensitivity of a particular wildlife habitat. In addition, the interaction of various wildlife species occurs between many different wildlife habitats. This becomes more evident where these habitats overlap in areas known as ecotones. These ecotones support a combination of the species from two or more adjoining habitats that generally increases the number and diversity of species within these areas. Wildlife habitats encountered on the project site approximate the vegetation communities discussed below.

Nomenclature
The scientific nomenclature used in this report is from the following standard references: vascular plants (Hickman 1993); vegetation communities (Holland 1986, Oberbauer 1996); wildlife habitats (Mayer and Laudenslayer 1988); birds (American Ornithologists' Union 1998); and mammals (Jameson and Peeters 1988).

SURVEY RESULTS

GENERAL PHYSIOGRAPHY

The site lies on the broad bajada on the north side of the San Gabriel Mountains, in the far southwest of the Mojave Desert. An unnamed drainage runs northeasterly through the property. Geologic strata are mapped as Quaternary recent alluvium (Jennings and Strand 1969). Soils for the project area are mapped as Hanford sandy loam, 0-2% slopes, and Adelanto coarse sandy loam, 0-2% slopes (Woodruff *et al.* 1970). Elevation ranges from a high of approximately 2,625 feet above mean sea level in the southwestern corner to a low of approximately 2,620 feet in the channel of the drainage in the northeastern corner.

BOTANICAL RESOURCES

Vegetation
The survey of the parcel identified four vegetation/habitat types: Disturbed Habitat, Non-native Grassland, Rabbitbrush Scrub, and Southern Willow Scrub (Figure 3). The types occurring on the property are discussed below, with the appropriate Holland (1986) element code.

Disturbed Habitat (#11300) (0.35 acre)
Disturbed Habitat occurs adjacent to Avenue R on the south of the property, where a swath of bare ground, 20-25 feet wide, is virtually devoid of vegetation for the length of the pavement.

Non-native Grassland (#42200) (4.88 acres)
Non-native Grassland occupies the majority of the property on the site and is dominated by a number of weedy forbs, such as Tansy Mustard (*Descurainia pinnata* ssp. *halictorum*), Shortpod Mustard (*Hirschfeldia incana*), London Rocket (*Sisymbrium irio*), Russian Thistle (*Salsola tragus*), Red-Stem Filaree (*Erodium cicutarium*), and Doveweed (*Eremocarpus setigerus*), and by non-native grasses such as Red Brome (*Bromus madritensis* ssp. *rubens*), Hare Barley (*Hordeum jubatum*), and Mediterranean Schismus (*Schismus barbatus*). A number of dirt roads and scattered trash disturb the vegetation.

Southern Willow Scrub (#63320) (0.13 acre)
Southern Willow Scrub, represented by Narrow-Leaved Willow (*Salix exigua*) and Red Willow (*S. laevigata*), occurs along the drainage from approximately 65 feet northeast of the intersection for its length on the site and continuing off-site to the northeast, with an approximately 30-foot gap. The willows occur only on the southeast side of the drainage, presumably because of periodic clearing on the northwest side.

Rabbitbrush Scrub (#35400) (0.02 acre)
A remnant of Rabbitbrush Scrub occurs on the northwest side of the drainage on a small hill in the northwest corner, with typical shrubs such as Rubber Rabbitbrush (*Chrysothamnus nauseosus*), Desert Tea (*Ephedra californica*), and Fourwing Saltbush (*Atriplex canescens*). This

area is disturbed by the presence of several of the weeds found in the Non-native grassland on the property. The presence of this remnant suggests that Rabbitbrush Scrub was the natural vegetation in this area prior to anthropogenic activity on the property.

Flora
Forty-five species of plants were observed on the property, of which 19 (42%) are non-native, indicative of the disturbed nature of the vegetation (Appendix 1).

ZOOLOGICAL RESOURCES
Fauna
Thirteen species of birds were detected on the property. (Appendix 2).

Birds
Among the avian species observed are the Mourning Dove (*Zenaida macroura*), Anna's Hummingbird (*Calypte anna*), Northern Flicker (*Colaptes aurata*), American Crow (*Corvus brachyrhynchos*), Northern Mockingbird (*Mimus polyglottos*), and House Finch (*Carpodacus mexicanus*). These and the other birds observed are common and widespread in southern California. The California Gulls (*Larus californicus*) were attracted to the site by an apparently persistent placement of waste food on the site.

Mammals
One mammal, the California Ground Squirrel (*Spermophilus beecheyi*), was observed during the 2009 survey, but not in the present investigation. No active burrows were noted, just abandoned trash-filled or web-covered holes.

Burrowing Owl (*Athene cunicularia*)
The Burrowing Owl was listed as a California Species of Special Concern in 1979; it is protected under the federal Migratory Bird Treaty Act and California Fish and Game Code, but has no special protection under the federal and California endangered species acts.

Burrowing Owl Habitat
Burrowing Owl habitat typically consists of annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation, or trees and shrubs if the canopy covers less than 30% of the ground surface. Burrows are the essential component of Burrowing Owl habitat; both natural and artificial burrows provide protection, shelter, and nests for the Burrowing Owl. The Burrowing Owl typically uses burrows made by fossorial mammals, such as the California Ground Squirrel and American Badger (*Taxidea taxus*), but may also use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement (Lincer and Steenhof 1997).

Phase I habitat assessment
The site visit on 21 December 2018 included the Phase I habitat assessment for the Burrowing Owl. The assessment determined that potential habitat for the Burrowing Owl was present on the property and within 500 feet of the site boundary on the north side, although the habitat is not optimal and residential development in the vicinity limits the extent of the habitat.

Phase II burrow survey
The survey was conducted according to accepted protocol (Lincer and Steenhof 1997). The entire project site was walked, using survey transects spaced to allow 100% visual coverage of the ground surface. Burrows of the California Ground Squirrel are numerous along both sides of the drainage. These burrows, and all potential areas and their environs were examined for such evidence of Burrowing Owl presence as molted feathers, cast pellets, prey remains, eggshell fragments, and excrement. No such evidence was observed on or within 500 feet of the site. The Burrowing Owl was not observed on or near the property during the present or past surveys.

Of concern is the Burrowing Owl which has been addressed above. The disturbed, exposed nature of the site precludes any utilization of the site since the last protocol survey and no pre-construction survey is indicated.

Silvery Legless Lizard
Subsequent to the issuance of the 14 January 2019 focused survey, comments were received on the status of the Silvery Legless Lizard potential on the site. The 14 April 2006 biology assessment of the site indicated that there was moderate potential for the lizard on the site. The lizard is listed by California Department of Fish and Wildlife as a Special of Special Concern. The species is widespread in sandy substrate conditions from the San Francisco Bay area, southward into Baja California. On the site, the presence of the sandy soil along the site drainage is the habitat referenced in the prior 2006 assessment. The distribution and abundance of this lizard does not warrant special attention at this site due to the relict nature of the drainage within prior development, the disturbed nature of the drainage with debris and the heavy storm flows and associated erosion that accompanies storms from the hardened watershed. The statement in the 2006 assessment that "No sensitive animal species or narrow endemic species occur on the property. The development of the project would not impact any sensitive animal species. This effect is considered less-than-significant under CEQA" is still valid.

Rare, Threatened, Endangered, Endemic and/or Sensitive Plant Species
The CNDDB search revealed only one sensitive species known from the general project area (Appendix 3). Appendix 3 lists this species, its conservation status, typical habitat requirements, and potential for occurrence on the property. No sensitive plant species or narrow endemic species were detected on the property during the survey, although a directed search for such was conducted during the survey. Appendix 5 lists those taxa in the state CNDDB data base for the 8 quadrangles surrounding the Palmdale quadrangle.

Rare, Threatened, Endangered, Endemic and/or Sensitive Animal Species and Habitats
The CNNDB search revealed several federally- or state- listed animal species that are known from the general project vicinity. Appendix 4 lists these species, their conservation status, their typical habitat requirements, and potential for occurrence on the property.

JURISDICTIONAL DRAINAGES, WETLANDS AND/OR WATERS OF THE U. S.
SUMMARY OF JURISDICTIONAL REGULATIONS
Three key agencies regulate activities within inland streams, wetlands, and riparian areas in California. The U. S. Army Corps of Engineers (Corps) Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act, and Section 10 of the Rivers and

Harbors Act. The California Department of Fish and Wildlife (CDFW) regulates activities under the Fish and Game Code Section 1600-1607. The Regional Water Quality Control Board (RWQCB) regulates activities under Section 401 of the federal Clean Water Act and the California Porter-Cologne Act Water Quality Control Act.

WETLANDS-RELATED REGULATIONS

Wetlands are considered important resources because of their habitat value, water quality function, and potential flood hazards and other reasons. Typically, local, state and federal agencies have regulations regarding identification, protection, and permitting of wetlands (or jurisdictional areas) uses; these are generally discussed below.

State of California

Regional Water Quality Control Board

The Lahontan Regional Water Quality Control Board (RWQCB) in Victorville is the primary agency responsible for protecting water quality in this region of California. The RWQCB regulates discharges to surface waters under the federal Clean Water Act and the California Porter-Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all waters of the State and to all waters of the United States, including wetlands.

The federal Clean Water Act, Section 401 gives the RWQCB the authority to regulate, through 401 Certification, any proposed federally permitted activity, which may affect water quality. Among such activities are discharges of dredged or fill material permitted by the Corps under the Clean Water Act, Section 404. Certification or waiver must be based on a finding that the proposed discharge will comply with water quality standards. The RWQCB may require permits for this project; no separate delineation needs to be carried out in this document for certification.

California Department of Fish and Wildlife

The State of California regulates activities in rivers, streams, and lakes pursuant to Sections 1600-1603 of the California Fish and Game Code. These sections discuss the process by which an individual, government agency, or public utility must notify the California Department of Fish and Wildlife (CDFW) prior to any activity that would "substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream, or lake…" Following such notification, CDFW must inform the individual, agency, or utility of the existence of any fish and wildlife resources that may be substantially adversely affected by the activity. CDFW must also include a proposal for measures to protect fish and wildlife resources. The proposal is called a "Streambed Alteration Agreement" (1601 Agreement for public agencies and utilities, and a 1603 Agreement for private party activities). Administration of this area is initially out of the CDFW's San Diego Region Office and perhaps later out of the Chino Hills office.

Jurisdictional limits of the CDFW are not as clearly defined by regulation as those of the ACOE. While they closely resemble the limits described by Corps regulations, they exclude isolated wetlands (those not associated with a stream, river, or lake, such as isolated vernal pools) and include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, CDFW takes jurisdiction to the bank of the stream or to the outer limit of the adjacent riparian vegetation, which ever is greater.

However, the Fish and Game Commission has provided the definition of the jurisdictional extent of the Section 1600 regulations as an Appendix to the Fish and Game Code. **This definition follows that of the Service and requires only one of the three Corps criteria**.

CDFW defines wetlands as "Lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time of the growing season of each year." [Note: This is different from the Environmental Protection Agency and Corps definitions in that it requires no more than one criterion.]

Federal Agencies

U. S. Army Corps of Engineers

The U. S. Army Corps of Engineers (Corps) has regulatory authority over the discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act (CWA). The term "waters of the United States" includes (1) all waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide; (2) wetlands; (3) all waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use degradation or destruction of which could affect interstate or foreign commerce; (4) all impoundments of water mentioned above; (5) all tributaries of waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to the waters mentioned above. Under this definition, and in the absence of wetlands, the limits of the Corps' jurisdiction in non-tidal waters extends to the ordinary high water mark (OHWM), which is defined as "…that line on the shore established by the fluctuations if water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas".

Wetlands, a subset of jurisdictional waters, are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." The Corps has developed a methodology for determining the boundaries of jurisdictional wetlands known as the 1987 Manual (Environmental Laboratory 1987). The methodology set forth in the Manual is based on the following three indicators that are normally present in wetlands: (1) hydrology providing permanent or periodic inundation by groundwater or surface water, (2) hydric soils, and (3) hydrophytic vegetation. In order to be considered a wetland, an area must exhibit at least minimal hydric characteristics within these three parameters.

The situation in the Palmdale area is that the flows in drainages go into Rosamond and other Dry Lakes in the area and are not waters of the United States. They are isolated from connection

with navigable drainages and do not cross state boundaries**. Therefore, there is no Corps jurisdiction at this site.**

Environmental Protection Agency
The Environmental Protection Agency (EPA) regulates the Corps and the National Environmental Protection Act (NEPA) concerning the regulations of jurisdictional waters and wetlands. No special separate delineation needs to be carried out since the Clean water Act by which EPA has jurisdiction does not involve isolated waters at this site.

U. S. Fish and Wildlife Service
The U. S. Fish and Wildlife Service (Service) defines wetlands as "Lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate in non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year." Because the Service reviews permits processed by the Corps, no separate delineation needs to be carried out.

Regional Water Quality Control Board
The RWQCB is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under the federal CWA and the California Porter-Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all waters of the State and to all waters of the United States, including wetlands.

The CWA Section 401 gives the RWQCB the authority to regulate, through 401 Certification, any proposed federally-permitted activity that may affect water quality. Among such activities are discharges of dredged or fill material permitted by the Corps under CWA Section 404. Certification or waiver must be based on a finding that the proposed discharge will comply with water quality standards. The Lahontan Regional office out of Barstow has jurisdiction for the region of the project.

The notable characteristic of drainages in this area of the north slope of the San Gabriel Mountains is that they drain into the isolated basins of Rosamond Dry Lake and Rogers Dry Lake, and are not involved with interstate commerce. For this reason, under the current interpretation of the Clean Water Act, the RWQCB jurisdiction is only through the California Porter-Cologne Water Quality Control Act, not the CWA.

City of Palmdale
The property is under the guidelines of the Palmdale Municipal Code-Land Development Code (LDC). The City has no special code section relating to wetlands.

ACTIVITIES REQUIRING PERMITS
Any development proposal that involves impacting the jurisdictional drainages, streams, or wetlands on the site through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification would require permits

from the RWQCB, and the CDFW before any development could commence on the project site. Both permanent and temporary impacts are regulated and would trigger the need for permits. Processing of the Porter-Cologne Waste Discharge Permit and Section 1600 agreement can occur concurrently and can utilize the same information and analysis. Applications to both the RWQCB and the CDFW require submittal of a certified or adopted California Environmental Quality Act (CEQA) document along with the application.

The Corps has no jurisdiction over the drainage on this project due to the Supreme Court's landmark decision on isolated waters ("SWANNC" 2001). By this decision, the Court rejected the Corps' claim to jurisdiction under the CWA over **isolated, intrastate** waters.

METHODOLOGY

Analysis presented in this document is based on field surveys and verification of current conditions conducted on the site 5 April 2006. Measurements were taken with a 300-foot fiberglass tape. The conditions on 21 December 2018 were unchanged. The channel had recently experienced storm flows prior to the 2018 site inspection.

SITE CONDITIONS

A drainage feature runs northeast diagonally through the central portion of the site, entering the property through a culvert just north of the intersection of Avenue R and 30th Street East. On the USGS 7.5' Palmdale, California quadrangle this drainage is not mapped as a blue-line stream. Length of the drainage on the site is approximately 525 feet; channel width range on the site (bank to bank) is 12-16 feet. A strong surface flow of water 12-14 inches deep was visible in the drainage during the survey visit 5 April 2009 and major sheet flow from the intersection prior to reaching the channel was very evident.

The Soil Conservation Service classifies soils in the *Hydric Soils of the State of California* (USDA 1995). Soils in the drainage are mapped as Hanford sandy loam, 0-2% slopes, and Adelanto coarse sandy loam, 0-2% slopes (Woodruff *et al.* 1970). Neither is a hydric soil (USDA 1995).

To satisfy the Corps definition of wetlands, a site must have a prevalence (more than 50%) of hydrophytic vegetation. Predominant plant species in the drainage are Narrow-leaf Willow, Red Willow, and Mule Fat (*Baccharis salicifolia*), constituting a prevalence of hydrophytic vegetation (Environmental Laboratory 1987). Although the Corps has no jurisdiction on this project, this information is included to indicate that this satisfies the criterion for CDFW jurisdiction.

A primary wetland hydrology indicator is present in the form of pronounced bed and bank features in the drainage, also satisfying the criterion for CDFW jurisdiction.

CONCLUSION OF JURISDICTIONAL DELINEATION

CDFW (1600) Jurisdictional Delineation

Hydrology and vegetation criteria for CDFW jurisdiction are met along the drainage. The drainage has widths (bank to bank) of 12-16 feet along its approximately 525-foot reach on the site. Distances from the northwest bank of the drainage to the outer limit of the adjacent riparian

vegetation on the southeast bank varies from 24 feet to 38 feet, averaging 35 feet. The latter measurements indicate the extent of CDFW jurisdiction. There is no riparian vegetation for a distance of approximately 65 feet near the intersection, and for a gap of approximately 30 feet elsewhere farther downstream along the drainage on the property.

The extent of the jurisdictional area is as follows:

	Area/Length
Wetland on-site	0
Non-wetland waters on-site	0
Channel length (vegetated reach on site)	430 feet
CDFW Streambed area (vegetated reach)	0.35 acre
Channel length (no vegetation on reach)	95 feet
CDFW Streambed area (unvegetated reach)	0.01 acre
Total CDFW Streambed area	**0.36 acre**

FINDINGS
A state jurisdictional streambed occurs on the property.

RESOURCES/HABITAT EVALUATION
The principal habitat type exhibited on the property is Non-native Grassland. The property adjoins developed lands on all sides, with a small area of undeveloped vacant land north of the eastern half of the site.

REGIONAL AND LOCAL CONTEXT
When evaluating the significance of the biological resources occurring within a site, it is necessary to determine their importance within the region as a whole.

The property is not adjacent to any federal, state, or county wilderness, parks, preserves, or open space lands. Across 30th Street East to the northwest is William J. McAdam Park, a 20-acre community recreation park with playing fields and swimming pool.

REGULATORY ISSUES
Jurisdictional Wetlands, Waters of the U.S., Streams, and Drainages
The property includes a state-defined streambed. The property does not include any federally jurisdictional wetlands. The feature, however, is a CDFW streambed under state definitions. The soils mapped for the property are not listed as hydric soils, nor do the on-site soils exhibit hydric characteristics.

ANTICIPATED PROJECT IMPACTS TO BIOLOGICAL RESOURCES
PROJECT IMPACTS
Vegetation
The project, as designed, would impact all the on-site vegetation. The project, as designed, would also impact the drainage, although it's unnaturally arrow-straight dimension and absence of riparian vegetation on the northwest bank suggest that some channelization has taken place previously.

Disturbed Habitat
The project would impact 0.35 acre of Disturbed Habitat on the site. This effect is considered less-than-significant under CEQA.

Non-native Grassland
The project would impact 4.88 acres of Non-native Grassland. This effect is considered less-than-significant under CEQA.

Rabbitbrush Scrub
The project, as designed, would impact 0.02 acre of Rabbitbrush Scrub. Because of the small size of this remnant vegetation patch, this effect is considered less-than-significant under CEQA.

Southern Willow Scrub
The project would impact 0.21 acre of Southern Willow Scrub. This effect is considered potentially significant under CEQA but would be mitigated to a less-than-significant level under CEQA by implementation of the mitigation measure requiring a streambed alteration agreement from the Department of Fish and Wildlife and Waste Discharge Permit from the Regional Board.

Sensitive Species
Plants
No sensitive plant species or narrow endemic species occur on the property. The development of the project would not impact any sensitive plant species. This effect is considered less-than-significant under CEQA.

Animals
No sensitive animal species or narrow endemic species occur on the property. The development of the project would not impact any sensitive animal species. This effect is considered less-than-significant under CEQA.

Jurisdictional Streambeds
The project would impact approximately 0.36 acre of a CDFW streambed. This effect is considered potentially significant under CEQA but would be mitigated to a less-than-significant level under CEQA by implementation of the mitigation measure requiring a streambed alteration agreement from the Department of Fish and Wildlife.

INDIRECT IMPACTS
Incremental Loss of Habitat Viability
Indirect and long-term impacts associated with the project would result from occupation of the area by human residents. Non-native mesopredators, defined as medium-sized mammalian nest predators such as dogs and cats, and/or exotic plant species would probably be introduced into the surrounding habitat. This introduction of non-native species could potentially degrade the surrounding native vegetation and habitat and disturb/kill native wildlife species. However, since the project site is already essentially surrounded by urban development, this effect would be less-than-significant under CEQA.

General Construction Effects

Short-term Construction Impacts

During the construction phase of the proposed project, there is the potential of increased noise (which may displace local wildlife and nesting birds), fugitive dust, and increased runoff resulting in a reduction of water quality during rainstorms; see recommended mitigation measure.

Post Construction

Stormwater runoff from the streets, driveways and yards may flow into off site drainages or undeveloped land, which may increase erosion and introduce urban pollution into the environment.

RECOMMENDED MITIGATION/MONITORING MEASURES

JURISDICTIONAL STREAMBEDS

The project should be conditioned to obtain a Streambed Alteration Agreement from CDFW and Waste Discharge Permit from the Regional Board prior to any clearing, grubbing, grading or construction.

Breeding Season Avoidance: Nesting Migratory Birds

Federal regulations apply to a number of resources typically found in southern California, including the Migratory Bird Treaty Act which protects all native species of birds, while specific regulations, such as the Bald Eagle and Golden Eagle Protection Act (United States Code, Title 16, et seq.) prohibits the taking of these species without appropriate permits. The federal Endangered Species Act of 1973 (16 U.S.C. §§ 1531-1544, December 28, 1973, as amended 1976-1982 and 1988), as amended, protects taking of species of plants and animals listed as Threatened or Endangered.

To avoid any direct and indirect impacts to raptors and/or any migratory birds, removal of habitat (clearing and/or grading) that may support active nests should occur outside of the combined breeding season of February 15- August 15 for these species. In addition, construction activities adjacent to nesting habitat should also occur outside of the breeding season for these species. If removal of habitat and/or construction activities adjacent to nesting habitat must occur during the breeding season, the applicant should retain a qualified biologist to conduct a pre-construction survey to determine the presence or absence of nesting birds on and within 300 feet of the construction area and nesting raptors within 500 feet of the construction area. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, the results of which must be submitted to the City for review and approval prior to initiating any construction activities. If nesting birds are detected by the biologist, a bio-monitor should be present on-site during construction to minimize construction impacts and ensure that no nest is removed or disturbed until all young have fledged.

GENERAL CONSTRUCTION EFFECTS

Short-term Construction Impacts

Any clearing, grubbing or grading permits for the project should be conditioned to require that Standard Best Management Practices (BMP's) be employed to control noise, dust and runoff during this phase of construction. Measures may include the use of retention basins and sand

bags, application of water on unpaved, unvegetated surfaces.

Post Construction

Any clearing, grubbing or grading permits for the project should be conditioned to employ Post-Construction BMP's to reduce off-site stormwater, irrigation runoff and urban pollution from entering native habitats.

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CERTIFICATION

Certification: "*I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.*"

DATE: ~~20 April 2021~~ 19 May 2021 SIGNED:

R. Mitchel Beauchamp, M. Sc.

APPENDIX 1. FLORAL CHECKLIST – AVENUE R AND 30TH STREET EAST, PALMDALE, CALIFORNIA

GYMNOSPERMS

Ephedraceae - Ephedra Family
Ephedra californica Wats. Desert Tea

DICOTYLEDONS

Amaranthaceae - Amaranth Family
Amaranthus blitoides S. Wats. Prostrate Amaranth
Atriplex canescens (Pursh) Nutt. ssp. *canescens* Four-wing Saltbush
Atriplex fasciculata (Torr.) S. Wats.
* *Chenopodium ambrosioides* L. Mexican Tea
* *Salsola tragus* L. Russian-Thistle

Asteraceae - Sunflower Family
Ambrosia acanthicarpa Hook.
Baccharis salicifolia (R.& P.) Pers. Mule Fat
* *Chamomilla suaveolens* (Pursh.) Ryd. Pineapple Weed
Chrysothamnus nauseosus (Pall.) Brit. ssp. *hololeucus* (Gray) Hall & Clem. Rubber Rabbitbrush
* *Conyza canadensis* (L.) Cronq. Horseweed
Gutierrezia sarothrae (Pursh) Britt. & Rusby Matchweed
Lasthenia gracilis (DC.) E.Greene Common Goldfields
* *Sonchus oleraceus* L. Common Sow Thistle
Stylocline gnaphalioides Nutt. Everlasting Nest Straw

Boraginaceae - Borage Family
Pectocarya linearis ssp. *ferocula* (Jtn.) Thorne Slender Pectocarya

Brassicaceae - Mustard Family
Descurainia pinnata ssp. *halictorum* (Ckrel.) Detl. Tansy Mustard
* *Hirschfeldia incana* (L.) Lagr.-Fossat Short-pod Mustard
Lepidium nitidum Nutt. var. *nitidum* Shining Peppergrass
* *Sisymbrium irio* L. London Rocket

Euphorbiaceae - Spurge Family
Eremocarpus setigerus (Hook.) Benth. Doveweed

Fabaceae - Legume Family
Acmispon brachycarpus (Bentham) D.D. Sokoloff Lotus
Lupinus hirsutissimus Benth. Stinging Lupine

Geraniaceae - Geranium Family
* *Erodium cicutarium* (L.) L'Hér. Red-stem Filaree

Lamiaceae - Mint Family
* *Marrubium vulgare* L. Horehound

Malvaceae - Mallow Family
* *Malva parviflora* L. Cheeseweed, Little Mallow

Onagraceae - Evening-Primrose Family
Epilobium ciliatum Raf. ssp. *ciliatum* Willow Herb

APPENDIX 1. FLORAL CHECKLIST – AVENUE R AND 30TH STREET EAST, PALMDALE, CALIFORNIA (CONTINUED)

Polygonaceae - Buckwheat Family
Eriogonum gracilllimum S. Wats. Slender Buckwheat

Primulaceae - Primrose Family
* *Anagallis arvensis* L. Scarlet Pimpernel

Salicaceae - Willow Family
Populus fremontii Cottonwood
Salix exigua Nutt. Narrow-leaf Willow
Salix laevigata Bebb Red Willow

Solanaceae – Tomato Family
Datura discolor
Lycium cooperi Gray

Tamaricaceae-Salt-Cedar Family
**Tamarix parviflora* DC. Salt-Cedar

Ulmaceae - Elm Family
* *Ulmus pumila L.* Siberian Elm

MONOCOTYLEDONS
Liliaceae - Lily Family
* *Agave americana* L. American Agave

Poaceae - Grass Family
* *Bromus madritensis* L. ssp. *rubens* (L.) Husnot Red Brome
* *Bromus tectorum* L. Cheat Grass
* *Hordeum jubatum* L. Foxtail Barley
Panicum
* *Piptatherum miliaceum* (L.) Cosson Smilo Grass
* *Schismus barbatus* (L.) Thell. Mediterranean Schismus
Vulpia microstachys (Nutt.) Benth. var. *pauciflora* (Beal) Lenard & Gould Pacific Fescue

Typhaceae - Cattail Family
Typha latifolia L. Broad-leaf Cattail

* - Denotes non-native plant taxa

APPENDIX 2. CHECKLIST OF ANIMALS OBSERVED OR DETECTED– AVENUE R AND 30TH STREET EAST, PALMDALE, CALIFORNIA

COMMON NAME	SCIENTIFIC NAME
BIRDS	
Laridae (Gullsand Terns)	
California Gull	*Larus californius*
Columbidae (Pigeons and Doves)	
Mourning Dove	*Zenaida macroura*
Trochilidae (Hummingbirds)	
Anna's Hummingbird	*Calypte anna*
Picidae (Woodpeckers)	
Northern Flicker	*Colaptes auratus*
Corvidae (Jays, Crows, Ravens, and Magpies)	
American Crow	*Corvus brachyrhynchos*
Common Raven	*Corvus corax*
Mimidae (Mockingbirds and Thrashers)	
Northern Mockingbird	*Mimus polyglottos*
Parulidae (Wood-Warblers)	
Yellow-rumped Warbler	*Dendroica coronata*
Emberizidae (Towhees and Sparrows)	
Song Sparrow	*Melospiza melodia*
White-crowned Sparrow	*Zonotrichia leucophrys*
Icteridae (Blackbirds, Meadowlarks, and Orioles)	
Great-tailed Grackle	*Quiscalus mexicanus*
Fringillidae (Finches)	
House Finch	*Carpodacus mexicanus*
Passeridae (Old World Sparrows)	
House Sparrow	*Passer domesticus*

PSBS #U776

Appendix 3. Sensitive Plant reported from USGS 7.5' Palmdale, California quadrangle (CNDDB)

SPECIES NAME	STATUS Federal/State/CNPS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Opuntia basilaris var *brachyclada* Short-joint Beavertail	FSC/None/1B(3-2-3)	Chaparral, Joshua Tree woodland, Mojavean desert scrub, pinyon-juniper woodland, riparian woodland. Sandy soil or coarse granitic loam, 425-1800 m.	None. Site too disturbed. Searched for but not observed

PSBS #U776

Appendix 4. Sensitive Animals reported from USGS 7.5' Palmdale, California quadrangle

SPECIES NAME	STATUS Federal/State/CDFG	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE	CONSERVATION GROUP
San Diego Horned Lizard *Phrynosoma coronatum blainvillii*	None/None/CSC	Coastal sage scrub, chaparral in arid and semi-arid climate, esp. friable, rocky, or shallow sandy soils	None. Site too disturbed	
Silvery Legless Lizard *Anniella pulchra pulchra*	None/None/CSC	Sparse vegetation of chaparral and riparian, loose soil for burrowing.	Moderate. Suitable habitat.	
Two-striped Gartersnake *Thamnophis hammondii*	None/None/CSC	Coastal CA., fr/ Salinas to NW Baja, fr/sea level to approx. 7000 ft ; esp. highly aquatic, found in or near permanent fresh water, often along streams w/rocky beds & riparian growths	None. No habitat on site, not permanent or nearly permanent water.	
Cooper's Hawk *Accipiter cooperi*	None/None/CSC	Woodland, usu. open, interrupted or marginal type, nests mainly in riparian areas	Moderate. May occasionally forage throgh area. Nesting habitat limited, marginal.	
Burrowing Owl *Athene [Speotyto] cunicularia* (burrow sites)	BCC/None/CSC	Open dry annual or perennial grasslands, desert & scrublands w/low growing vegetation, uses ground squirrel burrows for nesting	Moderate. Suitable habitat with California Ground Squirrel burrows.	
Le Conte's Thrasher *Toxostoma lecontei*	BCC/None/CSC	Primarily in open desert wash, desert scrub, alkali desert scrub & desert succulent scrub habitats; nests in dense, spiny shrub or densely branched cactus in desert wash habits, usu. 2-8 ft above ground	None. Site too disturbed.	National Audubon Society Yellow List
Tricolored Blackbird *Agelaius tricolor* (nesting colony)	BCC/None/CSC	Breeds near fresh water in emergent wetlands w/dense cattails or tules. Feeds in grassland & cropland.	None. No nesting habit on site or adjacent. May be a small colony at Lake Palmdale 3.5 miles to southeast.	National Audubon Society Yellow List
Mohave Ground Squirrel *Spermophilus mohavensis*	None/CT/None	Open desert scrub, alkali scrub & Joshua tree woodland, annual grasslands, esp. sandy to gravelly soils, avoids rocky areas.	None. Site too disturbed for many years. Last recorded observation this quadrangle 1932.	
San Joaquin Pocket Mouse *Perognathus inornatus inornatus*	None/None/CSC	Dry open grasslands or scrub areas, blue oak savannas, Central and Salinas Valleys? Needs friable soils.	None. No habitat. Identification of specimen in this quadrangle questionable.	

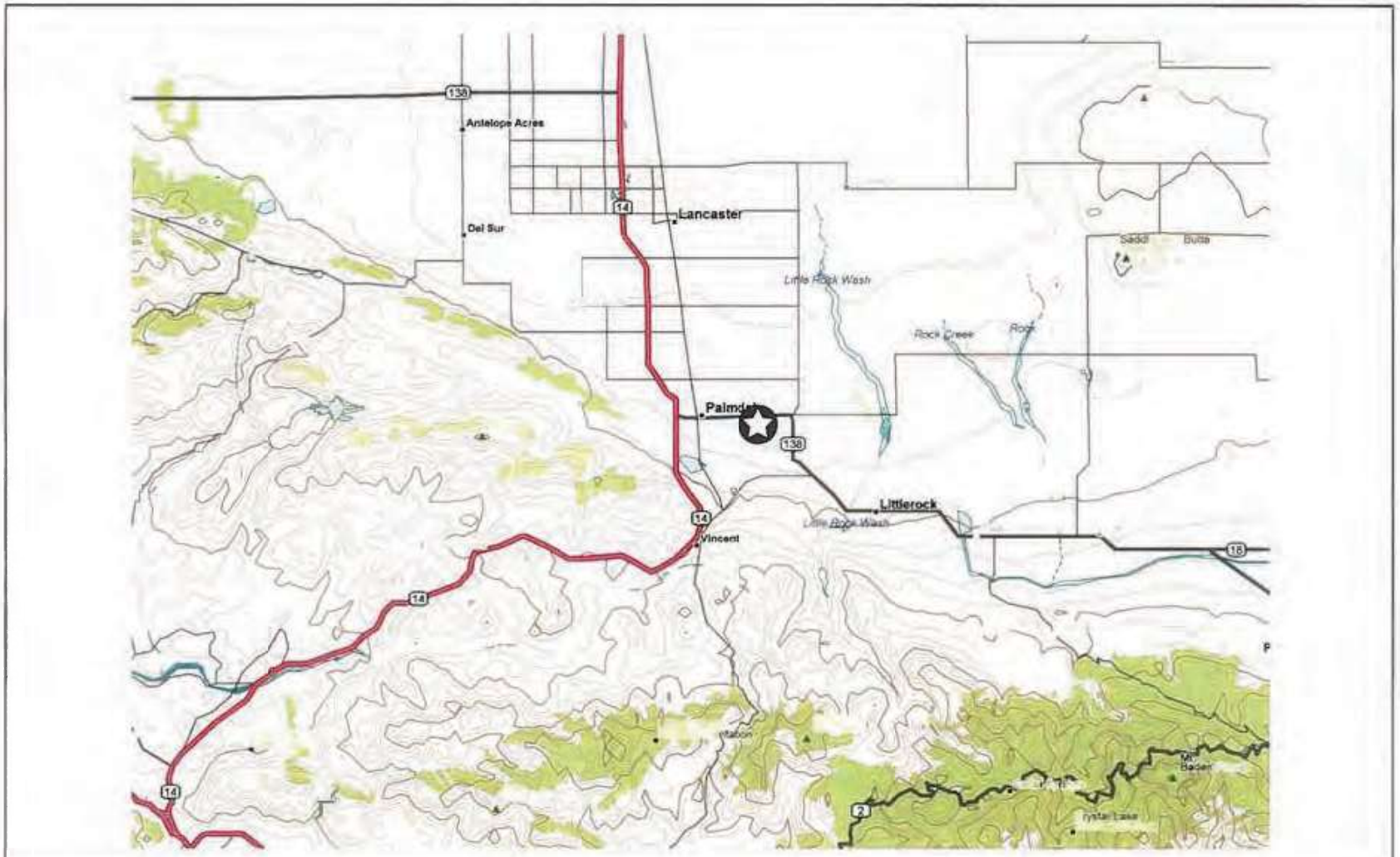


Figure 1. Project Vicinity, Avenue R and 30th Street East, Palmdale, Los Angeles County, CA -

04-12-06 MAP SOURCE: DELORME® 3-D TOPO QUADS PACIFIC SOUTHWEST BIOLOGICAL SERVICES, INC.

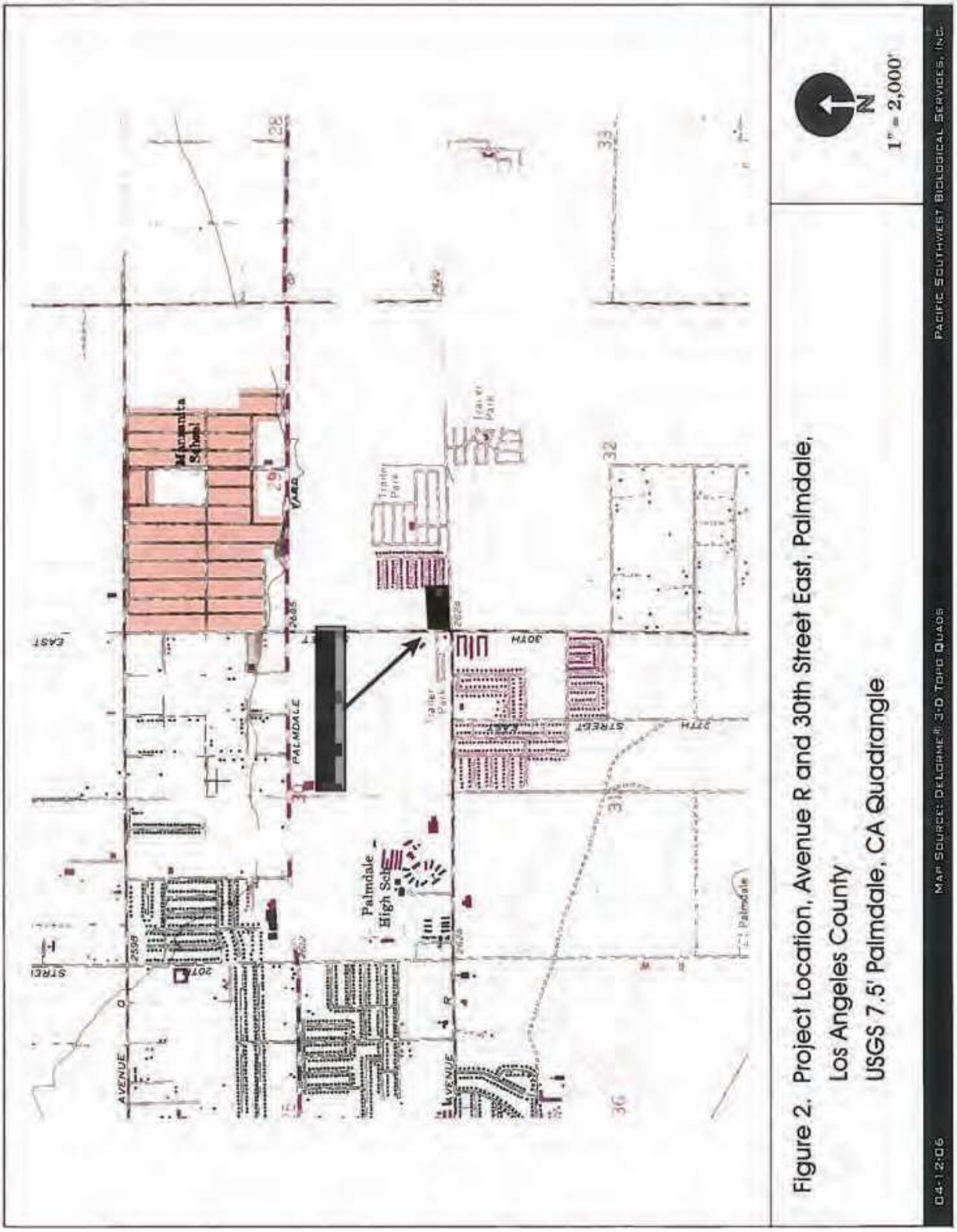
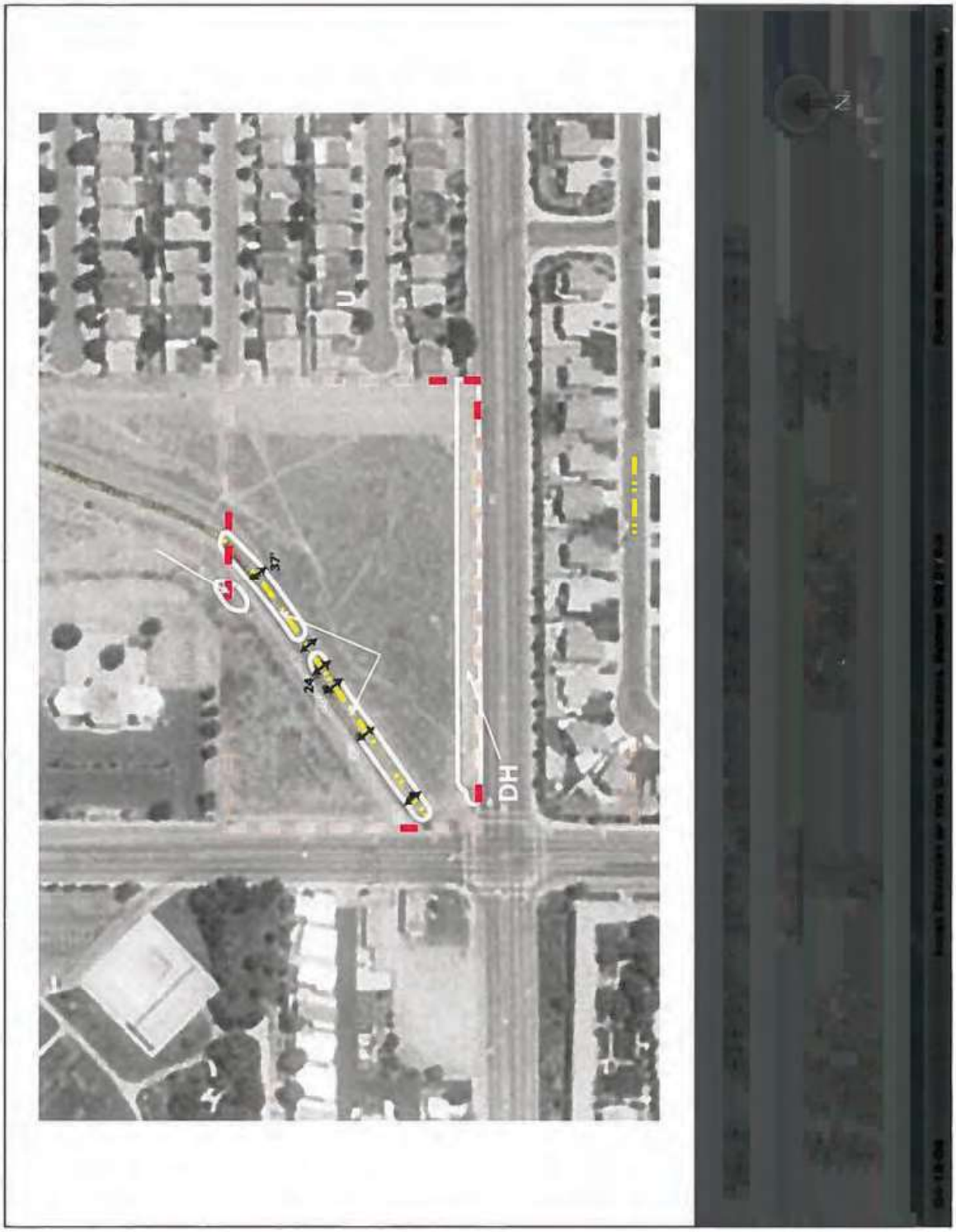


Figure 2. Project Location, Avenue R and 30th Street East, Palmdale, Los Angeles County
USGS 7.5' Palmdale, CA Quadrangle


37'
24'
DH

Palmdale Site Photographs 7 April 2006

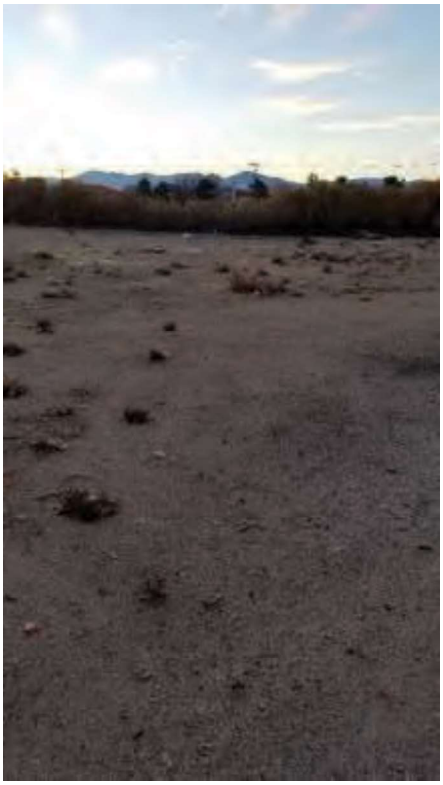
Palmdale Site Photographs - 20 December 2018

Old burrows sites

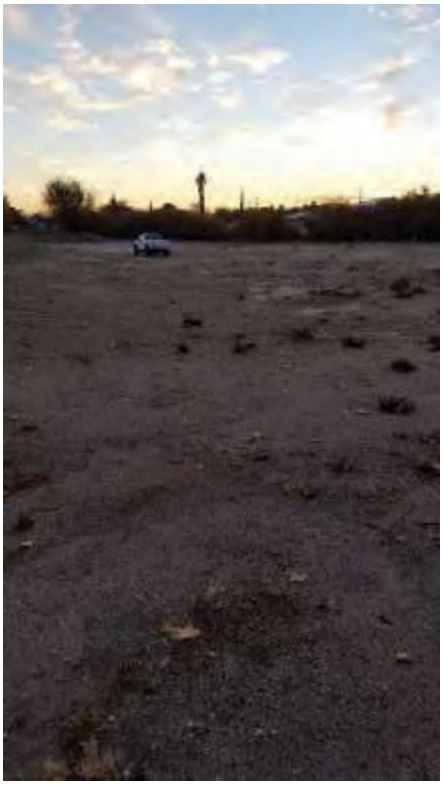
Old burrow sites

Old burrows sites

View east along south side of site

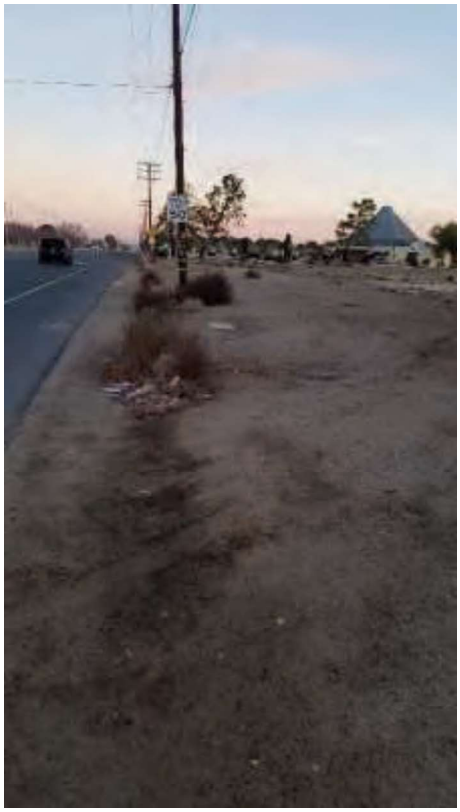


View east along north side of site



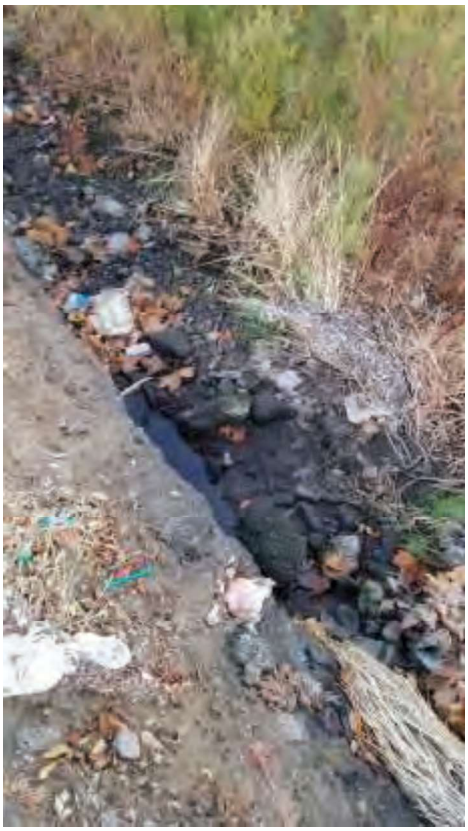
View southeast along north side of site

View northeast along north side of site

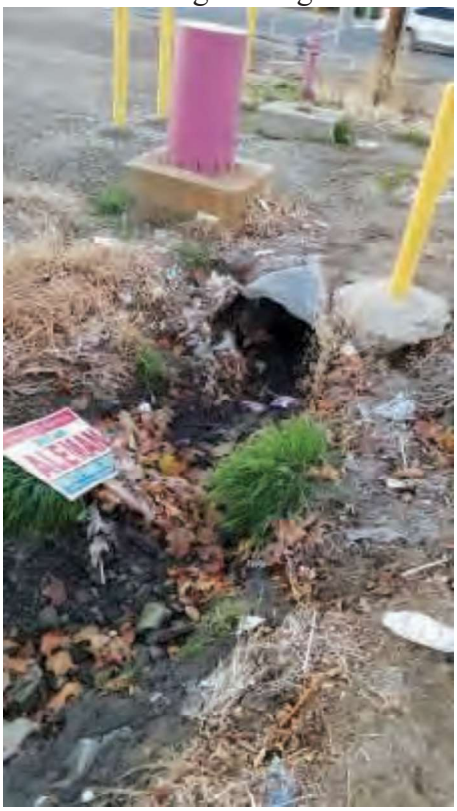


View north along west side of site

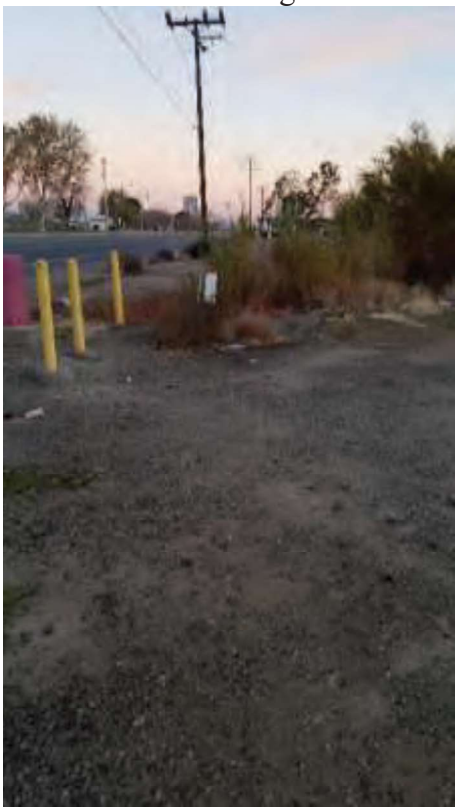
View east along drainage channel



Debris at street discharge site



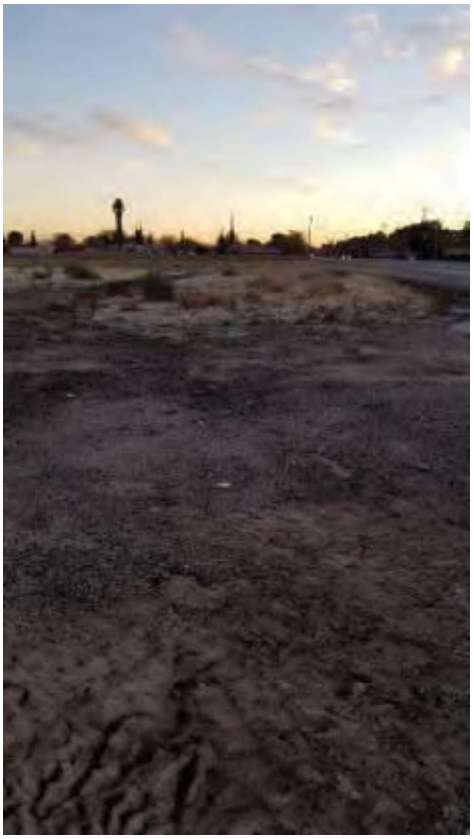
Debris at street discharge site



Area of sheet flow from recent storm

Area of sheet flow from recent storm

Area of sheet flow from recent storm

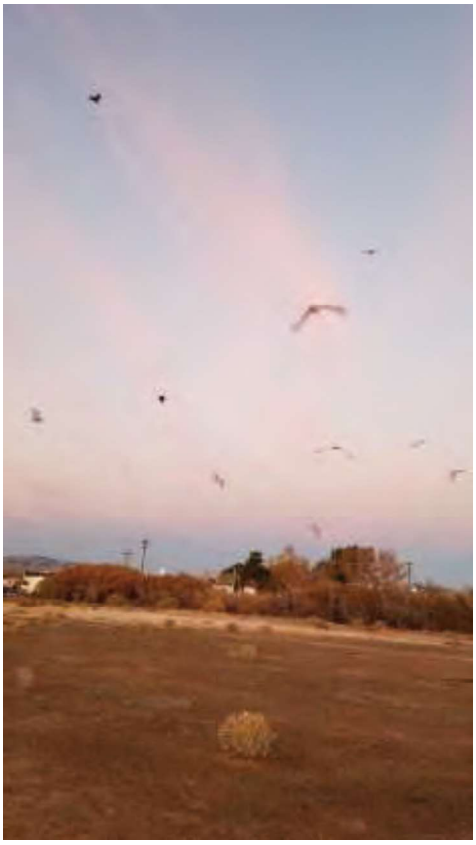


Area of sheet flow from recent storm

Abandoned ground squirrel burrow

Abandoned ground squirrel burrow

Gulls circling about site



Gulls circling about site

View to west from southeast corner of site

View to north from south side

View to north from south side

View to north from south side in 2006

PSBS #W483

LEGEND

1. ART ELEMENT AND DECORATIVE PAVING
2. GATE: RESIDENT ACCESS ONLY
3. SLIDING GATE: VEHICLE ACCESS. WITH KNOX BOX
4. GATE / BUILDING ENTRANCE: PUBLIC AND GUESTS
5. SHORT - TERM BICYCLE PARKING SHALL FOLLOW APPROVED PARKING GUIDELINES
6. LONG - TERM BICYCLE PARKING SHALL FOLLOW APPROVED PARKING GUIDELINES
7. FENCE GATE WITH KNOX BOX AND KEYED LOCKSET AS REQUIRED BY SHERIFF'S DEPARTMENT
8. UTILITY & FIRE FLOW EQUIPMENT CIRCUIT
9. TRASH ENCLOSURE
10. PERIMETER WALK, TYP.
11. PICNIC AREA WITH SHADE STRUCTURE
12. (E) ADA ACCESSIBLE CHARCOAL BBQ GRILLS
13. RESIDENT CONCRETE PATIOS WITH SHADED SEATING, TYP. 1 PER BUILDING
14. RAISED SEAT WALL. TREE WELLS AT 20' MODELALONG CENTRAL WALK
15. SLIDING GATE: FIRE AND TRASH TRUCK ACCESS ONLY WITH KNOX BOX WITH SIREN
16. STORMWATER DETENTION AREA PER CIVIL
17. RETAINING WALL AND FENCE AT CHANNEL LOCATION PER CIVIL
18. FLOOD CONTROL CHANNEL PER CIVIL
19. PATIOS
20. CENTRAL COURTYARD WITH SEATING, DECORATIVE PAVING, AND PERMEATOR GRADE.
21. COMPOST OVER PERMEABLE PER ARCHITECTURAL DRAWINGS
22. DECORATIVE PAVED PATH TO PERMEATOR AREA
23. 8' FENCE AT PERIMETER
24. PROPOSED CHANNEL FLOW LINE

SCALE: 1"=30'

TREE LEGEND

SYMBOL	BOTANICAL NAME	COMMON NAME	MATURE SIZE
	CERCIDIUM X 'DESERT MUSEUM'	DESERT MUSEUM PALO VERDE	30'-35' H x 30'-35' W
	CHILOPSIS LINEARIS 'ART'S SEEDLESS'	ART'S SEEDLESS DESERT WILLOW	15' H x 15' W
	CHILOPSIS LINEARIS 'BUBBA'	BUBBA DESERT WILLOW	20'-25' H x 20'-25' W
	PINUS ELDARICA	ELDARICA PINE	30'-40' H x 15'-20' W
	QUERCUS X HYBRID 'CLEMENTE'	CLEMENTE OAK	30'-40' H x 15'-20' W
	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	30'-40' H x 30'-40' W
	PISTACHIA CHINENSIS 'GLENDALE GOLD'	GLENDALE GOLD CHINESE PISTACHE	30'-35' H x 25'-30' W
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	40'-60' H x 40'-60' W
	SOPHORA SECUNDIFLORA 'VIOLET CLOUD'	VIOLET CLOUD TEXAS MOUNTAIN LAUREL	15'-20' H x 15'-20' W
	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	100'-120' H x 8'-10' W

TREES TO BE PLANTED AT 20' O.C.

SHRUB AND GROUND COVER

PLANT SIZES:
10% 1 GALLON, 70% 5 GALLON, 20% 15 GALLON

AGAVE GRANDIFLORA 'EDWARD GOUCHER' (PINK AGAVE)
BACCHARIS PILULARIS 'PIGEON POINT' (DWARF COYOTE WILLOW)
CEANOTHUS GRISEUS 'WAVIER POINT' (WAVIER POINT CEANOTHUS)
DASYLIRION WHEELERII (DESERT SPOON)
HESPERALOE PARVIFOLIA 'BRAKELIGHTS' (RED YUCCA)
JUNIPERUS SCOPULORUM 'SKYROCKET' (SKYROCKET JUNIPER)
MUHLENBERGIA CAPILLARIS 'REGAL MIST' (REGAL MIST MUHLY)
OLEA EUROPAEA 'LITTLE OLLIE' (DWARF OLIVE)
OPUNTIA SANTA RITA 'SANTA RITA PRICKLY PEAR'
OPUNTIA BASILARIS (BEAVERTAIL PRICKLY PEAR)
PHYLOMIS LEFROYA (LEDUA, ALOMA SAGE)
RHAPHIOLEPIS INDICA 'CLARA' (INDIAN HAWTHORNE)
RITS CALIFORNICA 'ROSE'S RED' (ROSE'S RED WILD GRAPE)
YUCCA RUPICOLA 'GOLDEN WATCH' (GOLDEN WATCH YUCCA)
YUCCA RECURVATA 'OLA' (WEEPING YUCCA)

GENERAL LANDSCAPE NOTES

A. THE PLAN WILL ADHERE TO THE MUNICIPAL WATER EFFICIENT LANDSCAPE ORDINANCE.
B. ALL PLANTS USED WILL BE SELECTED FROM THE CITY OF PALMDALE RECOMMENDED PLANT LIST, OR WILL BE LISTED AS SUITABLE FOR ZONE 11 IN THE SUNSET WESTERN GARDEN BOOK.

IRRIGATION SYSTEM NOTES

A. ALL PLANTED AREAS WILL BE IRRIGATED WITH AN AUTOMATIC IRRIGATION SYSTEM.
B. TREES WILL BE IRRIGATED WITH ROOT WATERING SYSTEM TO PROMOTE DEEP ROOT GROWTH.
C. SHRUBS AND GROUND COVER AREAS WILL BE IRRIGATED WITH DRIP IRRIGATION ON SITE AND WATER EFFICIENT ROTORS IN CHANNEL.
D. SYSTEM TO INCLUDE A WEATHER BASED CONTROLLER.
E. THE SYSTEM WILL INCLUDE A FLOW SENSOR FOR AUTOMATIC SHUT-OFF IF LEAKS ARE DETECTED.

SHEET LEGEND

L100 LANDSCAPE CONCEPT
L110 LANDSCAPE CONCEPT CHANNEL WALK
L200 MATERIALS
L210 PLANT MATERIALS: TREES
L220 PLANT MATERIALS: SHRUBS AND GROUND COVER

LAND IMAGES

AVE R APARTMENTS

AVENUE R & 30TH STREET EAST

AVENUE R & 30TH STREET EAST
PALMDALE, CA

SITE PLAN REVIEW

19028

12.15.2020

LANDSCAPE CONCEPT

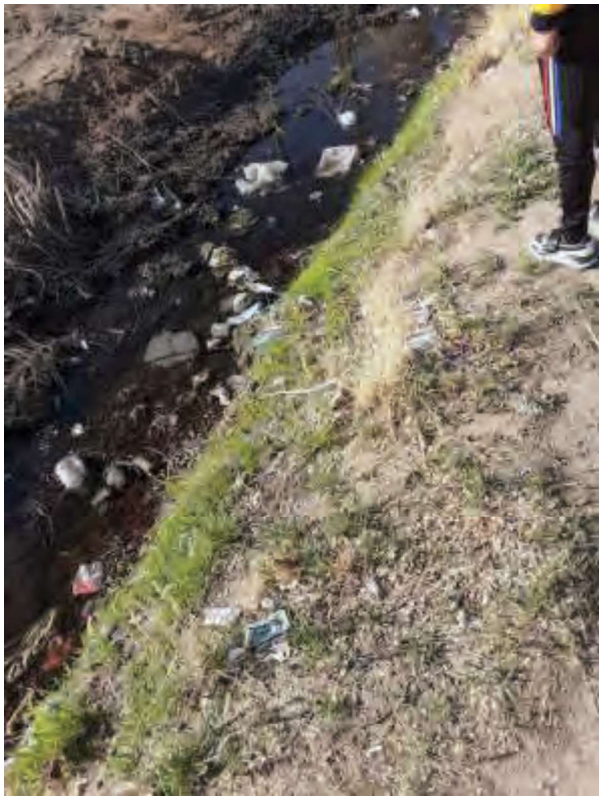
L100

6' HIGH WEATHERED STEEL PICKET FENCE

LAND IMAGES
AVE R APARTMENTS
AVENUE R & 30TH STREET EAST
AVENUE R & 30TH STREET EAST
PALMDALE, CA
SITE PLAN REVIEW
PLANT MATERIALS: TREES
L210
TREES

LAND IMAGES
AVE R APARTMENTS
AVENUE R & 30TH STREET EAST
SITE PLAN REVIEW
PLANT MATERIALS: SHRUBS AND GROUND COVER
L220
SHRUBS and GROUND COVER

Figure X Site Photographs 5 April 2021



Appendix 5. Nine Quadrangle Print-out surrounding Palmdale 7.5' quadrangle.

Scientific_Name Common_Name Element_Code Occ_Number MAPNDX
EONDX Key_Quad_Code Key_Quad_Name Key_County_Code
Accuracy Presence Occ_Type Occ_Rank Sensitive Site_Date
Elm_Date Owner_Management Federal_Status State_Status Global_Rank
State_Rank Rare_Plant_Rank CDFW_Status Other_Status Symbology
Taxon_Group Shape Shape.STArea() Shape.STLength()

Stylocline masonii Mason's neststraw PDAST8Y080 1 23828 19443 3411842
Acton LAX non-specific area Presumed Extant Natural/Native occurrence
Unknown N 19910430 19910430 UNKNOWN None None G1
S1 1B.1 USFS_S 103 Dicots 225112.7773 1898.639248

Southern Sycamore Alder Riparian Woodland Southern Sycamore Alder Riparian
Woodland CTT62400CA 151 1996 15411 3411843 Agua Dulce LAX
specific area Presumed Extant Natural/Native occurrence Unknown N
19780919 19780919 USFS-ANGELES NF None None G4 S4
302 Riparian 697596.957 7506.536605

Southern Sycamore Alder Riparian Woodland Southern Sycamore Alder Riparian
Woodland CTT62400CA 83 2017 15472 3411842 Acton LAX specific area
Presumed Extant Natural/Native occurrence Unknown N 19780919
19780919 UNKNOWN None None G4 S4 302
Riparian 250288.9805 2910.737009

Southern Sycamore Alder Riparian Woodland Southern Sycamore Alder Riparian
Woodland CTT62400CA 82 2039 15473 3411842 Acton LAX specific area
Presumed Extant Natural/Native occurrence Unknown N 19780919
19780919 USFS-ANGELES NF None None G4 S4
302 Riparian 1164633.629 12365.34536

Southern Sycamore Alder Riparian Woodland Southern Sycamore Alder Riparian
Woodland CTT62400CA 80 2369 15474 3411841 Pacifico Mountain LAX
specific area Presumed Extant Natural/Native occurrence Unknown N
19780919 19780919 USFS-ANGELES NF None None G4 S4
302 Riparian 792317.5273 8550.432591

Southern Riparian Scrub Southern Riparian Scrub CTT63300CA 27 2405 15315
3411748 Juniper Hills LAX specific area Presumed Extant Natural/Native

occurrence Unknown N 19780919 19780919 UNKNOWN None None G3 S3.2 302 Riparian 198434.5625 2389.078107

Mojave Riparian Forest Mojave Riparian Forest CTT61700CA 5 2499 15594 3411748 Juniper Hills LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19780919 19780919 USFS-ANGELES NF None None G1 S1.1 302 Riparian 816455.2305 8501.824462

Mojave Riparian Forest Mojave Riparian Forest CTT61700CA 4 2511 15593 3411748 Juniper Hills LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19780919 19780919 USFS-ANGELES NF None None G1 S1.1 302 Riparian 1308044.582 13771.55995

Mojave Riparian Forest Mojave Riparian Forest CTT61700CA 8 2522 13386 3411748 Juniper Hills LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19780919 19780919 UNKNOWN None None G1 S1.1 302 Riparian 416294.5977 4649.349742

Phrynosoma blainvillii coast horned lizard ARACF12100 144 2088 28064 3411842 Acton LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19530401 19530401 UNKNOWN None None G3G4 S3S4 SSC BLM_S; IUCN_LC 804 Reptiles 11754015.55 12168.91826

Toxostoma lecontei Le Conte's thrasher ABPBK06100 58 2450 24515 3411758 Littlerock LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19780429 19780429 UNKNOWN None None G4 S3 SSC BLM_S; IUCN_LC; NABCI_RWL; USFWS_BCC 204 Birds 11758419.47 12171.19774

Toxostoma lecontei Le Conte's thrasher ABPBK06100 96 2480 24486 3411758 Littlerock LAX 1/5 mile Presumed Extant Natural/Native occurrence Unknown N 19860603 19860603 PVT None None G4 S3 SSC BLM_S; IUCN_LC; NABCI_RWL; USFWS_BCC 204 Birds 414436.5508 2285.008702

Toxostoma lecontei Le Conte's thrasher ABPBK06100 95 2484 24487 3411758
Littlerock LAX 1/5 mile Presumed Extant Natural/Native occurrence
Unknown N 19860603 19860603 PVT None None G4 S3
SSC BLM_S; IUCN_LC; NABCI_RWL; USFWS_BCC 204 Birds
414511.9727 2285.216613

Buteo swainsoni Swainson's hawk ABNKC19070 7 2503 27302
3411768 Alpine Butte LAX 1/5 mile Presumed Extant Natural/Native
occurrence Unknown N 19790515 19790515 PVT None Threatened
G5 S3 BLM_S; IUCN_LC; USFWS_BCC 204 Birds
414922.1211 2286.346913

Toxostoma lecontei Le Conte's thrasher ABPBK06100 97 2525 24485 3411758
Littlerock LAX 1/5 mile Presumed Extant Natural/Native occurrence
Unknown N 19860603 19860603 PVT None None G4 S3
SSC BLM_S; IUCN_LC; NABCI_RWL; USFWS_BCC 204 Birds
414405.418 2284.922875

Phrynosoma blainvillii coast horned lizard ARACF12100 325 20081 9901
3411841 Pacifico Mountain LAX 1/5 mile Presumed Extant
Natural/Native occurrence Fair N 19900412 19900412 PVT None
None G3G4 S3S4 SSC BLM_S; IUCN_LC 204 Reptiles
413211.7109 2281.629643

Xerospermophilus mohavensis Mohave ground squirrel AMAFB05150 134
21920 28617 3411851 Palmdale LAX 1/5 mile Presumed Extant
Natural/Native occurrence Unknown N 1977XXXX 1977XXXX
UNKNOWN None Threatened G2G3 S2S3 BLM_S; IUCN_VU
204 Mammals 414439.4023 2285.016562

Xerospermophilus mohavensis Mohave ground squirrel AMAFB05150 255
22817 21239 3411768 Alpine Butte LAX 1/5 mile Presumed Extant
Natural/Native occurrence Unknown N 1977XXXX 1977XXXX
UNKNOWN None Threatened G2G3 S2S3 BLM_S; IUCN_VU
204 Mammals 414808.0781 2286.032642

Xerospermophilus mohavensis Mohave ground squirrel AMAFB05150 256
22818 17042 3411768 Alpine Butte LAX 1/5 mile Presumed Extant
Natural/Native occurrence Unknown N 1987XXXX 1987XXXX
UNKNOWN None Threatened G2G3 S2S3 BLM_S; IUCN_VU

204 Mammals 415087.125 2286.802825

Xerospermophilus mohavensis Mohave ground squirrel AMAFB05150 271
22831 7876 3411861 Lancaster East LAX 3/5 mile Presumed Extant
Natural/Native occurrence Unknown N 19730428 19730428
UNKNOWN None Threatened G2G3 S2S3 BLM_S; IUCN_VU
204 Mammals 4608356.18 7619.594547

Xerospermophilus mohavensis Mohave ground squirrel AMAFB05150 279
22838 7875 3411758 Littlerock LAX 2/5 mile Presumed Extant
Natural/Native occurrence Unknown N 1989XXXX 1989XXXX
UNKNOWN None Threatened G2G3 S2S3 BLM_S; IUCN_VU
204 Mammals 1654702.23 4565.81977

Thamnophis hammondii two-striped gartersnake ARADB36160 45 33483
19316 3411852 Ritter Ridge LAX 80 meters Presumed Extant
Natural/Native occurrence Excellent N 199506XX 199506XX PVT
None None G4 S3S4 SSC BLM_S; IUCN_LC; USFS_S201
Reptiles 29472.08984 609.351525

Anniella pulchra Northern California legless lizard ARACC0102096 36347 31344
3411852 Ritter Ridge LAX 80 meters Presumed Extant Natural/Native occurrence Excellent N 199505XX 199505XX PVT None None G3 S3 SSC USFS_S 201 Reptiles 29549.9375 610.3604845

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 33 38959
33966 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant
Natural/Native occurrence Unknown N 19940330 19940330 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 104128.8242 1144.378813

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 35 38961
33968 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant
Natural/Native occurrence Unknown N 19940429 19940429 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 104033.2617 1143.853748

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 37 38964
33971 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant

Natural/Native occurrence Unknown N 19940513 19940513 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 104028.0352 1143.825055

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 40 38967 33974 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19950317 19950317 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 104125.2891 1144.359593

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 42 38969 33976 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19950328 19950328 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 104115.6289 1144.30619

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 44 38971 33978 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19950425 19950425 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 103978.0938 1143.550434

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 45 38972 33979 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19950428 19950428 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 103988.8359 1143.609562

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 47 38974 33981 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19950620 19950620 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 103878.0469 1143.000117

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 49 38976 33983 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Fair N 19890515 19890515 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 463840.0547 2710.479219

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 50 38977 33984 3411841 Pacifico Mountain LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 19900303 19900303 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 101 Dicots 29460.46875 609.4361904

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 51 38978 33985 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19900303 19900303 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 46470.36719 784.7339343

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 55 38989 33996 3411852 Ritter Ridge LAX specific area Presumed Extant Natural/Native occurrence Excellent N 20110522 19890320 PVT None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 70674.25391 1025.724315

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 56 38993 34000 3411852 Ritter Ridge LAX specific area Presumed Extant Natural/Native occurrence Excellent N 19890320 19890320 PVT None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 574167.9063 3763.685652

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 57 38994 34001 3411852 Ritter Ridge LAX specific area Presumed Extant Natural/Native occurrence Excellent N 19890320 19890320 PVT None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 66976.90625 1074.040177

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 58 38995 34002 3411852 Ritter Ridge LAX specific area Presumed Extant Natural/Native occurrence Excellent N 19890320 19890320 PVT None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 543556.5391 4615.820026

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 30 38954 33961 3411748 Juniper Hills LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19920508 19920508 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S;

SB_CalBG/RSABG; USFS_S 104 Dicots 104032.6211 1143.850303

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 31 38955 33962 3411748 Juniper Hills LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19940523 19940523 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 103972.2852 1143.518612

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 32 38956 33963 3411748 Juniper Hills LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19940608 19940608 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 103940.8555 1143.345822

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 46 38973 33980 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19950510 19950510 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 804 Dicots 103963.2109 1143.468551

Phrynosoma blainvillii coast horned lizard ARACF12100 580 39837 34839 3411862 Lancaster West LAX 80 meters Presumed Extant Natural/Native occurrence Fair N 19910515 19910515 PVT None None G3G4 S3S4 SSC BLM_S; IUCN_LC 201 Reptiles 29578.54688 610.6560582

Thamnophis hammondii two-striped gartersnake ARADB36160 54 17287 42186 3411852 Ritter Ridge LAX non-specific area Presumed Extant Natural/Native occurrence Good N 19990915 19990915 UNKNOWN None None G4 S3S4 SSC BLM_S; IUCN_LC; USFS_S203 Reptiles 485673.7695 5199.587761

Athene cunicularia burrowing owl ABNSB10010 353 42528 42528 3411852 Ritter Ridge LAX 1/10 mile Presumed Extant Natural/Native occurrence Poor N 19991007 19991007 PVT None None G4 S3 SSC BLM_S; IUCN_LC; USFWS_BCC 204 Birds 104350.5898 1145.463758

Buteo swainsoni Swainson's hawk ABNKC19070 800 42305 42305 3411861 Lancaster East LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 19990706 19990706

UNKNOWN None Threatened G5 S3 BLM_S; IUCN_LC; USFWS_BCC 203 Birds 386518.5078 4266.989329

Catostomus santaanae Santa Ana sucker AFCJC02190 13 1944 14833 3411843 Agua Dulce LAX specific area Presumed Extant Natural/Native occurrence Fair N 19930804 19930804 PVT Threatened None G1 S1 AFS_TH; IUCN_VU 802 Fish 4180414.465 41494.22359

Southern Riparian Scrub Southern Riparian Scrub CTT63300CA 37 1944 15306 3411843 Agua Dulce LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19780919 19780919 PVT None None G3 S3.2 802 Riparian 4180414.465 41494.22359

Calochortus striatus alkali mariposa-lily PMLIL0D190 39 24272 7179 3411862 Lancaster West LAX specific area Presumed Extant Natural/Native occurrence Good N 19880605 19880605 LAX COUNTY? None None G3? S2S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Monocots 707022.2891 4755.972837

Xerospermophilus mohavensis Mohave ground squirrel AMAFB05150 24 2204 7331 3411851 Palmdale LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 19440706 19440706 UNKNOWN None Threatened G2G3 S2S3 BLM_S; IUCN_VU 203 Mammals 13743750.43 15423.01798

Thamnophis hammondii two-striped gartersnake ARADB36160 44 33420 14530 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Good N 19960603 19960603 USFS-ANGELES NF None None G4 S3S4 SSC BLM_S; IUCN_LC; USFS_S 202 Reptiles 177594.375 2068.545713

Southern Sycamore Alder Riparian Woodland Southern Sycamore Alder Riparian Woodland CTT62400CA 153 1973 15410 3411843 Agua Dulce LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19780919 19780919 USFS-ANGELES NF None None G4 S4 302 Riparian 997003.9492 10506.3107

Southern Sycamore Alder Riparian Woodland Southern Sycamore Alder Riparian Woodland CTT62400CA 81 2125 15475 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19780919

19780919 USFS-ANGELES NF None None G4 S4
302 Riparian 867928.8672 9266.025333

Southern Sycamore Alder Riparian Woodland Southern Sycamore Alder Riparian Woodland CTT62400CA 66 2262 15488 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19880330 19880330 USFS-ANGELES NF None None G4 S4
302 Riparian 24731587.64 253254.3364

Southern Sycamore Alder Riparian Woodland Southern Sycamore Alder Riparian Woodland CTT62400CA 79 2294 15476 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19780919 19780919 USFS-ANGELES NF None None G4 S4
302 Riparian 1327693.203 13663.02206

Mojave Riparian Forest Mojave Riparian Forest CTT61700CA 6 2339 15595 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19880331 19880331 USFS-ANGELES NF None None G1 S1.1 802 Riparian 305526.7539 3449.07009

Mojave Riparian Forest Mojave Riparian Forest CTT61700CA 7 2350 15592 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Poor N 19880331 19880331 USFS-ANGELES NF None None G1 S1.1 302 Riparian 539543.9727 5770.579234

Southern Sycamore Alder Riparian Woodland Southern Sycamore Alder Riparian Woodland CTT62400CA 78 2416 15477 3411748 Juniper Hills LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19880331 19880331 USFS-ANGELES NF None None G4 S4
302 Riparian 10574250.4 107546.7703

Astragalus preussii var. laxiflorus Lancaster milk-vetch PDFAB0F721 1 27633 13967 3411862 Lancaster West LAX 1 mile Possibly Extirpated Natural/Native occurrence None N 190206XX 190206XX UNKNOWN None None G4T2 S1 1B.1 804 Dicots 11816992.49 12201.47437

Phrynosoma blainvillii coast horned lizard ARACF12100 147 2186 28068 3411862 Lancaster West LAX 1 mile Presumed Extant Natural/Native

occurrence Unknown N 19640510 19640510 UNKNOWN None None
G3G4 S3S4 SSC BLM_S; IUCN_LC 204 Reptiles
11805492.71 12195.53578

Phrynosoma blainvillii coast horned lizard ARACF12100 146 2195 28067
3411851 Palmdale LAX 1 mile Presumed Extant Natural/Native
occurrence Unknown N 19640510 19640510 UNKNOWN None None
G3G4 S3S4 SSC BLM_S; IUCN_LC 204 Reptiles
11791226.86 12188.16515

Xerospermophilus mohavensis Mohave ground squirrel AMAFB05150 26
2196 7360 3411861 Lancaster East LAX 1 mile Presumed Extant
Natural/Native occurrence Unknown N 2005XXXX 19840614
UNKNOWN None Threatened G2G3 S2S3 BLM_S; IUCN_VU
204 Mammals 11809650.19 12197.6831

Accipiter cooperii Cooper's hawk ABNKC12040 35 2212 27351 3411851
Palmdale LAX 1/5 mile Presumed Extant Natural/Native occurrence
Unknown N 19210106 19210106 UNKNOWN None None G5
S4 WL IUCN_LC 204 Birds 414309.1602 2284.657501

Phrynosoma blainvillii coast horned lizard ARACF12100 155 2232 28047
3411841 Pacifico Mountain LAX 1/5 mile Presumed Extant
Natural/Native occurrence Unknown N 19720409 19720409 USFS-
ANGELES NF None None G3G4 S3S4 SSC BLM_S; IUCN_LC 204
Reptiles 412652.6641 2280.085815

Toxostoma lecontei Le Conte's thrasher ABPBK06100 2 2234 24553 3411851
Palmdale LAX 1 mile Presumed Extant Natural/Native occurrence
Unknown N 19260516 19260516 UNKNOWN None None G4
S3 SSC BLM_S; IUCN_LC; NABCI_RWL; USFWS_BCC 204 Birds
11767768.95 12176.03547

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 34 38960
33967 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant
Natural/Native occurrence Unknown N 19940415 19940415 USFS-
ANGELES NF None None G5T3 S3 1B.2 BLM_S;
SB_CalBG/RSABG; USFS_S 104 Dicots 103902.9063 1143.621777

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 43 38970

33977 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19950405 19950405 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 104090.7305 1144.169444

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 53 38980 33987 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19900701 19900701 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 341891.8828 2896.175797

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 54 38988 33995 3411851 Palmdale LAX specific area Presumed Extant Natural/Native occurrence Excellent N 19890601 19890601 PVT None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 124599.4531 1544.477661

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 29 38951 33958 3411748 Juniper Hills LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 19900303 19900303 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 101 Dicots 29433.98828 609.087065

Toxostoma lecontei Le Conte's thrasher ABPBK06100 1 21923 20945 3411851 Palmdale LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19200511 19200511 UNKNOWN None None G4 S3 SSC BLM_S; IUCN_LC; NABCI_RWL; USFWS_BCC 804 Birds 11888430.47 12223.76345

Perognathus inornatus San Joaquin pocket mouse AMAFD01060 1 21923 20947 3411851 Palmdale LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19310412 19310412 UNKNOWN None None G2G3 S2S3 BLM_S; IUCN_LC 804 Mammals 11888430.47 12223.76345

Thamnophis hammondii two-striped gartersnake ARADB36160 42 33384 29231 3411841 Pacifico Mountain LAX non-specific area Presumed Extant Natural/Native occurrence Good N 19970701 19970701 USFS-ANGELES NF None None G4 S3S4 SSC BLM_S; IUCN_LC; USFS_S 203 Reptiles 976439.9492 10243.17868

Rana muscosa southern mountain yellow-legged frog AAABH01330 44 42587 42587 3411748 Juniper Hills LAX 2/5 mile Possibly Extirpated Natural/Native occurrence None N 19110411 19110411 USFS-ANGELES NF Endangered Endangered G1 S1 WL IUCN_EN; USFS_S 204 Amphibians 1663915.5 4573.343418

Rana muscosa southern mountain yellow-legged frog AAABH01330 48 42607 42607 3411841 Pacifico Mountain LAX non-specific area Possibly Extirpated Natural/Native occurrence None N 19690524 19690524 USFS-ANGELES NF Endangered Endangered G1 S1 WL IUCN_EN; USFS_S 203 Amphibians 157353.1484 1921.875927

Rana muscosa southern mountain yellow-legged frog AAABH01330 87 42969 42969 3411748 Juniper Hills LAX non-specific area Possibly Extirpated Natural/Native occurrence None N 19590807 19590807 USFS-ANGELES NF Endangered Endangered G1 S1 WL IUCN_EN; USFS_S 203 Amphibians 499424.7773 5408.962876

Anaxyrus californicus arroyo toad AAABB01230 53 2339 44188 3411841 Pacifico Mountain LAX specific area Possibly Extirpated Natural/Native occurrence None N 197005XX 197005XX USFS-ANGELES NF Endangered None G2G3 S2S3 SSC IUCN_EN 802 Amphibians 305526.7539 3449.07009

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D1409 38973 48045 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19950510 19950510 USFS-ANGELES NF None Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 804 Dicots 103963.2109 1143.468551

Lilium parryi lemon lily PMLIL1A0J0 68 48441 48441 3411841 Pacifico Mountain LAX 1/5 mile Possibly Extirpated Natural/Native occurrence None N 19940701 19670802 USFS-ANGELES NF None None G3 S3 1B.2 SB_CalBG/RSABG; USFS_S 104 Monocots 415743.6719 2286.29952

Athene cunicularia burrowing owl ABNSB10010 557 50574 50574 3411862 Lancaster West LAX 80 meters Possibly Extirpated Natural/Native occurrence None N 20060120 20060120 PVT None None G4 S3 SSC BLM_S; IUCN_LC; USFWS_BCC 201 Birds 29668.41406

611.2426606

Charadrius montanus mountain plover ABNNB03100 37 54401 54401 3411861 Lancaster East LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20040110 20040110 PALMDALE AIRPORT None None G3 S2S3 SSC BLM_S; IUCN_NT; NABCI_RWL; USFWS_BCC 201 Birds 29656.41797 611.1023814

Phrynosoma blainvillii coast horned lizard ARACF12100 522 56325 56341 3411852 Ritter Ridge LAX 1/5 mile Presumed Extant Natural/Native occurrence Fair N 200404XX 200404XX PVT None None G3G4 S3S4 SSC BLM_S; IUCN_LC 204 Reptiles 416957.5664 2289.634314

Athene cunicularia burrowing owl ABNSB10010 709 56799 56815 3411861 Lancaster East LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 20040901 20040901 PVT None None G4 S3 SSC BLM_S; IUCN_LC; USFWS_BCC 203 Birds 1016571.082 4975.782964

Symphyotrichum greatae Greata's aster PDASTE80U0 10 58442 58478 3411748 Juniper Hills LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 19950712 19950712 USFS-ANGELES NF None None G2 S2 1B.3 SB_CalBG/RSABG 103 Dicots 134553.6133 1669.514423

Symphyotrichum greatae Greata's aster PDASTE80U0 11 58443 58479 3411748 Juniper Hills LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 19940927 19940927 USFS-ANGELES NF None None G2 S2 1B.3 SB_CalBG/RSABG 103 Dicots 289334.5703 3253.427674

Symphyotrichum greatae Greata's aster PDASTE80U0 34 58685 58721 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19940621 19940621 USFS-ANGELES NF None None G2 S2 1B.3 SB_CalBG/RSABG 104 Dicots 103961.2344 1143.32524

Symphyotrichum greatae Greata's aster PDASTE80U0 35 58686 58722 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19950523 19950523 USFS-

ANGELES NF None None G2 S2 1B.3 SB_CalBG/RSABG 104
Dicots 103936.9258 1143.262968

Symphyotrichum greatae Greata's aster PDASTE80U0 36 2088 58723
3411842 Acton LAX 1 mile Presumed Extant Natural/Native occurrence
Unknown N 18930821 18930821 UNKNOWN None None G2
S2 1B.3 SB_CalBG/RSABG 804 Dicots 11754015.55
12168.91826

Anaxyrus californicus arroyo toad AAABB01230 35 33418 29202 3411841
Pacifico Mountain LAX specific area Presumed Extant Natural/Native
occurrence Good N 20010630 20010630 USFS-ANGELES NF Endangered
None G2G3 S2S3 SSC IUCN_EN 802 Amphibians
844056.0586 8761.564243

Chaetodipus fallax pallidus pallid San Diego pocket mouse AMAFD05032 16
60383 60419 3411748 Juniper Hills LAX 1 mile Presumed Extant
Natural/Native occurrence Unknown N 19670909 19670909
UNKNOWN None None G5T3T4 S3S4 SSC 204
Mammals 11849399.65 12203.67761

Anniella pulchra Northern California legless lizard ARACC0102095 61960 61996
3411862 Lancaster West LAX 1/10 mile Presumed Extant
Natural/Native occurrence Good N 20050622 20050622 CITY OF
LANCASTER None None G3 S3 SSC USFS_S 204 Reptiles
104626.918 1146.979144

Phrynosoma blainvillii coast horned lizard ARACF12100 127 2257 28081
3411851 Palmdale LAX 1/5 mile Presumed Extant Natural/Native
occurrence Unknown N 19670603 19670603 UNKNOWN None None
G3G4 S3S4 SSC BLM_S; IUCN_LC 204 Reptiles
417291.8047 2290.55164

Anniella pulchra Northern California legless lizard ARACC01020102 63769 63864
3411851 Palmdale LAX 80 meters Possibly Extirpated Natural/Native
occurrence None N 20030219 20030219 PALMDALE SCHOOL DISTRICT
None None G3 S3 SSC USFS_S 201 Reptiles
29583.24609 610.3482876

Anniella pulchra Northern California legless lizard ARACC0102097 63774 63869

3411852 Ritter Ridge LAX 1/10 mile Possibly Extirpated Natural/Native occurrence None N 20050217 20050217 PALMDALE SCHOOL DISTRICT None None G3 S3 SSC USFS_S 204 Reptiles 104367.3594 1145.597075

Athene cunicularia burrowing owl ABNSB10010 788 64577 64656 3411851 Palmdale LAX 80 meters Extirpated Natural/Native occurrence None N 200604XX 20060317 PVT None None G4 S3 SSC BLM_S; IUCN_LC; USFWS_BCC 201 Birds 29589.72266 610.414749

Loeflingia squarrosa var. artemisiarum sagebrush loeflingia PDCAR0E01123 64630 64709 3411851 Palmdale LAX 80 meters Presumed Extant Natural/Native occurrence Good N 200507XX 200507XX PVT None None G5T3 S2 2B.2 BLM_S 101 Dicots 29575.28125 610.2659065

Loeflingia squarrosa var. artemisiarum sagebrush loeflingia PDCAR0E01124 64631 64710 3411861 Lancaster East LAX 80 meters Presumed Extant Natural/Native occurrence Fair N 20050504 20050504 PVT None None G5T3 S2 2B.2 BLM_S 101 Dicots 29671.95313 611.2623462

Athene cunicularia burrowing owl ABNSB10010 805 64814 64893 3411862 Lancaster West LAX 80 meters Presumed Extant Natural/Native occurrence Good N 20060530 20060530 PVT None None G4 S3 SSC BLM_S; IUCN_LC; USFWS_BCC 201 Birds 29689.75391 611.445762

Buteo regalis ferruginous hawk ABNKC19120 18 66005 66084 3411862 Lancaster West LAX 80 meters Presumed Extant Natural/Native occurrence Good N 19981221 19981221 UNKNOWN None None G4 S3S4 WL IUCN_LC; USFWS_BCC 201 Birds 29717.92188 611.7355828

Buteo regalis ferruginous hawk ABNKC19120 20 66009 66088 3411862 Lancaster West LAX 80 meters Presumed Extant Natural/Native occurrence Good N 19990129 19990129 UNKNOWN None None G4 S3S4 WL IUCN_LC; USFWS_BCC 201 Birds 29696.82422 611.5184715

Antrozous pallidus pallid bat AMACC10010 184 66526 66647 3411842
Acton LAX 3/5 mile Presumed Extant Natural/Native occurrence
Unknown N 19420911 19420911 UNKNOWN None None G4
S3 SSC BLM_S; IUCN_LC; USFS_S; WBWG_H 204 Mammals
4628617.602 7627.377651

Myotis yumanensis Yuma myotis AMACC01020 58 68427 68663 3411841
Pacifico Mountain LAX 1/10 mile Presumed Extant Natural/Native
occurrence Unknown N 19990819 19990819 UNKNOWN None None
G5 S4 BLM_S; IUCN_LC; WBWG_LM 204 Mammals
104134.5781 1144.342068

Athene cunicularia burrowing owl ABNSB10010 939 69378 70156 3411861
Lancaster East LAX 80 meters Presumed Extant Natural/Native occurrence
Good N 20060303 20060303 PVT None None G4 S3
SSC BLM_S; IUCN_LC; USFWS_BCC 201 Birds 29687.63672
611.4238424

Athene cunicularia burrowing owl ABNSB10010 951 69411 70187 3411852 Ritter
Ridge LAX 80 meters Extirpated Natural/Native occurrence None N
20060120 20060120 PVT None None G4 S3 SSC
BLM_S; IUCN_LC; USFWS_BCC 201 Birds 29617.56641 610.7019088

Athene cunicularia burrowing owl ABNSB10010 964 69453 70231 3411861
Lancaster East LAX 80 meters Presumed Extant Natural/Native occurrence
Fair N 20050612 20050612 PVT None None G4 S3
SSC BLM_S; IUCN_LC; USFWS_BCC 201 Birds 29691.78906
611.4665668

Athene cunicularia burrowing owl ABNSB10010 710 56802 56818 3411862
Lancaster West LAX 80 meters Extirpated Natural/Native occurrence
None N 20051121 20040903 PVT None None G4 S3
SSC BLM_S; IUCN_LC; USFWS_BCC 201 Birds 29669.42578
611.2889957

Canbya candida white pygmy-poppy PDPAP05020 11 27633 13969 3411862
Lancaster West LAX 1 mile Presumed Extant Natural/Native occurrence
Unknown N XXXXXXXX XXXXXXXX UNKNOWN None None G3G4
S3S4 4.2 SB_CalBG/RSABG; USFS_S 804 Dicots
11816992.49 12201.47437

Canbya candida white pygmy-poppy PDPAP05020 30 33418 32983 3411841
Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19260426 19260426 USFS-ANGELES NF None None G3G4 S3S4 4.2 SB_CalBG/RSABG; USFS_S 802 Dicots 844056.0586 8761.564243

Athene cunicularia burrowing owl ABNSB10010 1057 71349 72253 3411861
Lancaster East LAX 80 meters Presumed Extant Natural/Native occurrence Fair N 20051122 20051122 PVT None None G4 S3 SSC BLM_S; IUCN_LC; USFWS_BCC 201 Birds 29691.20703 611.4605237

Chorizanthe parryi var. parryi Parry's spineflower PDPGN040J2 38 27633 42078
3411862 Lancaster West LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 189606XX 189606XX UNKNOWN None None G3T2 S2 1B.1 BLM_S; SB_CalBG/RSABG; USFS_S 804 Dicots 11816992.49 12201.47437

Emys marmorata western pond turtle ARAAD02030 1084 72613 31714
3411852 Ritter Ridge LAX 80 meters Presumed Extant Natural/Native occurrence Excellent N 199506XX 199506XX PVT None None G3G4 S3 SSC BLM_S; IUCN_VU; USFS_S 201 Reptiles 29609.49609 610.6464504

Emys marmorata western pond turtle ARAAD02030 949 72619 9696
3411852 Ritter Ridge LAX non-specific area Presumed Extant Natural/Native occurrence Good N 19990915 19990915 UNKNOWN None None G3G4 S3 SSC BLM_S; IUCN_VU; USFS_S 203 Reptiles 506818.5195 5377.659805

Anniella pulchra Northern California legless lizard ARACC01020104 73577 74565
3411851 Palmdale LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 20070309 20070309 UNKNOWN None None G3 S3 SSC USFS_S 204 Reptiles 104301.3359 1145.214131

Anniella pulchra Northern California legless lizard ARACC01020105 73578 74566
3411851 Palmdale LAX 1/10 mile Possibly Extirpated Natural/Native occurrence None N 20070118 20070118 UNKNOWN None None G3 S3 SSC USFS_S 204 Reptiles 104338.1211

1145.395352

Anniella pulchra Northern California legless lizard ARACC01020106 73583 74568 3411851 Palmdale LAX 1/10 mile Extirpated Natural/Native occurrence None N 20060412 20060412 PVT None None G3 S3 SSC USFS_S 204 Reptiles 104349.3477 1145.456903

Calochortus striatus alkali mariposa-lily PMLIL0D190 22 2210 18062 3411861 Lancaster East LAX 80 meters Presumed Extant Natural/Native occurrence Excellent N 20050511 20050511 PVT None None G3? S2S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 101 Monocots 29705.10938 611.6035538

Calochortus striatus alkali mariposa-lily PMLIL0D190 43 48060 48060 3411862 Lancaster West LAX non-specific area Presumed Extant Natural/Native occurrence Good N 20080603 20080603 LAX COUNTY; DPR None None G3? S2S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 103 Monocots 150330.6367 2055.021447

Calochortus striatus alkali mariposa-lily PMLIL0D190 95 75550 64511 3411862 Lancaster West LAX 80 meters Presumed Extant Natural/Native occurrence Poor N 200505XX 200505XX PVT None None G3? S2S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 101 Monocots 29696.14063 611.5112449

Calochortus striatus alkali mariposa-lily PMLIL0D190 97 75554 76559 3411861 Lancaster East LAX non-specific area Presumed Extant Natural/Native occurrence Fair N 20050530 20050530 PVT None None G3? S2S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 103 Monocots 102374.8633 1389.231656

Calochortus striatus alkali mariposa-lily PMLIL0D190 98 75555 76560 3411862 Lancaster West LAX 1/10 mile Possibly Extirpated Natural/Native occurrence None N 2005XXXX 2005XXXX UNKNOWN None None G3? S2S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Monocots 104787.793 1147.860525

Calochortus striatus alkali mariposa-lily PMLIL0D190 100 75558 76563 3411862 Lancaster West LAX non-specific area Extirpated Natural/Native occurrence None N 200505XX 200505XX PVT None None G3? S2S3

1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 103 Monocots 59686.92969 978.9010186

Calochortus striatus alkali mariposa-lily PMLIL0D190 99 75559 76562 3411862 Lancaster West LAX non-specific area Presumed Extant Natural/Native occurrence Fair N 20050512 20050512 PVT None None G3? S2S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 103 Monocots 956934.7813 3913.041095

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 38 38965 33972 3411841 Pacifico Mountain LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 20090506 20090506 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 103 Dicots 210250.9844 2310.099736

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 39 38966 33973 3411841 Pacifico Mountain LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 19950314 19950314 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 103 Dicots 134103.9375 1771.232652

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 52 38979 33986 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19900701 19900701 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 146753.3281 2110.397498

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 101 77565 78433 3411748 Juniper Hills LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N XXXXXXXX XXXXXXXX USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 101 Dicots 29535.15625 609.8519481

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 102 77566 78435 3411748 Juniper Hills LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 19680328 19680328 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 101 Dicots 29523.45313 609.7310158

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 107 77573

78446 3411842 Acton LAX 4/5 mile Presumed Extant Natural/Native occurrence Unknown N 19700716 19700716 UNKNOWN None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 7820605.996 9914.051265

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 109 77576 78449 3411852 Ritter Ridge LAX specific area Presumed Extant Natural/Native occurrence Good N 20080407 20080407 DWR None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 9173.664063 353.1269807

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 103 77568 78437 3411748 Juniper Hills LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 19680512 19680512 UNKNOWN None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 103 Dicots 287795.7422 2155.710848

Agelaius tricolor tricolored blackbird ABPBXB0020 401 55406 55406 3411851 Palmdale LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 20110416 20110416 PVT None Threatened G1G2 S1S2 SSC BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC 203 Birds 1564491.707 6136.751731

Phrynosoma blainvillii coast horned lizard ARACF12100 698 78385 79312 3411842 Acton LAX 80 meters Presumed Extant Natural/Native occurrence Good N 20090622 20090622 USFS-ANGELES NF None None G3G4 S3S4 SSC BLM_S; IUCN_LC 201 Reptiles 29521.60156 609.7120905

Anniella pulchra Northern California legless lizard ARACC0102099 78619 79547 3411852 Ritter Ridge LAX 80 meters Presumed Extant Natural/Native occurrence Good N 20090210 20090210 PVT; UNKNOWN None None G3 S3 SSC USFS_S 201 Reptiles 29568.76953 610.1986994

Anniella pulchra Northern California legless lizard ARACC01020107 78622 79549 3411841 Pacifico Mountain LAX 80 meters Presumed Extant Natural/Native occurrence Good N 20090212 20090212 PVT None None G3 S3 SSC USFS_S 201 Reptiles 29544.91016 609.9525268

Vireo bellii pusillus least Bell's vireo ABPBW01114 319 78860 79815 3411851 Palmdale LAX specific area Presumed Extant Natural/Native occurrence Good N 20050505 20050505 PVT Endangered Endangered G5T2 S2 IUCN_NT; NABCI_YWL 202 Birds 48780.10156 830.4124599

Vireo bellii pusillus least Bell's vireo ABPBW01114 321 78888 79867 3411862 Lancaster West LAX 80 meters Presumed Extant Natural/Native occurrence Poor N 20060529 20060529 CITY OF LANCASTER Endangered Endangered G5T2 S2 IUCN_NT; NABCI_YWL 201 Birds 29707.77344 611.6310817

Gasterosteus aculeatus williamsoni unarmored threespine stickleback AFCPA03011 4 2048 5409 3411843 Agua Dulce LAX non-specific area Presumed Extant Natural/Native occurrence Fair N 20071213 20071213 PVT; USFS-ANGELES NF Endangered Endangered G5T1 S1 FP AFS_EN 803 Fish 4617088.535 47699.96013

Southern California Threespine Stickleback Stream Southern California Threespine Stickleback Stream CARE2320CA 5 2048 5408 3411843 Agua Dulce LAX non-specific area Presumed Extant Natural/Native occurrence Fair N 19930804 19930804 PVT; USFS-ANGELES NF None None GNR SNR 803 Inland Waters 4617088.535 47699.96013

Aimophila ruficeps canescenssouthern California rufous-crowned sparrow ABPBX91091 180 79010 79969 3411852 Ritter Ridge LAX 80 meters Presumed Extant Natural/Native occurrence Fair N 20050513 20050513 PVT None None G5T3 S3 WL 201 Birds 29593.26172 610.4512571

Anniella pulchra Northern California legless lizard ARACC01020100 79226 80204 3411852 Ritter Ridge LAX specific area Presumed Extant Natural/Native occurrence Fair N 20090330 20090330 UNKNOWN None None G3 S3 SSC USFS_S 202 Reptiles 59719.64063 1227.106459

Nemacladus secundiflorus var. robbinsii Robbins' nemacladus PDCAM0F0B2 1 79321 80303 3411747 Valyermo LAX 5 miles Presumed Extant Natural/Native occurrence Unknown N 19290519 19290519 UNKNOWN None None G3T2 S2 1B.2 USFS_S 104 Dicots

296169731.1 61007.4407

Anniella pulchra Northern California legless lizard ARACC01020101 79362 80344 3411852 Ritter Ridge LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20090203 20090203 UNKNOWN None None G3 S3 SSC USFS_S 201 Reptiles 29633.73828 610.8686549

Anniella pulchra Northern California legless lizard ARACC0102098 78616 79543 3411852 Ritter Ridge LAX specific area Presumed Extant Natural/Native occurrence Good N 20090303 20090303 PVT; UNKNOWN None None G3 S3 SSC USFS_S 202 Reptiles 71621.57813 1352.093187

Calochortus palmeri var. palmeri Palmer's mariposa-lily PMLIL0D122 52 80236 81222 3411748 Juniper Hills LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 20010602 20010602 UNKNOWN None None G3T2 S2 1B.2 BLM_S; SB_CalBG/RSABG; SB_SBBG; USFS_S 104 Monocots 104047.6016 1143.820262

Phrynosoma blainvillii coast horned lizard ARACF12100 701 78400 79320 3411852 Ritter Ridge LAX specific area Presumed Extant Natural/Native occurrence Good N 20100525 20100525 PVT None None G3G4 S3S4 SSC BLM_S; IUCN_LC 202 Reptiles 57693.51953 1023.413312

Athene cunicularia burrowing owl ABNSB10010 1555 80728 81735 3411768 Alpine Butte LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 200901XX 200901XX UNKNOWN None None G4 S3 SSC BLM_S; IUCN_LC; USFWS_BCC 201 Birds 29722.69531 611.7845747

Athene cunicularia burrowing owl ABNSB10010 1556 80729 81752 3411768 Alpine Butte LAX specific area Presumed Extant Natural/Native occurrence Unknown N 200907XX 200907XX UNKNOWN None None G4 S3 SSC BLM_S; IUCN_LC; USFWS_BCC 202 Birds 87277.19922 1506.92344

Athene cunicularia burrowing owl ABNSB10010 798 64733 64812 3411768 Alpine Butte LAX specific area Presumed Extant Natural/Native occurrence Good N 200906XX 200906XX PVT None None G4 S3 SSC

BLM_S; IUCN_LC; USFWS_BCC 202 Birds 45790.85156 788.8352768

Athene cunicularia burrowing owl ABNSB10010 799 64737 64816 3411861
Lancaster East LAX specific area Presumed Extant Natural/Native occurrence
Good N 200812XX 200812XX UNKNOWN None None G4 S3
SSC BLM_S; IUCN_LC; USFWS_BCC 202 Birds 256758.0078
3802.352178

Athene cunicularia burrowing owl ABNSB10010 1558 80744 81766 3411861
Lancaster East LAX 80 meters Presumed Extant Natural/Native occurrence
Unknown N 20090625 20090625 UNKNOWN None None G4
S3 SSC BLM_S; IUCN_LC; USFWS_BCC 201 Birds
29726.09375 611.8194086

Athene cunicularia burrowing owl ABNSB10010 1573 80875 81851 3411758
Littlerock LAX 80 meters Presumed Extant Natural/Native occurrence
Good N 20080425 20080425 UNKNOWN None None G4 S3
SSC BLM_S; IUCN_LC; USFWS_BCC 201 Birds 29582.84766
610.3436786

Lanius ludovicianus loggerhead shrike ABPBR01030 57 81009 81997 3411852
Ritter Ridge LAX 1/10 mile Presumed Extant Natural/Native occurrence
Good N 20080409 20080409 UNKNOWN None None G4 S4
SSC IUCN_LC; USFWS_BCC 204 Birds 104503.8945 1146.304733

Lanius ludovicianus loggerhead shrike ABPBR01030 63 81027 82014 3411758
Littlerock LAX 1/10 mile Presumed Extant Natural/Native occurrence
Good N 20080418 20080418 UNKNOWN None None G4 S4
SSC IUCN_LC; USFWS_BCC 204 Birds 104210.6016 1144.736778

Lanius ludovicianus loggerhead shrike ABPBR01030 68 81046 82032 3411852
Ritter Ridge LAX 1/10 mile Presumed Extant Natural/Native occurrence
Excellent N 20090615 20090615 UNKNOWN None None G4
S4 SSC IUCN_LC; USFWS_BCC 204 Birds 104282.5195
1145.090141

Lanius ludovicianus loggerhead shrike ABPBR01030 70 81052 82037 3411861
Lancaster East LAX 1/10 mile Presumed Extant Natural/Native occurrence
Good N 20080403 20080403 UNKNOWN None None G4 S4
SSC IUCN_LC; USFWS_BCC 204 Birds 104561.6602 1146.621561

Artemisiospiza belli belli Bell's sage sparrow ABPBX97021 55 79023 79981
3411852 Ritter Ridge LAX non-specific area Presumed Extant
Natural/Native occurrence Fair N 20050512 20050512 PVT None
None G5T2T3 S3 WL USFWS_BCC 203 Birds
1124606.238 3904.696001

Lupinus peirsonii Peirson's lupine PDFAB2B330 11 81209 82197 3411748
Juniper Hills LAX 3/5 mile Presumed Extant Natural/Native occurrence
Unknown N 19940922 19940922 USFS-ANGELES NF None None
G3 S3 1B.3 SB_CalBG/RSABG; USFS_S 104 Dicots
4624826.281 7624.068646

Phrynosoma blainvillii coast horned lizard ARACF12100 755 81409 82388
3411852 Ritter Ridge LAX 80 meters Presumed Extant Natural/Native
occurrence Unknown N 20080501 20080501 UNKNOWN None None
G3G4 S3S4 SSC BLM_S; IUCN_LC 201 Reptiles
29621.625 610.7437469

Phrynosoma blainvillii coast horned lizard ARACF12100 756 81410 82389
3411852 Ritter Ridge LAX 80 meters Presumed Extant Natural/Native
occurrence Unknown N 20080409 20080409 UNKNOWN None None
G3G4 S3S4 SSC BLM_S; IUCN_LC 201 Reptiles
29616.94922 610.6955176

Phrynosoma blainvillii coast horned lizard ARACF12100 760 81903 82876
3411852 Ritter Ridge LAX 80 meters Presumed Extant Natural/Native
occurrence Unknown N 20080901 20080901 UNKNOWN None None
G3G4 S3S4 SSC BLM_S; IUCN_LC 201 Reptiles
29606.26953 610.585381

Phrynosoma blainvillii coast horned lizard ARACF12100 761 81904 82877
3411852 Ritter Ridge LAX 80 meters Presumed Extant Natural/Native
occurrence Unknown N 20070604 20070604 UNKNOWN None None
G3G4 S3S4 SSC BLM_S; IUCN_LC 201 Reptiles
29594.60938 610.4651698

Phrynosoma blainvillii coast horned lizard ARACF12100 765 81932 82905
3411747 Valyermo LAX 3/5 mile Presumed Extant Natural/Native
occurrence Unknown N 19490607 19490607 UNKNOWN None None
G3G4 S3S4 SSC BLM_S; IUCN_LC 204 Reptiles

4630095.492 7628.498625

Phrynosoma blainvillii coast horned lizard ARACF12100 700 78399 79319 3411852 Ritter Ridge LAX 80 meters Presumed Extant Natural/Native occurrence Good N 20090530 20090530 UNKNOWN None None G3G4 S3S4 SSC BLM_S; IUCN_LC 201 Reptiles 29623.32813 610.7631497

Anaxyrus californicus arroyo toad AAABB01230 116 82359 83375 3411841 Pacifico Mountain LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 19990708 19990708 USFS-ANGELES NF Endangered None G2G3 S2S3 SSC IUCN_EN 203 Amphibians 315558.5508 3453.685664

Anaxyrus californicus arroyo toad AAABB01230 117 82360 83376 3411841 Pacifico Mountain LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19990726 19990726 USFS-ANGELES NF Endangered None G2G3 S2S3 SSC IUCN_EN 204 Amphibians 104010.7617 1143.702461

Anaxyrus californicus arroyo toad AAABB01230 118 82361 83377 3411748 Juniper Hills LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 19990726 19990726 USFS-ANGELES NF Endangered None G2G3 S2S3 SSC IUCN_EN 203 Amphibians 151728.1289 1848.689566

Xerospermophilus mohavensis Mohave ground squirrel AMAFB05150 45 2258 7332 3411851 Palmdale LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 19340827 19340827 UNKNOWN None Threatened G2G3 S2S3 BLM_S; IUCN_VU 203 Mammals 23376538.87 18140.75271

Buteo regalis ferruginous hawk ABNKC19120 88 83486 84513 3411861 Lancaster East LAX 80 meters Presumed Extant Natural/Native occurrence Fair N 20080414 20080414 UNKNOWN None None G4 S3S4 WL IUCN_LC; USFWS_BCC 201 Birds 29668.34375 611.225207

Buteo regalis ferruginous hawk ABNKC19120 95 83497 84521 3411852 Ritter Ridge LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 20110118 20110118 UNKNOWN None None G4

S3S4 WL IUCN_LC; USFWS_BCC 204 Birds 104414.7266 1145.8157

Buteo regalis ferruginous hawk ABNKC19120 96 83498 84522 3411852 Ritter Ridge LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 20110114 20110114 UNKNOWN None None G4 S3S4 WL IUCN_LC; USFWS_BCC 204 Birds 104396.6367 1145.716391

Xerospermophilus mohavensis Mohave ground squirrel AMAFB05150 135 21921 20950 3411851 Palmdale LAX 1 mile Possibly Extirpated Natural/Native occurrence None N 19310613 19310613 UNKNOWN None Threatened G2G3 S2S3 BLM_S; IUCN_VU 204 Mammals 11887602.45 12223.59737

Falco columbarius merlin ABNKD06030 30 83504 84530 3411862 Lancaster West LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 20101103 20101103 UNKNOWN None None G5 S3S4 WL IUCN_LC 204 Birds 104814.8438 1148.008555

Xerospermophilus mohavensis Mohave ground squirrel AMAFB05150 453 84348 85379 3411758 Littlerock LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 198906XX 198906XX UNKNOWN None Threatened G2G3 S2S3 BLM_S; IUCN_VU 204 Mammals 104349.1211 1145.45567

Xerospermophilus mohavensis Mohave ground squirrel AMAFB05150 280 22837 7873 3411758 Littlerock LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19740904 19740904 UNKNOWN None Threatened G2G3 S2S3 BLM_S; IUCN_VU 204 Mammals 11883308.07 12221.3893

Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita PDERI042P0 1 26514 1588 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Good N 20100527 20100527 USFS-ANGELES NF None None G5T3 S3 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 252640.5469 4083.645307

Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita PDERI042P0 19

84439 85468 3411831 Chilao Flat LAX 3/5 mile Presumed Extant Natural/Native occurrence Unknown N 20110626 20110626 USFS-ANGELES NF None None G5T3 S3 1B.2 SB_CalBG/RSABG; USFS_S 104 Dicots 4620745.547 7620.900044

Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita PDERI042P0 20
84440 85469 3411832 Condor Peak LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100602 20100602 USFS-ANGELES NF None None G5T3 S3 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 16020.83594 666.0215972

Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita PDERI042P0 21
84441 85470 3411841 Pacifico Mountain LAX 1/5 mile Presumed Extant Natural/Native occurrence Unknown N 19950620 19950620 USFS-ANGELES NF None None G5T3 S3 1B.2 SB_CalBG/RSABG; USFS_S 104 Dicots 415673.5781 2286.106947

Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita PDERI042P0 22
84443 85472 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100601 20100601 USFS-ANGELES NF None None G5T3 S3 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 56217.06641 1329.921527

Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita PDERI042P0 23
84444 85473 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100528 20100528 USFS-ANGELES NF None None G5T3 S3 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 4133.785156 228.299309

Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita PDERI042P0 24
84447 85475 3411841 Pacifico Mountain LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 19920820 19920820 USFS-ANGELES NF None None G5T3 S3 1B.2 SB_CalBG/RSABG; USFS_S 103 Dicots 219895.7969 2552.145866

Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita PDERI042P0 25
84450 85478 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100525 20100525 USFS-ANGELES NF None None G5T3 S3 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 24855.47656 858.9857203

Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita PDERI042P0 26 84456 85484 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100520 20100520 USFS-ANGELES NF None None G5T3 S3 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 5817.734375 272.202091

Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita PDERI042P0 27 84465 85485 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100617 20100617 USFS-ANGELES NF None None G5T3 S3 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 102503.3828 2651.549713

Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita PDERI042P0 28 84467 85492 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100615 20100615 USFS-ANGELES NF None None G5T3 S3 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 23338.8125 737.7368054

Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita PDERI042P0 29 84468 85493 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100526 20100526 USFS-ANGELES NF None None G5T3 S3 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 7456.546875 319.8566552

Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita PDERI042P0 36 84483 85505 3411748 Juniper Hills LAX 1/5 mile Presumed Extant Natural/Native occurrence Unknown N 19920820 19920820 USFS-ANGELES NF None None G5T3 S3 1B.2 SB_CalBG/RSABG; USFS_S 104 Dicots 415658.5781 2286.065609

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D140 14 84491 85511 3411842 Acton LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 19900523 19900523 USFS-ANGELES NF None Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 103 Dicots 237492.6016 1949.537131

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D140 18 84552 85570 3411841 Pacifico Mountain LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 19940503 19940503 USFS-ANGELES NF None Rare G2 S2 1B.2 SB_CalBG/RSABG;

USFS_S 103 Dicots 504422.4492 5495.671485

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D140 13 84490 85510
3411842 Acton LAX 1/10 mile Presumed Extant Natural/Native
occurrence Unknown N 19900523 19900523 USFS-ANGELES NF None
Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 104 Dicots
103953.7422 1143.284188

Charadrius montanus mountain plover ABNNB03100 57 84804 85836
3411861 Lancaster East LAX 1/5 mile Presumed Extant Natural/Native
occurrence Unknown N 20111230 20111230 UNKNOWN None None
G3 S2S3 SSC BLM_S; IUCN_NT; NABCI_RWL; USFWS_BCC 204
Birds 418372.9141 2293.516351

Charadrius montanus mountain plover ABNNB03100 58 84805 85837
3411861 Lancaster East LAX 1/5 mile Presumed Extant Natural/Native
occurrence Unknown N 20120101 20120101 UNKNOWN None None
G3 S2S3 SSC BLM_S; IUCN_NT; NABCI_RWL; USFWS_BCC 204
Birds 418455.457 2293.742506

Charadrius montanus mountain plover ABNNB03100 59 84806 85838
3411861 Lancaster East LAX 1/5 mile Presumed Extant Natural/Native
occurrence Unknown N 20111227 20111227 UNKNOWN None None
G3 S2S3 SSC BLM_S; IUCN_NT; NABCI_RWL; USFWS_BCC 204
Birds 418424.5352 2293.709759

Charadrius montanus mountain plover ABNNB03100 60 84807 85839
3411768 Alpine Butte LAX 1/5 mile Presumed Extant Natural/Native
occurrence Unknown N 20110122 20110122 UNKNOWN None None
G3 S2S3 SSC BLM_S; IUCN_NT; NABCI_RWL; USFWS_BCC 204
Birds 418562 2294.034461

Charadrius montanus mountain plover ABNNB03100 61 84808 85840
3411861 Lancaster East LAX 1/5 mile Presumed Extant Natural/Native
occurrence Unknown N 20100109 20100109 UNKNOWN None None
G3 S2S3 SSC BLM_S; IUCN_NT; NABCI_RWL; USFWS_BCC 204
Birds 418901.2813 2294.963878

Lupinus peirsonii Peirson's lupine PDFAB2B3305 59045 59081 3411748
Juniper Hills LAX specific area Presumed Extant Natural/Native occurrence

Excellent N 20111023 20111023 USFS-ANGELES NF None None G3 S3 1B.3 SB_CalBG/RSABG; USFS_S 102 Dicots 71842.625 1043.75005

Linanthus concinnus San Gabriel linanthus PDPLM090D0 31 84957 85991 3411748 Juniper Hills LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20080618 20080618 USFS-ANGELES NF None None G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 101 Dicots 29475.80078 609.2388662

Linanthus concinnus San Gabriel linanthus PDPLM090D0 32 84958 85992 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20110625 20110625 USFS-ANGELES NF None None G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 4136.4375 228.3728017

Linanthus concinnus San Gabriel linanthus PDPLM090D0 34 84960 85994 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100601 20100601 USFS-ANGELES NF None None G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 5233.882813 258.8566355

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 120 85244 86264 3411748 Juniper Hills LAX 1/5 mile Presumed Extant Natural/Native occurrence Fair N 20110522 20110522 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 416284.6836 2287.795628

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 121 85246 86266 3411748 Juniper Hills LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20090520 20090520 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 101 Dicots 29509.35547 609.5853765

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 123 85310 86324 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100519 20100519 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 4144.207031 229.0652044

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 131 85321 86341 3411852 Ritter Ridge LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100525 20100525 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 4122.601563 228.4671879

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 132 85323 86344 3411852 Ritter Ridge LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100101 20100101 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 4110.675781 228.137434

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 133 85325 86345 3411852 Ritter Ridge LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100601 20100601 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 8254.179688 457.1835814

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 134 85326 86347 3411852 Ritter Ridge LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100526 20100526 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 16495.41016 914.1134084

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 135 85328 86349 3411852 Ritter Ridge LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100608 20100608 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 8270.078125 457.567529

Rana draytonii California red-legged frog AAABH01022 1361 85349 86372 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20110705 20110705 UNKNOWN Threatened None G2G3 S2S3 SSC IUCN_VU 202 Amphibians 206460.6367 3037.180821

Oreonana vestita woolly mountain-parsley PDAPI1G030 39 85444 86457 3411748 Juniper Hills LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 20080703 20080703 USFS-ANGELES NF None None G3 S3 1B.3 BLM_S; SB_CalBG/RSABG; USFS_S 104

Dicots 103919.8516 1143.097714

Oreonana vestita woolly mountain-parsley PDAPI1G030 40 85446 86459
3411748 Juniper Hills LAX 1/5 mile Presumed Extant Natural/Native occurrence Unknown N 19680723 19680723 USFS-ANGELES NF None None G3 S3 1B.3 BLM_S; SB_CalBG/RSABG; USFS_S 104 Dicots 415737.6523 2286.301737

Lilium parryi lemon lily PMLIL1A0J0 138 85483 86498 3411748 Juniper Hills LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 19680723 19680723 USFS-ANGELES NF None None G3 S3 1B.2 SB_CalBG/RSABG; USFS_S 103 Monocots 235564.4258 1941.522301

Buteo swainsoni Swainson's hawk ABNKC19070 1777 85530 86530
3411768 Alpine Butte LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20160719 20160719 UNKNOWN None Threatened G5 S3 BLM_S; IUCN_LC; USFWS_BCC 202 Birds 50108.83203 839.0162774

Charadrius montanus mountain plover ABNNB03100 62 84809 85841
3411768 Alpine Butte LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 20120101 20120101 PVT None None G3 S2S3 SSC BLM_S; IUCN_NT; NABCI_RWL; USFWS_BCC 203 Birds 7933600.961 11941.12437

Charadrius montanus mountain plover ABNNB03100 91 85381 86396
3411861 Lancaster East LAX 1 mile Presumed Extant Natural/Native occurrence Good N 20071215 20071215 PVT None None G3 S2S3 SSC BLM_S; IUCN_NT; NABCI_RWL; USFWS_BCC 204 Birds 11902424.24 12230.89112

Phrynosoma blainvillii coast horned lizard ARACF12100 44 2343 28121
3411841 Pacifico Mountain LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19510506 19510506 USFS-ANGELES NF None None G3G4 S3S4 SSC BLM_S; IUCN_LC 804 Reptiles 11752136.59 12167.94582

Calochortus palmeri var. palmeri Palmer's mariposa-lily PMLIL0D122 53 80239 81224
3411748 Juniper Hills LAX 80 meters Presumed Extant Natural/Native

occurrence Unknown N 20050623 20050623 USFS-ANGELES NF None None G3T2 S2 1B.2 BLM_S; SB_CalBG/RSABG; SB_SBBG; USFS_S 101 Monocots 29466.17188 609.1393117

Aquila chrysaetos golden eagle ABNKC22010 315 87831 88805 3411842 Acton LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19650301 19650301 USFS-ANGELES NF; PVT None None G5 S3 FP; WL BLM_S; CDF_S; IUCN_LC; USFWS_BCC 204 Birds 11851712.69 12204.98988

Athene cunicularia burrowing owl ABNSB10010 1888 89828 90831 3411862 Lancaster West LAX 80 meters Presumed Extant Natural/Native occurrence Good N 20130728 20130728 UNKNOWN None None G4 S3 SSC BLM_S; IUCN_LC; USFWS_BCC 201 Birds 29688.85156 611.451009

Buteo swainsoni Swainson's hawk ABNKC19070 2416 89912 90923 3411768 Alpine Butte LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 201207XX 201207XX UNKNOWN None Threatened G5 S3 BLM_S; IUCN_LC; USFWS_BCC 204 Birds 104812.0156 1147.993071

Buteo swainsoni Swainson's hawk ABNKC19070 2432 21923 90972 3411851 Palmdale LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19270508 19270508 UNKNOWN None Threatened G5 S3 BLM_S; IUCN_LC; USFWS_BCC 804 Birds 11888430.47 12223.76345

Buteo swainsoni Swainson's hawk ABNKC19070 2661 27633 91832 3411862 Lancaster West LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 1978XXXX 1978XXXX UNKNOWN None Threatened G5 S3 BLM_S; IUCN_LC; USFWS_BCC 804 Birds 11816992.49 12201.47437

Rana muscosa southern mountain yellow-legged frog AAABH01330 43 42586 42586 3411748 Juniper Hills LAX 2/5 mile Possibly Extirpated Natural/Native occurrence None N 19530501 19530501 USFS-ANGELES NF Endangered Endangered G1 S1 WL IUCN_EN; USFS_S 204 Amphibians 1665144.879 4574.948734

Corynorhinus townsendii Townsend's big-eared bat AMACC08010 308 2088 93179 3411842 Acton LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19430815 19430815 UNKNOWN None None G4 S2 SSC BLM_S; IUCN_LC; USFS_S; WBWG_H 804 Mammals 11754015.55 12168.91826

Corynorhinus townsendii Townsend's big-eared bat AMACC08010 307 92088 93178 3411842 Acton LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19410622 19410622 UNKNOWN None None G4 S2 SSC BLM_S; IUCN_LC; USFS_S; WBWG_H 804 Mammals 11851158.63 12204.42502

Eriastrum rosamondense Rosamond eriastrum PDPLM030G0 2 92698 93850 3411862 Lancaster West LAX 1/5 mile Presumed Extant Natural/Native occurrence Unknown N 2005XXXX 2005XXXX UNKNOWN None None G1? S1? 1B.1 SB_CalBG/RSABG 104 Dicots 419209.293 2295.807365

Eriastrum rosamondense Rosamond eriastrum PDPLM030G0 3 92699 93851 3411862 Lancaster West LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 19930506 19930506 UNKNOWN None None G1? S1? 1B.1 SB_CalBG/RSABG 104 Dicots 104774.5938 1147.811673

Bombus crotchii Crotch bumble bee IIHYM24480 130 97593 98917 3411862 Lancaster West LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19711002 19711002 UNKNOWN None Candidate Endangered G3G4 S1S2 204 Insects 11920798.08 12240.11244

Bombus crotchii Crotch bumble bee IIHYM24480 133 21923 98922 3411851 Palmdale LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19310408 19310408 UNKNOWN None Candidate Endangered G3G4 S1S2 804 Insects 11888430.47 12223.76345

Bombus crotchii Crotch bumble bee IIHYM24480 139 97605 98941 3411748 Juniper Hills LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19730725 19730725 UNKNOWN None Candidate Endangered G3G4 S1S2 204 Insects 11850966.27

12204.33652

Bombus crotchii Crotch bumble bee IIHYM24480 141 97606 98942 3411758 Littlerock LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 194505XX 194505XX UNKNOWN None Candidate Endangered G3G4 S1S2 204 Insects 11872231.59 12215.66537

Bombus crotchii Crotch bumble bee IIHYM24480 136 92088 98931 3411842 Acton LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19830627 19830627 UNKNOWN None Candidate Endangered G3G4 S1S2 804 Insects 11851158.63 12204.42502

Bombus crotchii Crotch bumble bee IIHYM24480 140 2343 98940 3411841 Pacifico Mountain LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19990420 19990420 USFS-ANGELES NF None Candidate Endangered G3G4 S1S2 804 Insects 11752136.59 12167.94582

Calochortus striatus alkali mariposa-lily PMLIL0D190 120 99401 100959 3411862 Lancaster West LAX specific area Presumed Extant Natural/Native occurrence Poor N 20150513 20150513 PVT None None G3? S2S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Monocots 7910.324219 329.4376026

Calochortus striatus alkali mariposa-lily PMLIL0D190 121 99402 100960 3411862 Lancaster West LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20100520 20100520 UNKNOWN None None G3? S2S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 101 Monocots 29639.70313 611.2843394

Agelaius tricolor tricolored blackbird ABPBXB0020 752 99511 101056 3411862 Lancaster West LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20110417 20110417 UNKNOWN None Threatened G1G2 S1S2 SSC BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC 201 Birds 29666.60156 611.2071161

Rana draytonii California red-legged frog AAABH01022 1340 76852 77792 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Fair N 20150318 20150318 USFS-ANGELES NF Threatened

None G2G3 S2S3 SSC IUCN_VU 202 Amphibians
526564.5742 4628.386497

Arizona elegans occidentalis California glossy snake ARADB01017 240 A3784
105437 3411748 Juniper Hills LAX 80 meters Presumed Extant
Natural/Native occurrence Unknown N 2015XXXX 2015XXXX BLM
None None G5T2 S2 SSC 201 Reptiles
29529.45313 609.7934208

Arizona elegans occidentalis California glossy snake ARADB01017 241 A3785
105438 3411748 Juniper Hills LAX 80 meters Presumed Extant
Natural/Native occurrence Unknown N 20150330 20150330 BLM
None None G5T2 S2 SSC 201 Reptiles
29475.66406 609.5906815

Arizona elegans occidentalis California glossy snake ARADB01017 242 A3787
105439 3411758 Littlerock LAX 80 meters Presumed Extant
Natural/Native occurrence Unknown N 20150327 20150327
UNKNOWN None None G5T2 S2 SSC 201 Reptiles
29494.21875 609.7823693

Arizona elegans occidentalis California glossy snake ARADB01017 243 A3788
105440 3411758 Littlerock LAX 2/5 mile Presumed Extant
Natural/Native occurrence Unknown N 19550605 19550605
UNKNOWN None None G5T2 S2 SSC 204 Reptiles
1669391.664 4580.66912

Arizona elegans occidentalis California glossy snake ARADB01017 244 A3789
105441 3411851 Palmdale LAX 1 mile Presumed Extant
Natural/Native occurrence Unknown N 19370608 19370608
UNKNOWN None None G5T2 S2 SSC 204 Reptiles
11868533.39 12212.90278

Anniella pulchra Northern California legless lizard ARACC0102093 38704 33711
3411862 Lancaster West LAX 80 meters Presumed Extant
Natural/Native occurrence Fair N 19880604 19880604 PVT None
None G3 S3 SSC USFS_S 201 Reptiles
29589.17969 610.7630019

Anniella pulchra Northern California legless lizard ARACC0102094 38705 33712

3411862 Lancaster West LAX 3/5 mile Presumed Extant Natural/Native occurrence Unknown N 19880122 19880122 LAX COUNTY None None G3 S3 SSC USFS_S 204 Reptiles 4657243.91 7650.716202

Calochortus striatus alkali mariposa-lily PMLIL0D190 21 2168 22108 3411872 Rosamond LAX specific area Presumed Extant Natural/Native occurrence Good N 20170420 20170420 DOD-EDWARDS AFB; PVT None None G3? S2S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Monocots 8551448.484 107537.3508

Calochortus striatus alkali mariposa-lily PMLIL0D190 129 A8571 110360 3411862 Lancaster West LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20160426 20160426 PVT None None G3? S2S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 101 Monocots 29618.95313 611.0702543

Linanthus concinnus San Gabriel linanthus PDPLM090D0 43 A8594 110382 3411748 Juniper Hills LAX specific area Presumed Extant Natural/Native occurrence Excellent N 20150520 20150520 USFS-ANGELES NF None None G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 54865.21484 2774.469808

Linanthus concinnus San Gabriel linanthus PDPLM090D0 33 84959 85993 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100601 20100601 USFS-ANGELES NF None None G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 10369.95703 509.1892433

Linanthus concinnus San Gabriel linanthus PDPLM090D0 44 A8597 110385 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100601 20100601 USFS-ANGELES NF None None G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 4136.90625 228.3727531

Linanthus concinnus San Gabriel linanthus PDPLM090D0 45 A8598 110386 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20110406 20110406 USFS-ANGELES NF None None G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 12060.375 423.0646301

Linanthus concinnus San Gabriel linanthus PDPLM090D0 46 A8599 110387 3411842 Acton LAX non-specific area Presumed Extant Natural/Native occurrence Unknown N 20130531 20130531 USFS-ANGELES NF None None G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 103 Dicots 3347640.621 34098.36957

Calochortus palmeri var. palmeri Palmer's mariposa-lily PMLIL0D122 111 A8802 110596 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100601 20100601 USFS-ANGELES NF None None G3T2 S2 1B.2 BLM_S; SB_CalBG/RSABG; SB_SBBG; USFS_S 102 Monocots 339252.6836 6857.512281

Anniella spp. California legless lizard ARACC0107081 A9312 111156 3411842 Acton LAX non-specific area Presumed Extant Natural/Native occurrence Good N 20091104 20091104 USFS-ANGELES NF None None G3G4 S3S4 SSC 203 Reptiles 2629752.527 8368.093276

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 125 85307 86327 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100519 20100519 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 8231.378906 456.3619627

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 152 A9347 111192 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20110613 20110613 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 32300.48828 1119.965138

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 153 A9348 111193 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20110613 20110613 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 19370.40625 877.3231561

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 154 A9349 111194 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 2009XXXX 2009XXXX USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S;

SB_CalBG/RSABG; USFS_S 102 Dicots 4141.121094 228.4887232

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 155 A9350 111195 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 2009XXXX 2009XXXX USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 15638.19141 544.9261548

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 156 A9351 111196 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100118 20100118 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 15336.46094 458.4683529

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 157 A9352 111197 3411841 Pacifico Mountain LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20110526 20110526 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 101 Dicots 29433.97266 609.1595569

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 158 A9353 111198 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20110612 20110612 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 20858.41406 811.081236

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 159 A9354 111199 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20110612 20110612 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 5914.441406 273.7408334

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 160 A9355 111200 3411842 Acton LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20160922 20160922 UNKNOWN None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 101 Dicots 29476.125 609.5954253

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 186 A9422 111270 3411831 Chilao Flat LAX specific area Presumed Extant

Natural/Native occurrence Unknown N 20130715 20130715 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 7874.859375 317.6721866

Anniella spp. California legless lizard ARACC0107087 A9588 111442 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Poor N 20110823 20110823 USFS-ANGELES NF None None G3G4 S3S4 SSC 202 Reptiles 12645.96875 413.8018688

Anniella pulchra Northern California legless lizard ARACC01020353 B0483 112348 3411862 Lancaster West LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19460428 19460428 UNKNOWN None None G3 S3 SSC USFS_S 204 Reptiles 11904980.79 12231.8338

Anniella pulchra Northern California legless lizard ARACC01020354 B0485 112350 3411852 Ritter Ridge LAX 1/10 mile Possibly Extirpated Natural/Native occurrence None N 20040307 20040307 PALMDALE SCHOOL DISTRICT None None G3 S3 SSC USFS_S 204 Reptiles 104394.332 1145.828524

Anniella pulchra Northern California legless lizard ARACC01020355 B0486 112351 3411852 Ritter Ridge LAX 1/5 mile Presumed Extant Natural/Native occurrence Unknown N 20100419 20100419 UNKNOWN None None G3 S3 SSC USFS_S 204 Reptiles 417660.7383 2291.882194

Anniella pulchra Northern California legless lizard ARACC01020356 B0487 112352 3411862 Lancaster West LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 20131213 20131213 PVT None None G3 S3 SSC USFS_S 204 Reptiles 104545.7148 1146.658886

Anniella pulchra Northern California legless lizard ARACC01020357 B0492 112356 3411851 Palmdale LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20170326 20170326 UNKNOWN None None G3 S3 SSC USFS_S 201 Reptiles 29533.27734 610.0537607

Anniella pulchra Northern California legless lizard ARACC01020358 B0493 112357 3411851 Palmdale LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20170325 20170325 UNKNOWN None None G3 S3 SSC USFS_S 201 Reptiles 29492.30078 609.7624098

Anniella pulchra Northern California legless lizard ARACC01020359 B0494 112358 3411851 Palmdale LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20170506 20170506 UNKNOWN None None G3 S3 SSC USFS_S 201 Reptiles 29519.64063 610.0450345

Anniella pulchra Northern California legless lizard ARACC01020360 B0496 112360 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Fair N 20110121 20110121 PVT-SCE None None G3 S3 SSC USFS_S 202 Reptiles 49475.91797 815.979505

Malacothamnus davidsonii Davidson's bush-mallow PDMAL0Q040 85 B0925 112812 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100601 20100601 USFS-ANGELES NF None None G2 S2 1B.2 SB_CalBG/RSABG 102 Dicots 4633.984375 241.753999

Malacothamnus davidsonii Davidson's bush-mallow PDMAL0Q040 86 B0926 112813 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100601 20100601 USFS-ANGELES NF None None G2 S2 1B.2 SB_CalBG/RSABG 102 Dicots 4933.457031 249.5854254

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D1402 2131 13641 3411832 Condor Peak LAX specific area Presumed Extant Natural/Native occurrence Good N 20180824 20180824 USFS-ANGELES NF None Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 367243.7266 4735.893616

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D1405 2105 17880 3411842 Acton LAX non-specific area Presumed Extant Natural/Native occurrence Good N 20150325 20150325 USFS-ANGELES NF None Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 103 Dicots

563662.0352 4815.046763

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D14015 84492 85512 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20150331 20150331 USFS-ANGELES NF None Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 64964.14844 1968.496742

Anniella pulchra Northern California legless lizard ARACC01020103 71513 72409 3411851 Palmdale LAX specific area Presumed Extant Natural/Native occurrence Good N 20160310 20160310 PVT None None G3 S3 SSC USFS_S 202 Reptiles 49429.78125 814.5930315

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D14028 B1382 113288 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20150413 20150413 USFS-ANGELES NF None Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 8266.265625 456.56259

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D14029 B1383 113289 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 2010XXXX 2010XXXX USFS-ANGELES NF None Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 19562.87109 692.8986969

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D14030 B1384 113290 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 2010XXXX 2010XXXX USFS-ANGELES NF None Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 6244.742188 280.9339055

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D14031 B1386 113292 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20130624 20130624 USFS-ANGELES NF None Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 20728.34766 531.0853945

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D14032 B1387 113293 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20110919 20110919 USFS-ANGELES NF None

Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots
23916.33203 624.8807262

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D1403 3 B1388 113294
3411842 Acton LAX specific area Presumed Extant Natural/Native
occurrence Unknown N 20150420 20150420 USFS-ANGELES NF None
Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots
18844.32422 757.0504982

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D1403 4 B1390 113296
3411842 Acton LAX specific area Presumed Extant Natural/Native
occurrence Unknown N 20110816 20110816 USFS-ANGELES NF None
Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots
18023.05859 677.7205052

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D1403 5 B1391 113297
3411842 Acton LAX specific area Presumed Extant Natural/Native
occurrence Unknown N 20130622 20130622 USFS-ANGELES NF None
Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots
13064.27734 422.1110467

Castilleja gleasoni Mt. Gleason paintbrush PDSCR0D1403 6 B1392 113298
3411842 Acton LAX specific area Presumed Extant Natural/Native
occurrence Unknown N 20130625 20130625 USFS-ANGELES NF None
Rare G2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots
13287.91797 420.0027057

Oreonana vestita woolly mountain-parsley PDAPI1G030 56 B1879 113799
3411748 Juniper Hills LAX specific area Presumed Extant Natural/Native
occurrence Unknown N 20180306 20180306 USFS-ANGELES NF None
None G3 S3 1B.3 BLM_S; SB_CalBG/RSABG; USFS_S 102
Dicots 8418.359375 346.5102004

Buteo swainsoni Swainson's hawk ABNKC19070 2773 B3338 115254
3411861 Lancaster East LAX 2/5 mile Presumed Extant Natural/Native
occurrence Unknown N 20160602 20160602 UNKNOWN None
Threatened G5 S3 BLM_S; IUCN_LC; USFWS_BCC 204
Birds 1677442.383 4592.024197

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 36 38962

33969 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Fair N 20180423 20180423 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 110745.875 1443.028877

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 105 77571 78441 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Good N 20140620 20140620 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 47869.58594 2365.900023

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 106 77572 78444 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Good N 20140617 20140617 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 54070.92578 2758.909135

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 122 85273 86293 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20100523 20100523 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 6821.652344 301.0974295

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 130 85318 86339 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20140820 20140820 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 80179.33203 3765.822392

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 203 B4218 117141 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20160805 20160805 PVT-SCE None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 10699.92969 529.1907411

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 204 B4219 117142 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20140529 20140529 PVT-SCE None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 4142.585938 228.5427173

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 205 B4220 117143 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20130523 20130523 PVT None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 11662.76953 571.230927

Claytonia peirsonii ssp. peirsonii Peirson's spring beauty PDPOR03121 11 B4464 117393 3411748 Juniper Hills LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20140405 20140405 USFS-ANGELES NF None None G2G3T2 S2 1B.2 SB_CalBG/RSABG; USFS_S 102 Dicots 8275.328125 456.7871291

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 104 77570 78439 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Fair N 20140827 20140827 USFS-ANGELES NF; PVT None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 76118.85547 2777.232359

Opuntia basilaris var. brachyclada short-joint beavertail PDCAC0D053 124 85309 86325 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20140814 20140814 USFS-ANGELES NF None None G5T3 S3 1B.2 BLM_S; SB_CalBG/RSABG; USFS_S 102 Dicots 120726.5586 6020.106895

Astragalus hornii var. hornii Horn's milk-vetch PDFAB0F421 17 B4570 117509 3411851 Palmdale LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 19290428 19290428 UNKNOWN None None GUT1 S1 1B.1 BLM_S 104 Dicots 11882099.18 12220.17877

Bombus crotchii Crotch bumble bee IIHYM24480 242 B5157 118095 3411748 Juniper Hills LAX 2/5 mile Presumed Extant Natural/Native occurrence Unknown N 20170605 20170605 UNKNOWN None Candidate Endangered G3G4 S1S2 204 Insects 1666828.406 4577.337413

Buteo swainsoni Swainson's hawk ABNKC19070 2814 B5737 118730 3411861 Lancaster East LAX specific area Presumed Extant Natural/Native occurrence Good N 20170623 20170623 PVT None Threatened G5 S3 BLM_S; IUCN_LC; USFWS_BCC 202 Birds

40302.76172 720.7264121

Buteo swainsoni Swainson's hawk ABNKC19070 2815 B5747 118741 3411861 Lancaster East LAX specific area Presumed Extant Natural/Native occurrence Good N 20170705 20170705 PVT None Threatened G5 S3 BLM_S; IUCN_LC; USFWS_BCC 202 Birds 36976.39063 686.5664496

Buteo swainsoni Swainson's hawk ABNKC19070 2816 B5749 118744 3411861 Lancaster East LAX 80 meters Presumed Extant Natural/Native occurrence Good N 20170623 20170623 PVT None Threatened G5 S3 BLM_S; IUCN_LC; USFWS_BCC 201 Birds 29658.29297 611.4759014

Buteo swainsoni Swainson's hawk ABNKC19070 2817 B5751 118747 3411768 Alpine Butte LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20190704 20190704 PVT None Threatened G5 S3 BLM_S; IUCN_LC; USFWS_BCC 201 Birds 29616.52344 611.0578453

Buteo swainsoni Swainson's hawk ABNKC19070 801 42483 42483 3411768 Alpine Butte LAX specific area Presumed Extant Natural/Native occurrence Good N 20160621 20160621 PVT None Threatened G5 S3 BLM_S; IUCN_LC; USFWS_BCC 202 Birds 88881.84375 1833.468665

Buteo swainsoni Swainson's hawk ABNKC19070 2415 89911 90922 3411768 Alpine Butte LAX specific area Presumed Extant Natural/Native occurrence Good N 20160701 20160701 PVT None Threatened G5 S3 BLM_S; IUCN_LC; USFWS_BCC 202 Birds 49279.00391 813.2107351

Southern Cottonwood Willow Riparian Forest Southern Cottonwood Willow Riparian Forest CTT61330CA 34 2007 15816 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19780919 19780919 UNKNOWN None None G3 S3.2 302 Riparian 1145148.766 14626.42699

Southern Cottonwood Willow Riparian Forest Southern Cottonwood Willow Riparian Forest CTT61330CA 32 2181 15817 3411842 Acton LAX specific area

Presumed Extant Natural/Native occurrence Unknown N 19780919 19780929 USFS-ANGELES NF None None G3 S3.2 302 Riparian 2254329.141 22791.46584

Southern Cottonwood Willow Riparian Forest Southern Cottonwood Willow Riparian Forest CTT61330CA 33 2095 15818 3411842 Acton LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19780919 19780919 UNKNOWN None None G3 S3.2 302 Riparian 831075.1914 8827.120738

Southern Cottonwood Willow Riparian Forest Southern Cottonwood Willow Riparian Forest CTT61330CA 31 2251 15819 3411841 Pacifico Mountain LAX specific area Presumed Extant Natural/Native occurrence Unknown N 19780919 19780919 USFS-ANGELES NF None None G3 S3.2 302 Riparian 1672669.102 17227.5593

Euphydryas editha quino quino checkerspot butterfly IILEPK405L 110 B0922 112804 3411747 Valyermo LAX 5 miles Extirpated Natural/Native occurrence None N 19680424 19680424 USFS-ANGELES NF Endangered None G5T1T2 S1S2 204 Insects 296079858 60997.72608

Bombus crotchii Crotch bumble bee IIHYM24480 319 B6401 119458 3411748 Juniper Hills LAX 80 meters Presumed Extant Natural/Native occurrence Unknown N 20200621 20200621 LAX COUNTY None Candidate Endangered G3G4 S1S2 201 Insects 29481.41797 609.6500449

Bombus crotchii Crotch bumble bee IIHYM24480 137 97602 98934 3411748 Juniper Hills LAX 1/10 mile Presumed Extant Natural/Native occurrence Unknown N 20200516 20200516 UNKNOWN None Candidate Endangered G3G4 S1S2 204 Insects 104080.7461 1144.113898

Bombus crotchii Crotch bumble bee IIHYM24480 347 B6439 119498 3411738 Waterman Mtn. LAX 1 mile Presumed Extant Natural/Native occurrence Unknown N 20200615 20200615 USFS-ANGELES NF None Candidate Endangered G3G4 S1S2 204 Insects 11827133.95 12192.14423

Bombus crotchii Crotch bumble bee IIHYM24480 353 B6464 119523 3411748 Juniper Hills LAX specific area Presumed Extant Natural/Native occurrence Unknown N 20200510 20200510 LAX COUNTY None Candidate Endangered G3G4 S1S2 202 Insects 52823.19141 896.9133516

Athene cunicularia burrowing owl ABNSB10010 1067 71391 72289 3411861 Lancaster East LAX 1/10 mile Presumed Extant Natural/Native occurrence Good Y 20040930 20040930 None None G4 S3 SSC BLM_S; IUCN_LC; USFWS_BCC 999 Birds 235455377.2 61674.62309

Athene cunicularia burrowing owl ABNSB10010 1068 71392 72290 3411861 Lancaster East LAX 1/10 mile Presumed Extant Natural/Native occurrence Good Y 20040930 20040930 None None G4 S3 SSC BLM_S; IUCN_LC; USFWS_BCC 999 Birds 235455377.2 61674.62309

Falco mexicanus prairie falcon ABNKD06090 464 60180 60216 3411842 Acton LAX 1/5 mile Presumed Extant Natural/Native occurrence Unknown Y 1977XXXX 1977XXXX None None G5 S4 WL IUCN_LC; USFWS_BCC 999 Birds 234752026.5 61573.02862

APPENDIX D

GEOTECHNICAL ENGINEERING INVESTIGATION

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED PALMDALE APARTMENTS
NEC AVENUE R & 30TH STREET
PALMDALE, CALIFORNIA

PROJECT NO. 112-19062
JUNE 19, 2019

Prepared for:

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June 19, 2019 KA Project No. 112-19053

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED PALMDALE APARTMENTS
NEC AVENUE R & 30TH STREET
PALMDALE, CALIFORNIA

INTRODUCTION

This report presents the results of our Geotechnical Engineering Investigation for the proposed Apartments to be located at the northeast corner of the intersection of Avenue R and 30th Street in the City of Palmdale, California. Discussions regarding site conditions are presented herein, together with conclusions and recommendations pertaining to site preparation, Engineered Fill, utility trench backfill, drainage and landscaping, foundations, concrete floor slabs and exterior flatwork, retaining walls, soil cement reactivity, and pavement design.

A site plan showing the approximate boring locations is presented following the text of this report. A description of the field investigation, boring logs, and the boring log legend are presented in Appendix A. Appendix A contains a description of the laboratory testing phase of this study, along with the laboratory test results. Appendices B and C contain guides to earthwork and pavement specifications. 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

This investigation was conducted to evaluate the soil and groundwater conditions at the site, to make geotechnical engineering recommendations for use in design of specific construction elements, and to provide criteria for site preparation and Engineered Fill construction.

Our scope of services was outlined in our proposal dated May 10, 2019 (KA Proposal No. G19062CAC) 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 fourteen (14) borings to depths ranging from approximately 10 to 50 feet below site grades for evaluation of the subsurface conditions at the project site.

- Performance of laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.

- Performance of infiltration testing at four (4) locations in order to obtain approximate infiltration rates for the near surface soil conditions.

- Evaluation of the data obtained from the investigation and an engineering analysis to provide recommendations for use in the project design and preparation of construction specifications.

- Preparation of this report summarizing the results, conclusions, recommendations, and findings of our investigation.

Environmental services, such as a chemical analysis of soil and groundwater for possible environmental contaminates, were not in our scope of services.

PROPOSED CONSTRUCTION

On a preliminary basis, it is understood that the proposed development will include construction of a new apartment complex at the subject site. The proposed development is understood to include construction of nine single or two-story apartment buildings. It is also anticipated that localized improvements to 30th Street and Avenue R may be performed, which may include installation of curb and gutter, sidewalk, commercial drive approaches, and localized street improvements with associated asphalt paving. It is assumed that the proposed structures will be of wood frame, metal frame, or masonry block, construction. It is anticipated that the proposed construction will incorporate shallow foundation systems and slab-on-grade floors. The proposed development will include on-site parking, localized landscaped areas, and trash enclosure areas.

The anticipated finished grade elevation for the proposed structure is assumed to be relatively close to the existing site grades. As a result, only minor cuts and fills are anticipated at the site. In the event these structural or grading details are inconsistent with the final design criteria, the Soils Engineer should be notified so that we may update this writing as applicable.

SITE LOCATION AND SITE DESCRIPTION

The subject site is roughly rectangular in shape and encompasses approximately 6 acres. The subject site is located on the northeast corner of Avenue R and 30th Street in the city of Palmdale, California. The site is bound to the south by Avenue R and single-family residences beyond, to the east by single-family residences, to the north by vacant land and a community church, and to the west by 30th Street and a gas station and single-family residences beyond.

The site is currently undeveloped and free of any above grade structures. Ground surface at the site consists of exposed soil and localized weed, tree, and brush growth. A dirt channel drainage passes diagonally from the southwest corner up to the northeast corner. The site topography is relatively flat and level with no major changes in topography.

GEOLOGIC SETTING

The subject site is located in the Antelope Valley, which is situated in the southwestern portion of the Mojave Desert Geomorphic Province. The Mojave Desert is bound by the Tehachapi Mountains of the Sierra Nevada Geomorphic Province to the northwest and the San Gabriel and San Bernardino Mountains of the Transverse Range Geomorphic Province to the south and southwest. A major portion of the Mojave Desert is underlain by Mesozoic granitic rocks. Quaternary alluvium covers a majority of the Valley floor.

Groundwater is reported to occur at an elevation greater than 200 feet below existing ground surface. No known regional groundwater impairments were reported within the subject site vicinity.

Both the Tehachapi and the San Gabriel mountain ranges are geologically young mountain ranges and possess active and potentially active fault zones. Numerous moderate to large earthquakes have affected the area of the subject site within historic time. Based on the proximity of several dominant active faults and seismogenic structures, as well as the historic seismic record, the area of the subject site is considered subject to relatively high seismicity. The site under consideration is located in a seismically active area of Southern California. The nearest significant active fault is the San Andreas fault Zone, which is approximately 2.3 miles away from the project site. The San Gabriel and Sierra Madre faults are located approximately 21.2 and 24.0 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. The project site is not located within an Earthquake Fault Zone.

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling a total of fourteen (14) borings, using a truck-mounted drill rig and hand auger equipment, to depths ranging from approximately 10 to 50 feet below existing site grades. In addition, bulk subgrade soil samples were obtained from the proposed pavement areas for laboratory R-Value testing. The approximate boring locations are shown on the site plan. 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 subsurface soils. Soil samples were retained for laboratory testing. The soils encountered were continuously examined and visually classified 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 moisture, density, gradation, shear strength, consolidation potential, and moisture ,density relationships of the materials encountered. In addition, chemical tests were performed to evaluate the corrosivity of the soils to buried concrete and metal. Details of the laboratory test program and results of the laboratory tests are summarized 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. In general, the surficial conditions consist of disturbed soil with varying moisture contents and apparent densities. The subsurface soils generally consist of medium dense to dense silty sand to depths of up to 29 feet below existing site grades. Below the near surface silty sands, medium dense to dense poorly-graded sands were encountered from depths of approximately 29 feet below site grades to approximately 44 feet below site grades. Below the poorly-graded sand, medium dense silty sand was encountered from a depth of approximately 44 feet below site grades to the maximum depth explored, 50 feet below site grades.

Field and laboratory tests suggest that these soils are moderately strong and slightly compressible. Penetration resistance, measured by the number of blows required to drive a Modified California sampler or Standard Penetration Test (SPT) ranged from 13 blows per foot to over 50 blows per six inches. Dry densities ranged from approximately 102 to 125 pcf. Representative samples of the near surface soils consolidated approximately 0.5 to 2.9 percent under a 2.0 ksf load when saturated. Representative samples of the near surface soil had angles of internal friction of 31degrees with cohesion values of 100 and 200 psf.

For additional information about the soils encountered, please refer to the logs of borings in Appendix A.

GROUNDWATER

Test boring locations were checked for the presence of groundwater during and immediately following the drilling operations. Free groundwater was not encountered at any of the borings drilled as part of this investigation. In addition, based on previous drilling in the area and groundwater data for the site vicinity, the depth to groundwater is expected be encountered at a depth in excess of fifty (50) feet below existing site grades.

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use and climatic conditions, as well as other factors. Therefore, water level observations at the time of the 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.

LIQUEFACTION

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

The soil beneath the site consists of medium dense to dense silty sand and poorly-graded sand with varying silt content. Groundwater depth is not expected to affect the proposed development. Groundwater was not encountered during our field investigation. The potential for liquefaction is considered to be low based on the dense soil and absence of shallow groundwater. The site is located on the Earthquake Zones of Required Investigation Map, Palmdale Quadrangle, dated October 17, 2003. The subject site is not located in an area designated by the State of California as a liquefaction hazard zone.

FAULT RUPTURE HAZARD ZONES

The Alquist-Priolo Geologic Hazards 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 site is located on the Earthquake Zones of Required Investigation Map, Palmdale Quadrangle, dated January 1, 1979. The subject site is not located in an area designated by the State of California as a Fault-Rupture Hazard Zone.

SEISMIC HAZARD 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 subject site is located on the State of California, Earthquake Zones of Required Investigation Map, Palmdale Quadrangle, dated October 17, 2003. The area of the subject is not located in an area designated as a seismic hazard zone.

OTHER HAZARDS

Rockfall, Landslide, 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 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.

SOIL CORROSIVITY

Corrosion tests were performed to evaluate the soil corrosivity to the buried structures. The results of the tests are included as follows:

Parameter	Results	Test Method
Resistivity	3,850 ohm-cm	CA 643
Sulfate	222 ppm	CA 417
Chloride	89 ppm	CA 422
pH	7.8	EPA 9045C

INFILTRATION TESTING

The shallow soil conditions present at the subject site were evaluated by drilling four (4) shallow borings at the subject site to facilitate infiltration testing. The borings drilled at the site indicated the subsurface soil conditions consisted of medium dense to dense silty sand. Infiltration testing was performed at each of the boring locations. Infiltration testing has been performed using the results of open borehole percolation testing. Infiltration rates have been calculated using the Inverse Borehole procedures.

Prior to infiltration testing, approximately four inches of gravel was placed at the bottom of each of the borehole. The borehole was pre-soaked prior to testing using clean water. The depth of the borehole was measured at each reading to verify the overall depth. The depth of water in the borehole was measured using a water level indicator or well sounder.

Infiltration rates were determined using the results of open borehole infiltration testing performed at the subject site. Infiltration testing performed on the near surface silty sand soil indicate infiltration rates of approximately 0.84, 1.04, and 1.19 inches per hour. Detailed results of the percolation tests and resulting 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.

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

Base 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 any stockpiled soil, vegetation, rubbish, and any loose and/or saturated materials. To reduce post-construction soil movement and provide uniform support for the proposed building, overexcavation and recompaction within the proposed building footprint area should be performed to a minimum depth of at least five (5) feet below existing grade or three (3) feet below foundation bearing grade, whichever is deeper. The actual depth of the overexcavation and recompaction should be determined by the Geotechnical Engineering representative during construction. The overexcavation and recompaction should also extend laterally five (5) feet beyond edges of the proposed footings. Any undocumented fill encountered during grading should be removed and replaced with Engineered Fill.

Within the proposed exterior flatwork and pavement areas, it is recommended that the upper 12 inches be excavated and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM D1557 Test Method. Limits of recompaction should extend a minimum of two (2) feet beyond the edge of pavements or back of curbs. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy soils.

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structure footings may be designed utilizing an allowable bearing pressure of 2,600 psf for dead-plus-live loads. Footings should have a minimum embedment of 18 inches.

Infiltration rates were determined using the results of open borehole infiltration testing performed at the subject site. Infiltration testing performed on the near surface silty sand soil indicate infiltration rates of approximately 0.84, 0.84, 1.04, and 1.19 inches per hour. Detailed results of the percolation tests and infiltration rates are attached in tabular format.

Soil samples were obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentration detected from the soil sample indicated a moderate sulfate exposure value as established by HUD/FHA and CBC. Therefore, it is recommended that concrete in contact with soil utilize Type II cement and have a minimum compressive strength of 4,000 psi.

County of Los Angeles Building Code Statement

It is the finding of this firm that the proposed project will be safe from geotechnical hazards (i.e. landslide, settlement or slippage) and will not adversely affect adjacent properties, in compliance with Section 111 of the Los Angeles County Building Code, provided our recommendations are incorporated into the design and properly implemented during construction.

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. Our firm should be consulted prior to implementing remedial measures to observe the unstable subgrade conditions and provide appropriate recommendations.

Soil Liquefaction

The soils encountered at the project site predominately consisted of medium dense to dense silty sands and poorly-graded sands. Groundwater was not encountered in any of the borings drilled as part of this investigation. Information obtained from previous investigations and by the Historical Groundwater Map provided by the State of California, Palmdale Quadrangle, indicates that groundwater is present at a depth greater than 50 feet below site grade. Based on our findings, it is our opinion that the potential for seismic-induced soil liquefaction within the project site vicinity is very low, and measures to mitigate liquefaction potential are not warranted.

Seismic Settlement

One of the most common phenomena during seismic shaking accompanying any earthquake is the induced settlement of loose unconsolidated soils. Based on site subsurface conditions, and the moderate to high seismicity of the region, any loose fill materials at the site could be vulnerable to this potential hazard. However, this hazard can be mitigated by following the design and construction recommendations of our Geotechnical Engineering Investigation (over-excavation and rework of the loose soils and/or fill). Based on the moderate penetration resistance measured, the native deposits underlying the surface materials do not appear to be subject to significant seismic settlement.

Site Preparation

General site clearing should include removal of any stockpiled soil, vegetation, rubbish, and any loose and/or saturated materials. To reduce post-construction soil movement and provide uniform support for the proposed building, overexcavation and recompaction within the proposed building footprint area should be performed to a minimum depth of at least five (5) feet below existing grade or three (3) feet below foundation bearing grade, whichever is deeper. The actual depth of the overexcavation and recompaction should be determined by the Geotechnical Engineering representative during construction. The overexcavation and recompaction should also extend laterally five (5) feet beyond edges of the proposed footings. Any undocumented fill encountered during grading should be removed and replaced with Engineered Fill.

Within the proposed exterior flatwork and pavement areas, it is recommended that the upper 12 inches be excavated and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM D1557 Test Method. Limits of recompaction should extend a minimum of two (2) feet beyond the edge of pavements or back of curbs. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

The shrinkage on recompacted soil and fill placement is estimated at 10 to 15 percent. Subsidence within building areas, below the recompaction bottom, is anticipated to be less than 0.01 feet, due to the recommended overexcavation. Subsidence within parking areas, below the 12-inch recompaction depth, is estimated at 0.1 feet.

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.

Excavations, depressions, or soft and pliant areas extending below planned finished subgrade levels should be cleaned to firm, undisturbed soil and backfilled with Engineered Fill. Any buried structures encountered during construction should be properly removed and backfilled. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed. Concrete footings should be removed to an equivalent depth of at least three (3) feet below proposed footing elevations or as recommended by the Soils Engineer. Any other buried structures should be removed in accordance with the recommendations of the Soils Engineer. The resulting excavations should be backfilled with Engineered Fill.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction and stability of the material. The Soils Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section and the Engineered Fill section.

Collapsible Soils

The near surface soils encountered at the subject site are moisture-sensitive and are moderately compressible under saturated conditions. Structures within the project vicinity have experienced excessive post-construction settlement, when the foundation soils become near saturated. As recommended in the site preparation section of this report, the collapsible soils should be removed and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM D1557 Test Method.

Engineered Fill

The organic-free, on-site, native soils are predominately sands and silty sands. These soils will be suitable for reuse as Non-Expansive Engineered Fill, provided they are cleansed of excessive organics and debris.

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 with a plasticity index less than 10 and a UBC Expansion Index less than 15. 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 48 hours prior to delivery at the site.

Fill soils should be placed in lifts approximately 6 inches thick, moisture-conditioned as necessary, and compacted to achieve at least 95 percent of the maximum dry density as determined by ASTM D1557 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.

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 5 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 storm systems or should be connected directly to the on-site storm drain.

Utility Trench Backfill

Utility trenches should be excavated according to accepted engineering practice following Occupational Safety and Health Administration (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 minimized; 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 following periods of precipitation.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy soils.

Utility trench backfill placed in or adjacent to buildings and exterior slabs should be compacted to at least 95 percent of maximum dry density based on ASTM D1557 Test Method. The upper 12 inches of utility trench backfill placed in pavement areas should be compacted to at least 95 percent of maximum dry density based on ASTM D1557 Test Method. Pipe bedding should be in accordance with pipe manufacturer recommendations.

The contractor is responsible for removing all water-sensitive soils from the trench regardless of the backfill location and compaction requirements. The contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction.

Foundations

The proposed structures may be supported on a shallow foundation system bearing on a minimum of three (3) feet of newly placed 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 18 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower. Footings should have a minimum width of 15 inches, regardless of load. The actual footing design should be performed by the project structural engineer.

The total settlement is not expected to exceed 1 inch. Differential settlement should be less than ½ inch over a distance of 30 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.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.30 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 250 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. A one-third increase in the value above may be used for short duration, wind, or seismic loads.

Floor Slabs and Exterior Flatwork

Concrete slab-on-grade should be appropriate for this project. The interior floor slab should be a minimum of five (5) inches thick. In areas where it is desired to reduce floor dampness, such as office areas, slab-on-grade construction should have a water vapor retarder incorporated into the floor slab design.

Concrete slab-on-grade floors should be underlain by a water vapor retarder. The water vapor retarder should be installed in accordance with ASTM Specification E1643-94. According to ASTM Guidelines, the water vapor retarder should consist of a minimum 10 mil. vapor retarder sheeting underlain by a minimum of 4 inches of compacted, clean, open-graded coarse rock of ¾-inch maximum size. If elected, a 2-inch thick layer of damp clean sand (Unified Soil Classification: SW or SP) may be placed above the water vapor retarder to protect it from drainage.

The exterior floors should be poured separately in order to act independently of the walls and foundation system. Exterior finish grades should be sloped a minimum of 1 to 1½ percent away from

all interior slab areas to preclude ponding of water adjacent to the structures. All fills required to bring the building pads to grade should be Engineered Fills.

Retaining Walls

Walls retaining horizontal backfill and capable of deflecting a minimum of 0.1 percent of its height at the top may be designed using an equivalent fluid active pressure of 39 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 59 pounds per square foot per foot of depth. Expansive soils should not be used for backfill against walls. The wedge of non-expansive backfill material should extend from the bottom of each retaining wall outward and upward at a slope of 2:1 (horizontal to vertical) or flatter. The stated lateral earth pressures do not include the effects of hydrostatic water pressures generated by infiltrating surface water that may accumulate behind the retaining walls; or loads imposed by construction equipment, foundations, or roadways.

During grading and backfilling operations adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand operated equipment ("whackers," vibratory plates, or pneumatic compactors) should be used to compact the backfill soils.

Any surcharge effect from loads adjacent to the walls should be included in the wall design. For 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 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 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 leading to a suitable discharge point should provide drainage outlet. As an alternative, weep holes may be used to provide drainage. If

weep holes are used, the weep holes should be 3 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). Pavement design was performed using Caltrans design software CalFP V1.1. The AASHTO procedure was used to evaluate rigid pavement section requirements.

Asphalt Concrete (Flexible) Pavements

Two samples of near-surface sand soil were tested in our laboratory following test procedures of State of California Materials Manual Test Designation 301 and found to have R-Values of 35 and 40. This test result is relatively strong and indicates good subgrade support characteristics under dynamic traffic loads. 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 (R-Value = 35)			
Traffic Index (inches)	**Asphalt Concrete (inches)**	**Class 2 Aggregate Base (inches)**	**Compacted Subgrade (inches)**
4.0	2.5	5.0	12.0
5.0	2.5	6.0	12.0
6.0	3.0	7.0	12.0
7.0	4.0	8.0	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 two (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 two (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 should comply with the materials requirements for Class 2 Aggregate Base found in Section 26. It is anticipated that the recommended paving materials are readily available in the project area.

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 95 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 base and subbase, and the upper twelve (12) inches of subgrade should be compacted to at least 95 percent based on the Modified Proctor maximum compacted unit weight obtained in accordance with ASTM test method D1557. 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 four-inch (4") layer of compacted Class 2 Aggregate Base should be placed over the prepared subgrade prior to placement of the concrete. With the addition of the aggregate base material, we recommend that a combined modulus of subgrade/base reaction value of 100 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/Pavement Designation	**Portland Cement Concrete (inches)**	**Class 2 Aggregate Base (inches)**	**Compacted Subgrade (inches)**
Standard Duty	5.0	4.0	12.0
Heavy Duty	6.0	4.0	12.0

Portland cement concrete should have a minimum compressive strength of 4,000 psi. 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 on one-fourth of the pavement thickness plus ¼ inch. Joint spacing should not exceed fifteen (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 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 twelve (12) inches on centers, 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.

Site Coefficient

The site class, per Table 1613.5.2, 2016 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 2016 CBC, we recommend the following parameters:

2016 CALIFORNIA BUILDING CODE		
Seismic Item	**Value**	**CBC Reference**
Site Class	D	Table 1613.5.2
Fa	1.000	Table 1613.5.3 (1)
Ss	2.261	Figure 1613.5 (3)
SMS	2.261	Section 1613.5.3
SDS	1.508	Section 1613.5.4
Fv	1.500	Table 1613.5.3 (2)
S1	1.059	Figure 1613.5 (4)
SM1	1.589	Section 1613.5.3
SD1	1.059	Section 1613.5.4

INFILTRATION TESTING

The shallow soil conditions present at the subject site were evaluated by drilling shallow borings in the vicinity of the anticipated infiltration areas. The borings drilled at the site indicated the subsurface soil conditions consisted of medium dense to dense silty sand.

Infiltration rates were determined using the results of open borehole infiltration testing performed at the subject site. Infiltration testing performed on the near surface silty sand soil indicate infiltration rates of approximately 0.84, 0.84, 1.04, and 1.19 inches per hour. Detailed results of the percolation tests and infiltration rates are attached in tabular format. The soil percolation 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.

It is recommended that the location of the infiltration systems not be closer than ten feet (10') as measured laterally from the edge of the adjacent property line, ten feet (10') from the outside edge of any foundation and five (5') from the edge of any right-of way to the outside edges of the infiltration system.

If the infiltration location is within ten feet (10') from the proposed foundation, it is recommended that this infiltration system should be impervious from the finished ground surface to a depth that will achieve a diagonal distance of a minimum of ten feet (10') below the bottom of the closest footing in the project.

Soil Cement Reactivity

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or stucco) and the soil. HUD/FHA and UBC have developed criteria for evaluation of sulfate levels and how they relate to cement reactivity with soil and/or water.

Soil samples were obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentration detected from the soil sample indicated a moderate sulfate exposure value as established by HUD/FHA and CBC. Therefore, it is recommended that concrete in contact with soil utilize Type II cement and have a minimum compressive strength of 4,000 psi.

Electrical resistivity testing of the soils indicates that the onsite soils may have a severe potential for metal loss from electrochemical corrosion process. A qualified corrosion engineer may be consulted regarding mitigation of the corrosion effects of the onsite soils on underground metal utilities.

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 be used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent on the stability of that material. The Soils Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be 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 an in situ moisture-content significantly less than optimum moisture. This type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

Testing and Inspection

A representative of Krazan & Associates, Inc. should be present at the site during the earthwork activities to confirm that actual subsurface conditions are consistent with the exploratory fieldwork. This activity is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. This representative can also verify that the intent of these recommendations is incorporated into the project design and construction. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

LIMITATIONS

Soils 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 the most appropriate and most current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Soils Engineering, physical changes in the site, either due to excavation or fill placement, new agency regulations, or possible changes in the proposed structure after the soils report is completed may require the soils report to be professionally reviewed. 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 2 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. If any variations or undesirable conditions are encountered during construction, the Soils Engineer should be notified so that supplemental recommendations may be made.

The conclusions of this report are based on the information provided regarding the proposed construction. If the proposed construction is relocated or redesigned, the conclusions in this report may not be valid. The Soils Engineer should be notified of any changes so the recommendations may be reviewed and re-evaluated.

This report is a Geotechnical Engineering Investigation with the purpose of evaluating the soil conditions in terms of foundation design. The scope of our services did not include any Environmental Site Assessment for the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere; or the presence of wetlands. Any statements, or absence of 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 engineering judgment regarding potentially hazardous and/or toxic assessment.

The geotechnical engineering information presented herein is based upon professional interpretation utilizing standard engineering practices and a degree of conservatism deemed proper for this project. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. We emphasize that this report is valid for the project outlined above and should not be used for any other sites.

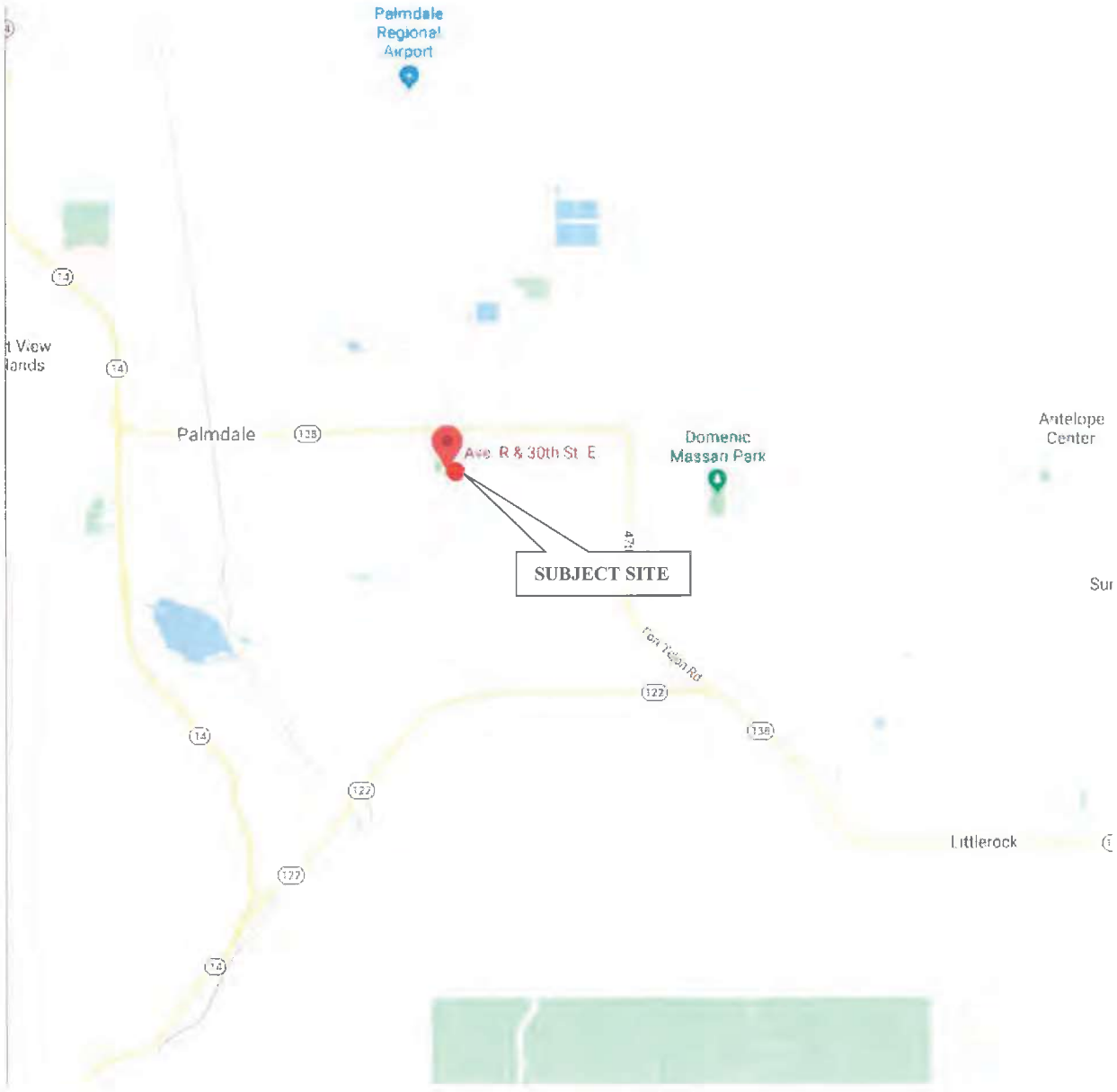
If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (951) 273-1011.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

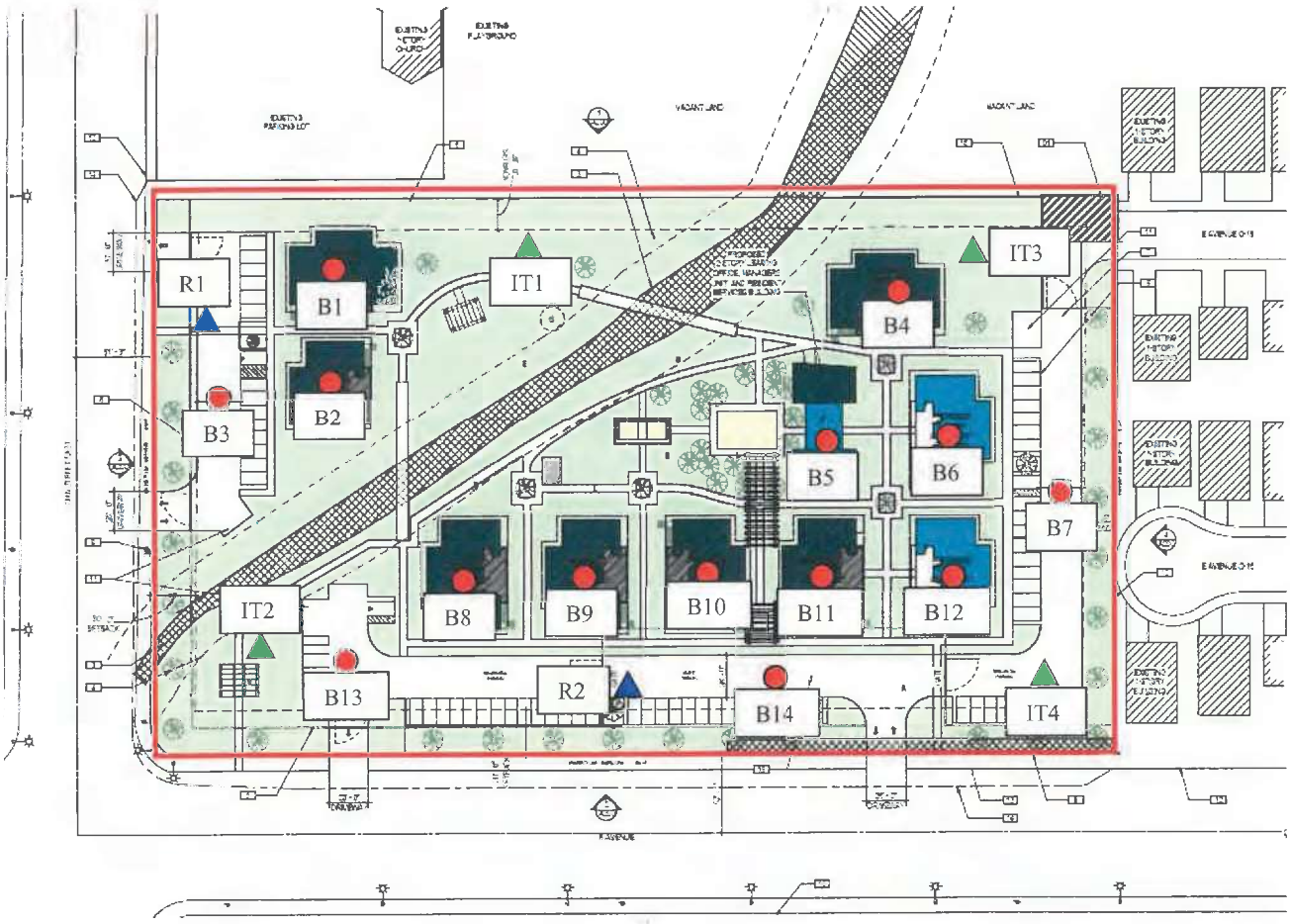
James M. Kellogg
Managing Engineer
RCE 65092/GE 2902

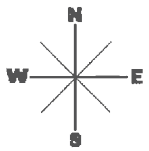
Jorge A. Pelayo, EIT
Staff Engineer

Figures



VICINITY MAP	Scale: NTS	Date: June, 2019	Krazan GEOTECHNICAL ENGINEERING
PROPOSED PALMDALE APARTMENTS NEC AVENUE R & 30TH STREET PALMDALE, CA	Drawn by: JP	Approved by: JK	
	Project No. 112-19062	Figure No. 1	



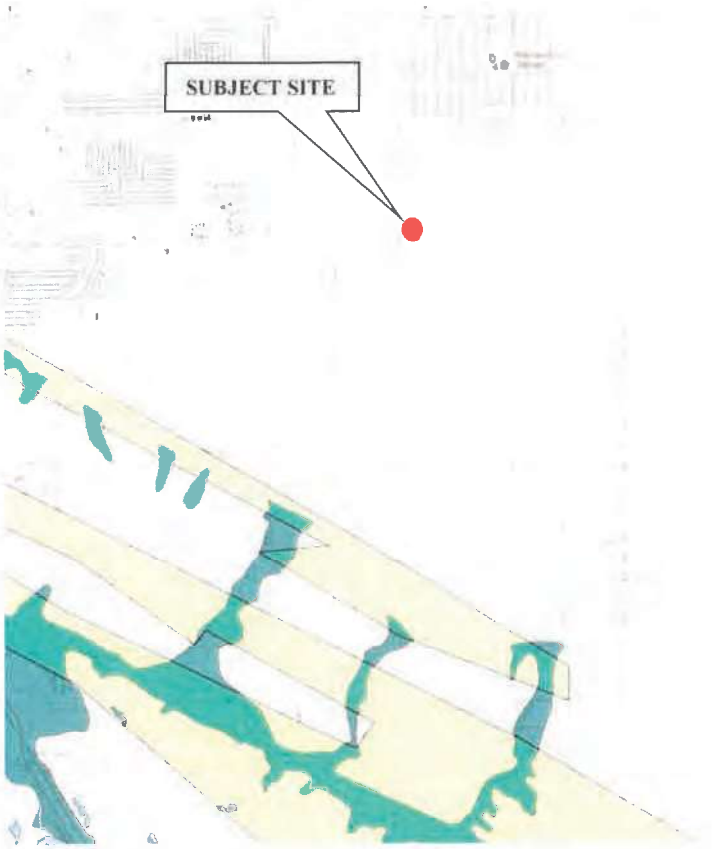


APPROXIMATE BORING LOCATION

APPROXIMATE R-VALUE LOCATION

APPROXIMATE INFILTRATION TEST LOCATION

SITE MAP	**Scale:** NTS	**Date:** June, 2019	Krazan GEOTECHNICAL ENGINEERING
PROPOSED PALMDALE APARTMENTS NEC AVENUE R & 30TH STREET PALMDALE, CA	**Drawn by:** JP	**Approved by:** JK	
	Project No. 112-19062	**Figure No.** 2	



MAP EXPLANATION

EARTHQUAKE FAULT ZONES

Earthquake Fault Zones
Zone boundaries are delineated by straight-line segments; the boundaries define the zone encompassing active faults that constitute a potential hazard to structures from surface faulting or fault creep such that avoidance as described in Public Resources Code Section 2621.5(a) would be required.

Active Fault Traces
Faults considered to have been active during Holocene time and to have potential for surface rupture. Solid Line in Black or Red where Accurately Located. Long Dash in Black or Solid Line in Purple where Approximately Located. Short Dash in Black or Solid Line in Orange where Inferred. Dotted Line in Black or Solid Line in Rose where Concealed. Query (?) indicates additional uncertainty. Evidence of historic offset indicated by year of earthquake-associated event or C for displacement caused by fault creep.

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.

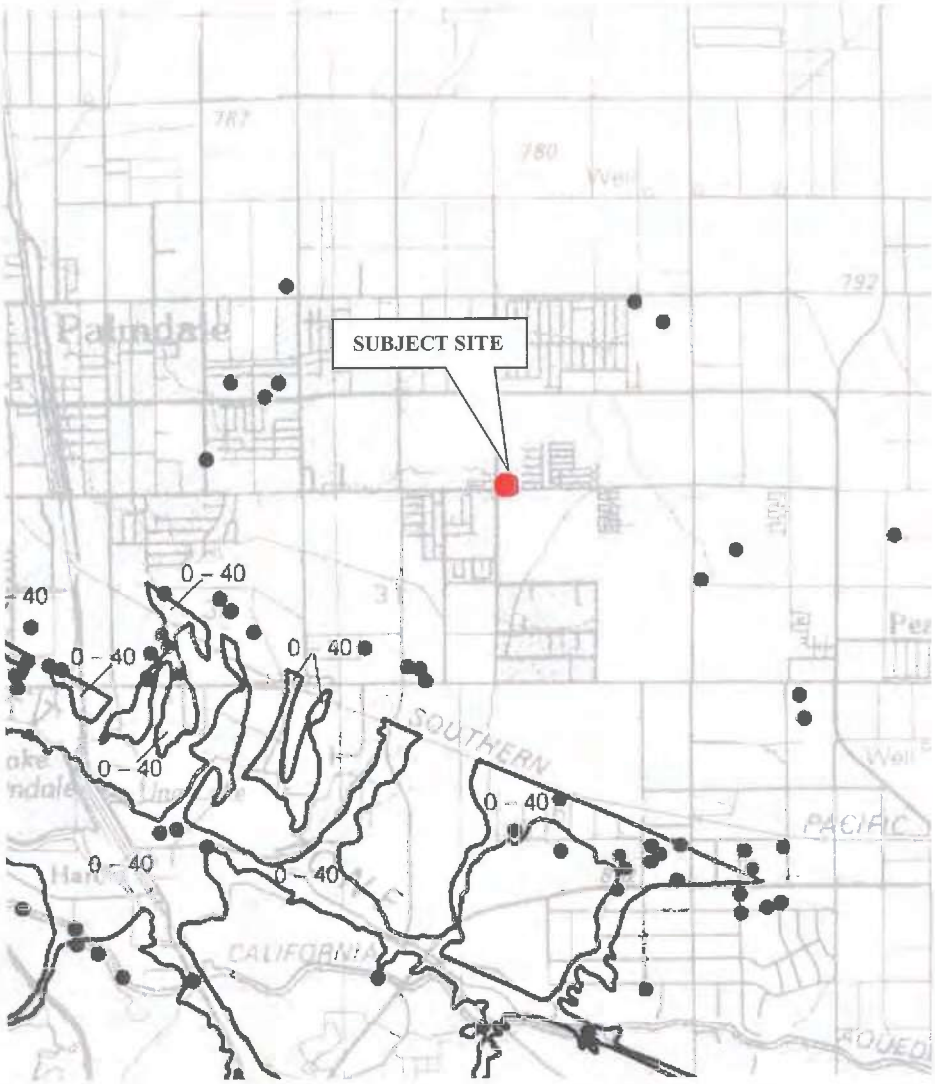
Earthquake-Induced Landslide Zones
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Overlapping Liquefaction and Earthquake-Induced Landslide Zones
Areas that lie within zones of required investigation for both liquefaction and earthquake-induced landslides.

N
W E
S

Source: State of California Map, Palmdale Quadrangle

EARTHQUAKE ZONES OF REQUIRED INVESTIGATION MAP	**Scale:** NTS	**Date:** June, 2019	Krazan GEOTECHNICAL ENGINEERING
PROPOSED PALMDALE APARTMENTS NEC AVENUE R & 30TH STREET PALMDALE, CA	**Drawn by:** JP	**Approved by:** JK	
	Project No. 112-19062	**Figure No.** 3	



EXPLANATION

---- 20 ---- Contour interval depth (in feet) to historic high groundwater.

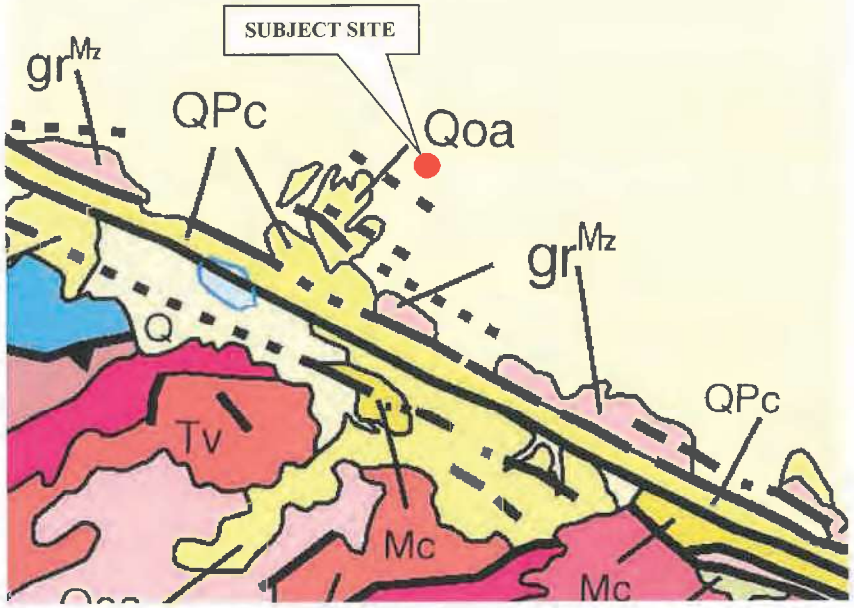
10 Depth (in feet) to historic high groundwater within defined area.

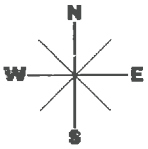
● Borehole Location

N
W E
S

Source: State of California Seismic Hazards Map, Palmdale Quadrangle

HISTORICAL GROUNDWATER	**Scale:** NTS	**Date:** June, 2019	Krazan GEOTECHNICAL ENGINEERING
PROPOSED PALMDALE APARTMENTS NEC AVENUE R & 30TH STREET PALMDALE, CA	**Drawn by:** JP	**Approved by:** JK	
	Project No. 112-19062	**Figure No.** 4	





DESCRIPTION OF MAP UNITS

QUATERNARY DEPOSITS

- Qs — Extensive marine and nonmarine sand deposits, generally near the coast or desert playas
- Q — Alluvium, lake, playa and terrace deposits; unconsolidated and semi-consolidated
- Qls — Selected large landslides
- Qg — Glacial till and moraines. Found at high elevations mostly in the Sierra Nevada and Klamath Mountains
- Qoa — Older alluvium, lake, playa and terrace deposits
- QPc — Pleistocene and/or Pliocene sandstone, shale, and gravels deposits, mostly loosely consolidated

QUATERNARY VOLCANIC ROCKS

- Qrv — Recent (Holocene) volcanic flow rocks, minor pyroclastic deposits
- Qrvᵖ — Recent (Holocene) pyroclastic and volcanic mudflow deposits
- Qv — Quaternary volcanic flow rocks, minor pyroclastic deposits
- Qvᵖ — Quaternary pyroclastic and volcanic mudflow deposits

PALEOZOIC MIXED ROCKS

- m — Undivided pre-Cenozoic metasedimentary and metavolcanic rocks of great variety. Mostly slate, quartzite, hornfels, chert, phyllite, mylonite, schist gneiss, and minor marble

PALEOZOIC METAVOLCANIC ROCKS

- Pzv — Undivided Paleozoic metavolcanic rocks. Mostly flows, breccia, and tuff; includes greenstone, diabase, and pillow lavas, minor interbedded sedimentary rocks

PALEOZOIC PLUTONIC ROCKS

- grᵖᶻ — Paleozoic and Permo-Triassic granitic rocks in the San Gabriel and Klamath Mountains

PRECAMBRIAN ROCKS

- pC — Conglomerate, shale, sandstone, limestone, dolomite, marble, gneiss, hornfels, and quartzite, may be Paleozoic in part
- pCc — Complex of Pre-cambrian igneous and metamorphic rocks. Mostly gneiss and schist intruded by igneous rocks, may be Mesozoic in part
- grᵖᶜ — Precambrian granite, syenite, anorthosite, and gabbroic rocks in the San Gabriel Mountains, also various Precambrian plutonic rocks elsewhere in southeastern California

Source: Department of Conservation: Geologic Map of California, 2010

GEOLOGIC MAP	**Scale:** NTS	**Date:** June, 2019	Krazan GEOTECHNICAL ENGINEERING
PROPOSED PALMDALE APARTMENTS NEC AVENUE R & 30TH STREET PALMDALE, CA	**Drawn by:** JP	**Approved by:** JK	
	Project No. 112-19062	**Figure No.** 5	

Appendix A

Log of Borings & Laboratory Testing

APPENDIX A

FIELD AND LABORATORY INVESTIGATIONS

Field Investigation

The field investigation consisted of a surface reconnaissance and a subsurface exploratory program. Fourteen (14) exploratory borings were advanced. The boring locations are shown on the attached site plan.

The soils encountered were logged in the field during the exploration and with supplementary laboratory test data are described in accordance with the Unified Soil Classification System.

Penetration and/or Resistance tests were performed at selected depths. These tests represent the resistance to driving a 2-and/or 3-inch outside diameter core barrel, respectively, 18 inches into the soil. The N-Value obtained from the Standard Penetration Test (SPT) and/or driving the Modified California Sampler (MCS) was recorded based on the number of blows required to penetrate the last 12 inches. The driving energy was provided by a hammer weighing 140 pounds, falling 30 inches. Relatively undisturbed soil samples were obtained while performing this test. Bag samples of the disturbed soil were obtained from the auger cuttings. All samples were returned to our Corona laboratory for evaluation.

Laboratory Investigation

The laboratory investigation was programmed to determine the physical and mechanical properties of the foundation soil underlying the site. Test results were used as criteria for determining the engineering suitability of the surface and subsurface materials encountered.

In-situ moisture-content, dry density, consolidation, direct shear, and sieve analysis tests were determined for the undisturbed samples representative of the subsurface material. These tests, supplemented by visual observation, comprised the basis for our evaluation of the site material.

The logs of the exploratory borings and laboratory determinations are presented in this 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

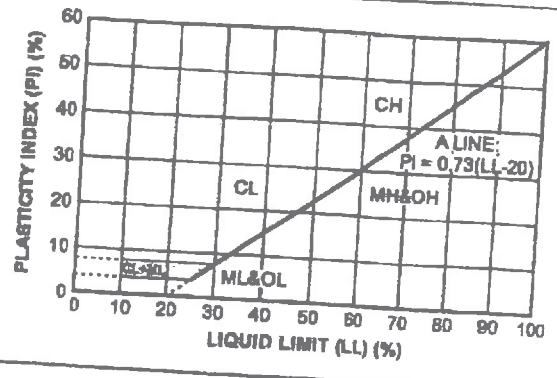
CONSISTENCY CLASSIFICATION

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	12 to 13 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: Palmdale Apartments

Project No: 112-19062

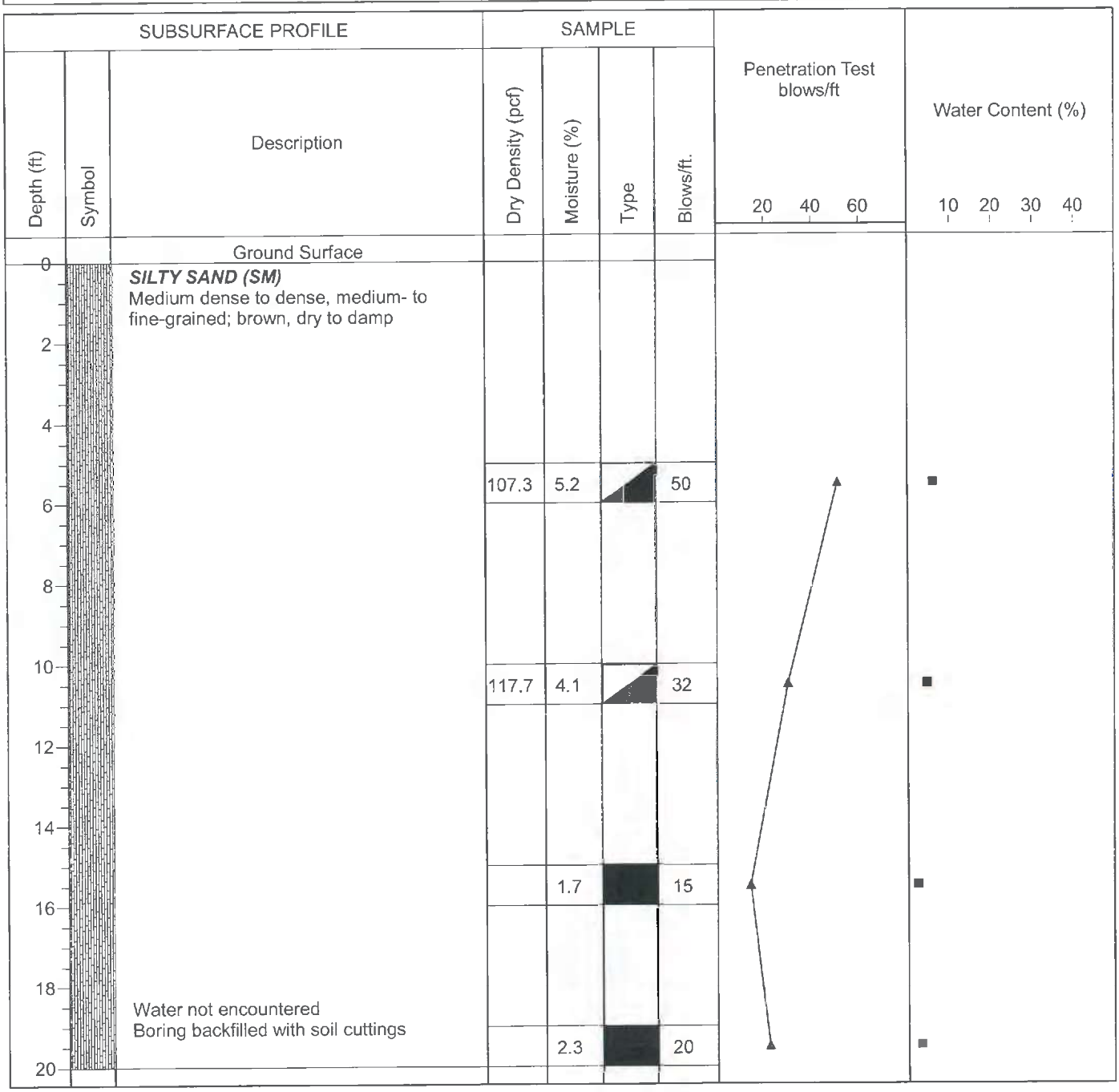
Client: Highridge Costa Development Company, LLC

Figure No.: A-1

Location: NEC Avenue R & 30th Street

Logged By: Jorge Pelayo

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 6-7-19

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Baja Exploration

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B2

Project: Palmdale Apartments | **Project No:** 112-19062

Client: Highridge Costa Development Company, LLC | **Figure No.:** A-2

Location: NEC Avenue R & 30th Street | **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)*** Very dense, fine-grained; brown to light brown, damp to moist				
6			104.5	6.3		50
10		***GRAVELLY SAND (SP)*** Medium dense, coarse- to fine-grained; light brown, dry	114.4	4.1		40
16		***SILTY SAND (SM)*** Medium dense, medium- to fine-grained; light brown, damp		3.0		16
18		Water not encountered Boring backfilled with soil cuttings		0.5		16
20						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem | **Drill Date:** 6-7-19

Drill Rig: CME 75 | **Hole Size:** 5½ Inches

Driller: Baja Exploration | **Elevation:** 20 Feet

Krazan and Associates

Sheet: 1 of 1

Log of Boring B3

Project: Palmdale Apartments

Project No: 112-19062

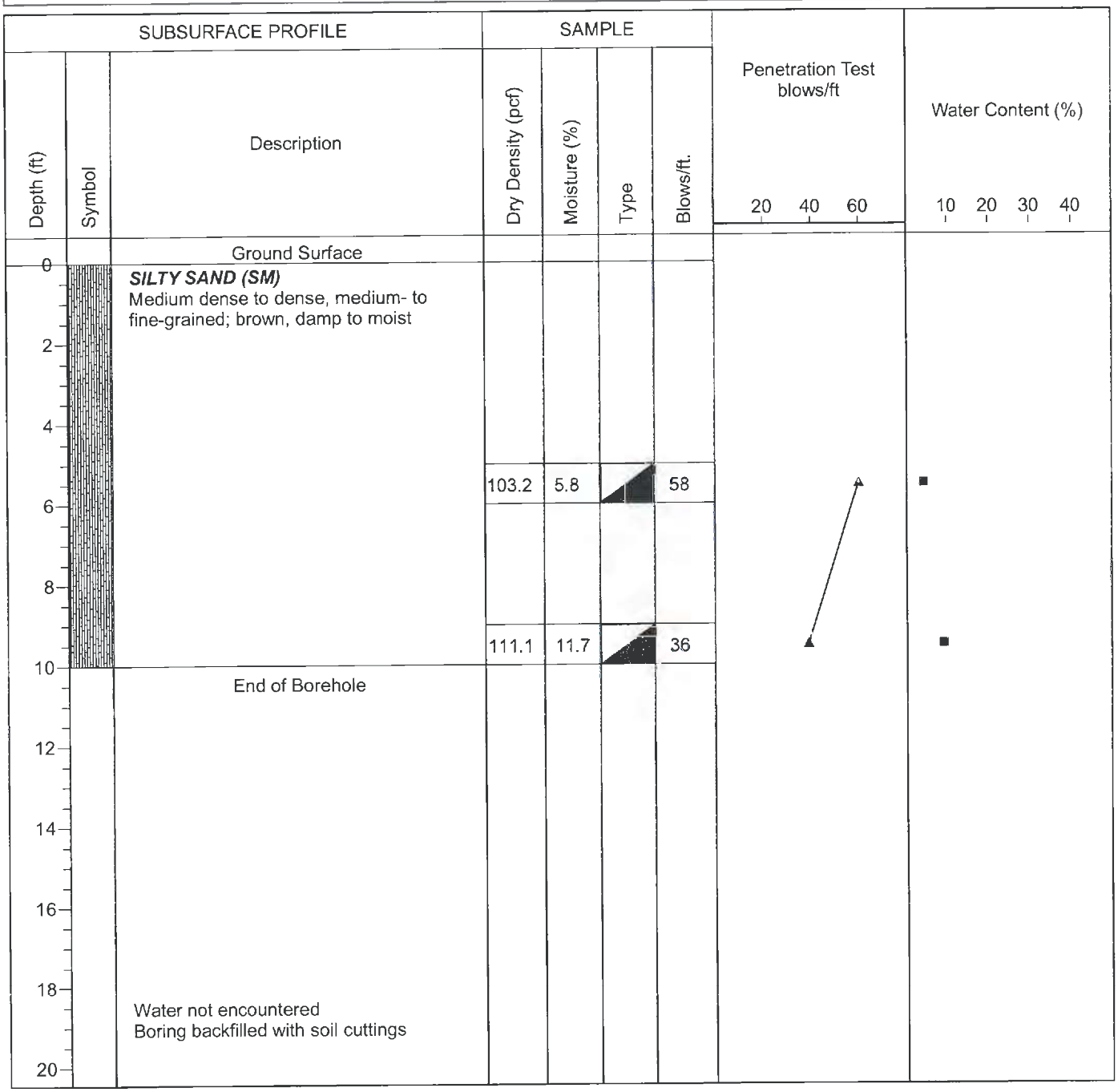
Client: Highridge Costa Development Company, LLC

Figure No.: A-3

Location: NEC Avenue R & 30th Street

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: Baja Exploration

Krazan and Associates

Drill Date: 6-7-19

Hole Size: 5½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B4

Project: Palmdale Apartments

Project No: 112-19062

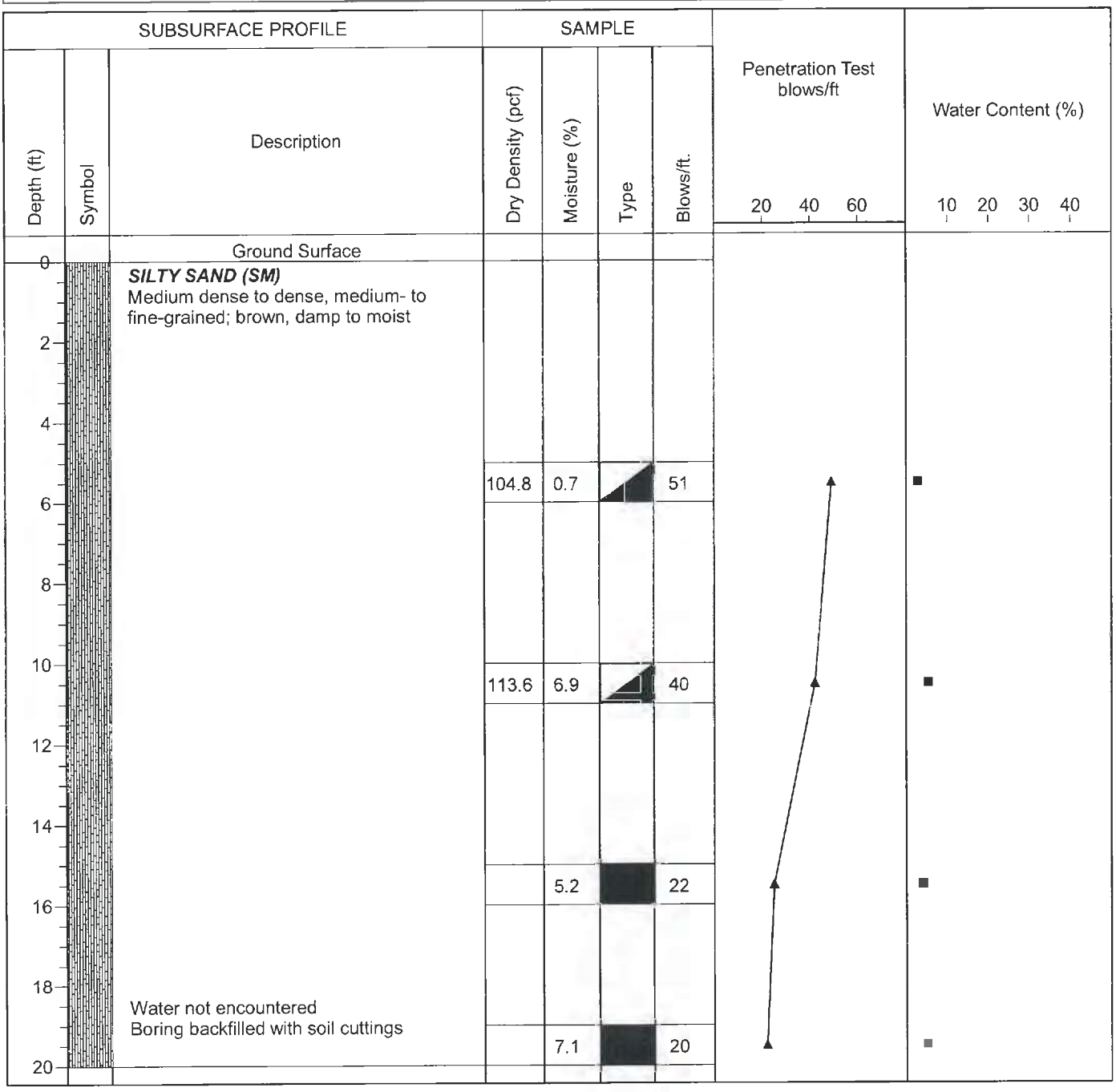
Client: Highridge Costa Development Company, LLC

Figure No.: A-4

Location: NEC Avenue R & 30th Street

Logged By: Jorge Pelayo

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 6-7-19

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Baja Exploration

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B5

Project: Palmdale Apartments

Project No: 112-19062

Client: Highridge Costa Development Company, LLC

Figure No.: A-5

Location: NEC Avenue R & 30th Street

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 to dense, medium- to fine-grained; brown, dry to damp				
6			110.5	5.1		48
10			111.8	1.0		35
16				2.0		27
18		Water not encountered Boring backfilled with soil cuttings		6.1		30
20						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem

Drill Rig: CME 75

Driller: Baja Exploration

Krazan and Associates

Drill Date: 6-7-19

Hole Size: 5½ Inches

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B6

Project: Palmdale Apartments

Project No: 112-19062

Client: Highridge Costa Development Company, LLC

Figure No.: A-6

Location: NEC Avenue R & 30th Street

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 to dense, medium- to fine-grained; brown, dry to damp				
6			121.4	3.2		22
10			117.0	8.3		21
16				0.7		48
18		Water not encountered Boring backfilled with soil cuttings		2.7		20
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Rig: CME 75

Driller: Baja Exploration

Krazan and Associates

Drill Date: 6-7-19

Hole Size: 5½ Inches

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B7

Project: Palmdale Apartments

Project No: 112-19062

Client: Highridge Costa Development Company, LLC

Figure No.: A-7

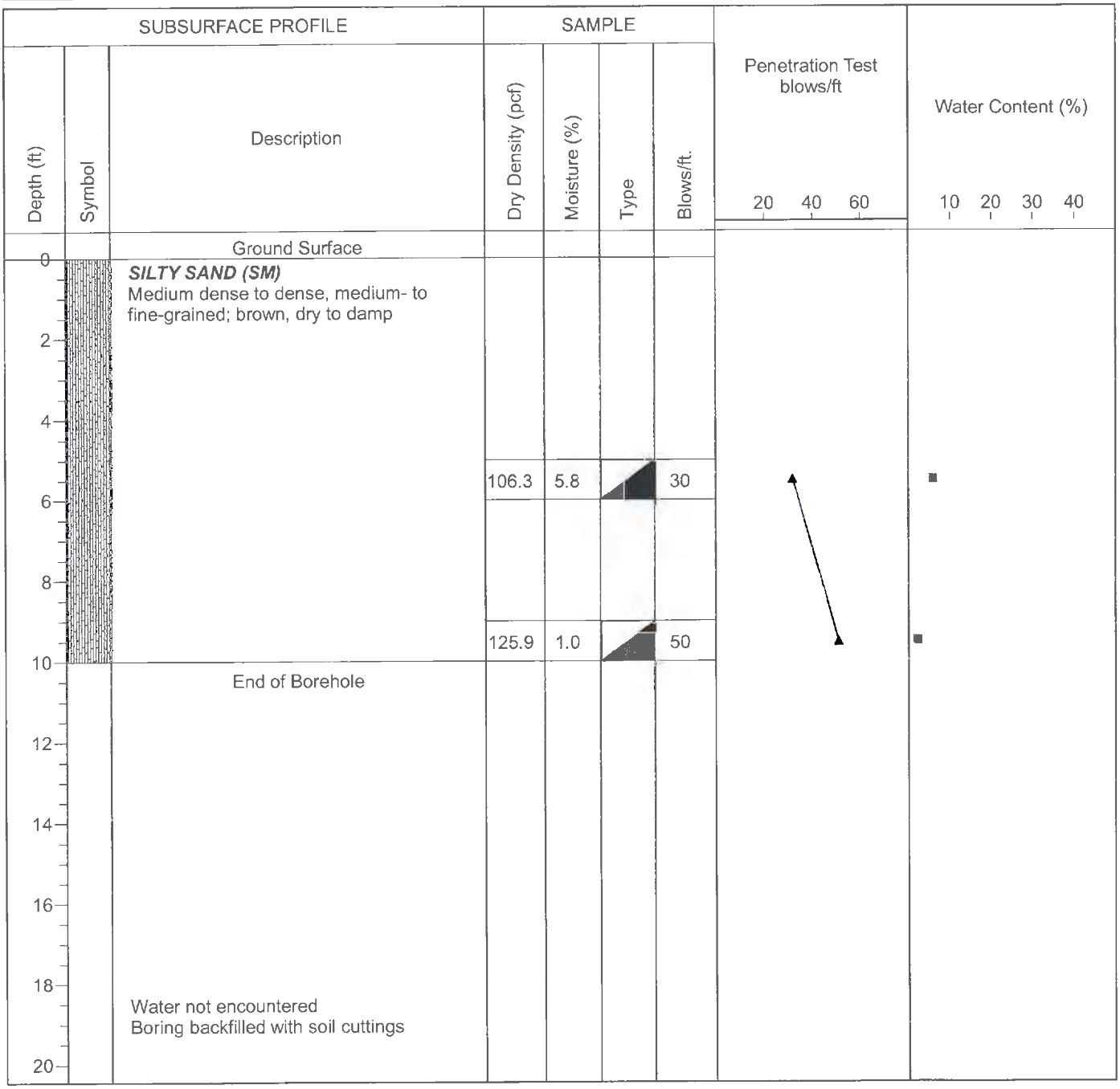
Location: NEC Avenue R & 30th Street

Logged By: Jorge Pelayo

Depth to Water> Not Encountered

Initial: N/A

At Completion: N/A



Drill Method: Hollow Stem

Drill Date: 6-7-19

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Baja Exploration

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B8

Project: Palmdale Apartments

Project No: 112-19062

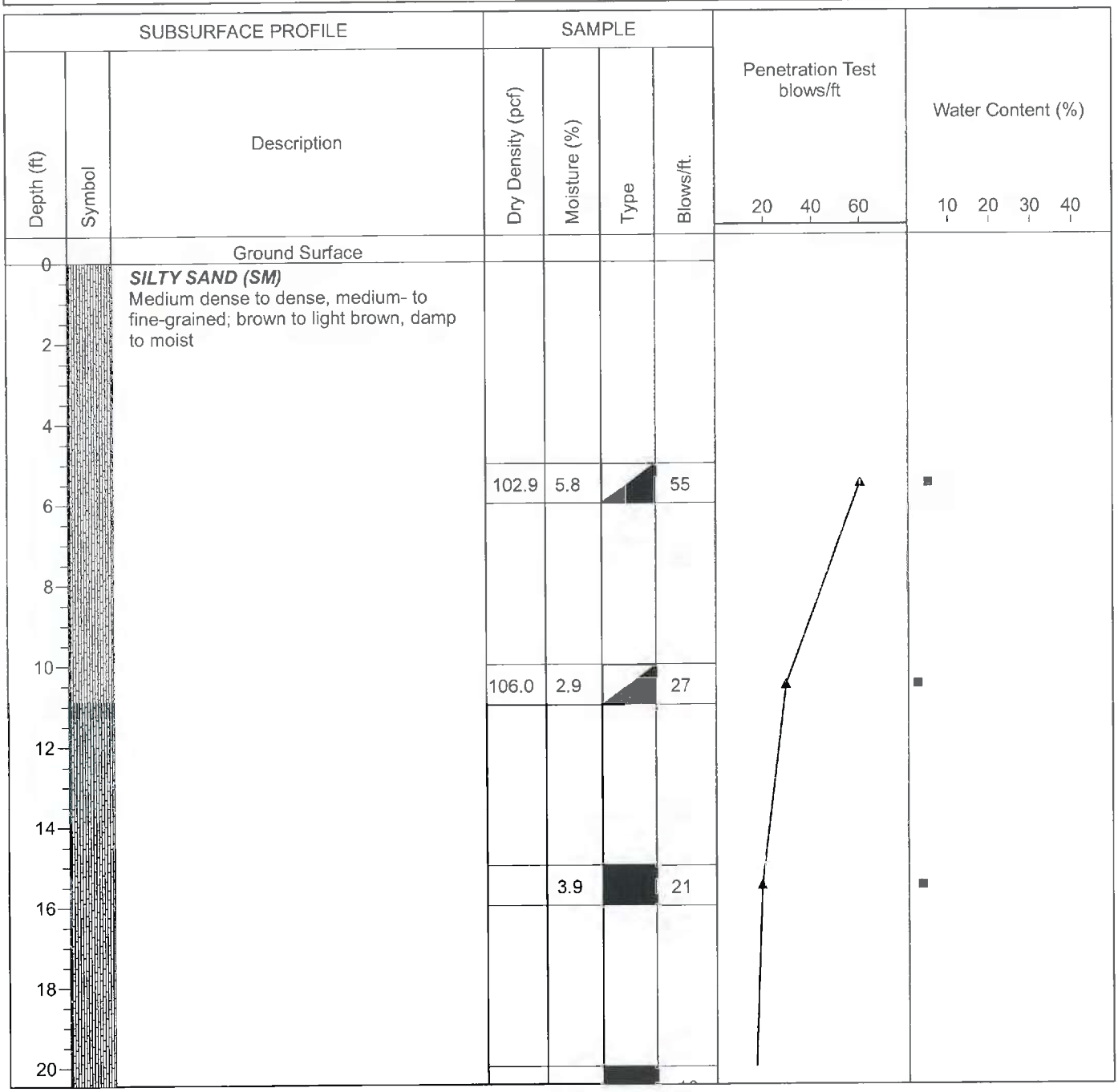
Client: Highridge Costa Development Company, LLC

Figure No.: A-8

Location: NEC Avenue R & 30th Street

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: Baja Exploration

Krazan and Associates

Drill Date: 6-7-19

Hole Size: 5½ Inches

Elevation: 50 Feet

Log of Boring B8

Project: Palmdale Apartments

Project No: 112-19062

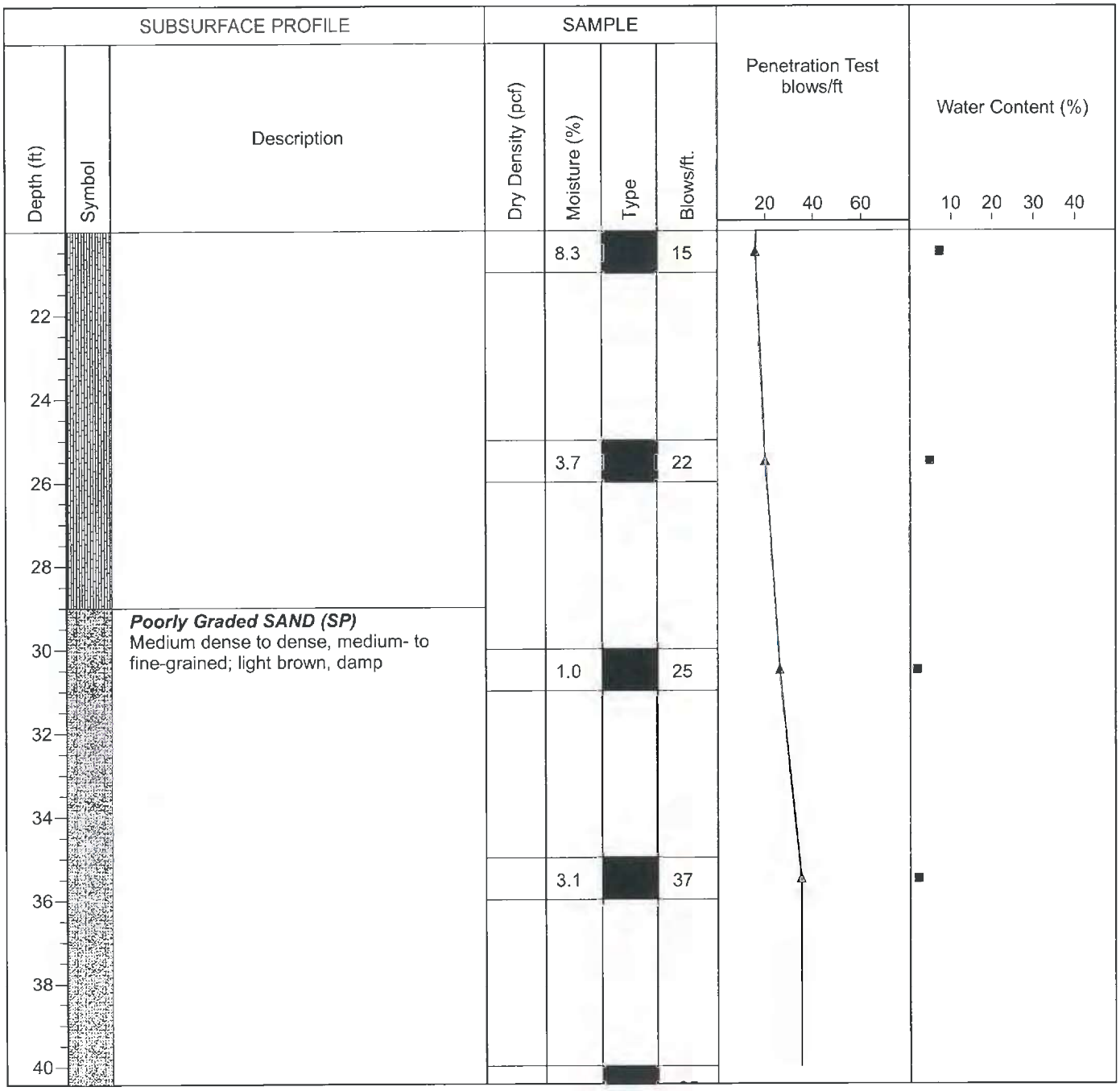
Client: Highridge Costa Development Company, LLC

Figure No.: A-8

Location: NEC Avenue R & 30th Street

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: Baja Exploration

Krazan and Associates

Drill Date: 6-7-19

Hole Size: 5½ Inches

Elevation: 50 Feet

Log of Boring B8

Project: Palmdale Apartments

Project No: 112-19062

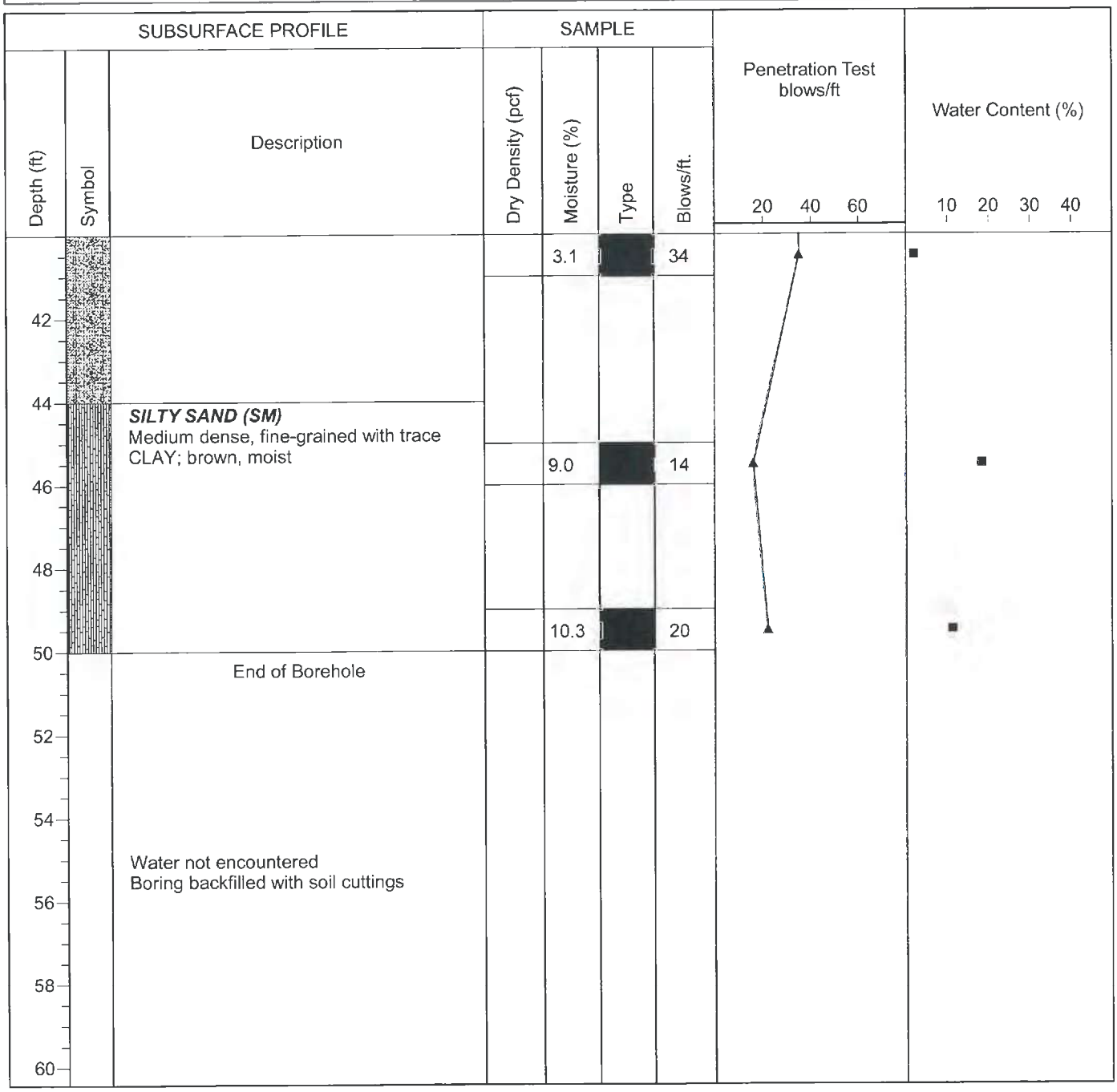
Client: Highridge Costa Development Company, LLC

Figure No.: A-8

Location: NEC Avenue R & 30th Street

Logged By: Jorge Pelayo

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 6-7-19

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Baja Exploration

Elevation: 50 Feet

Sheet: 3 of 3

Log of Boring B9

Project: Palmdale Apartments

Project No: 112-19062

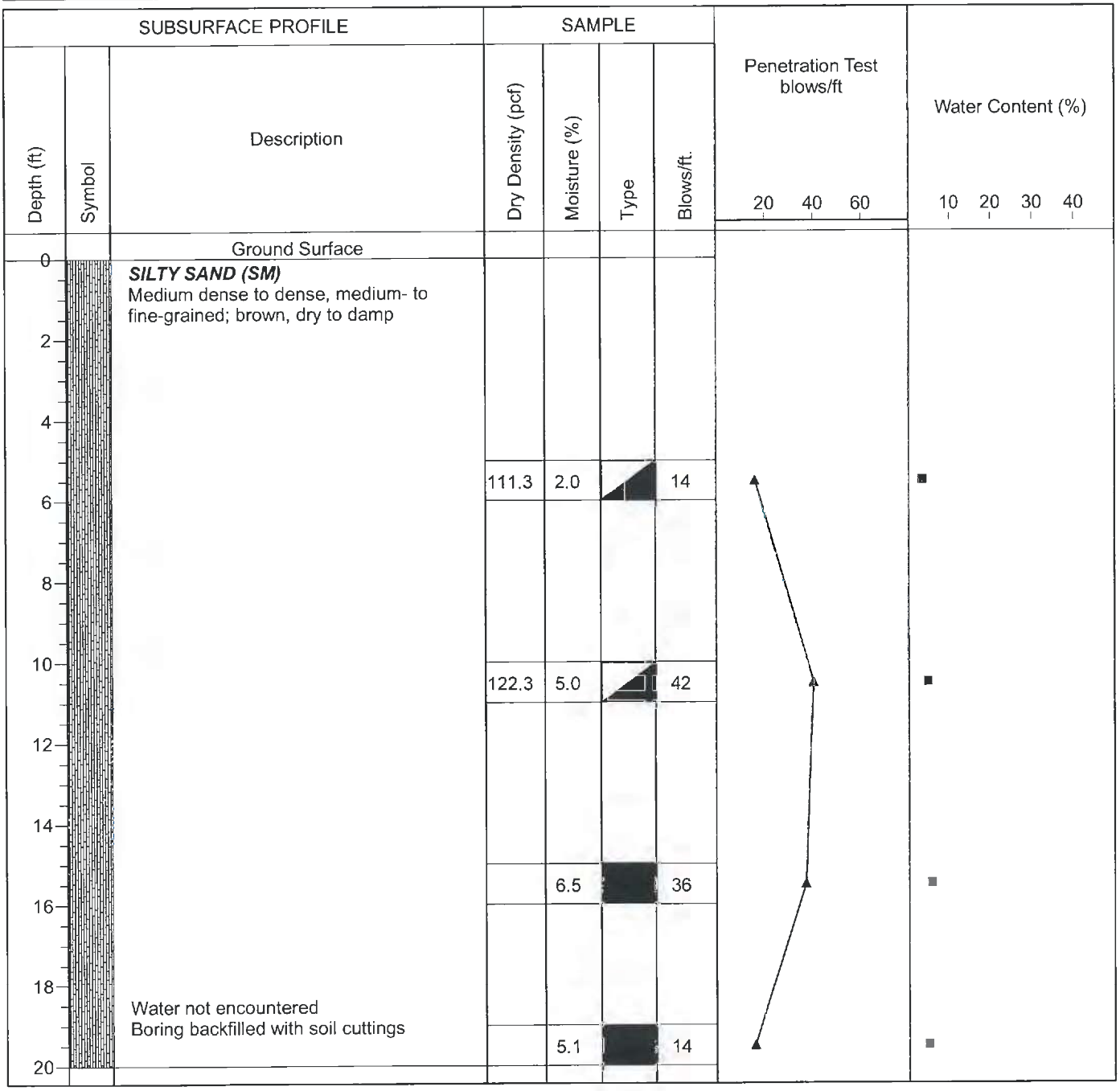
Client: Highridge Costa Development Company, LLC

Figure No.: A-9

Location: NEC Avenue R & 30th Street

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: Baja Exploration

Krazan and Associates

Drill Date: 6-7-19

Hole Size: 5½ Inches

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B10

Project: Palmdale Apartments

Project No: 112-19062

Client: Highridge Costa Development Company, LLC

Figure No.: A-10

Location: NEC Avenue R & 30th Street

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 to dense, medium- to fine-grained; brown, dry to damp				
6			108.8	4.4		51
10			113.3	4.5		30
10		End of Borehole				
20		Water not encountered Boring backfilled with soil cuttings				

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem

Drill Date: 6-7-19

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Baja Exploration

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B11

Project: Palmdale Apartments | **Project No:** 112-19062

Client: Highridge Costa Development Company, LLC | **Figure No.:** A-11

Location: NEC Avenue R & 30th Street | **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 to dense, medium- to fine-grained; brown, dry to damp				
6			106.8	2.3		30
10			110.5	6.7		58
15				9.1		21
18		Water not encountered Boring backfilled with soil cuttings		6.5		11
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem | **Drill Date:** 6-7-19

Drill Rig: CME 75 | **Hole Size:** 5½ Inches

Driller: Baja Exploration | **Elevation:** 20 Feet

Krazan and Associates

Sheet: 1 of 1

Log of Boring B12

Project: Palmdale Apartments

Project No: 112-19062

Client: Highridge Costa Development Company, LLC

Figure No.: A-12

Location: NEC Avenue R & 30th Street

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 to dense, medium- to fine-grained; brown, dry to damp				
6			109.6	1.5		48
10			110.5	5.2		45
10		End of Borehole				
18		Water not encountered Boring backfilled with soil cuttings				

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem

Drill Rig: CME 75

Driller: Baja Exploration

Krazan and Associates

Drill Date: 6-7-19

Hole Size: 5½ Inches

Elevation: 10 Feet

Log of Boring B13

Project: Palmdale Apartments

Project No: 112-19062

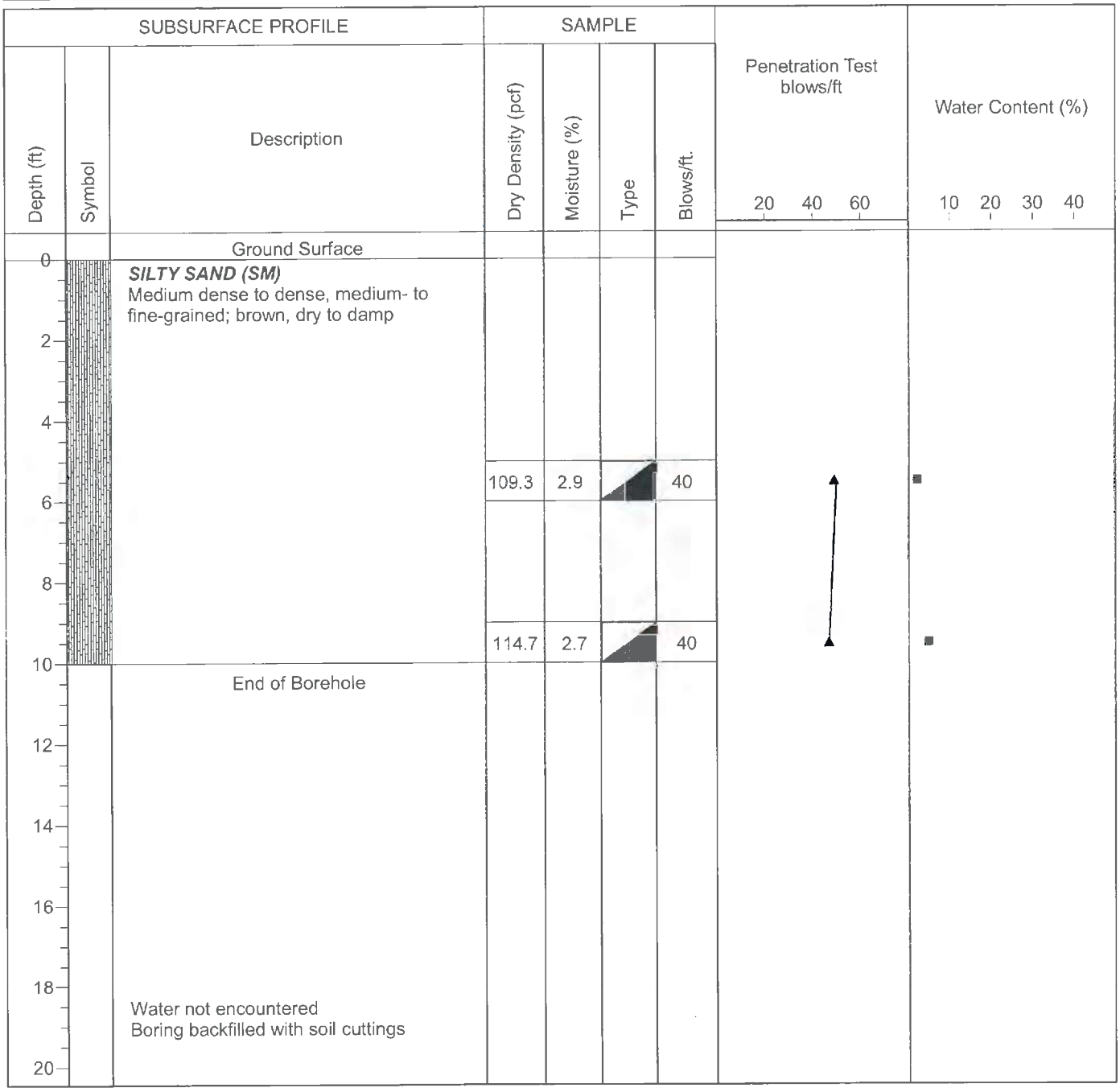
Client: Highridge Costa Development Company, LLC

Figure No.: A-13

Location: NEC Avenue R & 30th Street

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: Baja Exploration

Krazan and Associates

Drill Date: 6-7-19

Hole Size: 5½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B14

Project: Palmdale Apartments

Project No: 112-19062

Client: Highridge Costa Development Company, LLC

Figure No.: A-14

Location: NEC Avenue R & 30th Street

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 to dense, medium- to fine-grained; brown, dry to damp				
6			113.0	3.3		33
10			116.7	2.7		30
10		End of Borehole				
18		Water not encountered Boring backfilled with soil cuttings				

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Rig: CME 75

Driller: Baja Exploration

Krazan and Associates

Drill Date: 6-7-19

Hole Size: 5½ Inches

Elevation: 10 Feet

Sheet: 1 of 1

Sieve Analysis

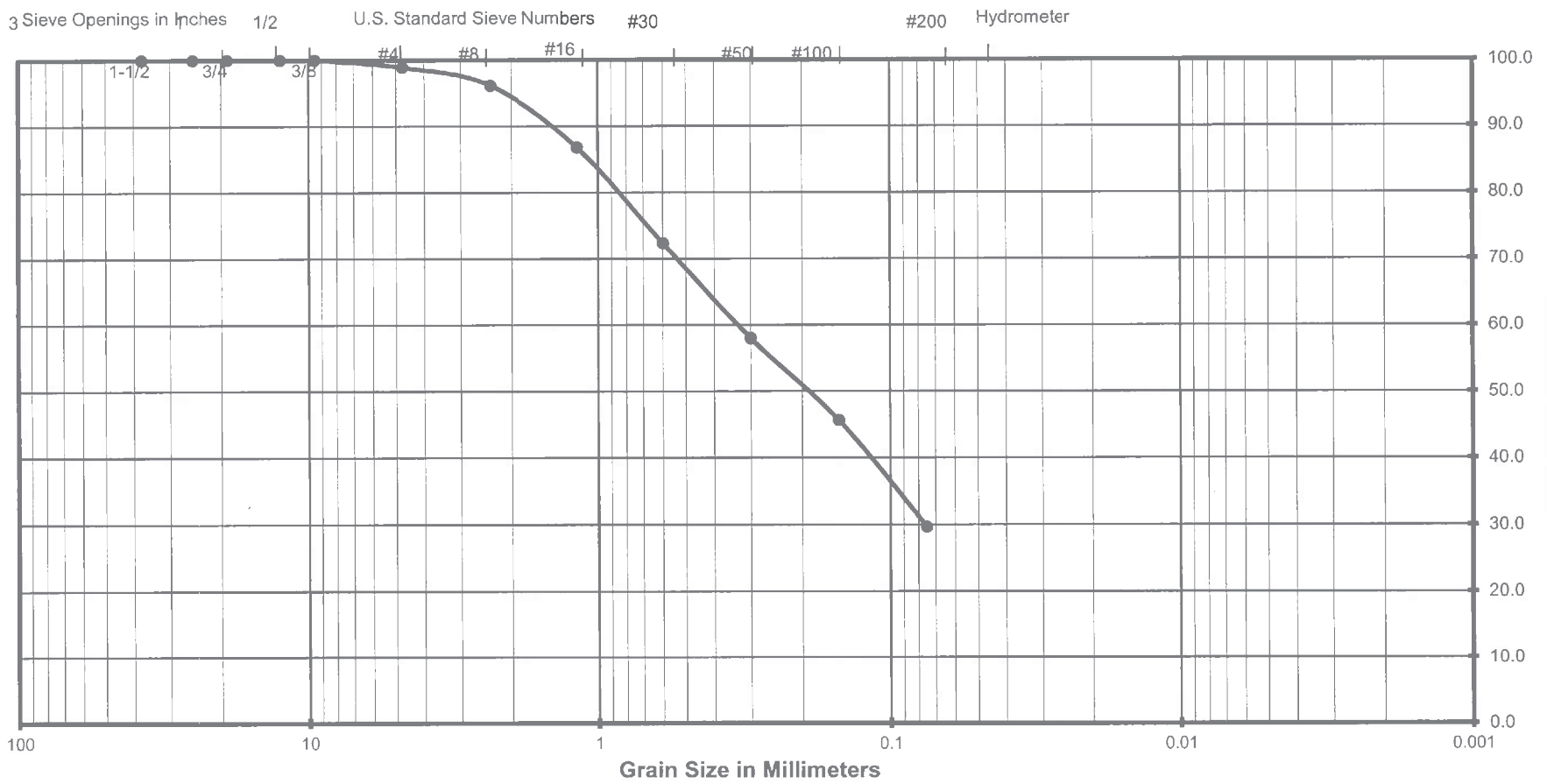
Project Number	: 11219062
Project Name	: Palmdale Apartments
Date	: 6/19/2019
Sample Location	: B-8 @ 5'
Soil Classification	: SM

Wet Weight	:	486.70
Dry Weight	:	486.70
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50				100.0
#4	4.75	5.4	1.1	1.1	98.9
#8	2.36	13.4	2.8	3.9	96.1
#16	1.18	45.6	9.4	13.2	86.8
#30	0.60	70.3	14.4	27.7	72.3
#50	0.30	69.8	14.3	42.0	58.0
#100	0.15	60.0	12.3	54.3	45.7
#200	0.08	77.9	16.0	70.4	29.6

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Palmdale Apartments
Project Number	11219062
Soil Classification	SM
Sample Number	B-8 @ 5'

Krazan Testing Laboratory

Sieve Analysis

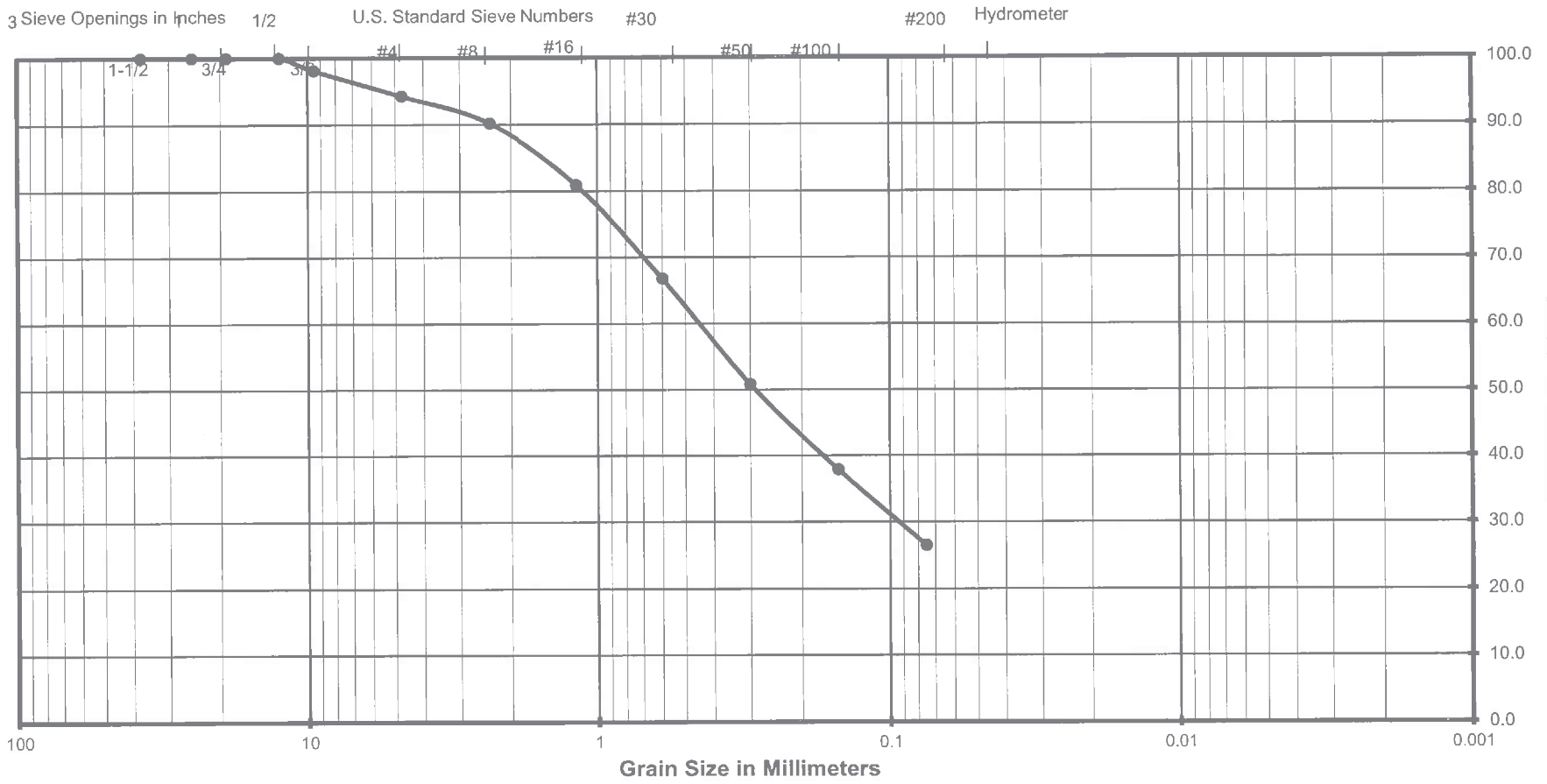
Project Number : 11219062
Project Name : Palmdale Apartments
Date : 6/19/2019
Sample Location : B-8 @ 10'
Soil Classification : SM

Wet Weight	:	605.90
Dry Weight	:	605.90
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	11.6	1.9	1.9	98.1
#4	4.75	23.4	3.9	5.8	94.2
#8	2.36	24.6	4.1	9.8	90.2
#16	1.18	56.3	9.3	19.1	80.9
#30	0.60	85.6	14.1	33.3	66.7
#50	0.30	96.5	15.9	49.2	50.8
#100	0.15	78.4	12.9	62.1	37.9
#200	0.08	69.3	11.4	73.6	26.4

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Palmdale Apartments
Project Number	11219062
Soil Classification	SM
Sample Number	B-8 @ 10'

Krazan Testing Laboratory

Sieve Analysis

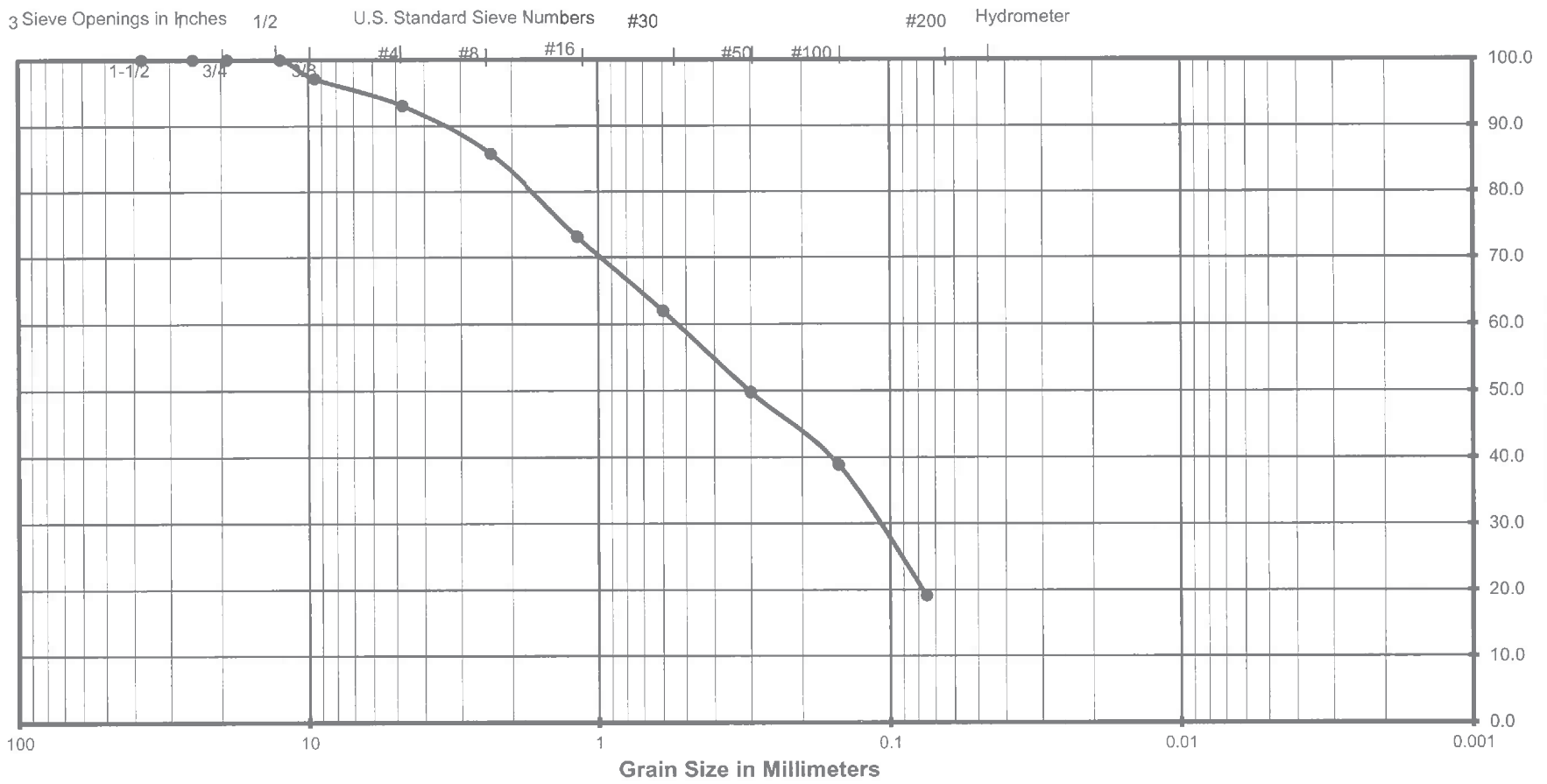
Project Number : 11219062
Project Name : Palmdale Apartments
Date : 6/19/2019
Sample Location : B-8 @ 15'
Soil Classification : SM

Wet Weight	:	505.60
Dry Weight	:	505.60
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	14.4	2.8	2.8	97.2
#4	4.75	20.6	4.1	6.9	93.1
#8	2.36	37.1	7.3	14.3	85.7
#16	1.18	64.0	12.7	26.9	73.1
#30	0.60	56.4	11.2	38.1	61.9
#50	0.30	61.4	12.1	50.2	49.8
#100	0.15	55.2	10.9	61.1	38.9
#200	0.08	99.9	19.8	80.9	19.1

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Palmdale Apartments
Project Number	11219062
Soil Classification	SM
Sample Number	B-8 @ 15'

Krazan Testing Laboratory

Sieve Analysis

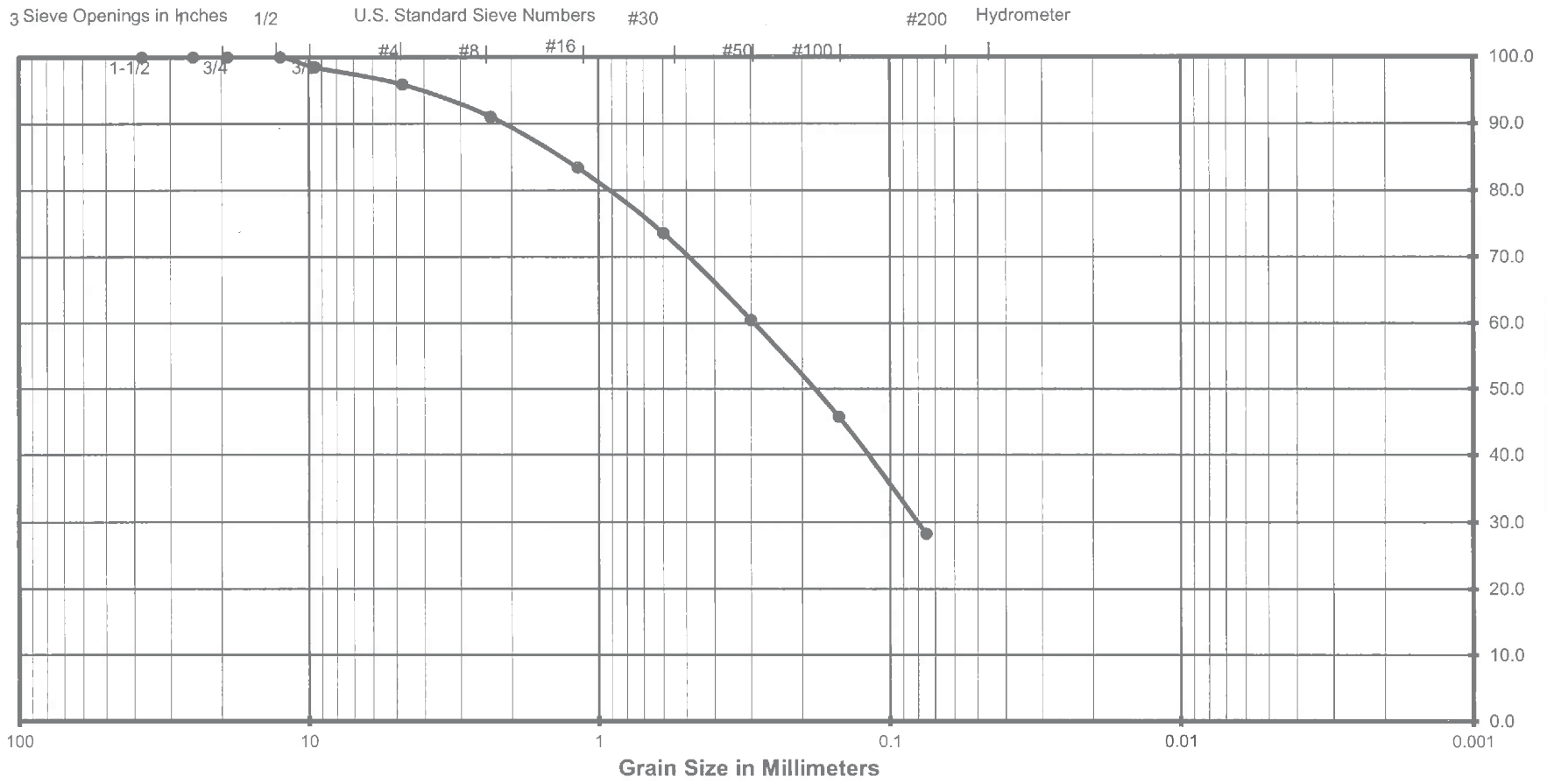
Project Number : 11219062
Project Name : Palmdale Apartments
Date : 6/19/2019
Sample Location : B-8 @ 20'
Soil Classification : SM

Wet Weight	:	506.90
Dry Weight	:	506.90
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	7.7	1.5	1.5	98.5
#4	4.75	13.2	2.6	4.1	95.9
#8	2.36	24.6	4.9	9.0	91.0
#16	1.18	39.0	7.7	16.7	83.3
#30	0.60	49.6	9.8	26.5	73.5
#50	0.30	66.4	13.1	39.6	60.4
#100	0.15	74.6	14.7	54.3	45.7
#200	0.08	88.6	17.5	71.7	28.3

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Palmdale Apartments
Project Number	11219062
Soil Classification	SM
Sample Number	B-8 @ 20'

Krazan Testing Laboratory

Sieve Analysis

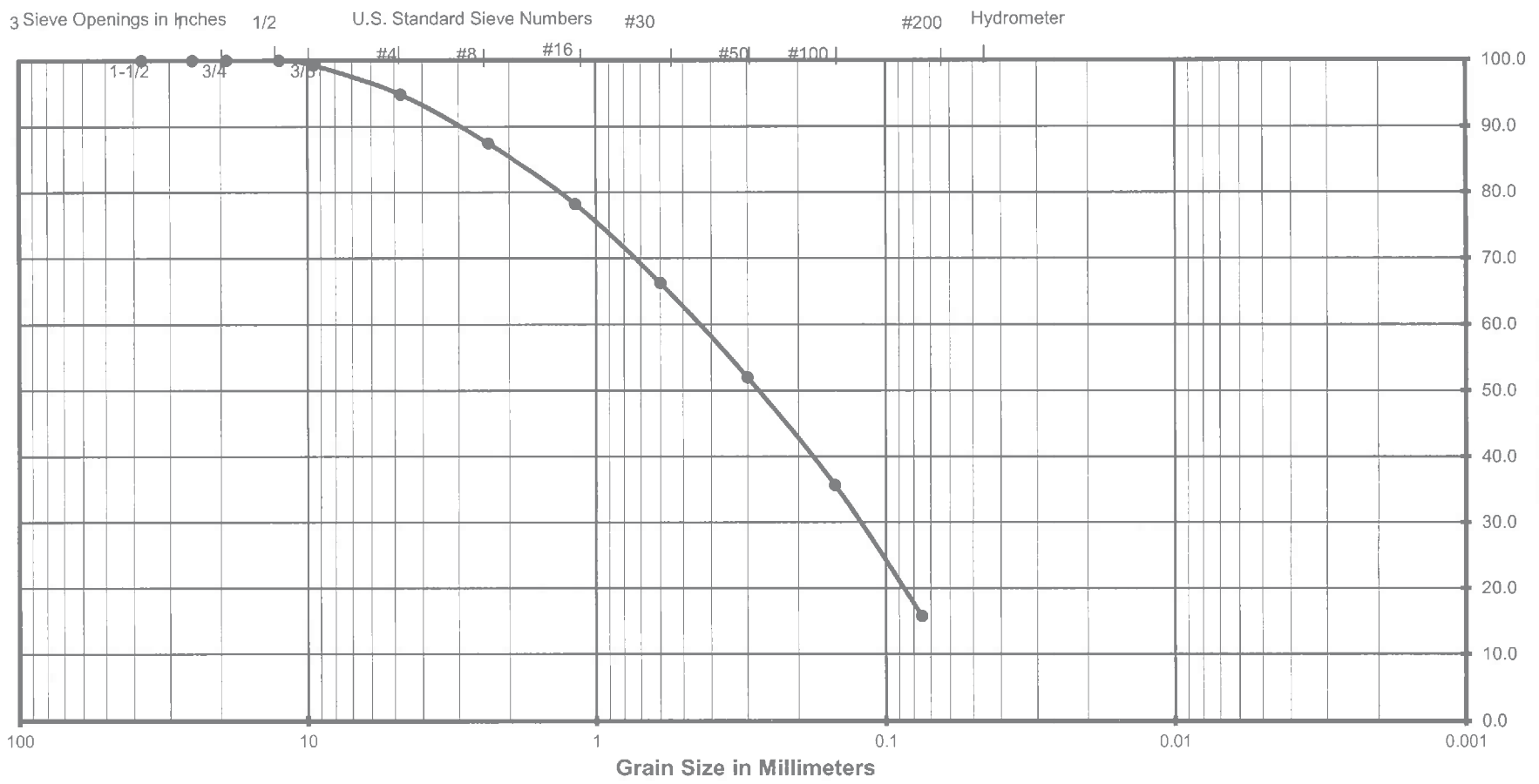
Project Number : 11219062
Project Name : Palmdale Apartments
Date : 6/19/2019
Sample Location : B-8 @ 25'
Soil Classification : SM

Wet Weight	:	483.50
Dry Weight	:	483.50
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	3.5	0.7	0.7	99.3
#4	4.75	21.3	4.4	5.1	94.9
#8	2.36	36.0	7.4	12.6	87.4
#16	1.18	44.6	9.2	21.8	78.2
#30	0.60	57.9	12.0	33.8	66.2
#50	0.30	68.9	14.3	48.0	52.0
#100	0.15	78.7	16.3	64.3	35.7
#200	0.08	96.4	19.9	84.2	15.8

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Palmdale Apartments
Project Number	11219062
Soil Classification	SM
Sample Number	B-8 @ 25'

Krazan Testing Laboratory

Sieve Analysis

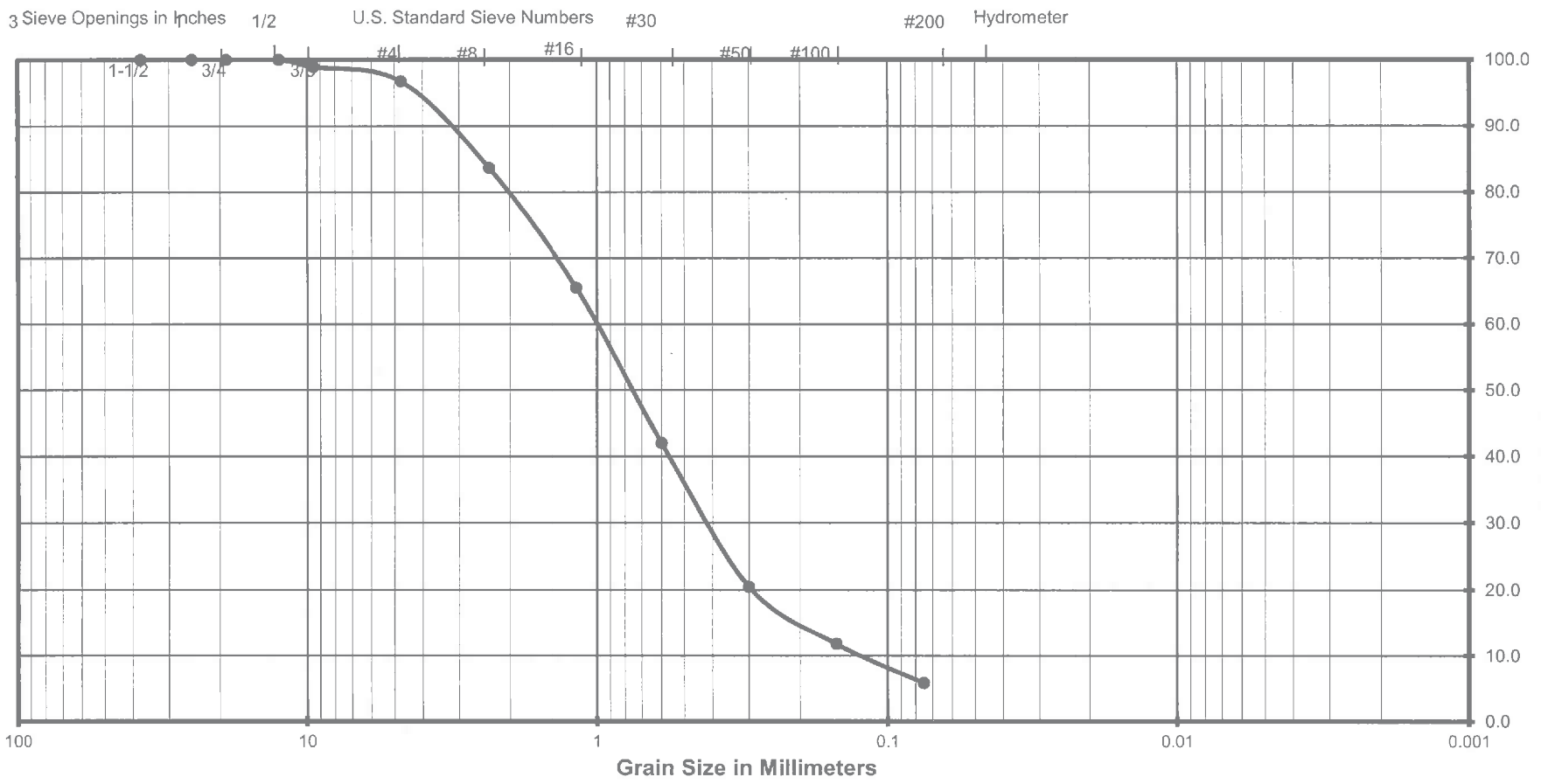
Project Number : 11219062
Project Name : Palmdale Apartments
Date : 6/19/2019
Sample Location : B-8 @ 30'
Soil Classification : SP

Wet Weight	:	508.40
Dry Weight	:	508.40
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	5.5	1.1	1.1	98.9
#4	4.75	11.0	2.2	3.2	96.8
#8	2.36	66.5	13.1	16.3	83.7
#16	1.18	92.4	18.2	34.5	65.5
#30	0.60	119.3	23.5	58.0	42.0
#50	0.30	109.7	21.6	79.5	20.5
#100	0.15	44.1	8.7	88.2	11.8
#200	0.08	30.2	5.9	94.2	5.8

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Palmdale Apartments
Project Number	11219062
Soil Classification	SP
Sample Number	B-8 @ 30'

Krazan Testing Laboratory

Sieve Analysis

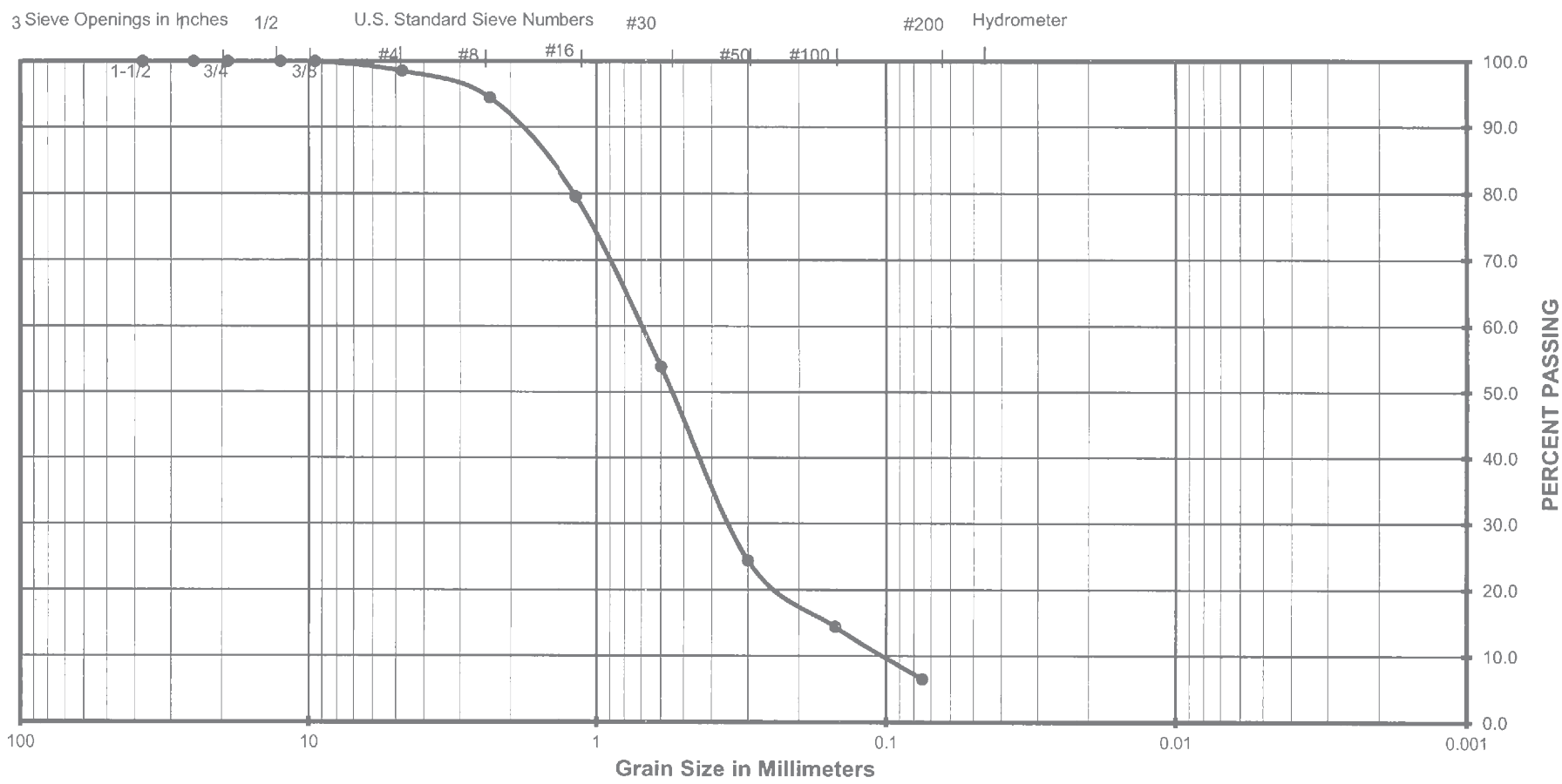
Project Number	: 11219062
Project Name	: Palmdale Apartments
Date	: 6/19/2019
Sample Location	: B-8 @ 35'
Soil Classification	: SP

Wet Weight	:	505.80
Dry Weight	:	505.80
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50				100.0
#4	4.75	7.5	1.5	1.5	98.5
#8	2.36	20.6	4.1	5.6	94.4
#16	1.18	75.6	14.9	20.5	79.5
#30	0.60	129.9	25.7	46.2	53.8
#50	0.30	148.9	29.4	75.6	24.4
#100	0.15	50.5	10.0	85.6	14.4
#200	0.08	40.0	7.9	93.5	6.5

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Palmdale Apartments
Project Number	11219062
Soil Classification	SP
Sample Number	B-8 @ 35'

Krazan Testing Laboratory

Sieve Analysis

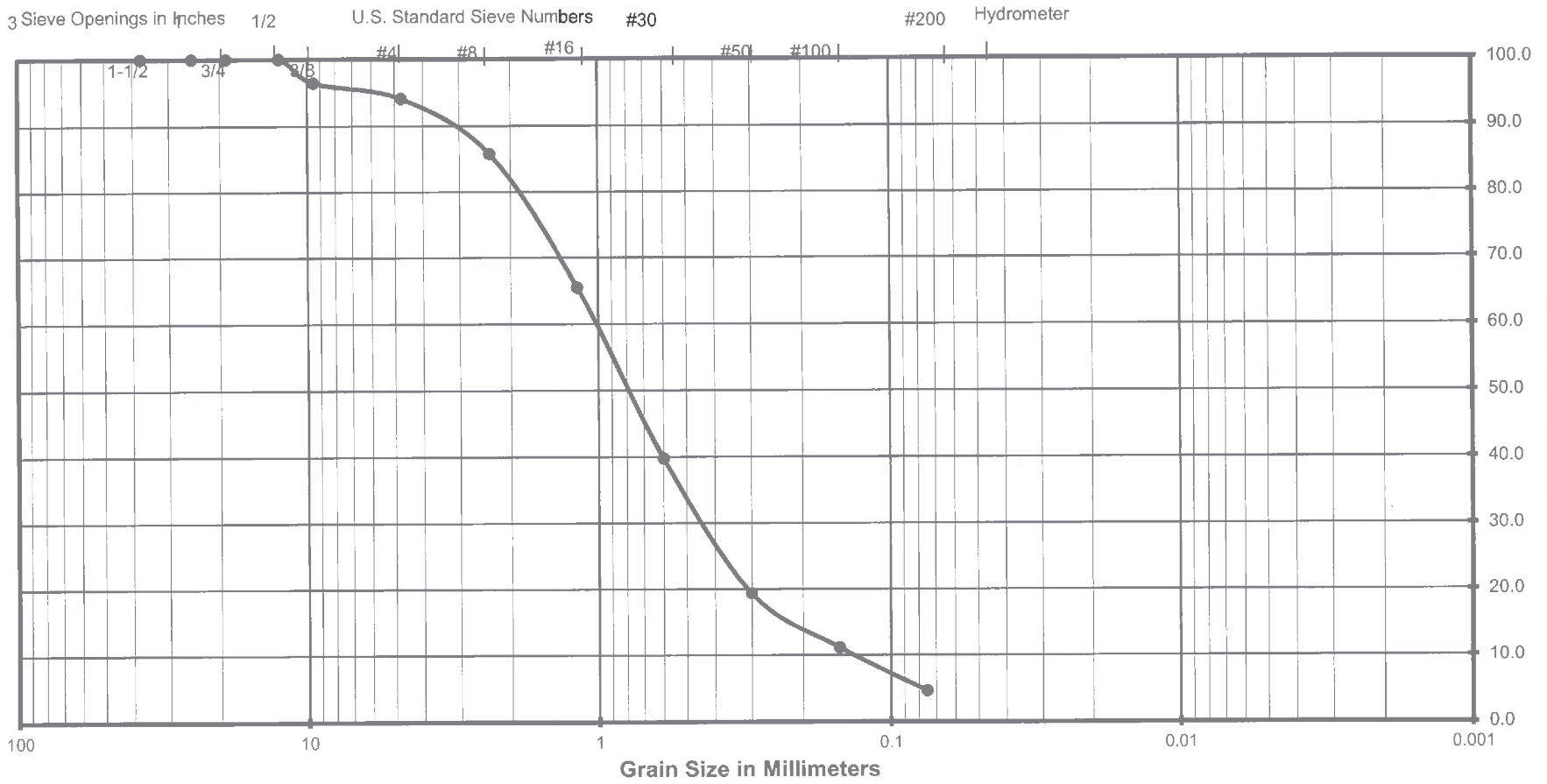
Project Number : 11219062
Project Name : Palmdale Apartments
Date : 6/19/2019
Sample Location : B-8 @ 40'
Soil Classification : SP

Wet Weight	:	493.40
Dry Weight	:	493.40
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	17.5	3.5	3.5	96.5
#4	4.75	11.7	2.4	5.9	94.1
#8	2.36	41.2	8.4	14.3	85.7
#16	1.18	100.0	20.3	34.5	65.5
#30	0.60	126.7	25.7	60.2	39.8
#50	0.30	100.8	20.4	80.6	19.4
#100	0.15	40.5	8.2	88.9	11.1
#200	0.08	32.3	6.5	95.4	4.6

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Palmdale Apartments
Project Number	11219062
Soil Classification	SP
Sample Number	B-8 @ 40'

Krazan Testing Laboratory

Sieve Analysis

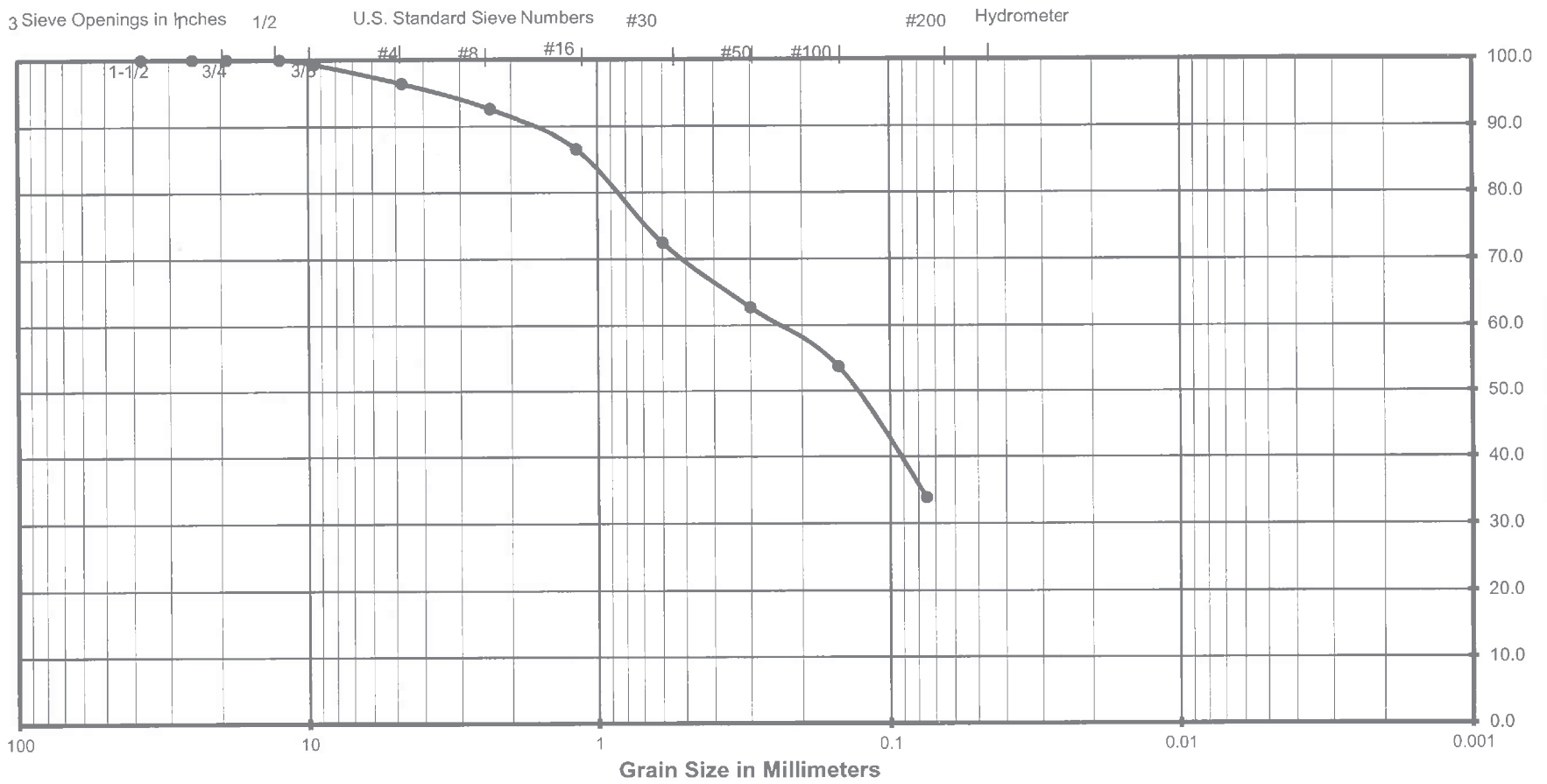
Project Number	: 11219062
Project Name	: Palmdale Apartments
Date	: 6/19/2019
Sample Location	: B-8 @ 45'
Soil Classification	: SM

Wet Weight	:	498.30
Dry Weight	:	498.30
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	3.5	0.7	0.7	99.3
#4	4.75	14.5	2.9	3.6	96.4
#8	2.36	18.9	3.8	7.4	92.6
#16	1.18	30.4	6.1	13.5	86.5
#30	0.60	70.0	14.0	27.6	72.4
#50	0.30	48.6	9.8	37.3	62.7
#100	0.15	44.7	9.0	46.3	53.7
#200	0.08	99.1	19.9	66.2	33.8

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Palmdale Apartments
Project Number	11219062
Soil Classification	SM
Sample Number	B-8 @ 45'

Krazan Testing Laboratory

Sieve Analysis

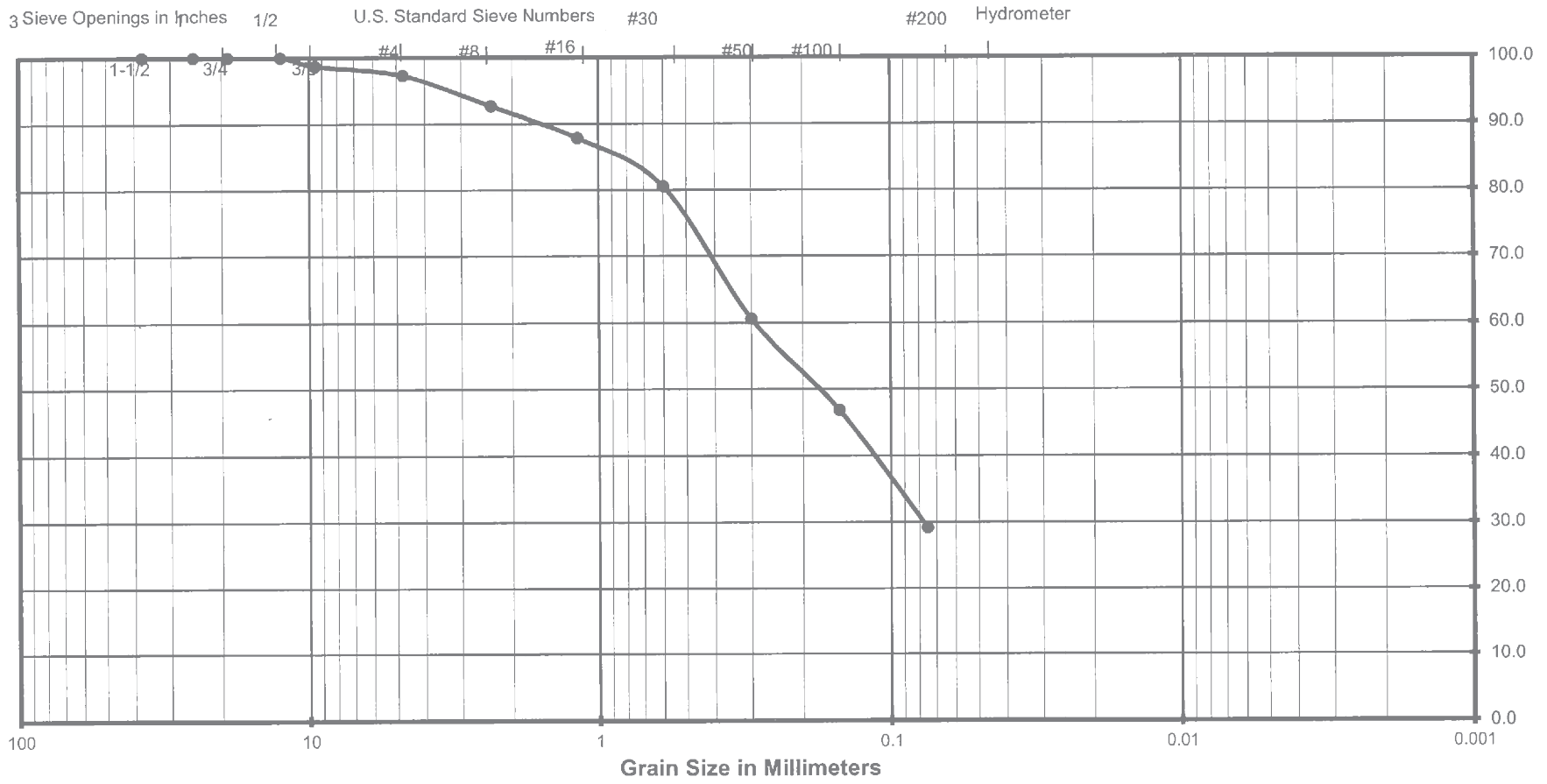
Project Number	: 11219062
Project Name	: Palmdale Apartments
Date	: 6/19/2019
Sample Location	: B-8 @ 50'
Soil Classification	: SM

Wet Weight	:	455.30
Dry Weight	:	455.30
Moisture Content	:	0%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50	5.9	1.3	1.3	98.7
#4	4.75	6.4	1.4	2.7	97.3
#8	2.36	21.2	4.7	7.4	92.6
#16	1.18	21.9	4.8	12.2	87.8
#30	0.60	33.3	7.3	19.5	80.5
#50	0.30	90.8	19.9	39.4	60.6
#100	0.15	62.5	13.7	53.2	46.8
#200	0.08	80.5	17.7	70.8	29.2

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

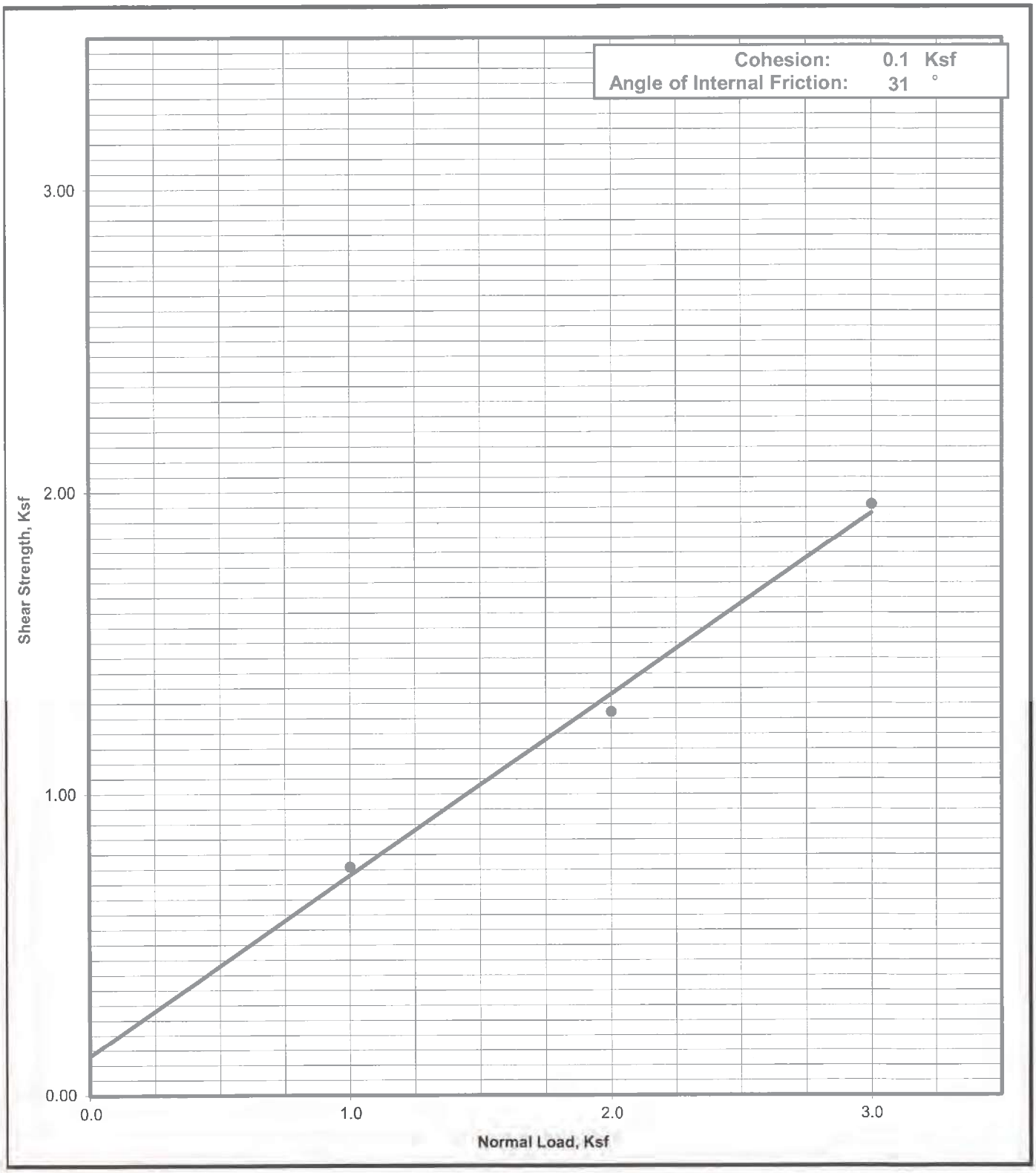
(Unified Soils Classification)

Project Name	Palmdale Apartments
Project Number	11219062
Soil Classification	SM
Sample Number	B-8 @ 50'

Krazan Testing Laboratory

Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

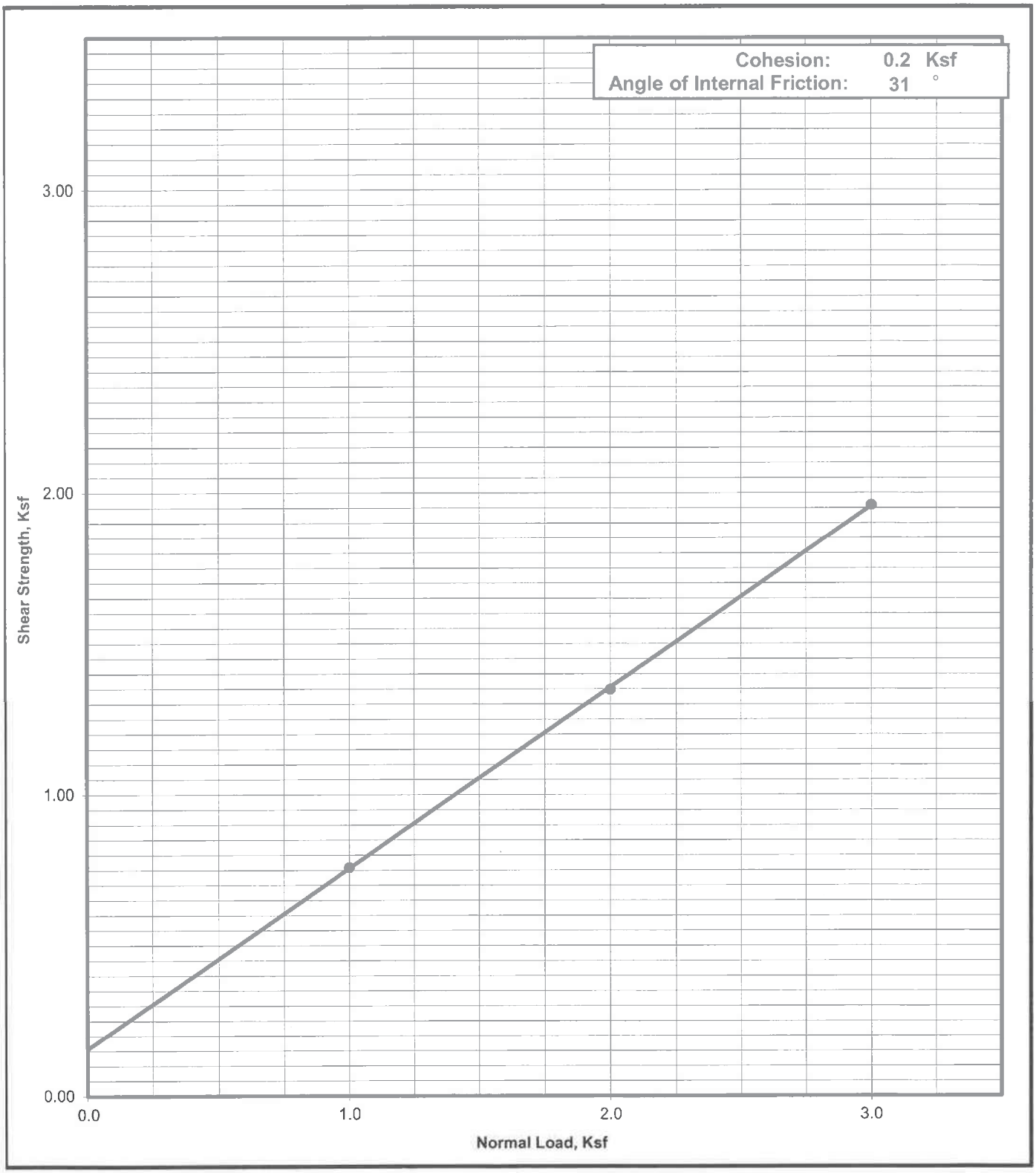
Project Number	Boring No. & Depth	Soil Type	Date
11219062	B-1 @ 5'	SM	6/19/2019



Krazan Testing Laboratory

Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

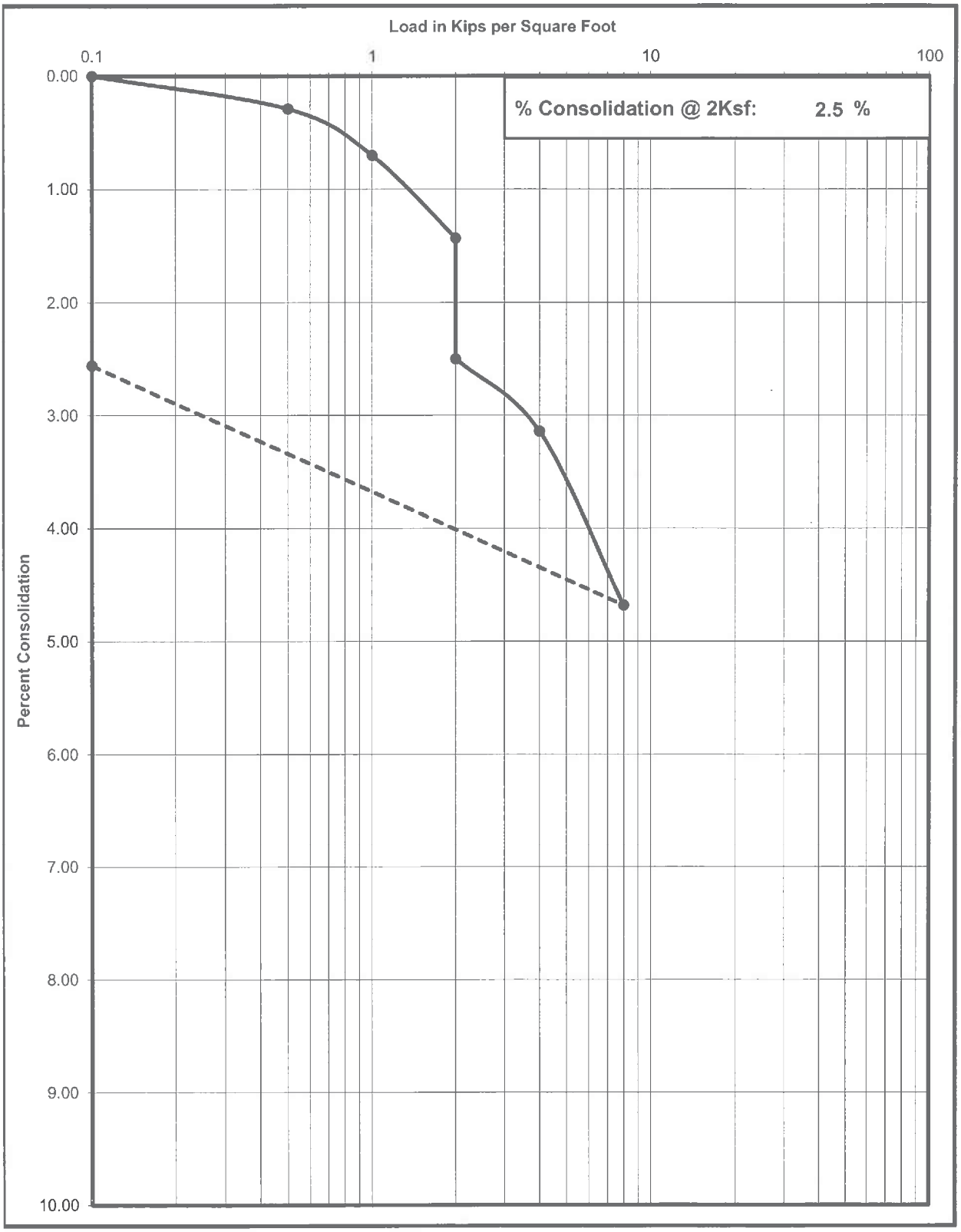
Project Number	Boring No. & Depth	Soil Type	Date
11219062	B-11 @ 5'	SM	6/19/2019



Krazan Testing Laboratory

Consolidation Test

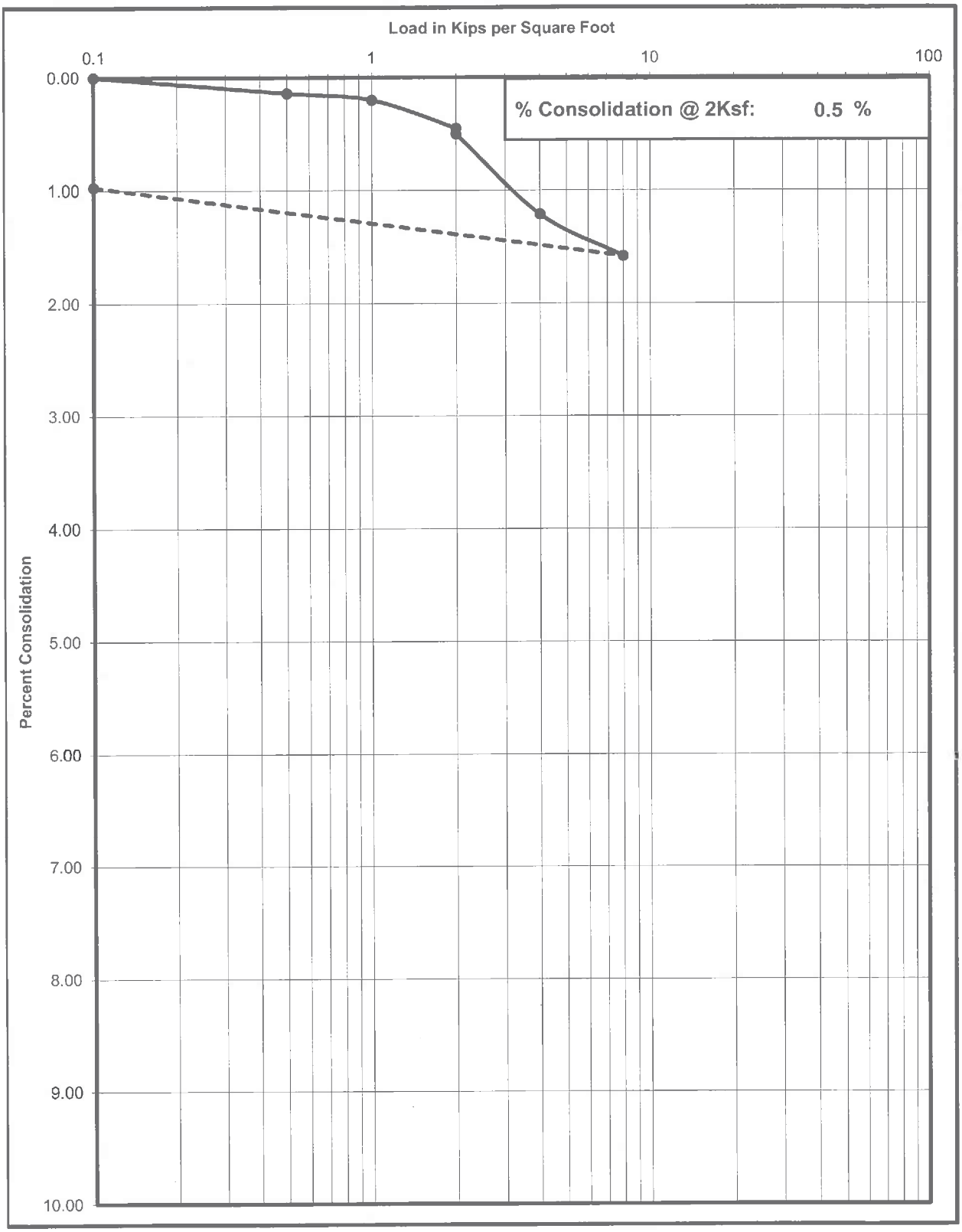
Project No	Boring No. & Depth	Date	Soil Classification
11219062	B-2 @ 5'	6/19/2019	SM



Krazan Testing Laboratory

Consolidation Test

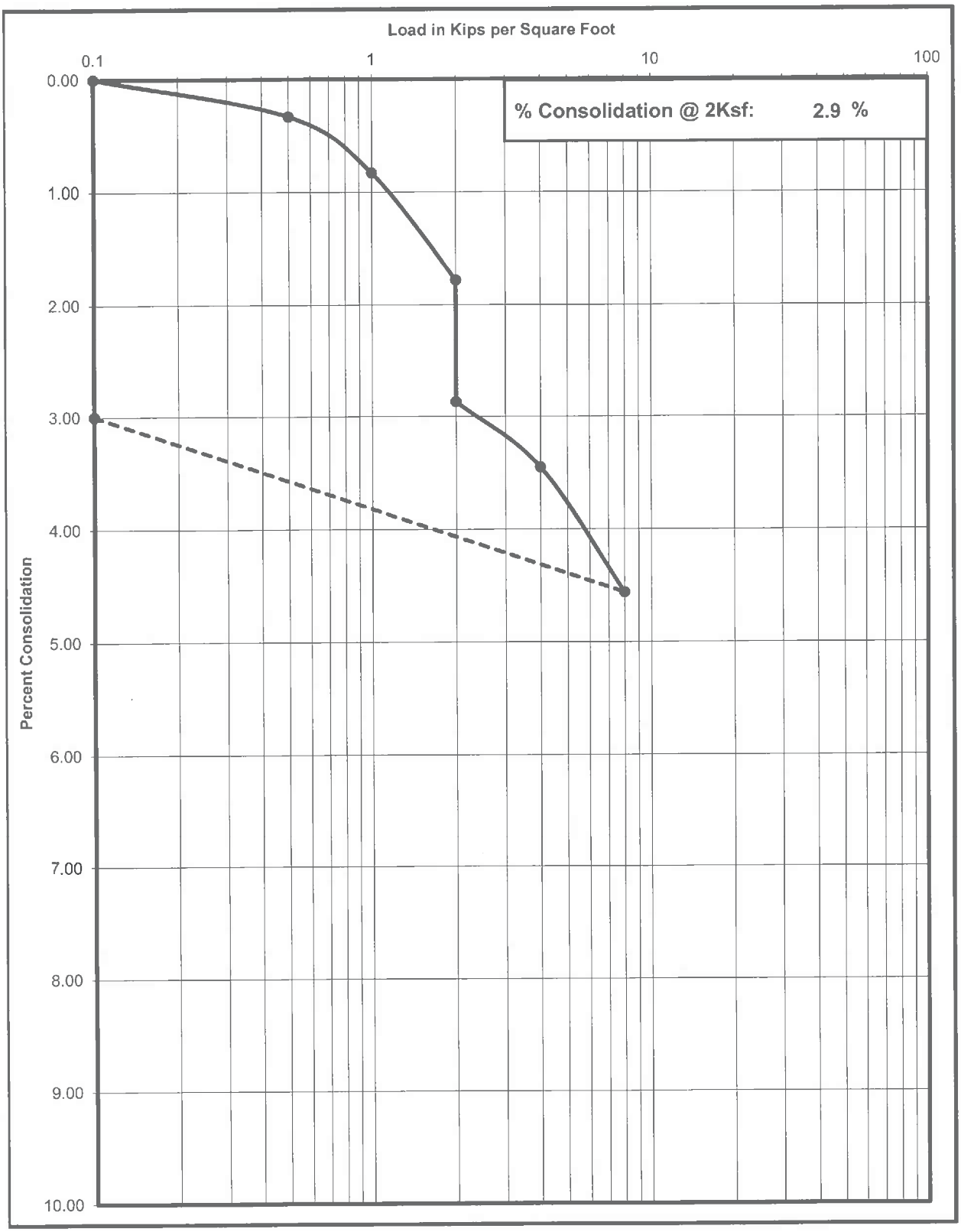
Project No	Boring No. & Depth	Date	Soil Classification
11219062	B-2 @ 10'	6/19/2019	SM



Krazan Testing Laboratory

Consolidation Test

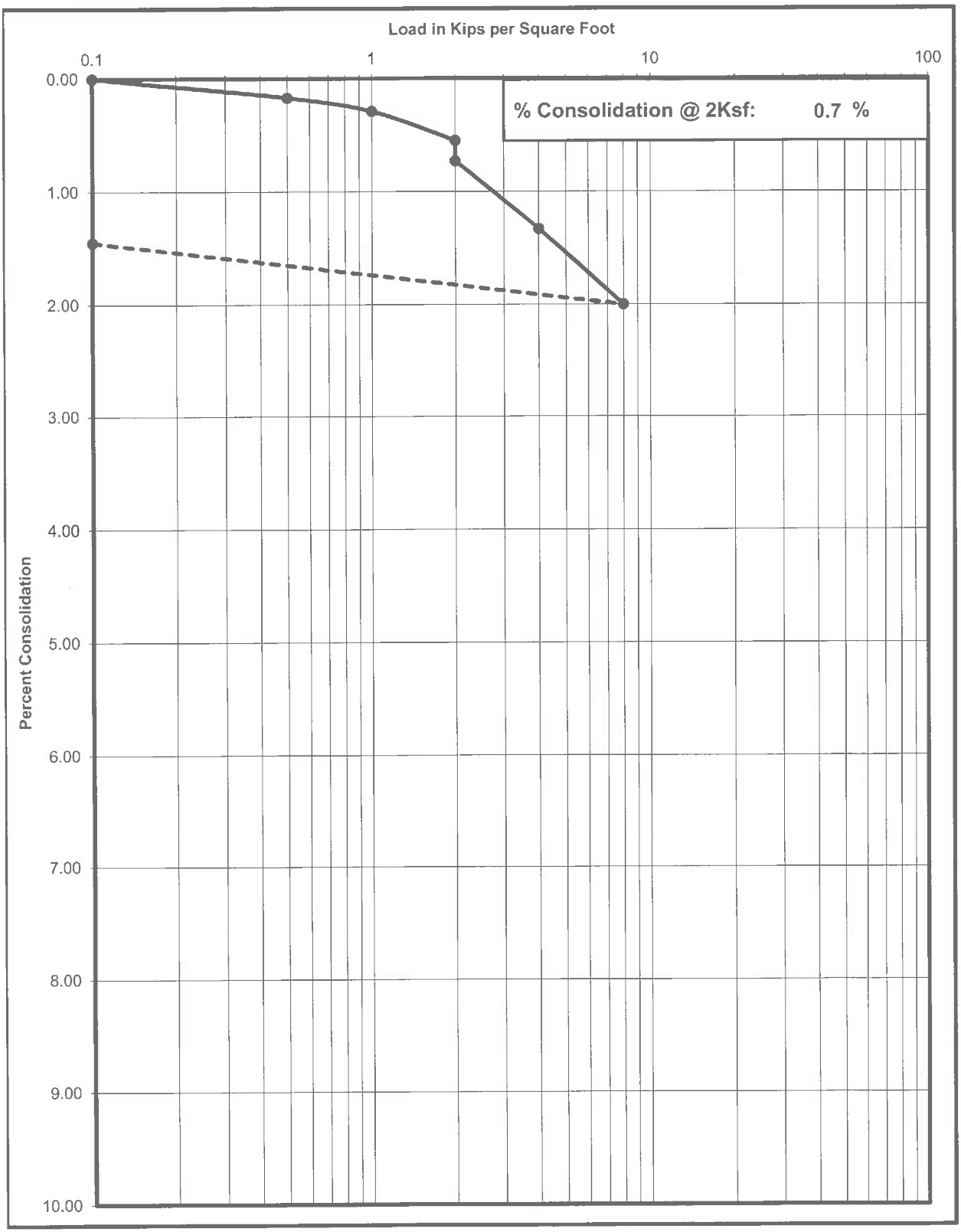
Project No	Boring No. & Depth	Date	Soil Classification
11219062	B-10 @ 5'	6/19/2019	SM



Krazan Testing Laboratory

Consolidation Test

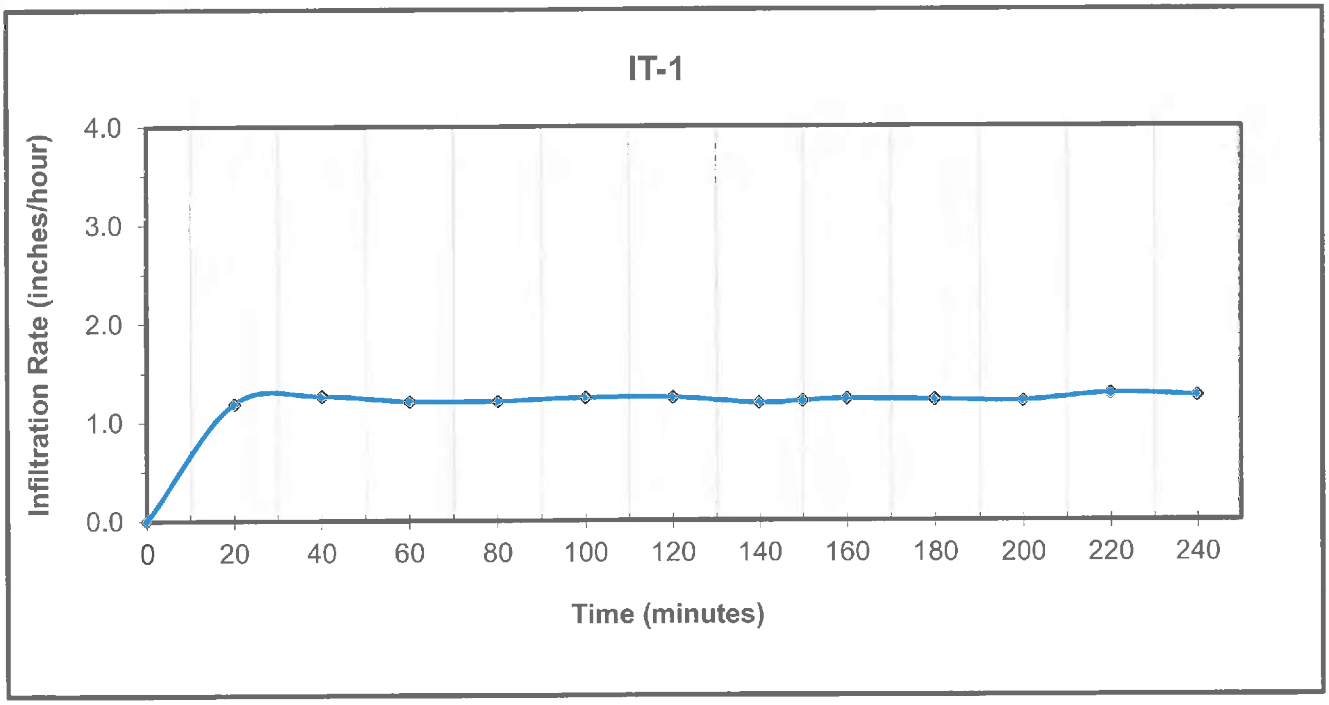
Project No	Boring No. & Depth	Date	Soil Classification
11219062	B-10 @ 10'	6/19/2019	SM



Krazan Testing Laboratory

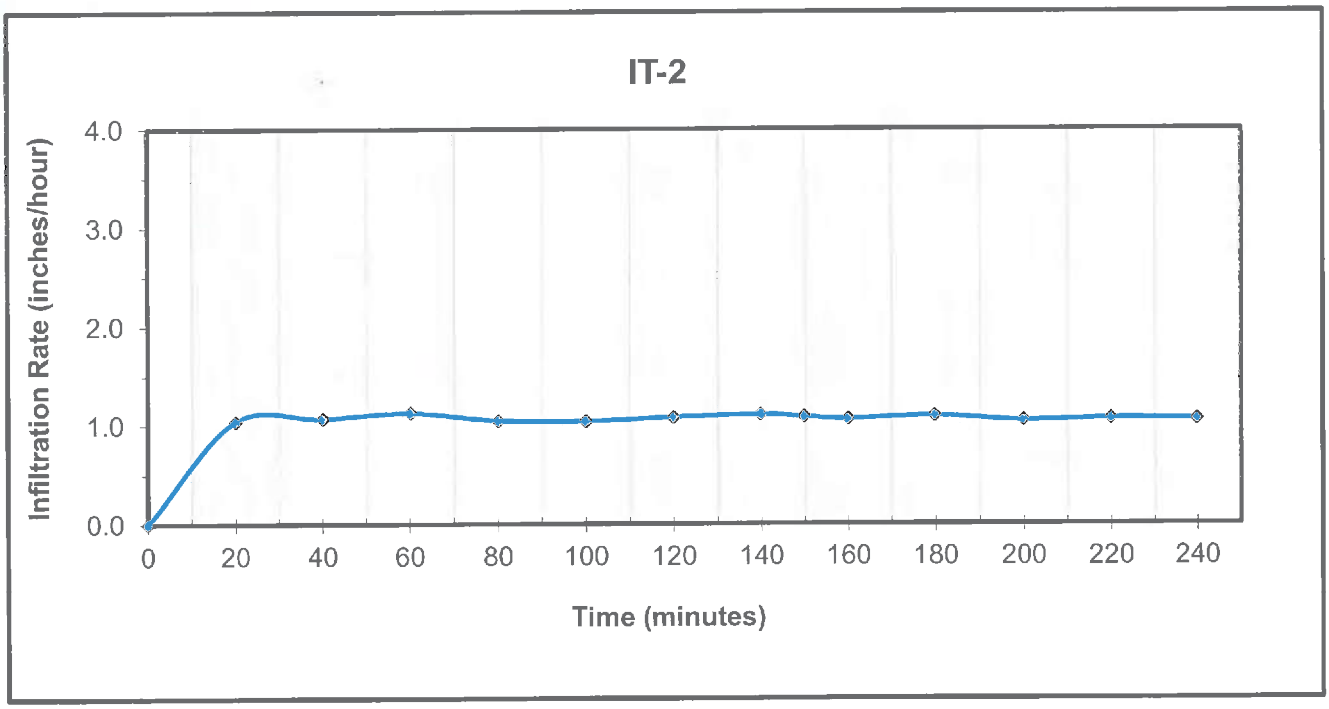
RESULTS OF INFILTRATION TESTS - REVERSE BOREHOLE						
Project #	11219062				Date	6/19/2019
Project Name	Palmdale Apartments					
Project Address	Palmdale, CA					
Test No:	IT-1	Total Depth (in.)		120	Test Size (in)	8
Depth To Water	>>50'	Soil Classification		SM		

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		4.0	--	--
1	20.00	20.00	4.0	22.0	18.00	1.19
2	40.00	20.00	22.0	38.0	16.00	1.26
3	60.00	20.00	38.0	51.0	13.00	1.21
4	80.00	20.00	51.0	62.0	11.00	1.21
5	100.00	20.00	62.0	71.5	9.50	1.25
6	120.00	20.00	71.5	79.5	8.00	1.25
7	140.00	20.00	79.5	86.0	6.50	1.19
Refill	150.00			4.0	12.50	1.21
8	160.00	20.00	4.0	22.5	18.50	1.23
9	180.00	20.00	22.5	38.0	15.50	1.22
10	200.00	20.00	38.0	51.0	13.00	1.21
11	220.00	20.00	51.0	62.5	11.50	1.28
12	240.00	20.00	62.5	72.0	9.50	1.26
	Infiltration Rate in Inches per Hour					1.19



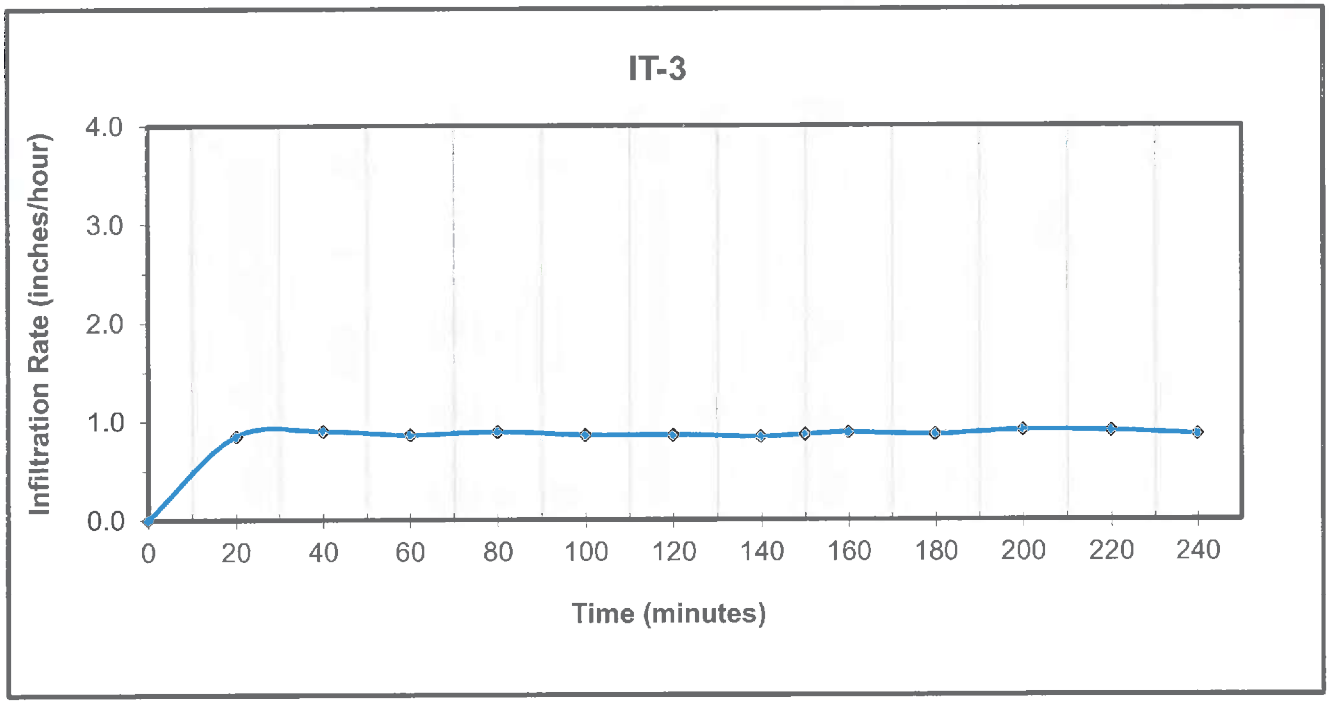
RESULTS OF INFILTRATION TESTS - REVERSE BOREHOLE						
Project #	11219062				Date	6/19/2019
Project Name	Palmdale Apartments					
Project Address	Palmdale, CA					
Test No:	IT-2	Total Depth (in.)		120	Test Size (in)	8
Depth To Water	>>50'	Soil Classification		SM		

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	--	--
1	20.00	20.00	2.0	18.5	16.50	1.04
2	40.00	20.00	18.5	33.0	14.50	1.06
3	60.00	20.00	33.0	46.0	13.00	1.12
4	80.00	20.00	46.0	56.5	10.50	1.05
5	100.00	20.00	56.5	65.5	9.00	1.04
6	120.00	20.00	65.5	73.5	8.00	1.08
7	140.00	20.00	73.5	80.5	7.00	1.11
Refill	150.00			4.0	11.75	1.08
8	160.00	20.00	4.0	20.5	16.50	1.06
9	180.00	20.00	20.5	35.0	14.50	1.09
10	200.00	20.00	35.0	47.0	12.00	1.04
11	220.00	20.00	47.0	57.5	10.50	1.06
12	240.00	20.00	57.5	66.5	9.00	1.06
	Infiltration Rate in Inches per Hour					1.04



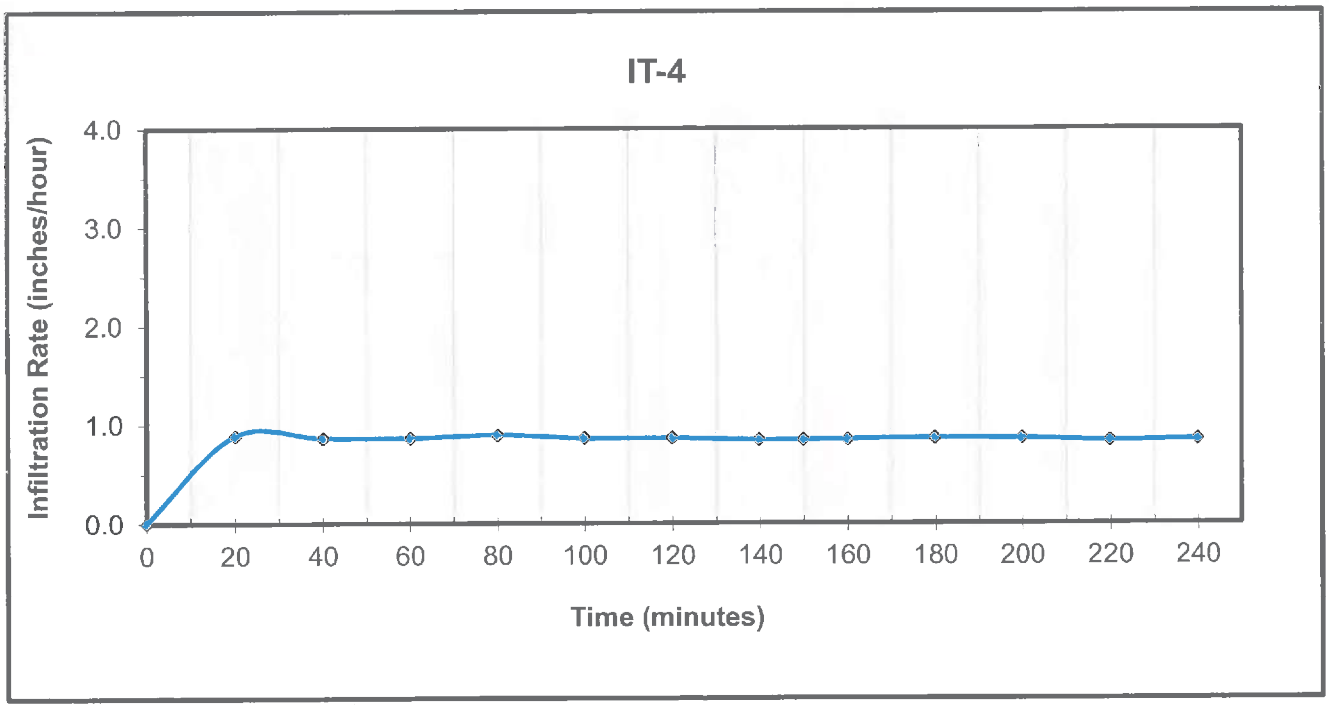
RESULTS OF INFILTRATION TESTS - REVERSE BOREHOLE						
Project #	11219062				Date	6/19/2019
Project Name	Palmdale Apartments					
Project Address	Palmdale, CA					
Test No:	IT-3	Total Depth (in.)		120	Test Size (in)	8
Depth To Water	>>50'	Soil Classification		SM		

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	--	--
1	20.00	20.00	2.0	16.0	14.00	0.85
2	40.00	20.00	16.0	29.0	13.00	0.90
3	60.00	20.00	29.0	40.0	11.00	0.86
4	80.00	20.00	40.0	50.0	10.00	0.90
5	100.00	20.00	50.0	58.5	8.50	0.86
6	120.00	20.00	58.5	66.0	7.50	0.86
7	140.00	20.00	66.0	72.5	6.50	0.84
Refill	150.00			2.0	10.50	0.86
8	160.00	20.00	2.0	16.5	14.50	0.89
9	180.00	20.00	16.5	29.0	12.50	0.86
10	200.00	20.00	29.0	40.5	11.50	0.91
11	220.00	20.00	40.5	50.5	10.00	0.90
12	240.00	20.00	50.5	59.0	8.50	0.87
	Infiltration Rate in Inches per Hour					0.84



RESULTS OF INFILTRATION TESTS - REVERSE BOREHOLE						
Project #	11219062				Date	6/19/2019
Project Name	Palmdale Apartments					
Project Address	Palmdale, CA					
Test No:	IT-4	Total Depth (in.)		120	Test Size (in)	8
Depth To Water	>>50'	Soil Classification		SM		

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	--	--
1	20.00	20.00	2.0	16.5	14.50	0.89
2	40.00	20.00	16.5	29.0	12.50	0.86
3	60.00	20.00	29.0	40.0	11.00	0.86
4	80.00	20.00	40.0	50.0	10.00	0.90
5	100.00	20.00	50.0	58.5	8.50	0.86
6	120.00	20.00	58.5	66.0	7.50	0.86
7	140.00	20.00	66.0	72.5	6.50	0.84
Refill	150.00			2.0	10.25	0.85
8	160.00	20.00	2.0	16.0	14.00	0.85
9	180.00	20.00	16.0	28.5	12.50	0.86
10	200.00	20.00	28.5	39.5	11.00	0.86
11	220.00	20.00	39.5	49.0	9.50	0.84
12	240.00	20.00	49.0	57.5	8.50	0.85
	Infiltration Rate in Inches per Hour					0.84



ANAHEIM TEST LAB, INC

196 Technology Drive, Unit D
Irvine, CA 92618
PHONE (949)336-6544

DATE: 06/19/19

Krazan & Associates, Inc.
1100 Olympic Drive, Ste. 103
Corona, CA 92881

P.O. NO: Verbal

LAB NO: C-2434

SPECIFICATION: CTM-417/422/643

MATERIAL: Soil

Project No: 11219062
Palmdale Apartments
B-5 @ 0-5'

ANALYTICAL REPORT

CORROSION SERIES
SUMMARY OF DATA

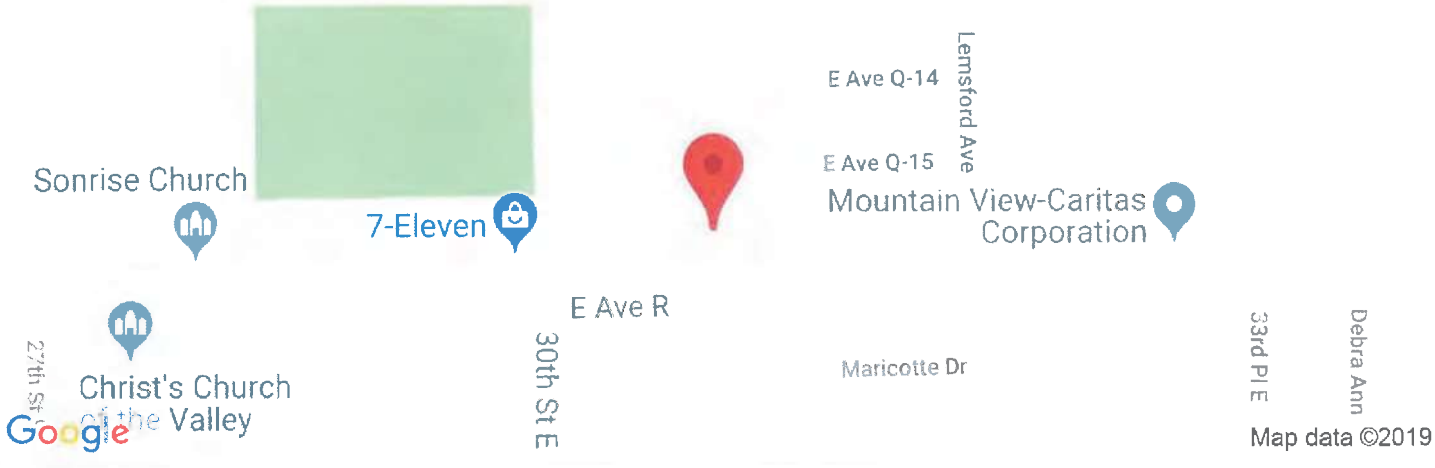
pH	SOLUBLE SULFATES per CT. 417 ppm	SOLUBLE CHLORIDES per CT. 422 ppm	MIN. RESISTIVITY per CT. 643 ohm-cm
7.8	222	89	3,850

RESPECTFULLY SUBMITTED

WES BRIDGER CHEMIST

Palmdale Apartments

Latitude, Longitude: 34.573398, -118.074582



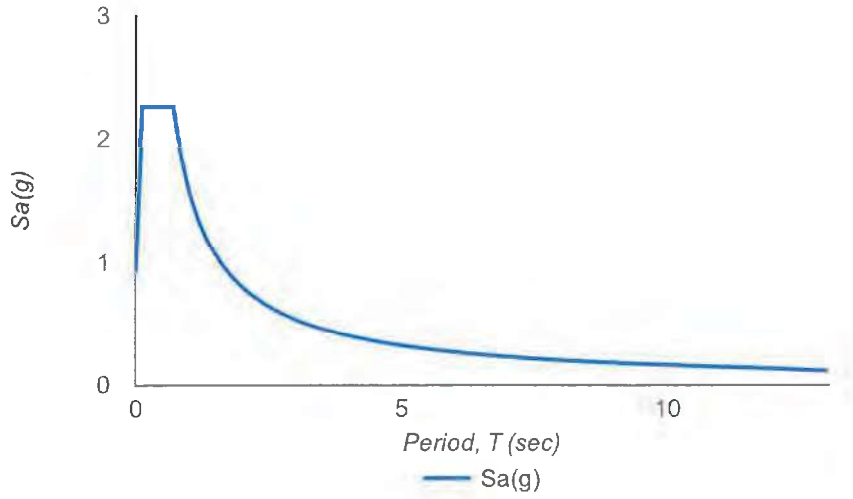
Date	6/19/2019, 11:08:34 AM
Design Code Reference Document	ASCE7-10
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S_S	2.261	MCE_R ground motion. (for 0.2 second period)
S_1	1.059	MCE_R ground motion. (for 1.0s period)
S_{MS}	2.261	Site-modified spectral acceleration value
S_{M1}	1.589	Site-modified spectral acceleration value
S_{DS}	1.508	Numeric seismic design value at 0.2 second SA
S_{D1}	1.059	Numeric seismic design value at 1.0 second SA

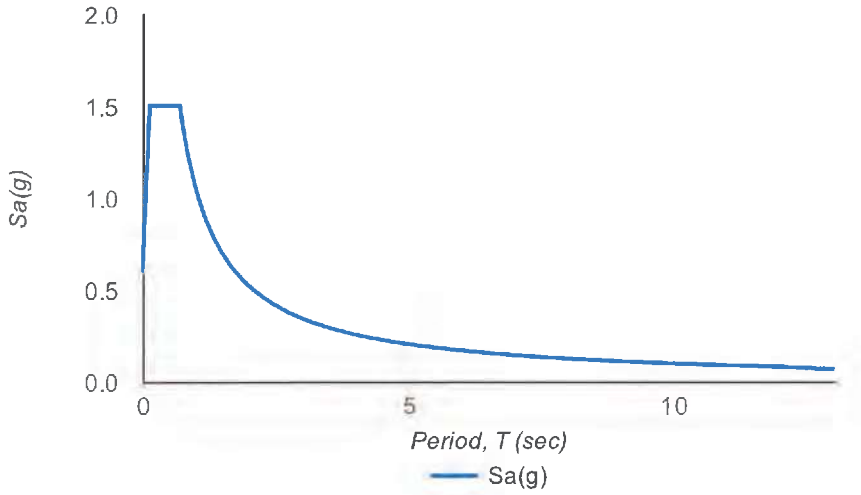
Type	Value	Description
SDC	E	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	1.5	Site amplification factor at 1.0 second
PGA	0.866	MCE_G peak ground acceleration
F_{PGA}	1	Site amplification factor at PGA
PGA_M	0.866	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	2.951	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	3.183	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	2.261	Factored deterministic acceleration value. (0.2 second)
S1RT	1.356	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	1.492	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	1.059	Factored deterministic acceleration value. (1.0 second)
PGAd	0.866	Factored deterministic acceleration value. (Peak Ground Acceleration)

Type	Value	Description
C_{RS}	0.927	Mapped value of the risk coefficient at short periods
C_{R1}	0.909	Mapped value of the risk coefficient at a period of 1 s

MCER Response Spectrum



Design Response Spectrum



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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 earthwork 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 Soils Engineer and/or Testing Agency. Attainment of design grades, when achieved, shall be certified by the project Civil Engineer. Both the Soils 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 Soils Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Soils Engineer, Civil Engineer, or project Architect.

No earthwork shall be performed without the physical presence or approval of the Soils Engineer. The Contractor shall notify the Soils 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 no less that 90 percent of relative compaction based on ASTM Test Method D1557-78, UBC or CAL-216, as specified in the technical portion of the Soil Engineer's report. The location and frequency of field density tests shall be as determined by the Soils Engineer. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work will be judged by the Soils Engineer.

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 Report.

The Contractor shall make his own interpretation of the data contained in the Geotechnical Engineering Report and the Contractor shall not be relieved of liability under the Contractor 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 and preparation of foundation materials for receiving fill.

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 Soils Engineer to be deleterious. 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 which 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 or tree root excavation should not be permitted until all exposed surfaces have been inspected and the Soils Engineer is present for the proper control of backfill placement and compaction. Burning in areas which are to receive fill materials shall not be permitted.

SUBGRADE PREPARATION: Surfaces to receive Engineered Fill, shall be prepared as outlined above, excavated/scarified to a depth of 6 inches, moisture-conditioned as necessary, and recompacted to 90 percent relative compaction.

Loose soil areas and/or areas of disturbed soil shall be moisture-conditioned as necessary and recompacted to 95 percent relative compaction. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas which are to receive fill materials shall be approved by the Soils Engineer prior to the placement of any of the fill material.

EXCAVATION: 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.

FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence of the Soils Engineer. Material from the required site excavation may be utilized for construction site fills, provided prior approval is given by the Soils Engineer. All materials utilized for constructing site fills shall be free from vegetation or other deleterious matter as determined by the Soils Engineer.

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. However, compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Soils Engineer.

Both cut and fill shall be surface-compacted to the satisfaction of the Soils 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 Soils 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 asphaltic 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 as the January 1991 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 applicable tests outlined in the Materials Manual.

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 90 percent. The finished subgrades shall be tested and approved by the Soils 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 II material, 1½ 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 Soils 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 Soils Engineer prior to the placement of successive layers.

6. ASPHALTIC CONCRETE SURFACING - Asphaltic 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-4000. The mineral aggregate shall be Type B, ½ inch maximum size, medium grading, 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 asphaltic emulsion) shall conform to and be applied in accordance with the requirements of Section 37.

APPENDIX E

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

April 16, 2019 Project No. 024-19024

Mr. Mohannad H. Mohanna, President
Highridge Costa Development Company
330 West Victoria Street
Gardena, California 90248
pete.harispuru@housingpartners.com

RE: Phase I Environmental Site Assessment
Proposed Residential Development Property
Northeast Corner of Avenue R and 30th Street East
Los Angeles County Assessor's Parcel Number 3020-005-031 (5.04 Acres)
Palmdale, California

Dear Mr. Mohannad:

Krazan & Associates, Inc., (Krazan) completed a Phase I Environmental Site Assessment at the referenced site, summarized in a report dated April 16, 2019. We appreciate the opportunity to serve your environmental due diligence needs. During the course of this assessment, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E 1527-13.

If you have any questions regarding the information presented in this report, please call me at (661) 837-9200.

Respectfully Submitted,
KRAZAN & ASSOCIATES, INC.

William R. Cooper, P.G. 7427

WRC/mlt

PHASE I ENVIRONMENTAL SITE ASSESSMENT PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NORTHEAST CORNER OF AVENUE R AND 30TH STREET EAST LOS ANGELES COUNTY ASSESSOR'S PARCEL NUMBER 3020-005-031 (5.04 ACRES) PALMDALE, CALIFORNIA

Pursuant to ASTM E 1527-13

Project No. 024-19024
April 16, 2019

Prepared for:
Mr. Mohannad H. Mohanna, President
Highridge Costa Development Company
330 West Victoria Street
Gardena, California 90248
(310) 702-9222

Prepared by:
Krazan & Associates, Inc.
2205 Coy Avenue
Bakersfield, California 93307
(661) 837-9200

Krazan & ASSOCIATES, INC.
SITE DEVELOPMENT ENGINEERS

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PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY
NORTHEAST CORNER OF AVENUE R AND 30TH STREET EAST
ASSESSOR'S PARCEL NUMBER 3020-005-031 (5.04 ACRES)
PALMDALE, CALIFORNIA

1.0 EXECUTIVE SUMMARY

Krazan & Associates, Inc. (Krazan) has conducted a Phase I Environmental Site Assessment (ESA) of the Proposed Residential Development Property located at the Northeast Corner of Avenue R and 30th Street East, Los Angeles County Assessor's Parcel Number (APN) 3020-005-031, 5.04 acres in Palmdale, California (subject site). It is incumbent upon the user to read this Phase I ESA report in its entirety. If not otherwise defined within the text of this report, please refer to the Glossary of Terms Section following the References Section for definitions of terms and acronyms utilized within this Phase I ESA report. Krazan conducted the Phase I ESA of the subject site in conformance with the American Society for Testing and Materials (ASTM) E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* This Phase I ESA constitutes all appropriate inquiry (AAI) designed to identify recognized environmental conditions (RECs) in connection with the previous ownership and uses of the subject site as defined by ASTM E 1527-13.

ASTM E 1527-13 Section 1.1.1 *Recognized Environmental Conditions* – In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.

During the course of this assessment, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E-1527-13.

2.0 PURPOSE AND SCOPE OF ASSESSMENT

2.1 Purpose

According to ASTM E 1527-13, the purpose of this practice is to define good commercial and customary practice in the United States of America for conducting an *environmental site assessment* of a parcel of *commercial real estate* with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) and *petroleum products.* As such, this practice is intended to permit a *user* to satisfy one of the requirements to qualify for the *innocent landowner, contiguous property owner,* or *bona fide prospective purchaser* limitation on CERCLA liability (hereinafter, the *landowner liability protections,* or *LLPs*): that is, the practice that constitutes *"all appropriate inquiry* into the previous ownership and uses of the *property* consistent with good commercial or customary practice" as defined at 42 U.S.C. §9601(35)(B). This report was also conducted in conformance with the ASTM E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.*

2.2 Scope of Work

The Phase I ESA includes the following scope of work: a) a site reconnaissance of existing on-site conditions and observations of adjacent property uses, b) a review of user-provided documents, and search of available current land title records compiled by AFX Corp., Inc., c) a review of historical aerial photographs, a review of pertinent building permit records, city directories, historical Sanborn Fire Insurance Maps (SFIMs), and interview(s) with person(s) knowledgeable of the previous and current ownership and uses of the subject site, d) a review of local regulatory agency records, and e) a review of local, state, and federal regulatory agency lists compiled by Environmental Data Resources, Inc. (EDR). The scope of work for this Phase I ESA conforms to ASTM E 1527-13. Krazan was provided written authorization to conduct the Phase I ESA by Mr. Mohannad H. Mohanna with Highridge Costa Development Company, on March 26, 2019, in Krazan's Proposal/Cost Estimate No. P19-074.

3.0 SITE DESCRIPTION

The subject site is comprised of approximately 5 acres of vacant land located at the northeast corner of Avenue R and 30th Street East in Palmdale, California. General property information and property use are summarized in the following Table I. Refer to Figures No. 1 – 4 following the Reference Section.

TABLE I
Subject Site Information Summary

Current Owner:	Highridge Costa Housing Partners, LLC
Assessor's Parcel Number:	3020-005-031
Address:	None Identified
Historical Addresses:	None Identified
General Location:	Northeast corner of Avenue R and 30th Street East
Acreage:	Approximately 5.04 acres
No. of Buildings	None
Existing Use:	None
Original Construction Date:	None
Proposed Use:	Residential
Topographic Map:	U.S. Geological Survey, 7.5 minute Palmdale, California topographic quadrangle map dated 2012
Topographic Map Location	A portion of Section 29, Township 06 North, Range 12 West, San Bernardino Baseline and Meridian
Latitude/Longitude:	34.5735 / -118.0749
Topography:	Relatively flat, with a drainage channel that traverses southwest/northeast through the subject site. Elevations range from approximately 2,625 across the majority of the site to 2,620 within the channel.
Approximate Depth to Groundwater:	Approximately 200 feet below ground surface (bgs), County of Los Angeles Department of Public Works (CLADPW).
Regional Groundwater Flow Direction:	Northerly, CLADPW

3.1 Geology and Hydrogeology

The Antelope Valley, which includes the Palmdale area, is within the southwestern portion of the Mojave Desert Geometamorphic Providence. Antelope Valley is bounded by the Tehachapi Mountains of the Sierra Nevada Providence to the northwest and the San Gabriel of the Transverse Ranges to the southwest. A major portion of the Mojave Desert Providence is underlain by Mesozoic granitic rocks. Quarternary alluvium covers a majority of the Antelope Valley floor. Both the Tehachapi and San Gabriel mountain ranges are geologically young mountain ranges and possess active and potentially active fault zones. Approximate depth to first groundwater in the area of the subject site occurs at an elevation of approximately 200 feet below existing grade. The general direction of groundwater flow is reported to be toward the north in the vicinity of the subject site.

4.0 SITE RECONNAISSANCE

A site reconnaissance, which included a visual observation of the subject site and surrounding properties, was conducted by Mr. William Cooper, Krazan's Environmental Assessor, on April 11, 2019. Krazan's Environmental Assessor was unaccompanied during the site reconnaissance. The objective of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental

conditions, including hazardous substances and petroleum products, in connection with the property (including soils, surface waters, and groundwater).

4.1 Observations

The following Table II summarizes conditions encountered during our site reconnaissance. A discussion of visual observations follows Table II. Refer to the Site Map (Figure No. 3) and color photographs following the text for the locations of items discussed in this section of the report.

TABLE II
Summary of Site Reconnaissance

Feature	Observed	Not Observed
Structures (existing)		X
Evidence of Past Uses (foundations, debris)		X
Hazardous Substances and/or Petroleum Products		X
Aboveground Storage Tanks (ASTs)		X
Underground Storage Tanks (USTs) or Evidence of USTs		X
Evidence of Underground Pipelines		X
Strong, Pungent, or Noxious Odors		X
Pools of Liquid Likely to be Hazardous Materials or Petroleum Products		X
Drums		X
Unidentified Substance Containers		X
Potential Polychlorinated Biphenyl (PCB)-Containing Equipment		X
Subsurface Hydraulic Equipment		X
Elevators with Hydraulic Equipment		X
Heating/Ventilation/Air conditioning (HVAC)		X
Stains or Corrosion on Floors, Walls, or Ceilings		X
Floor Drains and Sumps		X
Wash Racks and Oil/Water Clarifiers		X
Storm Drains		X
Pits, Ponds, or Lagoons		X
Stained Soil and/or Pavement		X
Soil Piles		X
Stressed Vegetation		X
Railroad tracks/spurs		X
Waste or Wastewater discharges to Surface		X
Stormwater Basins		X
Creeks/Drainage Channels	X	
Wells (irrigation, domestic, dry, oil wells, monitoring wells)		X
Septic Systems		X

The subject site is comprised of approximately 5 acres and is located at the northeast corner of Avenue R and 30th Street East. Refer to Figure No. 3 for locations of the following referenced on-site features:

- The subject site was observed to be vacant undeveloped land sparsely covered with native shrubs, grasses and weeds within the areas not occupied by an unlined drainage channel that traverses southwest/northeast through the central area of the subject site. The drainage channel is densely covered with scrubs and trees and was observed to contain flowing water. Windblown papers and plastics and other household refuse were observed to have accumulated within the area occupied

by the drainage channel. No hazardous materials or wastes were observed in association with this refuse.

- Minor dumping of refuse construction materials (portion of a block wall and concrete rubble) was observed along the eastern side of the subject site. Also, some household refuse dumping of refuse furniture was observed along the eastern side of the subject site. No hazardous materials or wastes were observed in association with these refuse materials.

- During the visual observations of the subject site, no hazardous materials/wastes were observed. Exposed surface soils did not exhibit obvious signs of discoloration. No obvious evidence (vent pipes, fill pipes, dispensers, etc.) of UST's was noted within the areas observed. No indication of former structures, such as foundations, was observed on the subject site.

4.2 Utilities

Based on Krazan's research, no utilities have historically been provided to the subject site and none are currently present. The following Table III summarizes companies/municipalities that provide utilities to the area of the subject site:

TABLE III
Municipal Service / Utility Providers

Service / Utility	Provider	Connection Date
Electricity	Southern California Edison	None
Natural Gas	The Gas Company	None
Potable Water	Antelope Valley-East Kern Water Agency	None
Sanitary Sewer	City of Palmdale	None
Solid Waste Removal	Not Identified	None

Water Wells/Potable Water Source

No water wells or potable water sources were identified on or in association with the subject site. The water purveyor for the subject site area is the Palmdale Water District (PWD). It is the responsibility of PWD to provide customers with potable water in compliance with the California State Maximum Contaminant Levels (MCLs) for primary drinking water constituents in water supplied to the public. According to the PWD Consumer Confidence Report, dated 2017, posted on the PWD website (www.palmdalewater.org), water provided by the City of Palmdale is in compliance with the California State Maximum Contaminant Levels (MCLs) for primary drinking water.

Sewer and Septic Systems

No sewer or septic systems were identified on or in association with the subject site. The municipal sewer service provider for the area of the subject site is the City of Palmdale Department of Public Works (CPDPW). The CPDPW should be contacted for information regarding sewer services in association with any future planned development at the subject site.

4.3 Adjacent Streets and Property Usage

The following Table IV summarizes the current adjacent roads and adjacent property uses observed during the site reconnaissance.

TABLE IV
Adjacent Streets and Property Use

Direction	Adjacent Street	Adjacent Property Use (Address)
North	None	Church and Undeveloped Land
South	E. Avenue R	Residential
East	None	Residential
West	30th Street E.	Residential and Commercial

Based on the observed uses of the properties located immediately adjacent to the subject site, it is unlikely that significant quantities of hazardous materials are currently stored at the adjacent properties.

4.4 ASTM Non-Scope Considerations

According to ASTM E 1527-13, there may be environmental issues or conditions at the subject site that are outside the scope of the Phase I ESA practice (non-scope considerations). Some substances may be present at the subject site in quantities and under conditions that may lead to contamination of the subject site or of nearby properties but are not included in CERCLA's definition of hazardous substances (42 U.S.C. §9601[14]). ASTM non-scope considerations are discussed below.

Asbestos-Containing Materials

Asbestos is a group of naturally occurring mineral fibers that have been used commonly in a variety of building construction materials for insulation and as a fire-retardant. Because of its fiber strength and heat resistant properties, asbestos has been used for a wide range of manufactured goods, mostly in building materials, vehicle brakes, and heat-resistant fabrics, packaging, gaskets, and coatings. When asbestos-containing materials (ACMs) are damaged or disturbed by repair, remodeling, or demolition activities, microscopic asbestos fibers may become airborne and can be inhaled into the lungs, where they can cause significant health problems. No structures are located on the subject site. Therefore, asbestos-containing materials (ACMs) are not considered an on-site environmental concern at this time.

Lead-Based Paint

Although lead-based paint (LBP) was banned in 1978, many building constructed prior to 1978 have paint that contains lead. Lead from paint, chips, and dust can pose serious health hazards if not addressed properly. No structures are located on the subject site. Therefore, lead-based paint (LBP) is not considered an on-site environmental concern at this time.

Mold and Moisture Intrusion

A class of fungi, molds have been found to cause a variety of health problems in humans, including allergic, toxicological, and infectious responses. No structures are currently located on the subject site. Therefore, microbial growth and moisture intrusion are not considered an on-site environmental concern for the subject site.

Radon

Radon is a radioactive gas that is found in certain geologic environments and is formed by the natural breakdown of radium, which is found in the earth's crust. A radon survey was not included within the scope of this investigation; however, the State of California Department of Health Services (CDHS) maintains a statewide database of radon results in designated geographic areas. Radon detection devices are placed in homes throughout the study region to determine geographic regions with elevated radon concentrations. The U.S. EPA has set the safety standard for radon gas in homes to be 4.0 pico Curies per liter (pCi/L).

The US EPA has prepared a map to assist National, State and local organizations to target their resources and to implement radon-resistant building codes. The map divides the country into three Radon Zones: Zone 1, being those areas with the average predicted indoor radon concentration in residential dwellings exceeds the EPA Action Limit of 4.0 pCi/L; Zone 2, where average predicted radon levels are between 2.0 and 4.0 pCi/L; and Zone 3 where average predicted radon levels are below 2.0 pCi/L. It is important to note that the EPA has found homes with elevated levels of radon in all three zones, and the EPA recommends site-specific testing in order to determine radon levels at a specific location. However, the map does give a valuable indication of the propensity of radon gas accumulation in structures. Review of the EPA Map of Radon Zones places the Property in Zone 2, where average predicted radon levels are between 2.0 and 4.0 pCi/L. Therefore, the available data suggests that the potential for radon to adversely impact the subject site appears to be low.

Environmental Non-Compliance Issue

No material non-compliance issue was identified in connection with the subject site in the process of preparing this report.

Activity and Use Limitations

No activity and use limitations were identified in connection with the subject site in the process of preparing this report.

Wetlands

As defined by the U.S. EPA and the Department of Army, Corps of Engineers, wetlands are "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." Jurisdictional wetlands are regulated under Section 404 of the Clean Water Act (1972, 1977, and 1987, and also the 1985 and 1990 Farm Bills), and are important for protection of aquatic waterfowl and species, water purification, and flood control. According to current Corps of Engineers information, three basic criteria are currently used to define wetlands:

- Wetland hydrology - areas exhibiting surface or near-surface saturation or inundation at some point in time (greater than 12.5 percent of growing season defined on basis of frost-free days) during an average rainfall year.

- Hydrophilic vegetation - frequency of occurrence of wetland indicator plants (plant life growing in water, soil, or substrate that is periodically deficient in oxygen as a result of excessive water content).

- Hydric soil - landscape patterns identified by saturation, flooding, or ponding long enough during the growing season (generally seven days) which develop characteristic color changes in the upper part of the soil as a result of anaerobic conditions.

Based on Krazan's April 11, 2019 reconnaissance of the subject site, a drainage channel occupies a portion of the subject site. According to the U. S. Fish & Wildlife Service (USFWS) National Wetlands Inventory available via the USFWS Internet website, the subject includes a wetland defined as a Riverine (R): The Riverine System includes all wetlands and deepwater habitats contained within a channel. A channel is an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water.

The property owner Highridge Costa Housing Partners, LLC, provided Krazan with a *Biological Assessment and Jurisdictional Delineation Assessment* report for the subject site that was prepared for others by Pacific Southwest Biological Services, Inc. (PSBS) in April 2006. Please refer to Appendix A for a copy of the Pacific Southwest Biological Services, Inc. and the Biological Assessment and Jurisdictional Delineation Assessment reports. In summary, the assessment was performed to identify biological resources and sensitive species that were present at that time and would be impacted by development or preserved by conservation of portions of the site as biological open space, and to delineate the extent of jurisdictional drainage involved with development of the site.

The survey identified four vegetation/habitat types: Disturbed Habitat, non-native Grassland, Rabbit brush Scrub, and Southern Willow Scrub. The property includes a jurisdictional state-defined streambed

that would be impacted by the project; a streambed alteration agreement should be obtained from the California Department of Fish and Game. No endemic or other special-status species were detected on the property during the survey.

Based on the date of the report (April 2006), it may be prudent to ascertain whether or not an updated biological assessment and jurisdictional delineation should be conducted for the subject site.

Flood Zones

A review of the National Flood Insurance Program, Flood Insurance Rate Maps, published by the Federal Emergency Management Agency (FEMA) was conducted. According to FEMA, the subject site was determined to be within Zone X which includes properties within the 500-year floodplain.

5.0 USER-PROVIDED INFORMATION

A review of user-provided information was conducted in order to help identify pertinent information regarding potential environmental impacts associated with the subject site.

5.1 Environmental Liens/Activity and Use Limitations Report

On April 15, 2019 an Environmental Lien/Activity and Use Limitations (EL/AUL) Report was prepared by AFX Corp. Inc. (AFX), for the subject site. The AFX EL/AUL Report provides results from a search of available land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls. The subject site EL/AUL Report was reviewed to identify potential environmental liens, institutional controls (ICs), land use controls (LUCs), activity and use limitations (AULs), or declaration of environmental use restrictions (DEULs) which may have been filed against the subject site or exist in connection with the subject site as indicated by the subject site EL/AUL Report. Krazan's review of the EL/AUL Report indicated no liens, judgments, ICs, LUCs, AULs, or DEULs were found for the subject site according to the scope of work and limitations. Please refer to Appendix B for a copy of the AFX EL/AUL report.

5.2 Title Report

On March 30, 2019, a Preliminary Title Report (PTR) dated March 1, 2019, prepared for the subject site by Fidelity National Title Company, was provided to Krazan by Highridge Costa Housing Partners, LLC, Krazan's the Phase I ESA user. The subject site PTR was reviewed to identify potential deed restrictions, environmental liens or activity and use limitations (AULs) which may have occurred on or exist in

connection with the subject site. Krazan's review of the PTR indicated no deed restrictions, environmental liens or AULs for the subject site. However, as quoted from the subject site PTR, "It is important to note that this Preliminary Title Report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land." Please refer to Appendix C for a copy of the Preliminary Title Report.

5.3 Phase I Environmental Site Assessment User Questionnaire

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *user* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user is asked to provide information or knowledge of the following:

1. Environmental cleanup liens that are filed or recorded against the site.
2. Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry.
3. Specialized knowledge or experience of the person seeking to qualify for the LLPs.
4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
5. Commonly known or *reasonably ascertainable* information about the *property*.
6. The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.
7. The reason for preparation of this Phase I ESA.

On April 4, 2019, a completed Phase I ESA owner/user questionnaire was received from Mr. Pete Harispuru, a representative Highridge Costa Development Company, the Phase I ESA user. Please refer to Appendix D for a copy of the completed Phase I ESA user questionnaire.

According to the questionnaire responses, Mr. Harispuru, to the best of his knowledge as the user of this Phase I ESA, was not aware of any environmental cleanup liens and activity or land use limitations which have been filed or recorded against the subject site; and Mr. Harispuru has no specialized knowledge or experience of the prior nature of the business or chemical utilization on the subject site. Mr. Harispuru indicated that he is not aware of the historical uses of the subject site. Mr. Harispuru indicated that he is not aware of the past or current presence of specific chemicals or hazardous materials, unauthorized spills or chemical releases or of any environmental cleanups in connection with the subject site. Mr. Harispuru

indicated that the purchase price of the subject site reasonably reflects fair market value and that the reason for preparation of this Phase I ESA is related to development of affordable housing.

6.0 SITE USAGE SURVEY

The property usage survey included assessing property history, and reviewing local, state, and federal regulatory agency records.

6.1 Site History

A review of historical aerial photographs, review of City of Palmdale Building and Safety Department (CPBSD) records, review of reasonably ascertainable Haines Criss-Cross Directories (HCCDs), available Sanborn Fire Insurance Maps (SFIMs), and an owner interview were utilized to assess the history of the subject site.

Previous Environmental Assessments

A Previous environmental assessment was not provided for review to Krazan from the user of this Phase I ESA.

Aerial Photograph and Topographic Map Interpretation

Historical aerial photographs (APs) dated 1940, 1953, 1968, 1972, 1983, 1989, 1994, 2005, 2009, and 2016 were reviewed to assess the history of the subject site. These photographs were obtained from EDR. The aerial photograph summary is provided below in the following Table V. Please refer to Appendix E for a copy of the Historical Aerial Photographs.

TABLE V
Summary of Aerial Photographs

Year/Scale	Site Use	Site and Adjacent Property Observation
AP 1940 1" = 500’	Undeveloped	The subject site and adjacent properties are undeveloped land. No structures are visible on the subject site; a stream channel is present and traverses southwest/northeast across the western part of the subject site. Dirt roads, including future Avenue R and 30th Street East are present adjacent to the south and west, respectively.
AP 1953 1" = 500’	Undeveloped	Conditions on the subject site and adjacent properties appear relatively similar to those noted in the 1940 aerial photograph.
AP 1968 1" = 500’	Undeveloped	Conditions on the subject site and adjacent properties appear relatively similar to those noted in the 1953 aerial photograph.

TABLE V (continued)
Summary of Aerial Photographs

Year/Scale	Site Use	Site and Adjacent Property Observation
AP 1972 1" = 500’	Undeveloped	Conditions on the subject site appear relatively similar to those noted in the 1968 aerial photograph except trails are present within the eastern part. Improved Avenue R and 30th Street East are present adjacent to the south and west, respectively. Residentially developed properties are present to the east and west of the subject site; the northern-adjacent property is vacant; and a commercial property is located at the northwest corner of Avenue R and 30th Street East.
AP 1983 1" = 500’	Undeveloped	Conditions on the subject site and adjacent properties appear relatively similar to those noted in the 1972 aerial photograph except the western portion of the northern-adjacent property is developed with a church.
AP 1989 1" = 500'	Undeveloped	Conditions on the subject site and adjacent properties appear relatively similar to those noted in the 1983 aerial photograph.
AP 1994 1" = 500’	Undeveloped	Conditions on the subject site and adjacent properties appear relatively similar to those noted in the 1989 aerial photograph except the southern-adjacent property is residentially developed.
AP 2005 1" = 500’	Undeveloped	Conditions on the subject site and adjacent properties appear relatively similar to those noted in the 1994 aerial photograph.
AP 2009 1" = 500’	Undeveloped	Conditions on the subject site and adjacent properties appear relatively similar to those noted in the 2005 aerial photograph.
AP 2016 1" = 500'	Undeveloped	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 2009 aerial photograph.

USGS Topographic Quadrangle Map

Krazan’s review of the USGS, 7.5 minute, Palmdale, California topographic quadrangle map dated 1978, indicates that the subject site is undeveloped land (Refer to Figure No. 4, Topographic Map, for reference).

City of Palmdale Building Department Records

On April 10, 2019 Krazan contacted the City of Palmdale Building and Safety Department (CPBSD) for information regarding the subject site APN of 3020-005-031. According to representatives with the CPBSD, no building permits, demolition permits, or other pertinent information was found on file with CPBSD for the subject site.

City Directories

City directories were not searched due to the historical and current absence of structures and addresses associated with the subject site.

Historical Fire Insurance Maps

Krazan reviews HFIMs to evaluate prior land use of the subject site and the adjacent properties. HFIMs typically exist for cities with populations of 2,000 or more, the coverage dependent on the location of the subject site within the city limits. EDR's search of HFIMs revealed no coverage for the subject site and the adjacent properties. Please refer to Appendix F for a copy of the EDR HFIM *No Maps Available* report.

6.2 Interviews and Questionnaires

Interviews and questionnaires are designed to provide pertinent information regarding potential environmental impacts associated with the subject site.

Subject Site Owner– On April 4, 2019, a completed Phase I ESA owner/user questionnaire was received from Mr. Pete Harispuru, a representative Highridge Costa Development Company, the Phase I ESA user and owner of the subject site. The responses to the questionnaire were discussed in Section 5.3. In summary, Mr. Harispuru is not aware of any environmental issues in association with the subject site. Please refer to Appendix D for a copy of the completed Phase I ESA owner questionnaire.

6.3 Agricultural Chemicals

Review of historical aerial photographs indicates the subject site was not utilized for agricultural purposes from at least 1940 to the present. Consequently, the use, storage, and application of agricultural chemicals at the subject site are not considered an environmental concern.

6.4 Regulatory Agency Interface

A review of regulatory agency records was conducted to help determine if hazardous materials have been handled, stored, or generated on the subject site and/or the adjacent properties and businesses. Regulatory records are reviewed based on the following criteria: 1) properties with known soils and/or groundwater releases considered to represent the potential for impact to the subject site that are located within 1,760 feet of the subject site for constituents of concern impacts or 528 feet of the subject site for petroleum hydrocarbon impacts; 2) properties that are adjacent or in proximity to the subject site included within the EDR regulatory database report or noted during the site reconnaissance to possibly handle, store, or generate hazardous materials. Applicable property records are discussed below.

State of California Regional Water Quality Control Board - Geotracker

Krazan's April 8, 2019 review of the State of California Regional Water Quality Control Board (RWQCB) Geotracker database available via the RWQCB Internet Website indicated that no LUST sites,

land disposal sites, or military sites are listed for the subject site. However, one LUST site was identified adjacent to the subject site and is discussed below:

7-11 Store #15127 — 180 feet west
2873 East Avenue R
Palmdale, California

This facility is was the focus of an investigation by the RWQCB as the lead regulatory agency. During 1992, this facility was identified as a facility with a leaking underground storage tank (LUST). During tank removal, soil only was determined to be impacted with gasoline fuel as a result of a leaking UST. Upon completion of remedial activities, which included removal of the source of the leak (the UST), excavation and disposal of impacted soil, and soil vapor extraction, this facility was granted closure by the RWQCB on December 30, 1997 with no further actions required. Based on the impacts to soil only, the successful remediation of impacts to soil, and closure of the investigation by the RWQCB, this facility is not anticipated to represent an environmental concern in conjunction with the subject site.

State of California Department of Toxic Substances Control - Envirostor

Krazan's April 8, 2019 review of the State of California Department of Toxic Substances Control (DTSC) Envirostor database available via the DTSC's Internet Website indicated that no State response sites, voluntary cleanup sites, school cleanup sites, or military or school evaluation sites are listed for the subject site, the adjacent properties, or properties located within 500 feet of the subject site. Additionally, no Federal Superfund – National Priorities List (NPL) sites were determined to be located within a one-mile radius of the subject site.

County of Los Angeles Public Works Department –Environmental Programs Division

The County of Los Angeles Public Works Department- Environmental Programs Division (EPD) is the lead regulatory agency or Certified Unified Program Agency (CUPA) for environmental releases, investigations and hazardous materials in Palmdale, California. Krazan's April 8, 2019 review of the EPD CUPA list indicated that no records are on file with the EPD for the subject site. EPD records do list the 7-11 Store (discussed under RWQCB above) as a closed investigation.

Los Angeles County Fire Department

The Los Angeles County Fire Department (LACFD) has jurisdiction for fire protection for the subject site and the immediate vicinity. On Krazan's April 8, 2019, Krazan contacted the LACFD for information regarding hazardous material records for the subject site. According to a representative with LACFD, hazardous material records including releases and investigations for the City of Palmdale are maintained by the County of Los Angeles Public Works Department- Environmental Programs Division (EPD). Therefore, no records are on file with LACFD regarding hazardous material handling for the subject site.

California Department of Conservation, Division of Oil, Gas and Geothermal Resources - DOMS

Krazan's April 8, 2019 review of the State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) Online Mapping System (DOMS) indicated that there are no oil wells located on or adjacent to the subject site.

Local Area Tribal Records

No Indian reservations, USTs on Indian land, or LUSTs on Indian land were reported on the subject site, adjacent properties, or vicinity properties in the EDR-provided database report.

6.5 Regulatory Agency Lists Review

Several agencies have published documents that list businesses or properties which have handled hazardous materials or waste or may have experienced site contamination. The lists consulted in the course of our assessment were compiled by EDR and Krazan and represent reasonably ascertainable current listings. Krazan did not verify the locations and distances of every property listed by EDR. Krazan verified the location and distances of the properties Krazan deemed as having the potential to adversely impact the subject site. The actual location of the listed properties may differ from the EDR listing. Refer to the following Table VI for a summary of the listed properties located within the specified ASTM Search Radii. The actual distances of the listed properties (which are summarized in the table below) are based on observations during Krazan's site reconnaissance. No EDR-listed unmapped (non geocoded) sites were determined to be located on or adjacent to the subject site. Please refer to Appendix F for a copy of the EDR Radius Map report.

TABLE VI
Summary of Findings

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	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
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		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	1	NR	2
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		0	1	2	NR	NR	3

TABLE VI (continued)
Summary of Findings

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
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN 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		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	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
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
AOCONCERN	1.000		0	0	0	0	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		1	0	NR	NR	NR	1
HIST UST	0.250		1	0	NR	NR	NR	1
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

TABLE VI (continued)
Summary of Findings

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
LIENS 2	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		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
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
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

TABLE VI (continued)
Summary of Findings

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
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		1	0	2	NR	NR	3
LOS ANGELES CO. HMS	TP		NR	NR	NR	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
LA Co. Site Mitigation	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	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 Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	3	1	5	1	0	10

The subject site location was not listed in the EDR regulatory database report. The following vicinity property is listed by EDR and is discussed below:

7-11 Store #15127 — 180 feet west
2873 East Avenue R
Palmdale, California

This facility is listed by EDR as a leaking underground storage tank (LUST) site that was the focus of an investigation by the RWQCB as the lead regulatory agency. EDR lists the media impacted as soil only for gasoline fuel. This facility was discussed in detail in Section 6.4. This facility was granted closure by the RWQCB on December 30, 1997 with no further actions required. Based on the impacts to soil only, the successful remediation of impacts to soil, and closure of the investigation by the RWQCB, this facility is not anticipated to represent an environmental concern in conjunction with the subject site.

Hazardous Materials Migration in Soils and/or Groundwater

The remaining properties within the specified search radius of the subject site which appeared on local, state, or federally published lists of sites that use or have had releases of hazardous materials or petroleum products are of sufficient distance and/or situated hydraulically cross- or downgradient from the subject site such that impact to the subject site via groundwater migration is unlikely. In general, potentially hazardous materials or petroleum products released from facilities located approximately hydraulically upgradient within the subject site vicinity, or in a hydraulically cross-gradient direction in proximity to the site, may have a reasonable potential of migrating to the subject site via groundwater flow. This opinion is based on the assumption that non-vaporous hazardous materials generally do not migrate large distances laterally within the soil, but rather tend to migrate with groundwater in the general direction of groundwater flow. Based on Krazan's review of regulatory records, one site was reported within the vicinity of the subject site with a release of hazardous materials to the subsurface. This facility, identified as the 7-11 Store at 2873 Avenue R, is located at the northwest corner of Avenue R and 30th Street East (across 30th Street East from the subject site). This facility was discussed in detail in Section 6.4. In summary, upon completion of remedial activities, which included removal of the source of the leak (the UST), excavation and disposal of impacted soil, and soil vapor extraction, this facility was granted closure by the RWQCB on December 30, 1997 with no further actions required. Based on the successful remediation and lack of impact to groundwater at this vicinity property, the 7-11 Store at 2873 Avenue R does not appear to pose a significant environmental threat to the subject site. Additionally, no other facilities with reported releases to the subsurface were identified that have a reasonable potential of impacting the subject site.

No engineering control sites, sites with institutional controls, or sites with deed restrictions were listed for the subject site, adjacent sites or vicinity properties in the EDR database report.

Hazardous Materials Migration in Vapor

Hazardous materials or petroleum product vapors which may have the potential to migrate into the subsurface of the subject site may be caused by the release of vapors from contaminated soil or groundwater either on or in the vicinity of the subject site from current or historical uses of the subject site and/or adjacent or vicinity properties. Current or past land uses such as gasoline stations (using petroleum hydrocarbons), dry cleaning establishments (using chlorinated volatile organic compounds), former manufactured gas plant sites (using volatile and semi-volatile organic compounds), and former industrial sites such as those that had vapor degreasing or other parts-cleaning operations (using chlorinated volatile organic compounds) are of particular concern. Constituent of concern vapors are capable of migrating great distances omni-directionally along subsurface conduits such as pipelines, utility lines, sewer and stormwater lines, and building foundations.

Based on Krazan's observations and review of the EDR regulatory database report, no listings of concern were determined to be associated with the subject site. A vicinity property, 7-11 Store at 2873 Avenue R, was identified as a facility that experienced a release to the subsurface. This facility was discussed in detail in Section 6.4. Based on the successful remediation of soil vapor at this facility and the closure granted by the RWQCB, this facility does not appear to pose a concern for vapor intrusion to the subject site. No other properties were identified in the vicinity of the subject site that have a reasonable potential to impact the subject site via vapor intrusion. However, the screening process for vapor migration in connection with the subject site is described in the ASTM E 2600-10 *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions,* an industry consensus methodology to assess vapor migration which is not included in the scope of work of this Phase I ESA.

7.0 DISCUSSION OF FINDINGS

Historical Uses

Based on Krazan's review of historical aerial photographs and topographic maps, a site reconnaissance, and contacts with the local regulatory agencies and the subject site owner/occupant, there is no evidence that RECs, CRECs or HRECs exist in connection with the historical uses of the subject site.

Current Uses

Based on Krazan's site reconnaissance, contacts with local regulatory agencies, and an interview with a representative of the owner of the subject site, there is no evidence that RECs exist in connection with the current uses of the subject site.

Adjacent or Vicinity Property Uses

Based on Krazan's field observations, review of the EDR database report, and review of local regulatory agency records, there is no evidence that RECs exist in connection with the subject site from adjacent property uses.

7.1 Evaluation of Data Gaps/Data Failure

In accordance with ASTM E 1527-13 guidance, data gaps represent a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice. Data failure represents the failure to achieve the historical research objectives of this practice even after reviewing the standard historical sources that are available and likely to be useful. Data failure is one type of data gap. No data gaps were encountered in the process of preparing this assessment.

8.0 CONCLUSIONS/OPINIONS

We have conducted a Phase I ESA of the subject site in conformance with the scope and limitations of the ASTM E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* guidance documents. Any deviations from this practice were previously described in this report. During the course of this assessment, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E 1527-13.

9.0 RELIANCE

This report was prepared solely for use by the Client and should not be provided to any other person or entity without Krazan & Associates' prior written consent. No party other than Client may rely on this report without Krazan & Associates' express prior written consent. Reliance rights for third parties will only be in effect once requested by Client and authorized by Krazan & Associates with authorization granted by way of a Reliance Letter. The Reliance Letter will require that the relying party(ies) agree to be bound to the terms and conditions of the agreement between Client and Krazan & Associates as if originally issued to the relying party(ies), or as so stipulated in the Reliance Letter.

10.0 LIMITATIONS

The site reconnaissance and research of the subject site has been limited in scope. This type of assessment is undertaken with the calculated risk that the presence, full nature, and extent of contamination would not be revealed by visual observation alone. Although a thorough site reconnaissance was conducted in accordance with ASTM E 1527-13 and employing a professional standard of care, no warranty is given, either expressed or implied, that hazardous material contamination or buried structures, which would not have been disclosed through this investigation, do not exist at the subject site. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

The findings presented in this report were based upon field observations during a single property visit, review of available data, and discussions with local regulatory and advisory agencies. Observations describe only the conditions present at the time of this investigation. The data reviewed and observations made are limited to accessible areas and currently available records searched. Krazan cannot guarantee the completeness or accuracy of the regulatory agency records reviewed. Additionally, in evaluating the property, Krazan has relied in good faith upon representations and information provided by individuals noted in the report with respect to present operations and existing property conditions, and the historic uses of the property. It must also be understood that changing circumstances in the property usage, proposed property usage, subject site zoning, and changes in the environmental status of the other nearby properties can alter the validity of conclusions and information contained in this report. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used. This report is provided for the exclusive use of the client noted on the cover page and shall be subject to the terms and conditions in the applicable contract between the client and Krazan. Any third party use of this report, including use by Client's lender, shall also be subject to the terms and conditions governing the work in the contract between the client and Krazan. The unauthorized use of, reliance on, or release of the information contained in this report without the express written consent of Krazan is strictly prohibited and will be without risk or liability to Krazan.

Conclusions and recommendations contained in this report are based on the evaluation of information made available during the course of this assessment. It is not warranted that such data cannot be superseded by future environmental, legal, geotechnical or technical developments. Consequently, given the possibility for unanticipated hazardous conditions to exist on a subject site which may not have been discovered, this Phase I ESA is not intended as the basis for a buyer or developer of real property to

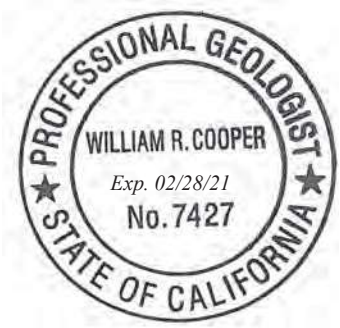
waive their rights of recovery based upon environmental unknowns. Parties that choose to waive rights of recovery prior to site development do so at their own risk.

Parties who seek to rely upon Phase I Environmental Site Assessment reports dated more than 180 days prior to the date of reliance do so at their own risk. This limitation in reliance is based on the potential for physical changes at the site, changes in circumstances, technological and professional advances, and guidance related to the continued viability of Environmental Site Assessment reports, user's responsibilities, and requirements for updating of components of the inquiry.

11.0 QUALIFICATIONS

This Phase I ESA was conducted under the supervision or responsible charge of Krazan's undersigned environmental professional. The work was conducted in accordance with ASTM E 1527-13 *Standard Practice for a Phase I Environmental Site Assessment,* and generally accepted industry standards for environmental due diligence in place at the time of the preparation of this report, and Krazan's quality-control policies. We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 40 CFR 312.10. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property.

If you have any questions or if we can be of further assistance, please do not hesitate to contact our office at (661) 837-9200.



Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

William R. Cooper, P.G. No 74
Environmental Professional

Arthur C. Farkas, REA
Environmental Division Manger

WRC/ACF/mlt

REFERENCES

Aerial photographs and topographic maps obtained from EDR.

American Society for Testing and Materials (ASTM), *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment (ESA) Process*, ASTM Designation: E 1527-13.

ASTM, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions,* ASTM Designation E 2600-10.

California Department of Conservation, Department of Oil and Gas (DOGGR), Online Mapping System (DOMS).

City of Palmdale Building Department

Los Angeles County Fire Department

EDR, Historical Fire Insurance Map *No Maps Available* Report and EDR, Regulatory Database Report.

Environmental Data Resources, Inc. (EDR) Certified Sanborn Fire Insurance Map (SFIM) *Unmapped Property* Report.

Los Angeles County Public Works Department – Environmental Programs Division

State of California Department of Toxic Substances Control, Envirostor Website: http://www.envirostor.dtsc.ca.gov/public

State of California Regional Water Quality Control Board, Geotracker Website: http://geotracker.swrcb.ca.gov

U.S. Environmental Protection Agency (EPA)

U.S. Fish & Wildlife Service National Wetland Inventory *Wetlands Mapper:* http://www.fws.gov/wetlands/Data/Mapper.html

U.S. Geological Survey, 7.5 minute Palmdale, California topographic quadrangle map, dated 2012.

GLOSSARY OF TERMS

Subject Site: The real property being investigated under this Phase I ESA.

Adjacent Properties: Properties which are contiguous with the subject site, or would be contiguous except for a street, road, or other public thoroughfare.

Subject Site Vicinity: Properties located within a 500-foot radius of the subject site.

Environmental Professional: A person meeting the education, training, and experience requirements as set forth in 40 CFR §312.10(b). The EP may be an independent contractor or an employee of the user.

User: The party seeking to use Practice E 1527 to complete an environmental site assessment of the subject site. A user may include, without limitation, a potential purchaser of the subject site, a potential tenant of the subject site, an owner of the subject site, a lender, or a property manager.

Recognized Environmental Condition (REC): In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.

Controlled Recognized Environmental Condition (CREC): A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). For example, if a leaking underground storage tank has been cleaned up to a commercial use standard, but does not meet unrestricted residential cleanup criteria, this would be considered a CREC. The "control" is represented by the restriction that the property use remain commercial. A condition considered by the environmental professional to be a CREC shall be listed in the findings section of the Phase I ESA report and as an REC in the conclusions section. A condition identified as a CREC does not imply that the environmental professional has evaluated or confirmed the adequacy, implementation, or continued effectiveness of the required control that has been, or is intended to be, implemented.

Historical Recognized Environmental Condition (HREC): A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release an HREC, the environmental professional must determine whether the past release is an REC at the time the Phase I ESA is conducted (for example, if there has been change in the regulatory criteria). If the EP considers the past release to be an REC at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as an REC.

GLOSSARY OF TERMS (continued)

Potential Area of Concern (PAOC): A term adopted to provide an alternative designation to the REC and HREC for a range of environmental issues related to current subject site uses, historical subject site uses, or from adjacent and/or vicinity property uses. The PAOC is utilized to emphasize full disclosure and provide the User with conclusions and recommendations related to potential environmental issues in connection with the subject site based on Krazan's professional experience in cases where official documentation or other evidence may be absent in order to identify an REC or HREC, thereby aiding the User's considerations of environmental due diligence risk tolerance.

Migrate/migration: For the purposes of this practice, "migrate" and "migration" refer to the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface. Vapor migration in the subsurface is described in ASTM E 2600-10 guidance; however, nothing in the E 1527-13 practice should be construed to require application of the E 2600-10 standard to achieve compliance with AAI.

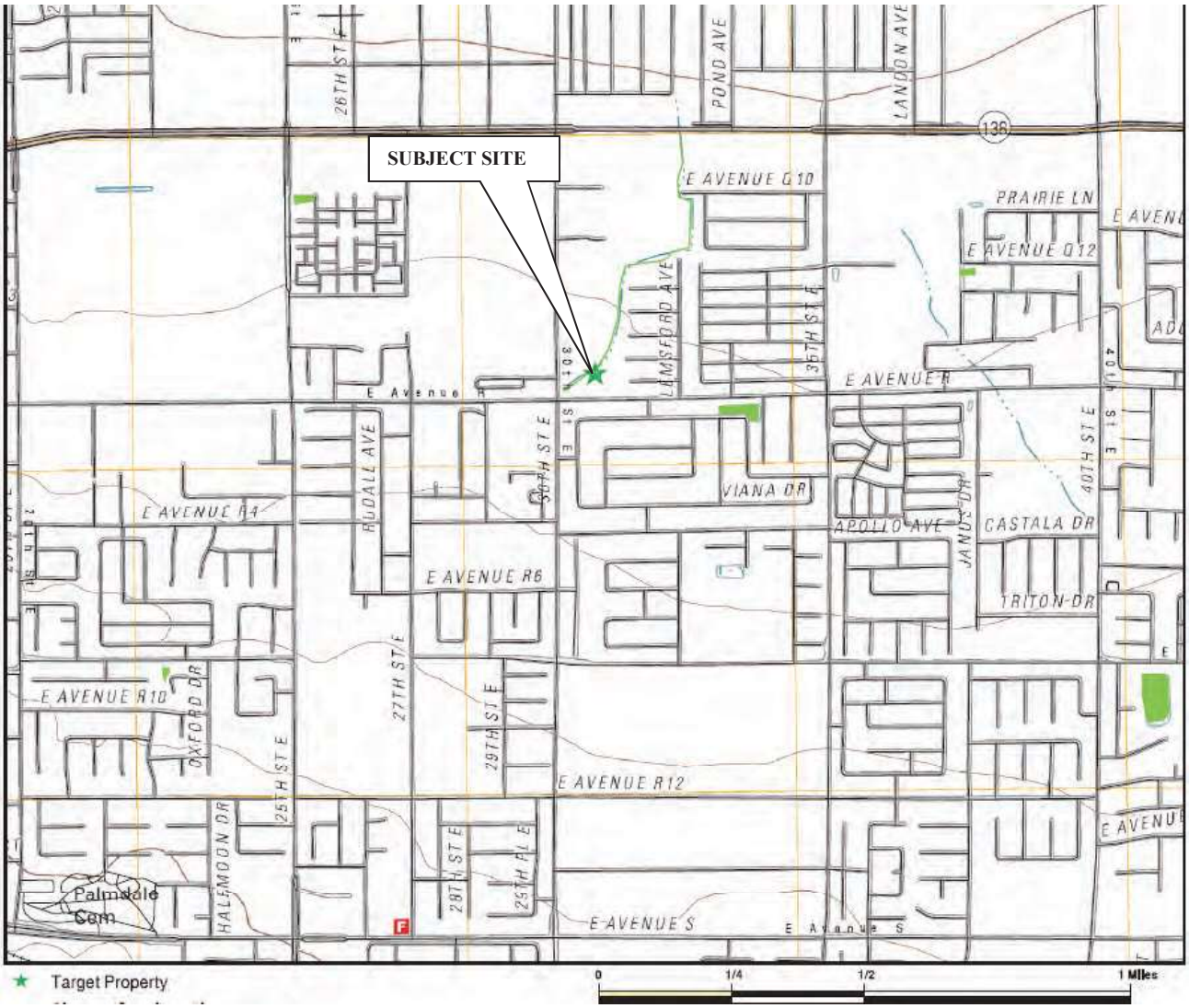
De minimis condition: A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Condition determined to be *de minimis conditions* are not RECS or CRECs.

Data Gap: A lack of or inability to obtain information required by this practice despite good faith efforts by the Environmental Professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to the site reconnaissance and interviews.

Data Failure: A failure to achieve the historical research objectives even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

GLOSSARY OF TERMS (continued)

AAI	All Appropriate Inquiries
AC	Asphalt Concrete
ACM	Asbestos-Containing Materials
AOC	Area of Concern
APN	Assessor's Parcel Number
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
AS	Air Sparging
AUL	Activity & Use Limitations
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
CMU	Concrete Masonry Unit
COCs	Constituents of Concern
DEULs	Declaration of Environmental Use Restrictions
DOGGR	Division of Oil, Gas & Geothermal Resources (CA)
DTSC	Department of Toxic Substances Control (CA)
EC	Engineering Control
EDR	Environmental Data Resources
EP	Environmental Professional
EPA	United States Environmental Protection Agency
ERP	Emergency Response Plan
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
FOIA	Freedom of Information Act
GPR	Ground Penetrating Radar
HCCD	Haines Criss-Cross Directory
HMBP	Hazardous Materials Business Plan
HREC	Historical Recognized Environmental Condition
HVAC	Heating, Ventilation, Air Conditioning
IC	Institutional Control
LBP	Lead-Based Paint
LLP	Landowner Liability Protection
LQG	Large Quantity Generator
LUC	Land Use Control
LUST	Leaking Underground Storage Tank
MCL	Maximum Contaminant Level
µg/L	Micrograms Per Liter
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
MSDS	Material Safety Data Sheet
MTBE	Methyl Tertiary Butyl Ether
MFR	Multi-Family Residential
ND	Nondetectable
NFA	No Further Action (letter)
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
O&M	Operations & Maintenance Plan
PAOC	Potential Area of Concern
PCB	Polychlorinated Biphenyl
PCC	Portland Cement Concrete
PCE	Perchloroethylene
PEC	Potential Environmental Concern (TS)
PGD	Polk Guide Directory
PG&E	Pacific Gas & Electric
PHCs	Petroleum Hydrocarbon Constituents
PID	Photoionization Detector
ppb	Parts Per Billion
ppm	Parts Per Million
PRG	Preliminary Remediation Goal
PRP	Potentially Responsible Party
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RP	Responsible Party
RWQCB	Regional Water Quality Control Board (CA)
SBA	Small Business Administration
SFIM	Historical Sanborn Fire Insurance Map
SFR	Single-Family Residential
SPCC	Spill Prevention Control and Countermeasure Plan
SQG	Small Quantity Generator
SCE	Southern California Edison
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compound
SWRCB	State Water Resources Control Board
TCE	Trichloroethylene
TPH	Total Petroleum Hydrocarbons
TPH-D	Total Petroleum Hydrocarbons as Diesel
TPH-G	Total Petroleum Hydrocarbons as Gasoline
TPH-MO	Total Petroleum Hydrocarbons as Motor Oil
TS	Transaction Screen
USGS	United States Geological Survey
USFWS	United States Fish & Wildlife Service
UST	Underground Storage Tank
VEC	Vapor Encroachment Condition
VES	Vapor Encroachment Screening
VOCs	Volatile Organic Compounds



VICINITY MAP	Scale: NTS	Date: April 2019	Krazan
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA	Drawn By: BC	Approved by: BC	SITE DEVELOPMENT ENGINEERS *Serving The Western United States*
	Project No. 024-19024	Figure No. 1	

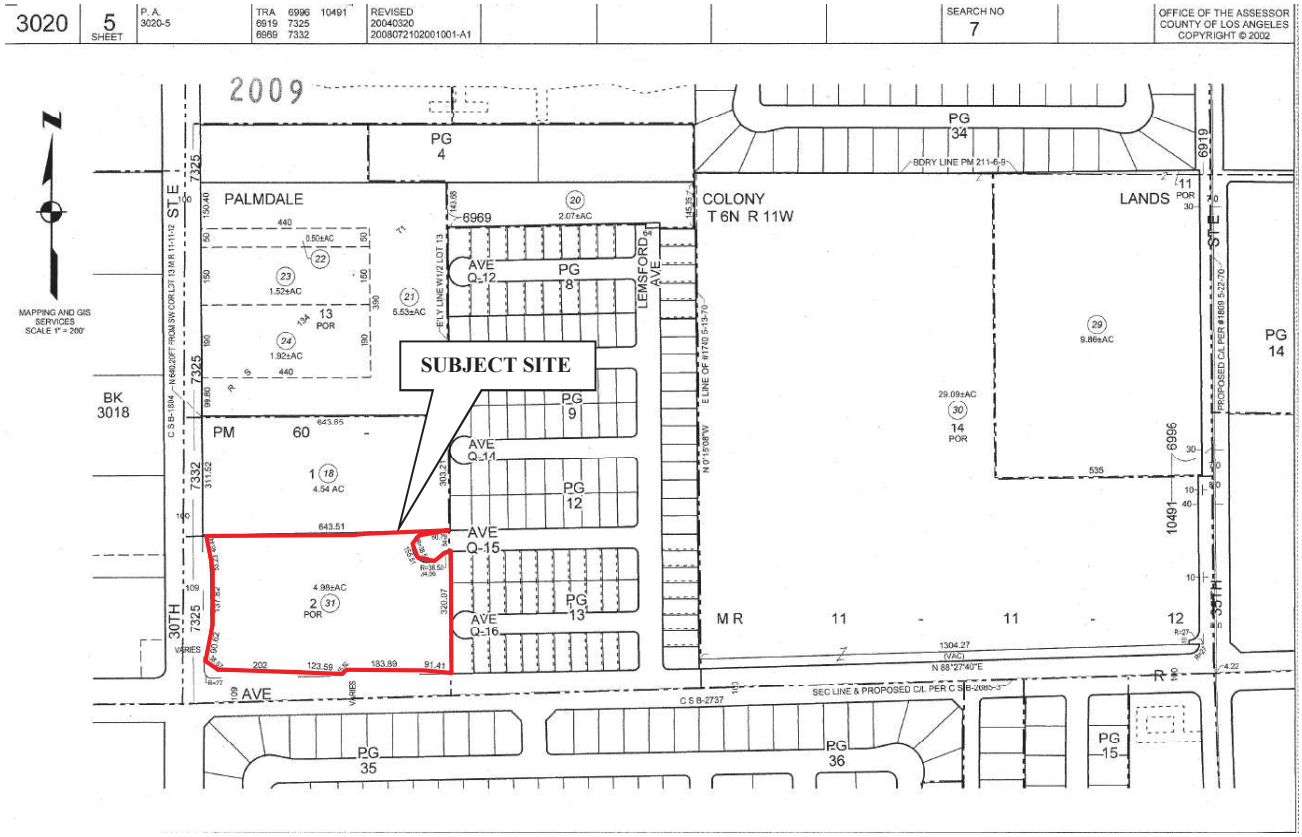
7.5-MINUTE SERIES
USGS TOPOGRAPHIC MAP
PALMDALE, CA.
DATED 1978

TOPOGRAPHIC MAP	Scale: NTS	Date: April 2019	Krazan
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA	Drawn By: BC	Approved by: BC	SITE DEVELOPMENT ENGINEERS *Serving The Western United States*
	Project No. 024-19024	Figure No. 2	

= Subject Site Boundary

= Approximate Trace of Drainage Channel

SITE MAP **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA**	**Scale:** NTS	**Date:** April 2019	Krazan **SITE DEVELOPMENT ENGINEERS** ***Serving The Western United States***
	Drawn By: BC	**Approved by:** BC	
	Project No. 024-19024	**Figure No.** 3	



ASSESSOR'S PARCEL MAP	Scale: NTS	Date: April 2019	Krazan
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA	Drawn By: BC	Approved by: BC	**SITE DEVELOPMENT ENGINEERS** *Serving the Western United States*
	Project No. 024-19024	Figure No. 4	

Photo 1: Southern-facing view from the northwest corner of the subject site. 30th Street East is pictured to the right.

Photo 2: Eastern-facing view from the northwest corner of the subject site. A church parking lot is pictured to the left.

PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY **NEC OF EAST AVENUE R AND 30TH STREET EAST** **PALMDALE, CALIFORNIA**	**Project No.** 024-19024 **Date:** April 2019 **Approved by:** BC	Krazan

x

Photo 3: Southeastern-facing view of the northwestern portion of the subject site.

Photo 4: Southern-facing view of the southwest corner of the subject site where the drainage channel emerges from a culvert. Avenue R is pictured to the left and 30th Street East is pictured to the right. Windblown litter is pictured in the foreground.

Photo 5: Northeastern-facing view of the northwestern part of the subject site (left) and the drainage channel (right).

Photo 6: Eastern-facing view of the southwestern portion of the subject site. Avenue R is pictured to the right.

Photo 7: Northeastern-facing view of the southwestern central portion of the subject site. The drainage channel is pictured to the left.

Photo 8: Southeastern-facing view of the southern-central portion of the subject site.

Photo 9: Northeastern-facing view of the central portion of the subject site. The drainage channel is pictured to the left.

Photo 10: Northeastern-facing view of the northeastern portion of the subject site.

Photo 11: Southeastern-facing view of the southeastern portion of the subject site.

Photo 12: Western-facing view of the northeastern portion from the northeast corner of the subject site.

Photo 13: Southwestern facing view along the drainage channel within the northern-central part of the subject site. Drainage is from the southwest to the northeast.

Photo 14: Northeastern facing view along the drainage channel within the northern part of the subject site.

Photo 15: Southern-facing view of the southeast corner of the subject site. Refuse construction materials (block wall) has been dumped on the subject site.

Photo 16: Eastern-facing view of the northeast corner of the subject site. Refuse household refuse has been dumped on the subject site.

Appendix A

AVENUE R AND 30TH STREET EAST
PALMDALE, CALIFORNIA

BIOLOGICAL ASSESSMENT AND
JURISDICTIONAL DELINEATION
BURROWING OWL SURVEY
(PHASE I HABITAT ASSESSMENT AND PHASE II BURROW SURVEY)

APN #: 3020-005-019

UTM: 11-S: 392,940mE; 3,827,800mN

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14 April 2006

PSBS #U776

for Cornelius W Beauchamp

R. Mitchel Beauchamp, M. Sc., President

AVENUE R AND 30TH STREET EAST
PALMDALE, CALIFORNIA

BIOLOGICAL ASSESSMENT AND
JURISDICTIONAL DELINEATION
BURROWING OWL SURVEY
(PHASE I HABITAT ASSESSMENT AND PHASE II BURROW SURVEY)

14 April 2006

SUMMARY

A biological assessment, including botany, vegetation mapping, zoology, and Phase I and Phase II Burrowing Owl survey, and a jurisdictional delineation were conducted on the approximately 5.46-acre site in the City of Palmdale, Los Angeles County, California. The assessment was performed to identify biological resources and sensitive species that are present and would be impacted by development or preserved by conservation of portions of the site as biological open space, and to delineate the extent of jurisdictional drainages involved with development of the site.

The survey identified four vegetation/habitat types: Disturbed Habitat, Non-native Grassland, Rabbitbrush Scrub, and Southern Willow Scrub. The property includes a jurisdictional state-defined streambed that would be impacted by the project; a streambed alteration agreement should be obtained from the California Department of Fish and Game. No endemic or other special-status species were detected on the property during the survey.

INTRODUCTION

PURPOSE OF THE STUDY

Pacific Southwest Biological Services, Inc., (Pacific Southwest) at the request of Ms. Karen Davis, conducted a general biological assessment and jurisdictional delineation on the site. The purpose of the survey was to document biological resources and/or any sensitive species occurring on the 5.46-acre site, as well as the extent of jurisdictional drainages affected by the proposed development. This report summarizes the current biological conditions of the property, the results of the surveys, and includes an analysis of impacts from the proposed project. This report provides the project applicant, the City of Palmdale, resource agencies, and the public with current biological data to satisfy the review of the project under the California Environmental Quality Act (CEQA) in association with subsequent permits required for development. It is anticipated that the information herein will be available for public agency review.

Project Location

The project site is located in the eastern portion of the City of Palmdale, Los Angeles County, California (Figure 1). The map location of the site is within the extreme southwest quarter of Section 29, Township 6 North, Range 12 West, of the San Bernardino Base and Meridian; USGS 7.5' Palmdale, California quadrangle (UTM: 11-S: 392,940mE; 3,827,800mN; Lat. 34° 35' 17.5"N; Long. 118° 10' 2.5"E). Access to the site from State Route 14 (Antelope Valley Freeway) is east on Avenue R to the intersection; the site is in the northeast quadrant (Figures 2 & 3).

Surrounding land uses include residential housing to the east, south, and west. North of the western half of the property are the buildings, grounds, and parking areas of a church. North of the eastern half is undeveloped land where the drainage continues off-site to the northeast.

Project Description

The proposed project consists of site preparation and construction of 70 residential apartment units in nine buildings, with parking space, a pool, and a recreation building.

METHODS, SURVEY LIMITATIONS AND DEFINITIONS

METHODS

Prior to the field investigation, Pacific Southwest searched the California Department of Fish and Game's (CDFG) Natural Diversity Data Base (CNDDB) for the USGS 7.5' Palmdale, California quadrangle. This search revealed several federally- and state-listed species that may occur within the vicinity of the property. Pacific Southwest reviewed a recent aerial photograph (via Google Earth-2006) for potential drainage patterns and vegetation types. Pacific Southwest also reviewed a soil survey map (Woodruff 1970) of the project site and vicinity for soil types, including hydric soils. Pacific Southwest reviewed the USGS 7.5' Palmdale, California quadrangle for blue-line streams. Photographs of the property were taken during the field surveys (Attachment 1).

Biologist Cornelius W. Bouscaren performed the wetlands delineation and Phase I Burrowing Owl habitat assessment of the property. This report was prepared by Mr. Bouscaren, who has in excess of 14 years of experience as a biologist in southern California, and is a Certified Wetland Delineator (#367). A general zoological and botanical survey was conducted by biologists Geoffrey L. Rogers and Brant C. Primrose to identify and map vegetation communities on the property, and to determine the presence or potential presence of sensitive plant species and habitats, and sensitive animal species. All surveys were conducted on foot. Mr. Rogers has approximately 15 years of experience in local biology issues, while Mr. Primrose has approximately five years of experience in local botanical issues. The general field conditions during the field visits are summarized in Table 1.

Table 1. Summary of Field Conditions for Biological Surveys

DATE	PERSONNEL	TIME	FIELD CONDITIONS	SURVEY TYPE
5 Apr 2006	Bouscaren	0750-1015	60°F, intermittent light rain, winds calm	Wetlands Delineation, Burrowing Owl Phase I
7 Apr 2006	Rogers and Primrose	1030-1135	64°F, skies clear, winds calm becoming light northwest	Botany, Zoology, Burrowing Owl Phase II

Methods for the botanical survey consisted of walking slowly over the site, observing the flora and vegetation and recording observations as they were made. Methods for the zoological survey consisted of walking slowly over the site while watching and listening for wildlife. "Pishing," a technique commonly used to attract the interest of passerines and draw them into view, was occasionally employed. Binoculars (10x42) were used to assist in the detection and identification of wildlife. Species presence was confirmed by visual observation and/or auditory detection, tracks, scats, bones, dens and burrows. The property area is of such size that the entire area could be covered during each visit.

SURVEY LIMITATIONS

Complete biological inventories of sites often require a large number of field hours during different seasons as well as nocturnal sampling for some animal groups, such as small mammals. Depending on the season during which the field survey is conducted, insects, amphibians, snakes, many mammals, owls and other nocturnal birds, and annual plants are groups that can be difficult to inventory. Many groups of vertebrates are difficult to detect during short-term field surveys. Some, such as migratory or nomadic birds, may be absent from the site while the fieldwork is being conducted. Species that are declining or have naturally patchy patterns of distribution may not be present in areas of what appears to be suitable habitats. However, through literature review, study of museum records, and knowledge of the habitat requirements and distribution patterns of individual species, the probability of a given species being present on a site can often be quite accurately predicted.

DEFINITIONS

Vegetation Communities

Vegetation communities are assemblages of plant species that usually coexist in the same area. The classification of vegetation communities is based upon the life form of the dominant species within that community and the associated flora. The nomenclature for vegetation communities follows Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986) as modified by Oberbauer (1996).

Wildlife Habitats

Wildlife habitats differ from vegetation communities in that a wildlife habitat may contain several vegetation communities that are similar in structure but different in plant species composition, location, and soil substrate. This distinction becomes an important factor when assessing the sensitivity of a particular wildlife habitat. In addition, the interaction of various wildlife species occurs between many different wildlife habitats. This becomes more evident where these habitats overlap in areas known as ecotones. These ecotones support a combination of the species from two or more adjoining habitats that generally increases the number and

diversity of species within these areas. Wildlife habitats encountered on the project site approximate the vegetation communities discussed below.

Nomenclature

The scientific nomenclature used in this report is from the following standard references: vascular plants (Hickman 1993); vegetation communities (Holland 1986, Oberbauer 1996); wildlife habitats (Mayer and Laudenslayer 1988); birds (American Ornithologists' Union 1998); and mammals (Jameson and Peeters 1988).

SURVEY RESULTS

General Physiography

The site lies on the broad bajada on the north side of the San Gabriel Mountains, in the far southwest of the Mojave Desert. An unnamed drainage runs northeasterly through the property. Geologic strata are mapped as Quaternary recent alluvium (Jennings and Strand 1969). Soils for the project area are mapped as Hanford sandy loam, 0-2% slopes, and Adelanto coarse sandy loam, 0-2% slopes (Woodruff *et al.* 1970). Elevation ranges from a high of approximately 2,625 feet above mean sea level in the southwestern corner to a low of approximately 2,620 feet in the channel of the drainage in the northeastern corner.

Botanical Resources

Vegetation

The survey of the parcel identified four vegetation/habitat types: Disturbed Habitat, Non-native Grassland, Rabbitbrush Scrub, and Southern Willow Scrub (Figure 3). The types occurring on the property are discussed below, with the appropriate element code (Holland 1986, Oberbauer 1996).

Disturbed Habitat (#11300) (0.35 acre)

Disturbed Habitat occurs adjacent to Avenue R on the south of the property, where a swath of bare ground, 20-25 feet wide, is virtually devoid of vegetation for the length of the adjacent pavement.

Non-native Grassland (#42200) (4.88 acres)

Non-native Grassland occupies the majority of the property on the site and is dominated by a number of weedy forbs, such as Tansy Mustard (*Descurainia pinnata* ssp. *halictorum*), Shortpod Mustard (*Hirschfeldia incana*), London Rocket (*Sisymbrium irio*), Russian Thistle (*Salsola tragus*), Red-Stem Filaree (*Erodium cicutarium*), and Doveweed (*Eremocarpus setigerus*), and by non-native grasses such as Red Brome (*Bromus madritensis* ssp. *rubens*), Hare Barley (*Hordeum jubatum*), and Mediterranean Schismus (*Schismus barbatus*). A number of dirt roads and scattered trash disturb the vegetation.

Southern Willow Scrub (#63320) (0.21 acre)

Southern Willow Scrub, represented by Narrow-Leaved Willow (*Salix exigua*) and Red Willow (*S. laevigata*), occurs along the drainage from approximately 65 feet northeast of the intersection for its length on the site and continuing off-site to the northeast, with an approximately 30-foot gap. The willows occur only on the southeast side of the drainage, presumably because of periodic clearing on the northwest side.

Rabbitbrush Scrub (#35400) (0.02 acre)

A remnant of Rabbitbrush Scrub occurs on the northwest side of the drainage on a small hill in the northwest corner, with typical shrubs such as Rubber Rabbitbrush (*Chrysothamnus nauseosus*), Desert Tea (*Ephedra californica*), and Fourwing Saltbush (*Atriplex canescens*). This area is disturbed by the presence of several of the weeds found in the Non-native Grassland on the property. The presence of this remnant suggests that Rabbitbrush Scrub was the natural vegetation in this area prior to anthropogenic activity on the property.

Flora

Thirty-seven species of plants were observed on the property, of which 17 (46%) are non-native, indicative of the disturbed nature of the vegetation (Appendix 1).

ZOOLOGICAL RESOURCES

Fauna

Twelve species of animals were detected on the property: 11 avian species and one mammal (Appendix 2).

Birds

Among the avian species observed are the Mourning Dove (*Zenaida macroura*), Anna's Hummingbird (*Calypte anna*), Northern Flicker (*Colaptes aurata*), American Crow (*Corvus brachyrhynchos*), Northern Mockingbird (*Mimus polyglottos*), and House Finch (*Carpodacus mexicanus*). These and the other birds observed on the site are common and widespread in southern California.

Mammals

One mammal, the California Ground Squirrel (*Spermophilus beecheyi*), was observed.

Burrowing Owl (*Athene cunicularia*)

The Burrowing Owl was listed as a California Species of Special Concern in 1979; it is protected under the federal Migratory Bird Treaty Act and California Fish and Game Code, but has no special protection under the federal and California endangered species acts.

Burrowing Owl Habitat

Burrowing Owl habitat typically consists of annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation, or trees and shrubs if the canopy covers less than 30% of the ground surface. Burrows are the essential component of Burrowing Owl habitat; both natural and artificial burrows provide protection, shelter, and nests for the Burrowing Owl. The Burrowing Owl typically uses burrows made by fossorial mammals, such

as the California Ground Squirrel and American Badger (*Taxidea taxus*), but may also use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement (Lincer and Steenhof 1997).

Phase I habitat assessment

The initial site visit on 5 April 2006 included the Phase I habitat assessment for the Burrowing Owl. The assessment determined that potential habitat for the Burrowing Owl was present on the property and within 500 feet of the site boundary on the north side, although the habitat is not optimal and residential development in the vicinity limits the extent of the habitat.

Phase II burrow survey

The survey was conducted according to accepted protocol (Lincer and Steenhof 1997). The entire project site was walked, using survey transects spaced to allow 100% visual coverage of the ground surface. Burrows of the California Ground Squirrel are numerous along both sides of the drainage. These burrows, and all potential areas and their environs were examined for such evidence of Burrowing Owl presence as molted feathers, cast pellets, prey remains, eggshell fragments, and excrement. No such evidence was observed on or within 500 feet of the site. The Burrowing Owl was not observed on or near the property during the survey.

Rare, Threatened, Endangered, Endemic and/or Sensitive Plant Species

The CNDDB search revealed only one sensitive species known from the general project area (Appendix 3). Appendix 3 lists this species, its conservation status, typical habitat requirements, and potential for occurrence on the property. No sensitive plant species or narrow endemic species were detected on the property during the survey, although a directed search for such was conducted during the survey.

Rare, Threatened, Endangered, Endemic and/or Sensitive Animal Species and Habitats

The CNNDB search revealed several federally- or state- listed animal species that are known from the general project vicinity. Appendix 4 lists these species, their conservation status, their typical habitat requirements, and potential for occurrence on the property.

JURISDICTIONAL DRAINAGES, WETLANDS AND/OR WATERS OF THE U. S.

SUMMARY OF JURISDICTIONAL REGULATIONS

Three key agencies regulate activities within inland streams, wetlands, and riparian areas in California. The U. S. Army Corps of Engineers (Corps) Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act, and Section 10 of the Rivers and Harbors Act. The California Department of Fish and Game (CDFG) regulates activities under the Fish and Game Code Section 1600-1607. The Regional Water Quality Control Board (RWQCB) regulates activities under Section 401 of the federal Clean Water Act and the California Porter-Cologne Act Water Quality Control Act.

WETLANDS-RELATED REGULATIONS

Wetlands are considered important resources because of their habitat value, water quality function, and potential flood hazards and other reasons. Typically, local, state and federal agencies have regulations regarding identification, protection, and permitting of wetlands (or jurisdictional areas) uses; these are generally discussed below.

State of California

Regional Water Quality Control Board

The Santa Ana Regional Water Quality Control Board (RWQCB) in Riverside is the primary agency responsible for protecting water quality in this region of California. The RWQCB regulates discharges to surface waters under the federal Clean Water Act and the California Porter-Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all waters of the State and to all waters of the United States, including wetlands.

The federal Clean Water Act, Section 401 gives the RWQCB the authority to regulate, through 401 Certification, any proposed federally permitted activity, which may affect water quality. Among such activities are discharges of dredged or fill material permitted by the Corps under the Clean Water Act, Section 404. Certification or waiver must be based on a finding that the proposed discharge will comply with water quality standards. The RWQCB may require permits for this project; no separate delineation needs to be carried out in this document for certification.

California Department of Fish and Game

The State of California regulates activities in rivers, streams, and lakes pursuant to Sections 1600-1603 of the California Fish and Game Code. These sections discuss the process by which an individual, government agency, or public utility must notify the California Department of Fish and Game (CDFG) prior to any activity that would "substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream, or lake..." Following such notification, CDFG must inform the individual, agency, or utility of the existence of any fish and wildlife resources that may be substantially adversely affected by the activity. CDFG must also include a proposal for measures to protect fish and wildlife resources. The proposal is called a "Streambed Alteration Agreement" (1601 Agreement for public agencies and utilities, and a 1603 Agreement for private party activities). Administration of this area is initially out of the CDFG's San Diego Region Office and perhaps later out of the Chino Hills office.

Jurisdictional limits of the CDFG are not as clearly defined by regulation as those of the ACOE. While they closely resemble the limits described by Corps regulations, they exclude isolated wetlands (those not associated with a stream, river, or lake, such as isolated vernal pools) and include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, CDFG takes jurisdiction to the bank of the stream or to the outer limit of the adjacent riparian vegetation, which ever is greater. However, the Fish and Game Commission has provided the definition of the jurisdictional extent of the Section 1600 regulations as an Appendix to the Fish and Game

Code. **This definition follows that of the Service and requires only one of the three Corps criteria**.

CDFG defines wetlands as "Lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time of the growing season of each year." [Note: This is different from the Environmental Protection Agency and Corps definitions in that it requires no more than one criterion.]

Federal Agencies

U. S. Army Corps of Engineers

The U. S. Army Corps of Engineers (Corps) has regulatory authority over the discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act (CWA). The term "waters of the United States" includes (1) all waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide; (2) wetlands; (3) all waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use degradation or destruction of which could affect interstate or foreign commerce; (4) all impoundments of water mentioned above; (5) all tributaries of waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to the waters mentioned above. Under this definition, and in the absence of wetlands, the limits of the Corps' jurisdiction in non-tidal waters extends to the ordinary high water mark (OHWM), which is defined as "...that line on the shore established by the fluctuations if water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas".

Wetlands, a subset of jurisdictional waters, are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." The Corps has developed a methodology for determining the boundaries of jurisdictional wetlands known as the 1987 Manual (Environmental Laboratory 1987). The methodology set forth in the Manual is based on the following three indicators that are normally present in wetlands: (1) hydrology providing permanent or periodic inundation by groundwater or surface water, (2) hydric soils, and (3) hydrophytic vegetation. In order to be considered a wetland, an area must exhibit at least minimal hydric characteristics within these three parameters.

Environmental Protection Agency

The Environmental Protection Agency (EPA) regulates the Corps and the National Environmental Protection Act (NEPA) concerning the regulations of jurisdictional waters and wetlands. No special separate delineation needs to be carried out.

U. S. Fish and Wildlife Service

The U. S. Fish and Wildlife Service (Service) defines wetlands as "Lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate in non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year." Because the Service reviews permits processed by the Corps, no separate delineation needs to be carried out.

Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under the federal CWA and the California Porter-Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all waters of the State and to all waters of the United States, including wetlands.

The CWA Section 401 gives the RWQCB the authority to regulate, through 401 Certification, any proposed federally-permitted activity that may affect water quality. Among such activities are discharges of dredged or fill material permitted by the Corps under CWA Section 404. Certification or waiver must be based on a finding that the proposed discharge will comply with water quality standards. The Lahontan Regional office out of Barstow has jurisdiction for the region of the project.

The notable characteristic of drainages in this area of the north slope of the San Gabriel Mountains is that they drain into the isolated basins of Rosamond Dry Lake and Rogers Dry Lake, and are not involved with interstate commerce. For this reason, under the current interpretation of the Clean Water Act, the RWQCB jurisdiction is only through the California Porter-Cologne Water Quality Control Act, not the CWA.

City of Palmdale

The property is under the guidelines of the Palmdale Municipal Code-Land Development Code (LDC). The City has no special code section relating to wetlands.

ACTIVITIES REQUIRING PERMITS

Any development proposal that involves impacting the jurisdictional drainages, streams, or wetlands on the site through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification would require permits from the RWQCB, and the CDFG before any development could commence on the project site. Both permanent and temporary impacts are regulated and would trigger the need for permits. Processing of the Section 401 permit and Section 1600 agreement can occur concurrently and can utilize the same information and analysis.

Applications to both the RWQCB and the CDFG require submittal of a certified or adopted California Environmental Quality Act (CEQA) document along with the application.

The Corps has no jurisdiction over the drainage on this project due to the Supreme Court's landmark decision on isolated waters ("SWANNC" 2001). By this decision, the Court rejected the Corps' claim to jurisdiction under the CWA over **isolated, intrastate** waters.

METHODOLOGY

Analysis presented in this document is based on field surveys and verification of current conditions conducted on the site 5 April 2006. Measurements were taken with a 300-foot fiberglass tape.

SITE CONDITIONS

A drainage feature runs northeast diagonally through the central portion of the site, entering the property through a culvert just north of the intersection of Avenue R and 30th Street East. On the USGS 7.5' Palmdale, California quadrangle this drainage is not mapped as a blue-line stream. Length of the drainage on the site is approximately 525 feet; width range on the site (bank to bank) is 12-16 feet. A strong surface flow of water 12-14 inches deep was visible in the drainage during the survey visit 5 April.

The Soil Conservation Service classifies soils in the *Hydric Soils of the State of California* (USDA 1995). Soils in the drainage are mapped as Hanford sandy loam, 0-2% slopes, and Adelanto coarse sandy loam, 0-2% slopes (Woodruff *et al.* 1970). Neither is a hydric soil (USDA 1995).

To satisfy the Corps definition of wetlands, a site must have a prevalence (more than 50%) of hydrophytic vegetation. Predominant plant species in the drainage are Narrow-leaf Willow, Red Willow, and Mule Fat (*Baccharis salicifolia*), constituting a prevalence of hydrophytic vegetation (Environmental Laboratory 1987). Although the Corps has no jurisdiction on this project, this information is included to indicate that this satisfies the criterion for CDFG jurisdiction.

A primary wetland hydrology indicator is present in the form of pronounced bed and bank features in the drainage, also satisfying the criterion for CDFG jurisdiction.

CONCLUSION OF JURISDICTIONAL DELINEATION

CDFG (1603) Jurisdictional Delineation

Hydrology and vegetation criteria for CDFG jurisdiction are met along the drainage. The drainage has widths (bank to bank) of 12-16 feet along its approximately 525-foot reach on the site. Distances from the northwest bank of the drainage to the outer limit of the adjacent riparian vegetation on the southeast bank varies from 24 feet to 38 feet, averaging 35 feet. The latter measurements indicate the extent of CDFG jurisdiction. There is no riparian vegetation for a distance of approximately 65 feet near the intersection, and for a gap of approximately 30 feet elsewhere farther downstream along the drainage on the property.

The extent of the jurisdictional area is as follows:

	Area/Length
Wetland on-site	0
Non-wetland waters on-site	0
Channel length (vegetated reach on site)	430 feet
CDFG Streambed area (vegetated reach)	0.35 acre
Channel length (no vegetation on reach)	95
CDFG Streambed area (unvegetated reach)	0.01 acre
Total CDFG Streambed area	**0.36 acre**

FINDINGS

A state jurisdictional streambed occurs on the property.

RESOURCES/HABITAT EVALUATION

The principal habitat type exhibited on the property is Non-native Grassland. The property adjoins developed lands on all sides, with a small area of undeveloped vacant land north of the eastern half of the site.

REGIONAL AND LOCAL CONTEXT

When evaluating the significance of the biological resources occurring within a site, it is necessary to determine their importance within the region as a whole.

The property is not adjacent to any federal, state, or county wilderness, parks, preserves, or open space lands. Across 30th Street East to the northwest is William J. McAdam Park, a 20-acre community recreation park with playing fields and swimming pool.

REGULATORY ISSUES

Jurisdictional Wetlands, Waters of the U.S., Streams, and Drainages

The property includes a state-defined streambed. The property does not include any jurisdictional wetlands. The feature, however, is a CDFG streambed under state definitions. The soils mapped for the property are not listed as hydric soils, nor do the on-site soils exhibit hydric characteristics.

ANTICIPATED PROJECT IMPACTS TO BIOLOGICAL RESOURCES

PROJECT IMPACTS

Vegetation

The project, as designed, would impact all the on-site vegetation. The project, as designed, would also impact the drainage, although it's unnaturally arrow-straight dimension and absence of riparian vegetation on the northwest bank suggest that some channelization has taken place previously.

Disturbed Habitat

The project would impact 0.35 acre of Disturbed Habitat on the site. This effect is considered less-than-significant under CEQA.

Non-native Grassland

The project would impact 4.88 acres of Non-native Grassland. This effect is considered less-than-significant under CEQA.

Rabbitbrush Scrub

The project, as designed, would impact 0.02 acre of Rabbitbrush Scrub. Because of the small size of this remnant vegetation patch, this effect is considered less-than-significant under CEQA.

Southern Willow Scrub

The project would impact 0.21 acre of Southern Willow Scrub. This effect is considered potentially significant under CEQA but would be mitigated to a less-than-significant level under CEQA by implementation of the mitigation measure requiring a streambed alteration agreement from CDFG.

Sensitive Species

Plants

No sensitive plant species or narrow endemic species occur on the property. The development of the project would not impact any sensitive plant species. This effect is considered less-than-significant under CEQA.

Animals

No sensitive animal species or narrow endemic species occur on the property. The development of the project would not impact any sensitive animal species. This effect is considered less-than-significant under CEQA.

Jurisdictional Streambeds

The project would impact approximately 0.36 acre of a CDFG streambed. This effect is considered potentially significant under CEQA but would be mitigated to a less-than-significant level under CEQA by implementation of the mitigation measure requiring a streambed alteration agreement from CDFG.

INDIRECT IMPACTS

Incremental Loss of Habitat Viability

Indirect and long term impacts associated with the project would result from occupation of the area by human residents. Non-native mesopredators, defined as medium-sized mammalian nest predators such as dogs and cats, and/or exotic plant species would probably be introduced into the surrounding habitat. This introduction of non-native species could potentially degrade the surrounding native vegetation and habitat and disturb/kill native wildlife species. However, since the project site is already essentially surrounded by urban development,

this effect would be less-than-significant under CEQA.

General Construction Effects

Short-term Construction Impacts

During the construction phase of the proposed project, there is the potential of increased noise (which may displace local wildlife and nesting birds), fugitive dust, and increased runoff resulting in a reduction of water quality during rainstorms; see recommended mitigation measure.

Post Construction

Stormwater runoff from the streets, driveways and yards may flow into off site drainages or undeveloped land, which may increase erosion and introduce urban pollution into the environment.

RECOMMENDED MITIGATION/MONITORING MEASURES

JURISDICTIONAL STREAMBEDS

The project should be conditioned to obtain a Streambed Alteration Agreement from CDFG prior to any clearing, grubbing, grading or construction.

BURROWING OWL

Current Burrowing Owl survey protocol and mitigation guidelines require a breeding season survey and census (Phase III) of the Burrowing Owl if burrows or Burrowing Owls are recorded on the site during the Phase II burrow survey. The Phase III survey involves four site visits on separate days, early morning or late afternoon, during the period 15 April-15 July. If the Burrowing Owl is not observed using the site during the breeding season, a winter survey is required during the period 1 Decmber-31 January, also involving four site visits on separate days, early morning or late afternoon. A resource summary written report must be prepared for CDFG that gives the results of each Phase of the survey protocol.

GENERAL CONSTRUCTION EFFECTS

Short-term Construction Impacts

Any clearing, grubbing or grading permits for the project should be conditioned to require that Standard Best Management Practices (BMP's) be employed to control noise, dust and runoff during this phase of construction. Measures may include the use of retention basins and sand bags, application of water on unpaved, unvegetated surfaces.

Post Construction

Any clearing, grubbing or grading permits for the project should be conditioned to employ Post-Construction BMP's to reduce off-site stormwater, irrigation runoff and urban pollution from entering native habitats.

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CERTIFICATION

Certification: "I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief."

DATE: 14 April 2006 SIGNED: Cornelius W Bouscaren

for R. Mitchel Beauchamp, M. Sc.

APPENDIX 1. FLORAL CHECKLIST – AVENUE R AND 30TH STREET EAST, PALMDALE, CALIFORNIA

GYMNOSPERMS

Ephedraceae - Ephedra Family
Ephedra californica Wats. Desert Tea

DICOTYLEDONS

Amaranthaceae - Amaranth Family
Amaranthus blitoides S. Wats. Prostrate Amaranth

Asteraceae - Sunflower Family
Baccharis salicifolia (R.& P.) Pers. Mule Fat
* *Chamomilla suaveolens* (Pursh.) Ryd. Pineapple Weed
Chrysothamnus nauseosus (Pall.) Brit. ssp. *hololeucus* (Gray) Hall & Clem. Rubber Rabbitbrush
* *Conyza canadensis* (L.) Cronq. Horseweed
Gutierrezia sarothrae (Pursh) Britt. & Rusby Matchweed
Lasthenia gracilis (DC.) E.Greene Common Goldfields
* *Sonchus oleraceus* L. Common Sow Thistle
Stylocline gnaphalioides Nutt. Everlasting Nest Straw

Boraginaceae - Borage Family
Pectocarya linearis ssp. *ferocula* (Jtn.) Thorne Slender Pectocarya

Brassicaceae - Mustard Family
Descurainia pinnata ssp. *halictorum* (Ckrel.) Detl. Tansy Mustard
* *Hirschfeldia incana* (L.) Lagr.-Fossat Short-pod Mustard
Lepidium nitidum Nutt. var. *nitidum* Shining Peppergrass
* *Sisymbrium irio* L. London Rocket

Chenopodiaceae - Goosefoot Family
Atriplex canescens (Pursh) Nutt. ssp. *canescens* Four-wing Saltbush
* *Chenopodium ambrosioides* L. Mexican Tea
* *Salsola tragus* L. Russian Thistle

Euphorbiaceae - Spurge Family
Eremocarpus setigerus (Hook.) Benth. Doveweed

Fabaceae - Legume Family
Lotus argophyllus (Gray) Greene var. *argophyllus* Silver-leaf Lotus
Lupinus hirsutissimus Benth. Stinging Lupine

Geraniaceae - Geranium Family
* *Erodium cicutarium* (L.) L'Hér. Red-stem Filaree

Lamiaceae - Mint Family
* *Marrubium vulgare* L. Horehound

Malvaceae - Mallow Family
* *Malva parviflora* L. Cheeseweed, Little Mallow

Onagraceae - Evening-Primrose Family
Epilobium ciliatum Raf. ssp. *ciliatum* Willow Herb

APPENDIX 1. FLORAL CHECKLIST – AVENUE R AND 30TH STREET EAST, PALMDALE, CALIFORNIA

Polygonaceae - Buckwheat Family
Eriogonum gracile Benth. var. *gracile* Slender Buckwheat

Primulaceae - Primrose Family
* *Anagallis arvensis* L. Scarlet Pimpernel

Salicaceae - Willow Family
Salix exigua Nutt. Narrow-leaf Willow
Salix laevigata Bebb Red Willow

Ulmaceae - Elm Family
* *Ulmus pumila L.* Siberian Elm

MONOCOTYLEDONS

Liliaceae - Lily Family
* *Agave americana* L. American Agave

Poaceae - Grass Family
* *Bromus madritensis* L. ssp. *rubens* (L.) Husnot Red Brome
* *Hordeum jubatum* L. Foxtail Barley
* *Piptatherum miliaceum* (L.) Cosson Smilo Grass
* *Schismus barbatus* (L.) Thell. Mediterranean Schismus
Vulpia microstachys (Nutt.) Benth. var. *pauciflora* (Beal) Lenard & Gould Pacific Fescue

Typhaceae - Cattail Family
Typha latifolia L. Broad-leaf Cattail

* - Denotes non-native plant taxa

APPENDIX 2. CHECKLIST OF ANIMALS OBSERVED OR DETECTED– AVENUE R AND 30TH STREET EAST, PALMDALE, CALIFORNIA

COMMON NAME	SCIENTIFIC NAME
BIRDS	
Columbidae (Pigeons and Doves)	
Mourning Dove	*Zenaida macroura*
Trochilidae (Hummingbirds)	
Anna's Hummingbird	*Calypte anna*
Picidae (Woodpeckers)	
Northern Flicker	*Colaptes auratus*
Corvidae (Jays, Crows, Ravens, and Magpies)	
American Crow	*Corvus brachyrhynchos*
Common Raven	*Corvus corax*
Mimidae (Mockingbirds and Thrashers)	
Northern Mockingbird	*Mimus polyglottos*
Parulidae (Wood-Warblers)	
Yellow-rumped Warbler	*Dendroica coronata*
Emberizidae (Towhees and Sparrows)	
Song Sparrow	*Melospiza melodia*
White-crowned Sparrow	*Zonotrichia leucophrys*
Icteridae (Blackbirds, Meadowlarks, and Orioles)	
Great-tailed Grackle	*Quiscalus mexicanus*
Fringillidae (Finches)	
House Finch	*Carpodacus mexicanus*
Passeridae (Old World Sparrows)	
House Sparrow	*Passer domesticus*
MAMMALS	
Sciuridae (Squirrels, Chipmunks, and Marmots)	
California Ground Squirrel	*Spermophilus beecheyi*

Appendix 3. Sensitive Plant reported from USGS 7.5' Palmdale, California quadrangle (CNDDB)

SPECIES NAME	STATUS Federal/State/CNPS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Opuntia basilaris var *brachyclada* Short-joint Beavertail	FSC/None/1B(3-2-3)	Chaparral, Joshua Tree woodland, Mojavean desert scrub, pinyon-juniper woodland, riparian woodland. Sandy soil or coarse granitic loam, 425-1800 m.	None. Site too disturbed. Searched for but not observed

Appendix 4. Sensitive Animals reported from USGS 7.5' Palmdale, California quadrangle

SPECIES NAME	STATUS Federal/State/CDFG	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE	CONSERVATION GROUP
San Diego Horned Lizard *Phrynosoma coronatum blainvillii*	None/None/CSC	Coastal sage scrub, chaparral in arid and semi-arid climate, esp. friable, rocky, or shallow sandy soils	None. Site too disturbed	
Silvery Legless Lizard *Anniella pulchra pulchra*	None/None/CSC	Sparse vegetation of chaparral and riparian, loose soil for burrowing.	Moderate. Suitable habitat.	
Two-striped Gartersnake *Thamnophis hammondii*	None/None/CSC	Coastal CA., fr/ Salinas to NW Baja, fr/sea level to approx. 7000 ft ; esp. highly aquatic, found in or near permanent fresh water, often along streams w/rocky beds & riparian growths	None. No habitat on site, not permanent or nearly permanent water.	
Cooper's Hawk *Accipiter cooperi*	None/None/CSC	Woodland, usu. open, interrupted or marginal type, nests mainly in riparian areas	Moderate. May occasionally forage throgh area. Nesting habitat limited, marginal.	
Burrowing Owl *Athene [Speotyto] cunicularia* (burrow sites)	BCC/None/CSC	Open dry annual or perennial grasslands, desert & scrublands w/low growing vegetation, uses ground squirrel burrows for nesting	Moderate. Suitable habitat with California Ground Squirrel burrows.	
Le Conte's Thrasher *Toxostoma lecontei*	BCC/None/CSC	Primarily in open desert wash, desert scrub, alkali desert scrub & desert succulent scrub habitats; nests in dense, spiny shrub or densely branched cactus in desert wash habits, usu. 2-8 ft above ground	None. Site too disturbed.	National Audubon Society Yellow List
Tricolored Blackbird *Agelaius tricolor* (nesting colony)	BCC/None/CSC	Breeds near fresh water in emergent wetlands w/dense cattails or tules. Feeds in grassland & cropland.	None. No nesting habit on site or adjacent. May be a small colony at Lake Palmdale 3.5 miles to southeast.	National Audubon Society Yellow List
Mohave Ground Squirrel *Spermophilus mohavensis*	None/CT/None	Open desert scrub, alkali scrub & Joshua tree woodland, annual grasslands, esp. sandy to gravelly soils, avoids rocky areas.	None. Site too disturbed for many years. Last recorded observation this quadrangle 1932.	
San Joaquin Pocket Mouse *Perognathus inornatus inornatus*	None/None/CSC	Dry open grasslands or scrub areas, blue oak savannas, Central and Salinas Valleys? Needs friable soils.	None. No habitat. Identification of specimen in this quadrangle questionable.	

DEFINITIONS OF SENSITIVITY RATINGS

California Native Plant Society (CNPS)

List Status

List 1A	Plants presumed extinct in California. CEQA consideration mandatory
List 1B	Plants rare, threatened, or endangered in California and elsewhere. CEQA
List 2	Plants rare, threatened, or endangered in California, but more common elsewhere. CEQA consideration mandatory
List 3	Plants about which we need more information - a review list. CEQA consideration strongly recommended
List 4	Plants of limited distribution - a watch list. CEQA consideration strongly recommended

CNPS R-E-D Code

R (Rarity)

1	Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time
2	Distributed in a limited number of occurrences, occasionally more if each occurrence is small
3	Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported

E (Endangerment)

1	Not endangered
2	Endangered in a portion of its range
3	Endangered throughout its range

D (Distribution)

1	More or less widespread outside California
2	Rare outside California
3	Endemic to California

State-Listed/Designated Plants and Animals

CE	State-listed, endangered
CT	State-listed, threatened
CR	State-listed, rare
CC	Candidate for State listing
CSC	California Special Concern Species (Department of Fish and Game)
CFP	California Fully Protected

Federally-Listed/Designated Plants and Animals

FE	Federally-listed, endangered
FT	Federally-listed, threatened
PE	Federally-proposed, endangered
PT	Federally-proposed, threatened
FC	Candidate for Federal listing
BBC	Birds of Conservation Concern
C2*	Threat and/or distribution data are insufficient to support federal listing, but the plant is presumed extinct
C3c	Too widespread and/or not threatened
USFWS 2002 List	U. S. Fish & Wildlife Service Birds of Conservation Concern 2002 List within jurisdiction of Carlsbad FWO "… to identify species, subspecies, and populations of migratory and non-migratory birds in need of additional conservation actions."

National Audubon Society WatchList

Red List	Identified by BirdLife International as Threatened or Near-threatened at the global level and by Partners in Flight as Extremely High Priority at the national level
Yellow List	Identified by Partners in Flight at the national level as of Moderately High Priority or Moderate Priority

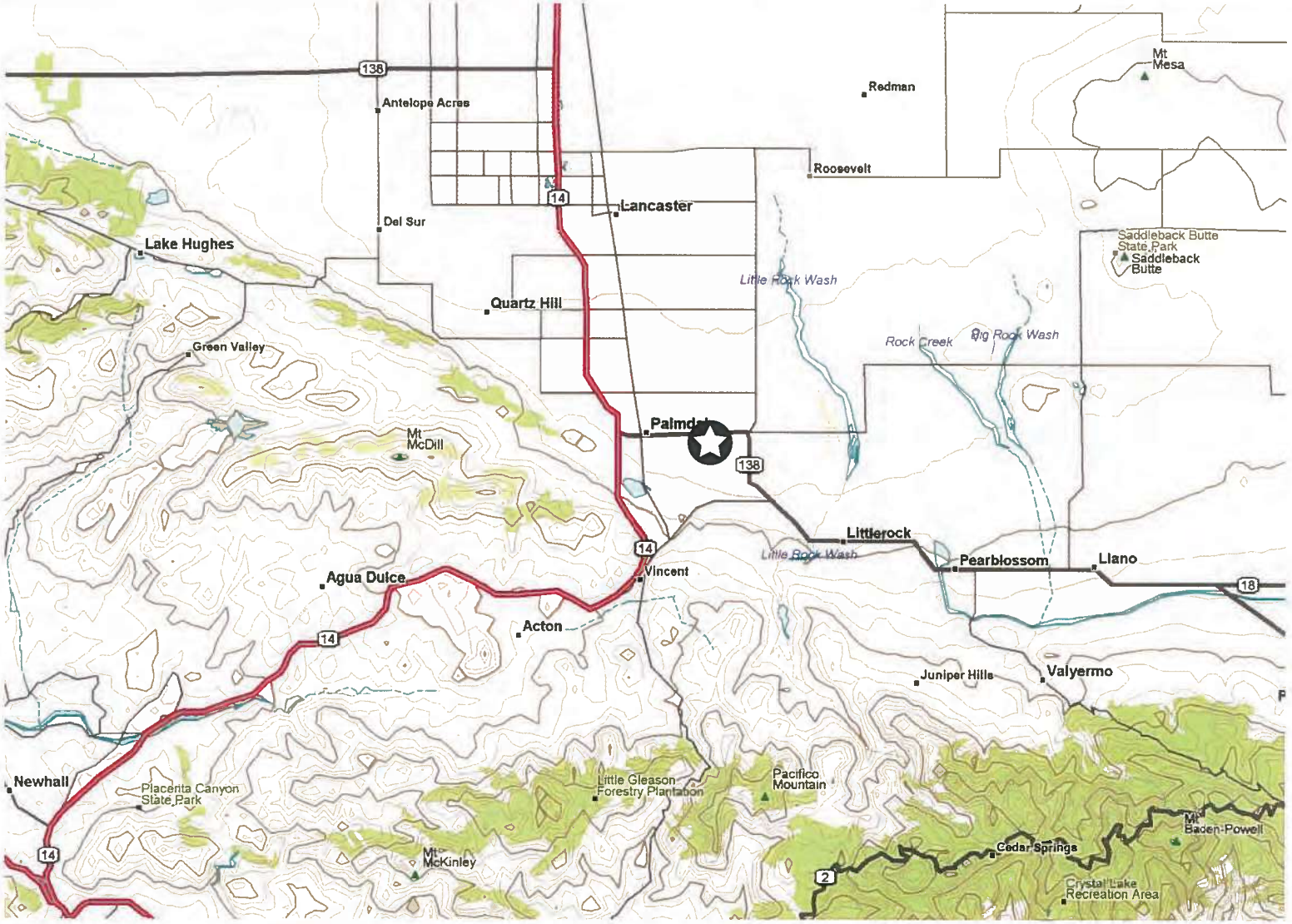

Figure 1. Project Vicinity, Avenue R and 30th Street East, Palmdale, Los Angeles County, CA -

N

Not to Scale

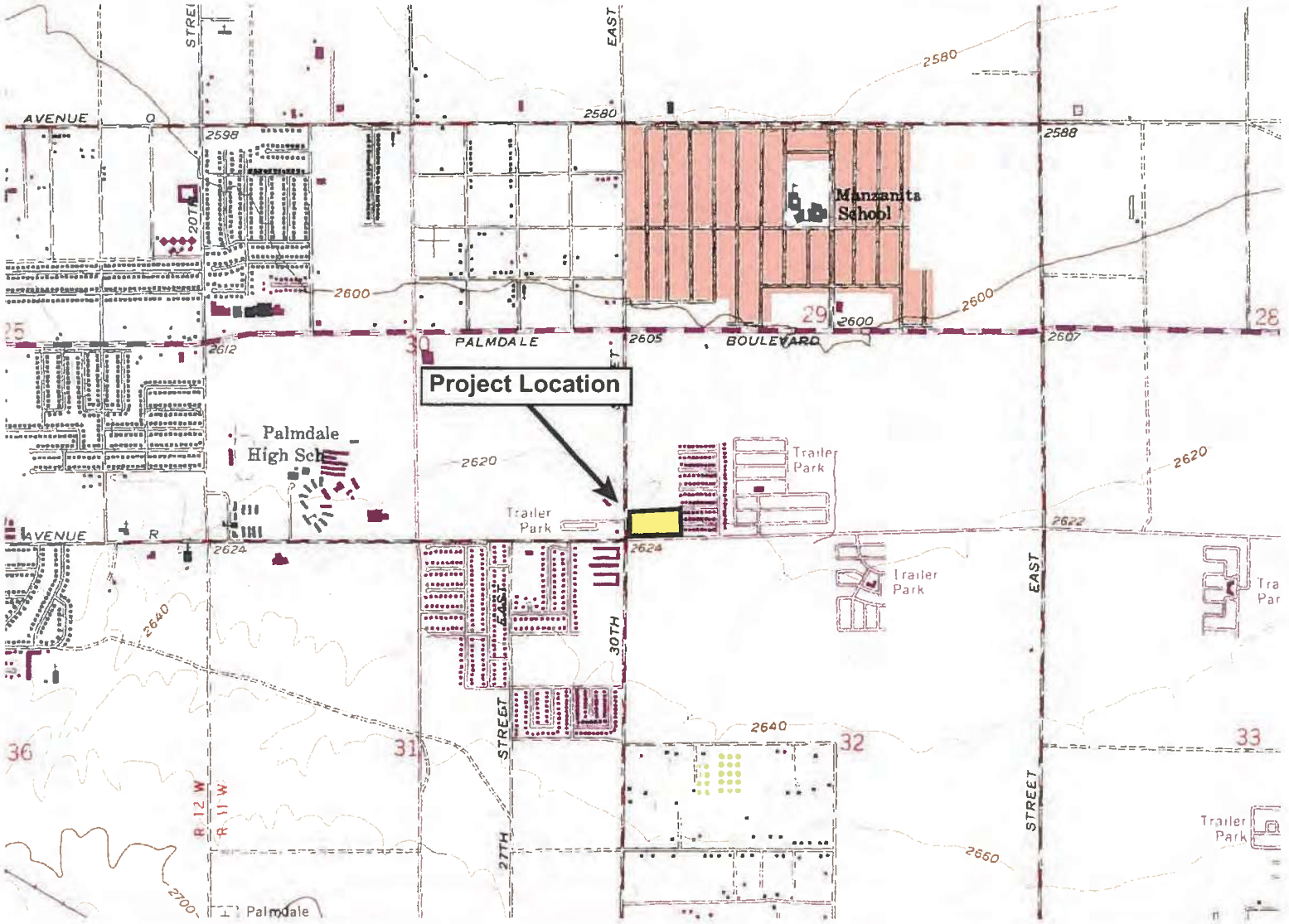

Figure 2. Project Location, Avenue R and 30th Street East, Palmdale, Los Angeles County
USGS 7.5' Palmdale, CA Quadrangle

N

1" = 2,000'

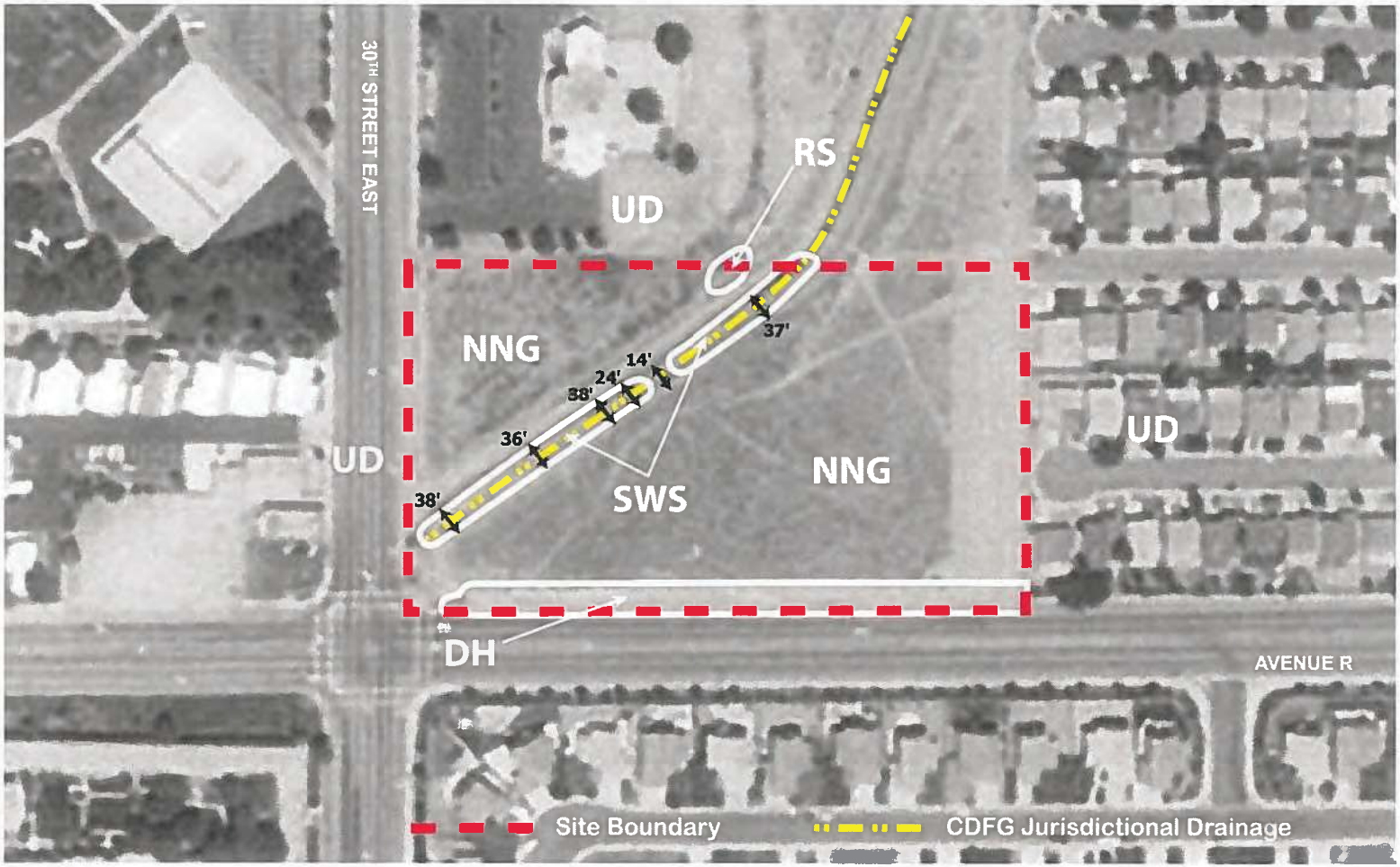

Figure 3. Vegetation Map and Jurisdictional Delineation, Avenue R and 30th Street East

	Holland Code
DH - Disturbed Habitat	11300
UD - Urban / Developed	12000
RS - Rabbitbrush Scrub	35400
NNG - Non-native Grassland	42200
SWS - Southern Willow Scrub	63320

N

Not to Scale

AVENUE R AND 30TH STREET, SITE PHOTOGRAPHS

Photo #1. View of drainage from 30th Street East.

AVENUE R AND 30TH STREET, SITE PHOTOGRAPHS

Photo #2. Non-native Grassland and view of drainage from Southeast.

AVENUE R AND 30TH STREET EAST
PALMDALE, CALIFORNIA

BIOLOGICAL ASSESSMENT AND
JURISDICTIONAL DELINEATION
BURROWING OWL SURVEY
(PHASE I HABITAT ASSESSMENT AND PHASE II BURROW SURVEY)

APN #: 3020-005-019

UTM: 11-S: 392,940mE; 3,827,800mN

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14 April 2006

PSBS #U776

for Cornelius W Beauchamp
R. Mitchel Beauchamp, M. Sc., President

AVENUE R AND 30TH STREET EAST
PALMDALE, CALIFORNIA

BIOLOGICAL ASSESSMENT AND
JURISDICTIONAL DELINEATION
BURROWING OWL SURVEY
(PHASE I HABITAT ASSESSMENT AND PHASE II BURROW SURVEY)

14 April 2006

SUMMARY

A biological assessment, including botany, vegetation mapping, zoology, and Phase I and Phase II Burrowing Owl survey, and a jurisdictional delineation were conducted on the approximately 5.46-acre site in the City of Palmdale, Los Angeles County, California. The assessment was performed to identify biological resources and sensitive species that are present and would be impacted by development or preserved by conservation of portions of the site as biological open space, and to delineate the extent of jurisdictional drainages involved with development of the site.

The survey identified four vegetation/habitat types: Disturbed Habitat, Non-native Grassland, Rabbitbrush Scrub, and Southern Willow Scrub. The property includes a jurisdictional state-defined streambed that would be impacted by the project; a streambed alteration agreement should be obtained from the California Department of Fish and Game. No endemic or other special-status species were detected on the property during the survey.

INTRODUCTION

PURPOSE OF THE STUDY

Pacific Southwest Biological Services, Inc., (Pacific Southwest) at the request of Ms. Karen Davis, conducted a general biological assessment and jurisdictional delineation on the site. The purpose of the survey was to document biological resources and/or any sensitive species occurring on the 5.46-acre site, as well as the extent of jurisdictional drainages affected by the proposed development. This report summarizes the current biological conditions of the property, the results of the surveys, and includes an analysis of impacts from the proposed project. This report provides the project applicant, the City of Palmdale, resource agencies, and the public with current biological data to satisfy the review of the project under the California Environmental Quality Act (CEQA) in association with subsequent permits required for development. It is anticipated that the information herein will be available for public agency review.

Project Location

The project site is located in the eastern portion of the City of Palmdale, Los Angeles County, California (Figure 1). The map location of the site is within the extreme southwest quarter of Section 29, Township 6 North, Range 12 West, of the San Bernardino Base and Meridian; USGS 7.5' Palmdale, California quadrangle (UTM: 11-S: 392,940mE; 3,827,800mN; Lat. 34° 35' 17.5"N; Long. 118° 10' 2.5"E). Access to the site from State Route 14 (Antelope Valley Freeway) is east on Avenue R to the intersection; the site is in the northeast quadrant (Figures 2 & 3).

Surrounding land uses include residential housing to the east, south, and west. North of the western half of the property are the buildings, grounds, and parking areas of a church. North of the eastern half is undeveloped land where the drainage continues off-site to the northeast.

Project Description

The proposed project consists of site preparation and construction of 70 residential apartment units in nine buildings, with parking space, a pool, and a recreation building.

METHODS, SURVEY LIMITATIONS AND DEFINITIONS

METHODS

Prior to the field investigation, Pacific Southwest searched the California Department of Fish and Game's (CDFG) Natural Diversity Data Base (CNDDB) for the USGS 7.5' Palmdale, California quadrangle. This search revealed several federally- and state-listed species that may occur within the vicinity of the property. Pacific Southwest reviewed a recent aerial photograph (via Google Earth-2006) for potential drainage patterns and vegetation types. Pacific Southwest also reviewed a soil survey map (Woodruff 1970) of the project site and vicinity for soil types, including hydric soils. Pacific Southwest reviewed the USGS 7.5' Palmdale, California quadrangle for blue-line streams. Photographs of the property were taken during the field surveys (Attachment 1).

Biologist Cornelius W. Bouscaren performed the wetlands delineation and Phase I Burrowing Owl habitat assessment of the property. This report was prepared by Mr. Bouscaren, who has in excess of 14 years of experience as a biologist in southern California, and is a Certified Wetland Delineator (#367). A general zoological and botanical survey was conducted by biologists Geoffrey L. Rogers and Brant C. Primrose to identify and map vegetation communities on the property, and to determine the presence or potential presence of sensitive plant species and habitats, and sensitive animal species. All surveys were conducted on foot. Mr. Rogers has approximately 15 years of experience in local biology issues, while Mr. Primrose has approximately five years of experience in local botanical issues. The general field conditions during the field visits are summarized in Table 1.

Table 1. Summary of Field Conditions for Biological Surveys

DATE	PERSONNEL	TIME	FIELD CONDITIONS	SURVEY TYPE
5 Apr 2006	Bouscaren	0750-1015	60°F, intermittent light rain, winds calm	Wetlands Delineation, Burrowing Owl Phase I
7 Apr 2006	Rogers and Primrose	1030-1135	64°F, skies clear, winds calm becoming light northwest	Botany, Zoology, Burrowing Owl Phase II

Methods for the botanical survey consisted of walking slowly over the site, observing the flora and vegetation and recording observations as they were made. Methods for the zoological survey consisted of walking slowly over the site while watching and listening for wildlife. "Pishing," a technique commonly used to attract the interest of passerines and draw them into view, was occasionally employed. Binoculars (10x42) were used to assist in the detection and identification of wildlife. Species presence was confirmed by visual observation and/or auditory detection, tracks, scats, bones, dens and burrows. The property area is of such size that the entire area could be covered during each visit.

SURVEY LIMITATIONS

Complete biological inventories of sites often require a large number of field hours during different seasons as well as nocturnal sampling for some animal groups, such as small mammals. Depending on the season during which the field survey is conducted, insects, amphibians, snakes, many mammals, owls and other nocturnal birds, and annual plants are groups that can be difficult to inventory. Many groups of vertebrates are difficult to detect during short-term field surveys. Some, such as migratory or nomadic birds, may be absent from the site while the fieldwork is being conducted. Species that are declining or have naturally patchy patterns of distribution may not be present in areas of what appears to be suitable habitats. However, through literature review, study of museum records, and knowledge of the habitat requirements and distribution patterns of individual species, the probability of a given species being present on a site can often be quite accurately predicted.

DEFINITIONS

Vegetation Communities

Vegetation communities are assemblages of plant species that usually coexist in the same area. The classification of vegetation communities is based upon the life form of the dominant species within that community and the associated flora. The nomenclature for vegetation communities follows Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986) as modified by Oberbauer (1996).

Wildlife Habitats

Wildlife habitats differ from vegetation communities in that a wildlife habitat may contain several vegetation communities that are similar in structure but different in plant species composition, location, and soil substrate. This distinction becomes an important factor when assessing the sensitivity of a particular wildlife habitat. In addition, the interaction of various wildlife species occurs between many different wildlife habitats. This becomes more evident where these habitats overlap in areas known as ecotones. These ecotones support a combination of the species from two or more adjoining habitats that generally increases the number and

diversity of species within these areas. Wildlife habitats encountered on the project site approximate the vegetation communities discussed below.

Nomenclature

The scientific nomenclature used in this report is from the following standard references: vascular plants (Hickman 1993); vegetation communities (Holland 1986, Oberbauer 1996); wildlife habitats (Mayer and Laudenslayer 1988); birds (American Ornithologists' Union 1998); and mammals (Jameson and Peeters 1988).

SURVEY RESULTS

General Physiography

The site lies on the broad bajada on the north side of the San Gabriel Mountains, in the far southwest of the Mojave Desert. An unnamed drainage runs northeasterly through the property. Geologic strata are mapped as Quaternary recent alluvium (Jennings and Strand 1969). Soils for the project area are mapped as Hanford sandy loam, 0-2% slopes, and Adelanto coarse sandy loam, 0-2% slopes (Woodruff *et al.* 1970). Elevation ranges from a high of approximately 2,625 feet above mean sea level in the southwestern corner to a low of approximately 2,620 feet in the channel of the drainage in the northeastern corner.

Botanical Resources

Vegetation

The survey of the parcel identified four vegetation/habitat types: Disturbed Habitat, Non-native Grassland, Rabbitbrush Scrub, and Southern Willow Scrub (Figure 3). The types occurring on the property are discussed below, with the appropriate element code (Holland 1986, Oberbauer 1996).

Disturbed Habitat (#11300) (0.35 acre)

Disturbed Habitat occurs adjacent to Avenue R on the south of the property, where a swath of bare ground, 20-25 feet wide, is virtually devoid of vegetation for the length of the adjacent pavement.

Non-native Grassland (#42200) (4.88 acres)

Non-native Grassland occupies the majority of the property on the site and is dominated by a number of weedy forbs, such as Tansy Mustard (*Descurainia pinnata* ssp. *halictorum*), Shortpod Mustard (*Hirschfeldia incana*), London Rocket (*Sisymbrium irio*), Russian Thistle (*Salsola tragus*), Red-Stem Filaree (*Erodium cicutarium*), and Doveweed (*Eremocarpus setigerus*), and by non-native grasses such as Red Brome (*Bromus madritensis* ssp. *rubens*), Hare Barley (*Hordeum jubatum*), and Mediterranean Schismus (*Schismus barbatus*). A number of dirt roads and scattered trash disturb the vegetation.

Southern Willow Scrub (#63320) (0.21 acre)

Southern Willow Scrub, represented by Narrow-Leaved Willow (*Salix exigua*) and Red Willow (*S. laevigata*), occurs along the drainage from approximately 65 feet northeast of the intersection for its length on the site and continuing off-site to the northeast, with an approximately 30-foot gap. The willows occur only on the southeast side of the drainage, presumably because of periodic clearing on the northwest side.

Rabbitbrush Scrub (#35400) (0.02 acre)

A remnant of Rabbitbrush Scrub occurs on the northwest side of the drainage on a small hill in the northwest corner, with typical shrubs such as Rubber Rabbitbrush (*Chrysothamnus nauseosus*), Desert Tea (*Ephedra californica*), and Fourwing Saltbush (*Atriplex canescens*). This area is disturbed by the presence of several of the weeds found in the Non-native Grassland on the property. The presence of this remnant suggests that Rabbitbrush Scrub was the natural vegetation in this area prior to anthropogenic activity on the property.

Flora

Thirty-seven species of plants were observed on the property, of which 17 (46%) are non-native, indicative of the disturbed nature of the vegetation (Appendix 1).

ZOOLOGICAL RESOURCES

Fauna

Twelve species of animals were detected on the property: 11 avian species and one mammal (Appendix 2).

Birds

Among the avian species observed are the Mourning Dove (*Zenaida macroura*), Anna's Hummingbird (*Calypte anna*), Northern Flicker (*Colaptes aurata*), American Crow (*Corvus brachyrhynchos*), Northern Mockingbird (*Mimus polyglottos*), and House Finch (*Carpodacus mexicanus*). These and the other birds observed on the site are common and widespread in southern California.

Mammals

One mammal, the California Ground Squirrel (*Spermophilus beecheyi*), was observed.

Burrowing Owl (*Athene cunicularia*)

The Burrowing Owl was listed as a California Species of Special Concern in 1979; it is protected under the federal Migratory Bird Treaty Act and California Fish and Game Code, but has no special protection under the federal and California endangered species acts.

Burrowing Owl Habitat

Burrowing Owl habitat typically consists of annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation, or trees and shrubs if the canopy covers less than 30% of the ground surface. Burrows are the essential component of Burrowing Owl habitat; both natural and artificial burrows provide protection, shelter, and nests for the Burrowing Owl. The Burrowing Owl typically uses burrows made by fossorial mammals, such

as the California Ground Squirrel and American Badger (*Taxidea taxus*), but may also use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement (Lincer and Steenhof 1997).

Phase I habitat assessment

The initial site visit on 5 April 2006 included the Phase I habitat assessment for the Burrowing Owl. The assessment determined that potential habitat for the Burrowing Owl was present on the property and within 500 feet of the site boundary on the north side, although the habitat is not optimal and residential development in the vicinity limits the extent of the habitat.

Phase II burrow survey

The survey was conducted according to accepted protocol (Lincer and Steenhof 1997). The entire project site was walked, using survey transects spaced to allow 100% visual coverage of the ground surface. Burrows of the California Ground Squirrel are numerous along both sides of the drainage. These burrows, and all potential areas and their environs were examined for such evidence of Burrowing Owl presence as molted feathers, cast pellets, prey remains, eggshell fragments, and excrement. No such evidence was observed on or within 500 feet of the site. The Burrowing Owl was not observed on or near the property during the survey.

Rare, Threatened, Endangered, Endemic and/or Sensitive Plant Species

The CNDDB search revealed only one sensitive species known from the general project area (Appendix 3). Appendix 3 lists this species, its conservation status, typical habitat requirements, and potential for occurrence on the property. No sensitive plant species or narrow endemic species were detected on the property during the survey, although a directed search for such was conducted during the survey.

Rare, Threatened, Endangered, Endemic and/or Sensitive Animal Species and Habitats

The CNNDB search revealed several federally- or state- listed animal species that are known from the general project vicinity. Appendix 4 lists these species, their conservation status, their typical habitat requirements, and potential for occurrence on the property.

JURISDICTIONAL DRAINAGES, WETLANDS AND/OR WATERS OF THE U. S.

SUMMARY OF JURISDICTIONAL REGULATIONS

Three key agencies regulate activities within inland streams, wetlands, and riparian areas in California. The U. S. Army Corps of Engineers (Corps) Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act, and Section 10 of the Rivers and Harbors Act. The California Department of Fish and Game (CDFG) regulates activities under the Fish and Game Code Section 1600-1607. The Regional Water Quality Control Board (RWQCB) regulates activities under Section 401 of the federal Clean Water Act and the California Porter-Cologne Act Water Quality Control Act.

WETLANDS-RELATED REGULATIONS

Wetlands are considered important resources because of their habitat value, water quality function, and potential flood hazards and other reasons. Typically, local, state and federal agencies have regulations regarding identification, protection, and permitting of wetlands (or jurisdictional areas) uses; these are generally discussed below.

State of California

Regional Water Quality Control Board

The Santa Ana Regional Water Quality Control Board (RWQCB) in Riverside is the primary agency responsible for protecting water quality in this region of California. The RWQCB regulates discharges to surface waters under the federal Clean Water Act and the California Porter-Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all waters of the State and to all waters of the United States, including wetlands.

The federal Clean Water Act, Section 401 gives the RWQCB the authority to regulate, through 401 Certification, any proposed federally permitted activity, which may affect water quality. Among such activities are discharges of dredged or fill material permitted by the Corps under the Clean Water Act, Section 404. Certification or waiver must be based on a finding that the proposed discharge will comply with water quality standards. The RWQCB may require permits for this project; no separate delineation needs to be carried out in this document for certification.

California Department of Fish and Game

The State of California regulates activities in rivers, streams, and lakes pursuant to Sections 1600-1603 of the California Fish and Game Code. These sections discuss the process by which an individual, government agency, or public utility must notify the California Department of Fish and Game (CDFG) prior to any activity that would "substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream, or lake..." Following such notification, CDFG must inform the individual, agency, or utility of the existence of any fish and wildlife resources that may be substantially adversely affected by the activity. CDFG must also include a proposal for measures to protect fish and wildlife resources. The proposal is called a "Streambed Alteration Agreement" (1601 Agreement for public agencies and utilities, and a 1603 Agreement for private party activities). Administration of this area is initially out of the CDFG's San Diego Region Office and perhaps later out of the Chino Hills office.

Jurisdictional limits of the CDFG are not as clearly defined by regulation as those of the ACOE. While they closely resemble the limits described by Corps regulations, they exclude isolated wetlands (those not associated with a stream, river, or lake, such as isolated vernal pools) and include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, CDFG takes jurisdiction to the bank of the stream or to the outer limit of the adjacent riparian vegetation, which ever is greater. However, the Fish and Game Commission has provided the definition of the jurisdictional extent of the Section 1600 regulations as an Appendix to the Fish and Game

Code. **This definition follows that of the Service and requires only one of the three Corps criteria**.

CDFG defines wetlands as "Lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time of the growing season of each year." [Note: This is different from the Environmental Protection Agency and Corps definitions in that it requires no more than one criterion.]

Federal Agencies

U. S. Army Corps of Engineers

The U. S. Army Corps of Engineers (Corps) has regulatory authority over the discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act (CWA). The term "waters of the United States" includes (1) all waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide; (2) wetlands; (3) all waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use degradation or destruction of which could affect interstate or foreign commerce; (4) all impoundments of water mentioned above; (5) all tributaries of waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to the waters mentioned above. Under this definition, and in the absence of wetlands, the limits of the Corps' jurisdiction in non-tidal waters extends to the ordinary high water mark (OHWM), which is defined as "...that line on the shore established by the fluctuations if water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas".

Wetlands, a subset of jurisdictional waters, are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." The Corps has developed a methodology for determining the boundaries of jurisdictional wetlands known as the 1987 Manual (Environmental Laboratory 1987). The methodology set forth in the Manual is based on the following three indicators that are normally present in wetlands: (1) hydrology providing permanent or periodic inundation by groundwater or surface water, (2) hydric soils, and (3) hydrophytic vegetation. In order to be considered a wetland, an area must exhibit at least minimal hydric characteristics within these three parameters.

Environmental Protection Agency

The Environmental Protection Agency (EPA) regulates the Corps and the National Environmental Protection Act (NEPA) concerning the regulations of jurisdictional waters and wetlands. No special separate delineation needs to be carried out.

U. S. Fish and Wildlife Service

The U. S. Fish and Wildlife Service (Service) defines wetlands as "Lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate in non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year." Because the Service reviews permits processed by the Corps, no separate delineation needs to be carried out.

Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under the federal CWA and the California Porter-Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all waters of the State and to all waters of the United States, including wetlands.

The CWA Section 401 gives the RWQCB the authority to regulate, through 401 Certification, any proposed federally-permitted activity that may affect water quality. Among such activities are discharges of dredged or fill material permitted by the Corps under CWA Section 404. Certification or waiver must be based on a finding that the proposed discharge will comply with water quality standards. The Lahontan Regional office out of Barstow has jurisdiction for the region of the project.

The notable characteristic of drainages in this area of the north slope of the San Gabriel Mountains is that they drain into the isolated basins of Rosamond Dry Lake and Rogers Dry Lake, and are not involved with interstate commerce. For this reason, under the current interpretation of the Clean Water Act, the RWQCB jurisdiction is only through the California Porter-Cologne Water Quality Control Act, not the CWA.

City of Palmdale

The property is under the guidelines of the Palmdale Municipal Code-Land Development Code (LDC). The City has no special code section relating to wetlands.

ACTIVITIES REQUIRING PERMITS

Any development proposal that involves impacting the jurisdictional drainages, streams, or wetlands on the site through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification would require permits from the RWQCB, and the CDFG before any development could commence on the project site. Both permanent and temporary impacts are regulated and would trigger the need for permits. Processing of the Section 401 permit and Section 1600 agreement can occur concurrently and can utilize the same information and analysis.

Applications to both the RWQCB and the CDFG require submittal of a certified or adopted California Environmental Quality Act (CEQA) document along with the application.

The Corps has no jurisdiction over the drainage on this project due to the Supreme Court's landmark decision on isolated waters ("SWANNC" 2001). By this decision, the Court rejected the Corps' claim to jurisdiction under the CWA over **isolated, intrastate** waters.

METHODOLOGY

Analysis presented in this document is based on field surveys and verification of current conditions conducted on the site 5 April 2006. Measurements were taken with a 300-foot fiberglass tape.

SITE CONDITIONS

A drainage feature runs northeast diagonally through the central portion of the site, entering the property through a culvert just north of the intersection of Avenue R and 30th Street East. On the USGS 7.5' Palmdale, California quadrangle this drainage is not mapped as a blue-line stream. Length of the drainage on the site is approximately 525 feet; width range on the site (bank to bank) is 12-16 feet. A strong surface flow of water 12-14 inches deep was visible in the drainage during the survey visit 5 April.

The Soil Conservation Service classifies soils in the *Hydric Soils of the State of California* (USDA 1995). Soils in the drainage are mapped as Hanford sandy loam, 0-2% slopes, and Adelanto coarse sandy loam, 0-2% slopes (Woodruff *et al.* 1970). Neither is a hydric soil (USDA 1995).

To satisfy the Corps definition of wetlands, a site must have a prevalence (more than 50%) of hydrophytic vegetation. Predominant plant species in the drainage are Narrow-leaf Willow, Red Willow, and Mule Fat (*Baccharis salicifolia*), constituting a prevalence of hydrophytic vegetation (Environmental Laboratory 1987). Although the Corps has no jurisdiction on this project, this information is included to indicate that this satisfies the criterion for CDFG jurisdiction.

A primary wetland hydrology indicator is present in the form of pronounced bed and bank features in the drainage, also satisfying the criterion for CDFG jurisdiction.

CONCLUSION OF JURISDICTIONAL DELINEATION

CDFG (1603) Jurisdictional Delineation

Hydrology and vegetation criteria for CDFG jurisdiction are met along the drainage. The drainage has widths (bank to bank) of 12-16 feet along its approximately 525-foot reach on the site. Distances from the northwest bank of the drainage to the outer limit of the adjacent riparian vegetation on the southeast bank varies from 24 feet to 38 feet, averaging 35 feet. The latter measurements indicate the extent of CDFG jurisdiction. There is no riparian vegetation for a distance of approximately 65 feet near the intersection, and for a gap of approximately 30 feet elsewhere farther downstream along the drainage on the property.

The extent of the jurisdictional area is as follows:

	Area/Length
Wetland on-site	0
Non-wetland waters on-site	0
Channel length (vegetated reach on site)	430 feet
CDFG Streambed area (vegetated reach)	0.35 acre
Channel length (no vegetation on reach)	95
CDFG Streambed area (unvegetated reach)	0.01 acre
Total CDFG Streambed area	**0.36 acre**

FINDINGS

A state jurisdictional streambed occurs on the property.

RESOURCES/HABITAT EVALUATION

The principal habitat type exhibited on the property is Non-native Grassland. The property adjoins developed lands on all sides, with a small area of undeveloped vacant land north of the eastern half of the site.

REGIONAL AND LOCAL CONTEXT

When evaluating the significance of the biological resources occurring within a site, it is necessary to determine their importance within the region as a whole.

The property is not adjacent to any federal, state, or county wilderness, parks, preserves, or open space lands. Across 30th Street East to the northwest is William J. McAdam Park, a 20-acre community recreation park with playing fields and swimming pool.

REGULATORY ISSUES

Jurisdictional Wetlands, Waters of the U.S., Streams, and Drainages

The property includes a state-defined streambed. The property does not include any jurisdictional wetlands. The feature, however, is a CDFG streambed under state definitions. The soils mapped for the property are not listed as hydric soils, nor do the on-site soils exhibit hydric characteristics.

ANTICIPATED PROJECT IMPACTS TO BIOLOGICAL RESOURCES

PROJECT IMPACTS

Vegetation

The project, as designed, would impact all the on-site vegetation. The project, as designed, would also impact the drainage, although it's unnaturally arrow-straight dimension and absence of riparian vegetation on the northwest bank suggest that some channelization has taken place previously.

Disturbed Habitat

The project would impact 0.35 acre of Disturbed Habitat on the site. This effect is considered less-than-significant under CEQA.

Non-native Grassland

The project would impact 4.88 acres of Non-native Grassland. This effect is considered less-than-significant under CEQA.

Rabbitbrush Scrub

The project, as designed, would impact 0.02 acre of Rabbitbrush Scrub. Because of the small size of this remnant vegetation patch, this effect is considered less-than-significant under CEQA.

Southern Willow Scrub

The project would impact 0.21 acre of Southern Willow Scrub. This effect is considered potentially significant under CEQA but would be mitigated to a less-than-significant level under CEQA by implementation of the mitigation measure requiring a streambed alteration agreement from CDFG.

Sensitive Species

Plants

No sensitive plant species or narrow endemic species occur on the property. The development of the project would not impact any sensitive plant species. This effect is considered less-than-significant under CEQA.

Animals

No sensitive animal species or narrow endemic species occur on the property. The development of the project would not impact any sensitive animal species. This effect is considered less-than-significant under CEQA.

Jurisdictional Streambeds

The project would impact approximately 0.36 acre of a CDFG streambed. This effect is considered potentially significant under CEQA but would be mitigated to a less-than-significant level under CEQA by implementation of the mitigation measure requiring a streambed alteration agreement from CDFG.

INDIRECT IMPACTS

Incremental Loss of Habitat Viability

Indirect and long term impacts associated with the project would result from occupation of the area by human residents. Non-native mesopredators, defined as medium-sized mammalian nest predators such as dogs and cats, and/or exotic plant species would probably be introduced into the surrounding habitat. This introduction of non-native species could potentially degrade the surrounding native vegetation and habitat and disturb/kill native wildlife species. However, since the project site is already essentially surrounded by urban development,

this effect would be less-than-significant under CEQA.

General Construction Effects

Short-term Construction Impacts

During the construction phase of the proposed project, there is the potential of increased noise (which may displace local wildlife and nesting birds), fugitive dust, and increased runoff resulting in a reduction of water quality during rainstorms; see recommended mitigation measure.

Post Construction

Stormwater runoff from the streets, driveways and yards may flow into off site drainages or undeveloped land, which may increase erosion and introduce urban pollution into the environment.

RECOMMENDED MITIGATION/MONITORING MEASURES

JURISDICTIONAL STREAMBEDS

The project should be conditioned to obtain a Streambed Alteration Agreement from CDFG prior to any clearing, grubbing, grading or construction.

BURROWING OWL

Current Burrowing Owl survey protocol and mitigation guidelines require a breeding season survey and census (Phase III) of the Burrowing Owl if burrows or Burrowing Owls are recorded on the site during the Phase II burrow survey. The Phase III survey involves four site visits on separate days, early morning or late afternoon, during the period 15 April-15 July. If the Burrowing Owl is not observed using the site during the breeding season, a winter survey is required during the period 1 Decmber-31 January, also involving four site visits on separate days, early morning or late afternoon. A resource summary written report must be prepared for CDFG that gives the results of each Phase of the survey protocol.

GENERAL CONSTRUCTION EFFECTS

Short-term Construction Impacts

Any clearing, grubbing or grading permits for the project should be conditioned to require that Standard Best Management Practices (BMP's) be employed to control noise, dust and runoff during this phase of construction. Measures may include the use of retention basins and sand bags, application of water on unpaved, unvegetated surfaces.

Post Construction

Any clearing, grubbing or grading permits for the project should be conditioned to employ Post-Construction BMP's to reduce off-site stormwater, irrigation runoff and urban pollution from entering native habitats.

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CERTIFICATION

Certification: *"I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief."*

DATE: 14 April 2006 SIGNED: Cornelius W Bouscaren

for R. Mitchel Beauchamp, M. Sc.

APPENDIX 1. FLORAL CHECKLIST – AVENUE R AND 30TH STREET EAST, PALMDALE, CALIFORNIA

GYMNOSPERMS

Ephedraceae - Ephedra Family
Ephedra californica Wats. Desert Tea

DICOTYLEDONS

Amaranthaceae - Amaranth Family
Amaranthus blitoides S. Wats. Prostrate Amaranth

Asteraceae - Sunflower Family
Baccharis salicifolia (R.& P.) Pers. Mule Fat
* *Chamomilla suaveolens* (Pursh.) Ryd. Pineapple Weed
Chrysothamnus nauseosus (Pall.) Brit. ssp. *hololeucus* (Gray) Hall & Clem. Rubber Rabbitbrush
* *Conyza canadensis* (L.) Cronq. Horseweed
Gutierrezia sarothrae (Pursh) Britt. & Rusby Matchweed
Lasthenia gracilis (DC.) E.Greene Common Goldfields
* *Sonchus oleraceus* L. Common Sow Thistle
Stylocline gnaphalioides Nutt. Everlasting Nest Straw

Boraginaceae - Borage Family
Pectocarya linearis ssp. *ferocula* (Jtn.) Thorne Slender Pectocarya

Brassicaceae - Mustard Family
Descurainia pinnata ssp. *halictorum* (Ckrel.) Detl. Tansy Mustard
* *Hirschfeldia incana* (L.) Lagr.-Fossat Short-pod Mustard
Lepidium nitidum Nutt. var. *nitidum* Shining Peppergrass
* *Sisymbrium irio* L. London Rocket

Chenopodiaceae - Goosefoot Family
Atriplex canescens (Pursh) Nutt. ssp. *canescens* Four-wing Saltbush
* *Chenopodium ambrosioides* L. Mexican Tea
* *Salsola tragus* L. Russian Thistle

Euphorbiaceae - Spurge Family
Eremocarpus setigerus (Hook.) Benth. Doveweed

Fabaceae - Legume Family
Lotus argophyllus (Gray) Greene var. *argophyllus* Silver-leaf Lotus
Lupinus hirsutissimus Benth. Stinging Lupine

Geraniaceae - Geranium Family
* *Erodium cicutarium* (L.) L'Hér. Red-stem Filaree

Lamiaceae - Mint Family
* *Marrubium vulgare* L. Horehound

Malvaceae - Mallow Family
* *Malva parviflora* L. Cheeseweed, Little Mallow

Onagraceae - Evening-Primrose Family
Epilobium ciliatum Raf. ssp. *ciliatum* Willow Herb

APPENDIX 1. FLORAL CHECKLIST – AVENUE R AND 30TH STREET EAST, PALMDALE, CALIFORNIA

Polygonaceae - Buckwheat Family
Eriogonum gracile Benth. var. *gracile* Slender Buckwheat

Primulaceae - Primrose Family
* *Anagallis arvensis* L. Scarlet Pimpernel

Salicaceae - Willow Family
Salix exigua Nutt. Narrow-leaf Willow
Salix laevigata Bebb Red Willow

Ulmaceae - Elm Family
* *Ulmus pumila L.* Siberian Elm

MONOCOTYLEDONS

Liliaceae - Lily Family
* *Agave americana* L. American Agave

Poaceae - Grass Family
* *Bromus madritensis* L. ssp. *rubens* (L.) Husnot Red Brome
* *Hordeum jubatum* L. Foxtail Barley
* *Piptatherum miliaceum* (L.) Cosson Smilo Grass
* *Schismus barbatus* (L.) Thell. Mediterranean Schismus
Vulpia microstachys (Nutt.) Benth. var. *pauciflora* (Beal) Lenard & Gould Pacific Fescue

Typhaceae - Cattail Family
Typha latifolia L. Broad-leaf Cattail

* - Denotes non-native plant taxa

APPENDIX 2. CHECKLIST OF ANIMALS OBSERVED OR DETECTED– AVENUE R AND 30TH STREET EAST, PALMDALE, CALIFORNIA

COMMON NAME	SCIENTIFIC NAME
BIRDS	
Columbidae (Pigeons and Doves)	
Mourning Dove	*Zenaida macroura*
Trochilidae (Hummingbirds)	
Anna's Hummingbird	*Calypte anna*
Picidae (Woodpeckers)	
Northern Flicker	*Colaptes auratus*
Corvidae (Jays, Crows, Ravens, and Magpies)	
American Crow	*Corvus brachyrhynchos*
Common Raven	*Corvus corax*
Mimidae (Mockingbirds and Thrashers)	
Northern Mockingbird	*Mimus polyglottos*
Parulidae (Wood-Warblers)	
Yellow-rumped Warbler	*Dendroica coronata*
Emberizidae (Towhees and Sparrows)	
Song Sparrow	*Melospiza melodia*
White-crowned Sparrow	*Zonotrichia leucophrys*
Icteridae (Blackbirds, Meadowlarks, and Orioles)	
Great-tailed Grackle	*Quiscalus mexicanus*
Fringillidae (Finches)	
House Finch	*Carpodacus mexicanus*
Passeridae (Old World Sparrows)	
House Sparrow	*Passer domesticus*
MAMMALS	
Sciuridae (Squirrels, Chipmunks, and Marmots)	
California Ground Squirrel	*Spermophilus beecheyi*

Appendix 3. Sensitive Plant reported from USGS 7.5' Palmdale, California quadrangle (CNDDB)

SPECIES NAME	STATUS Federal/State/CNPS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Opuntia basilaris var *brachyclada* Short-joint Beavertail	FSC/None/1B(3-2-3)	Chaparral, Joshua Tree woodland, Mojavean desert scrub, pinyon-juniper woodland, riparian woodland. Sandy soil or coarse granitic loam, 425-1800 m.	None. Site too disturbed. Searched for but not observed

Appendix 4. Sensitive Animals reported from USGS 7.5' Palmdale, California quadrangle

SPECIES NAME	STATUS Federal/State/CDFG	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE	CONSERVATION GROUP
San Diego Horned Lizard *Phrynosoma coronatum blainvillii*	None/None/CSC	Coastal sage scrub, chaparral in arid and semi-arid climate, esp. friable, rocky, or shallow sandy soils	None. Site too disturbed	
Silvery Legless Lizard *Anniella pulchra pulchra*	None/None/CSC	Sparse vegetation of chaparral and riparian, loose soil for burrowing.	Moderate. Suitable habitat.	
Two-striped Gartersnake *Thamnophis hammondii*	None/None/CSC	Coastal CA., fr/ Salinas to NW Baja, fr/sea level to approx. 7000 ft ; esp. highly aquatic, found in or near permanent fresh water, often along streams w/rocky beds & riparian growths	None. No habitat on site, not permanent or nearly permanent water.	
Cooper's Hawk *Accipiter cooperi*	None/None/CSC	Woodland, usu. open, interrupted or marginal type, nests mainly in riparian areas	Moderate. May occasionally forage throgh area. Nesting habitat limited, marginal.	
Burrowing Owl *Athene [Speotyto] cunicularia* (burrow sites)	BCC/None/CSC	Open dry annual or perennial grasslands, desert & scrublands w/low growing vegetation, uses ground squirrel burrows for nesting	Moderate. Suitable habitat with California Ground Squirrel burrows.	
Le Conte's Thrasher *Toxostoma lecontei*	BCC/None/CSC	Primarily in open desert wash, desert scrub, alkali desert scrub & desert succulent scrub habitats; nests in dense, spiny shrub or densely branched cactus in desert wash habits, usu. 2-8 ft above ground	None. Site too disturbed.	National Audubon Society Yellow List
Tricolored Blackbird *Agelaius tricolor* (nesting colony)	BCC/None/CSC	Breeds near fresh water in emergent wetlands w/dense cattails or tules. Feeds in grassland & cropland.	None. No nesting habit on site or adjacent. May be a small colony at Lake Palmdale 3.5 miles to southeast.	National Audubon Society Yellow List
Mohave Ground Squirrel *Spermophilus mohavensis*	None/CT/None	Open desert scrub, alkali scrub & Joshua tree woodland, annual grasslands, esp. sandy to gravelly soils, avoids rocky areas.	None. Site too disturbed for many years. Last recorded observation this quadrangle 1932.	
San Joaquin Pocket Mouse *Perognathus inornatus inornatus*	None/None/CSC	Dry open grasslands or scrub areas, blue oak savannas, Central and Salinas Valleys? Needs friable soils.	None. No habitat. Identification of specimen in this quadrangle questionable.	

DEFINITIONS OF SENSITIVITY RATINGS

California Native Plant Society (CNPS)

List Status

List 1A	Plants presumed extinct in California. CEQA consideration mandatory
List 1B	Plants rare, threatened, or endangered in California and elsewhere. CEQA
List 2	Plants rare, threatened, or endangered in California, but more common elsewhere. CEQA consideration mandatory
List 3	Plants about which we need more information - a review list. CEQA consideration strongly recommended
List 4	Plants of limited distribution - a watch list. CEQA consideration strongly recommended

CNPS R-E-D Code

R (Rarity)

1	Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time
2	Distributed in a limited number of occurrences, occasionally more if each occurrence is small
3	Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported

E (Endangerment)

1	Not endangered
2	Endangered in a portion of its range
3	Endangered throughout its range

D (Distribution)

1	More or less widespread outside California
2	Rare outside California
3	Endemic to California

State-Listed/Designated Plants and Animals

CE	State-listed, endangered
CT	State-listed, threatened
CR	State-listed, rare
CC	Candidate for State listing
CSC	California Special Concern Species (Department of Fish and Game)
CFP	California Fully Protected

Federally-Listed/Designated Plants and Animals

FE	Federally-listed, endangered
FT	Federally-listed, threatened
PE	Federally-proposed, endangered
PT	Federally-proposed, threatened
FC	Candidate for Federal listing
BBC	Birds of Conservation Concern
C2*	Threat and/or distribution data are insufficient to support federal listing, but the plant is presumed extinct
C3c	Too widespread and/or not threatened
USFWS 2002 List	U. S. Fish & Wildlife Service Birds of Conservation Concern 2002 List within jurisdiction of Carlsbad FWO "… to identify species, subspecies, and populations of migratory and non-migratory birds in need of additional conservation actions."

National Audubon Society WatchList

Red List	Identified by BirdLife International as Threatened or Near-threatened at the global level and by Partners in Flight as Extremely High Priority at the national level
Yellow List	Identified by Partners in Flight at the national level as of Moderately High Priority or Moderate Priority

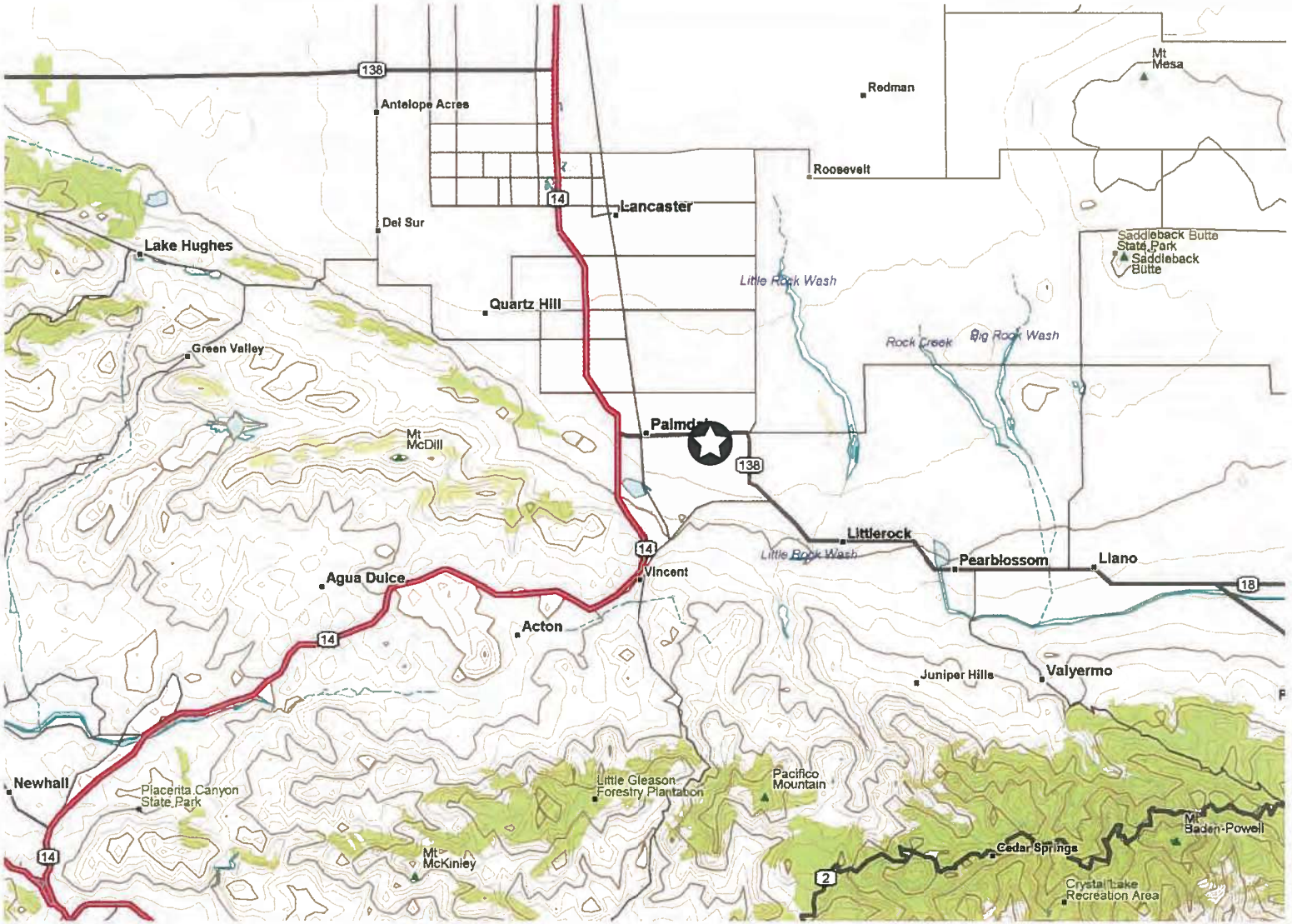

Figure 1. Project Vicinity, Avenue R and 30th Street East, Palmdale, Los Angeles County, CA -

N

Not to Scale

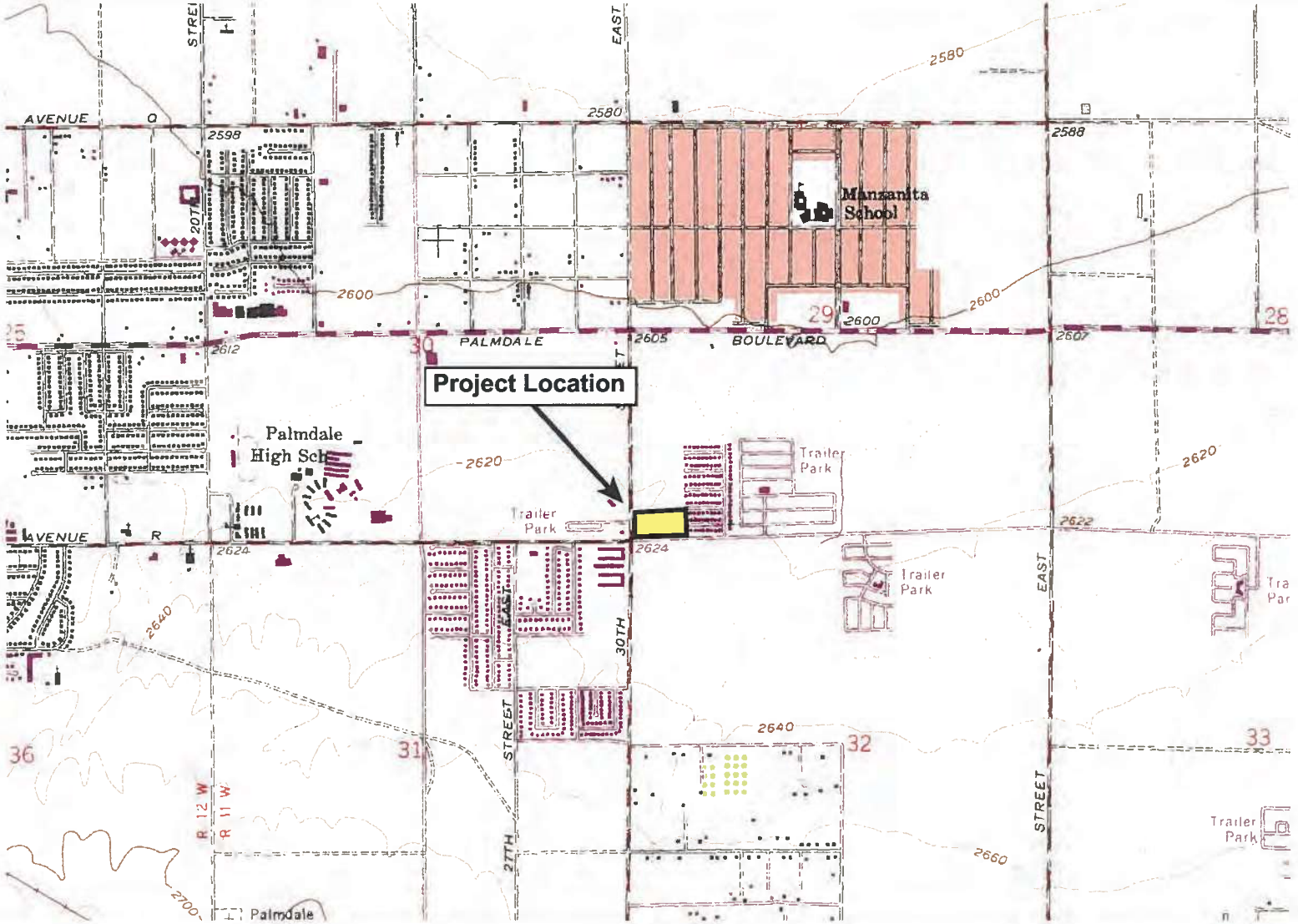

Figure 2. Project Location, Avenue R and 30th Street East, Palmdale, Los Angeles County
USGS 7.5' Palmdale, CA Quadrangle

N

1" = 2,000'

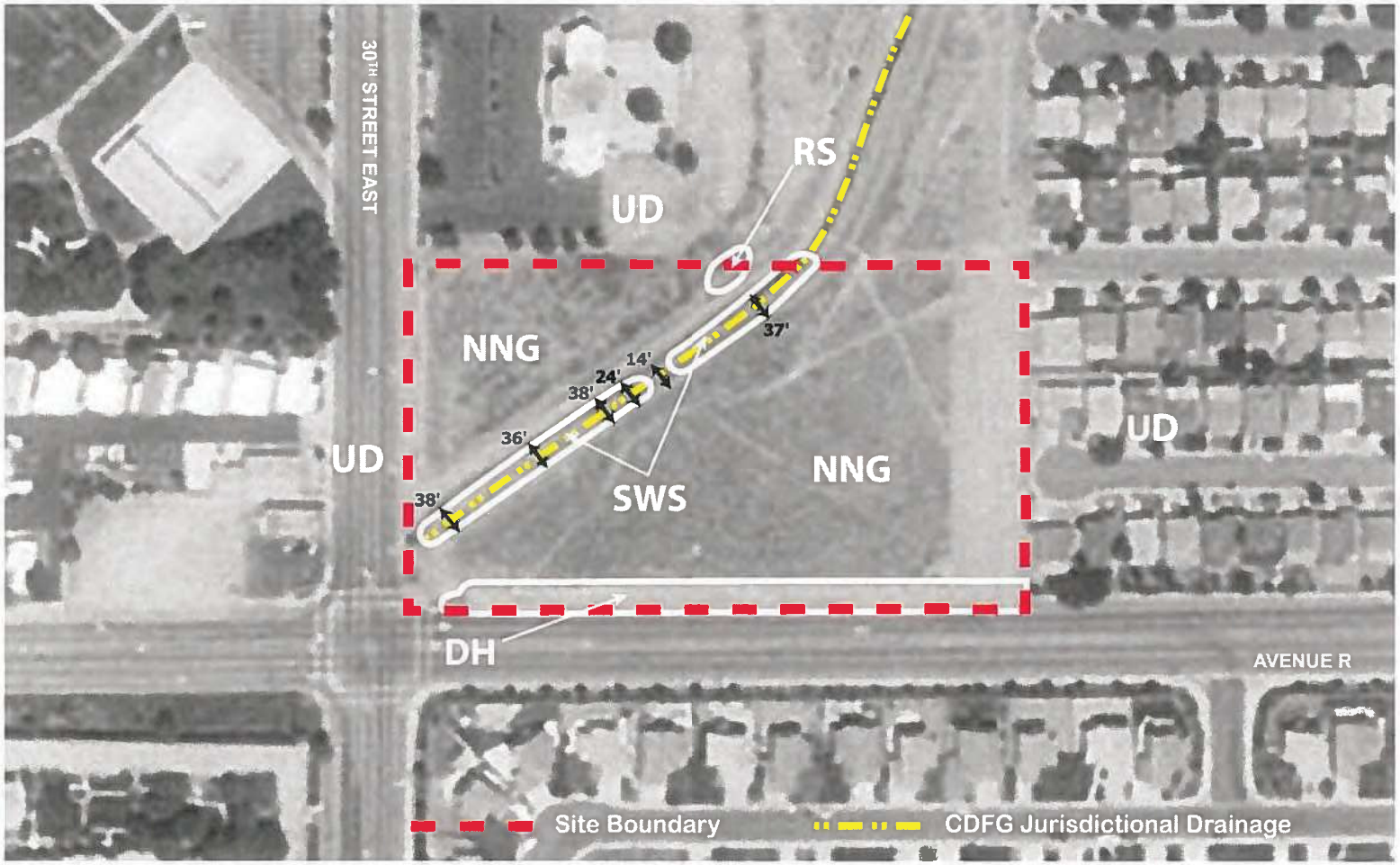

Figure 3. Vegetation Map and Jurisdictional Delineation, Avenue R and 30th Street East

	Holland Code
DH - Disturbed Habitat	11300
UD - Urban / Developed	12000
RS - Rabbitbrush Scrub	35400
NNG - Non-native Grassland	42200
SWS - Southern Willow Scrub	63320

N

Not to Scale

AVENUE R AND 30TH STREET, SITE PHOTOGRAPHS

Photo #1. View of drainage from 30th Street East.

AVENUE R AND 30TH STREET, SITE PHOTOGRAPHS

Photo #2. Non-native Grassland and view of drainage from Southeast.

Appendix B

ENVIRONMENTAL LIEN AND AUL REPORT

Order # 79-99110-47

NA
PALMDALE, CA 93552

Completed 04/10/2019
Effective 04/02/2019

AFX RESEARCH, LLC

A Quarter-Century of Title Document Research Expertise

999 Monterey St. Suite 380, San Luis Obispo, CA 93401

(877) 848-5337 / www.afxllc.com

ENVIRONMENTAL LIEN AND AUL REPORT

Order # 79-99110-47 | Completed 04/10/2019 | Effective: 04/02/2019

SOURCES SEARCHED

Source 1:	LOS ANGELES COUNTY RECORDER'S OFFICE
Source 2:	CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
Source 3:	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

TARGET PROPERTY

Current Owner(s):	HIGHRIDGE COSTA HOUSING PARTNERS LLC		
Street Address:	NA		
City, State Zip Code:	PALMDALE, CA 93552		
APN/Parcel/PIN:	3020-005-031	County:	LOS ANGELES
Legal Description:	P M 60-56 EX OF STS LOT 2		

PROPERTY OWNERSHIP

Instrument: **QUIT CLAIM DEED**

Date Recorded:	12/04/2014	Instrument:	20141308356
Dated:	12/01/2014		
Grantor(s):	PALMDALE FAMILY HOUSING INVESTORS LP		
Grantee(s):	HIGHRIDGE COSTA HOUSING PARTNERS LLC		

ENVIRONMENTAL LIENS

NO ENVIRONMENTAL LIENS WERE FOUND FOR SUBJECT PROPERTY.

ACTIVITY AND USE LIMITATIONS (AUL)

NO AUL WERE FOUND FOR SUBJECT PROPERTY.

LEASES AND MISCELLANEOUS INSTRUMENTS

NO LEASES OR MISCELLANEOUS INSTRUMENTS FOUND FOR SUBJECT PROPERTY.

THANK YOU FOR YOUR ORDER

For questions, please contact our office at 1-877-848-5337.

Order # 79-99110-47

Our Environmental Lien and AUL report provides a summary of recorded information on a specific property from the time the current owner purchased the property, to present time. The report is intended to assist in the search for environmental liens filed in land title records. The report will verify property ownership and provide information on recorded environmental liens and/or Activity and Use Limitations that have been recorded from the time the current owner purchased the property, forward.

Our professional network of trained researchers follow established industry protocols and use client-supplied property information to complete this Environmental Lien and AUL report. The research is conducted at all appropriate government offices based on the location of the subject property. This would include city, county, state, federal and tribal offices as needed. The report includes:

- Current deed information (i.e. grantor, grantee, recording dates)
- Legal Description
- Environmental Lien information
- Activity and Use Limitation information
- Copies of any Environmental Liens and/or documents referencing AULs that are listed within our summary report

-Disclaimer-

This report was prepared for the intended use of AFX Research, LLC (AFX) and client, exclusively. This report is not a guarantee of title, nor a commitment to insure, nor a policy of title insurance. No warranty, expressed or implied, is made whatsoever in connection with this report. AFX Research, LLC specifically disclaims the making of any such

Appendix C

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 100, Riverside, CA 92505
Phone: (951) 710-5941• Fax: (951) 710-5955

Issuing Policies of Fidelity National Title Insurance Company

Title Officer: Chris Scurti (MA)
Escrow Officer: Major Accounts OAC

Order No.: 987-**30026552**-CS7

TO:

Housing Partners
330 West Victoria Street
Gardena, CA 90248

ATTN: .**Sam Arico**
YOUR REFERENCE:

PROPERTY ADDRESS: Cor Avenue R Pav 30th Ste, Palmdale, CA

PRELIMINARY REPORT

In response to the application for a policy of title insurance referenced herein, ***Fidelity National Title Company*** *hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Fidelity National Title Insurance Company, a Florida Corporation.

Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Countersigned by:

Authorized Signature

Fidelity National Title Company
4210 Riverwalk Parkway, Suite 100, Riverside, CA 92505
Phone: (951) 710-5941• Fax: (951) 710-5955

PRELIMINARY REPORT

EFFECTIVE DATE: **March 1, 2019 at 7:30 a.m.**

ORDER NO.: 987-30026552-CS7

The form of policy or policies of title insurance contemplated by this report is:

ALTA Extended Owners Policy (6-17-06)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A FEE

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   HIGHRIDGE COSTA HOUSING PARTNERS, LLC, a Delaware limited liability company, subject to Requirement Item No. 1

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   See Exhibit A attached hereto and made a part hereof.

EXHIBIT A

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF PALMDALE IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 2, IN THE CITY OF PALMDALE, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS SHOWN ON PARCEL MAP NO. 5074, FILED IN BOOK 60, PAGE 56 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPT THEREFROM 1/16TH OF ALL COAL, OIL, GAS AND OTHER MINERAL DEPOSITS CONTAINED IN SAID LAND, AS RESERVED BY STATE OF CALIFORNIA, IN PATENT TO JAMES L. MC ADAM, RECORDED IN BOOK 3873, PAGE 254, OFFICIAL RECORDS.

APN: 3020-005-019

EXCEPTIONS

AT THE DATE HEREOF, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

A. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes to be levied for the fiscal year 2019-2020.

B. Property taxes, including any personal property taxes and any assessments collected with taxes, are as follows:

Tax Identification No.:	3020-005-031
Fiscal Year:	2018-2019
1st Installment:	$1,318.44, PAID
2nd Installment:	$1,318.43, OPEN (Delinquent after April 10)
Penalty and Cost:	$141.84
Homeowners Exemption:	$0.00
Code Area:	07325

C. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

1. Water rights, claims or title to water, whether or not disclosed by the public records.

2. An instrument which purports to dedicate to sue of the public for highway purposes a portion of said land as contained in the minutes of the Board of Supervisors on December 19, 1932 in Book 184, page 360, of minutes.

   Said matter affects a strip of land 60 feet wide lying 30 feet on each side of the Southerly line of the Southwest quarter of Section 29, Township 6 North, Range 11 West.

3. Easement(s) for the purpose(s) shown below and rights incidental thereto as set forth in a document:

Purpose:	sanitary sewers and appurtenant structures and incidental purposes
Recording Date:	October 14, 1970
Recording No:	as Instrument No. 1911 of Official Records

4. Matters contained in that certain document

Entitled:	Covenant and Agreement
Recording Date:	March 3, 1975
Recording No:	as Instrument No. 412 of Official Records

   Reference is hereby made to said document for full particulars.

5. Matters contained in that certain document

Entitled:	Parcel Map Agreement
Recording Date:	June 10, 1975
Recording No:	as Instrument No. 702 of Official Records

   Reference is hereby made to said document for full particulars.

EXCEPTIONS
(Continued)

6. The ownership of said Land does not include rights of access to or from the street, highway, or freeway abutting said Land, such rights having been relinquished by the document,

   Recording Date: June 12, 1975
   Recording No: as Instrument No. 4354, Official Records

7. The ownership of said Land does not include rights of access to or from the street, highway, or freeway abutting said Land, such rights having been relinquished by the document,

   Recording Date: June 12, 1975
   Recording No: as Instrument No. 4355 of Official Records

8. Easement(s) for the purpose(s) shown below and rights incidental thereto as set forth in a document:

   Purpose: Sewer and utility and incidental purposes
   Recording Date: June 27, 1975
   Recording No: as Instrument No. 452, of Official Records

9. Matters contained in that certain document

   Entitled: Declaration of Covenants by Offsite Property Owner for Construction Offsite Drainage Facilities
   Recording Date: June 27, 1975
   Recording No: as Instrument No. 454 of Official Records

   Reference is hereby made to said document for full particulars.

   and Recording No: as Instrument No. 455 of Official Records

   and Recording No: as Instrument No. 456 of Official Records

   and Recording No: as Instrument No. 457 of Official Records

10. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, citizenship, immigration status, primary language, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

    Recording Date: June 27, 1975
    Recording No: as Instrument No. 454 of Official Records

    and Recording No: as Instrument No. 455 of Official Records

    and Recording No: as Instrument No. 456 of Official Records

    and Recording No: as Instrument No. 457 of Official Records

EXCEPTIONS
(Continued)

11. Easement(s) for the purpose(s) shown below and rights incidental thereto as set forth in a document:

Purpose:	Sanitary sewers and incidental purposes
Recording Date:	September 17, 1975
Recording No:	as Instrument No. 2398 of Official Records
and Recording No:	as Instrument No. 2399 of Official Records
and Recording No:	as Instrument No. 2400 of Official Records
and Recording No:	as Instrument No. 2401 of Official Records

12. Matters contained in that certain document

Entitled:	Agreement No. A-1743
Dated:	January 2, 2008
Executed by:	City of Palmdale, California municipal corporation
Recording Date:	February 7, 2008
Recording No:	20080232360 of Official Records

Reference is hereby made to said document for full particulars.

13. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	City of Palmdale, a Municipal Corporation
Purpose:	public road and highway purposes (right-of-way)
Recording Date:	May 22, 2008
Recording No:	20080911380 of Official Records

14. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	City of Palmdale, a Municipal Corporation
Purpose:	public road and highway purposes (right-of-way)
Recording Date:	May 22, 2008
Recording No:	20080911381 of Official Records

15. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	City of Palmdale, a Municipal Corporation
Purpose:	public road and highway purposes (right-of-way)
Recording Date:	May 22, 2008
Recording No:	20080911382 of Official Records

EXCEPTIONS
(Continued)

16. An instrument entitled "Covenant and Agreement"

Executed by:	California Regional Water Quality Control Board (Los Angeles Region)
In favor of:	Palmdale Family Housing Investors, L.P.
Recording Date:	July 14, 2008
Recording No:	20081242713 of Official Records

Reference is hereby made to said document for full particulars.

This covenant and agreement provides that it shall be binding upon any future owners, encumbrancers, their successors or assigns, and shall continue in effect until the advisory agency approves termination.

17. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

18. Any easements not disclosed by the public records as to matters affecting title to real property, whether or not said easements are visible and apparent.

19. Matters which may be disclosed by an inspection and/or by a correct ALTA/NSPS Land Title Survey of said Land that is satisfactory to the Company, and/or by inquiry of the parties in possession thereof.

20. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

PLEASE REFER TO THE "INFORMATIONAL NOTES" AND "REQUIREMENTS" SECTIONS WHICH FOLLOW FOR INFORMATION NECESSARY TO COMPLETE THIS TRANSACTION.

END OF EXCEPTIONS

REQUIREMENTS SECTION

1. The vesting set forth in this report is subject to verification, in a form satisfactory to the Company, of the validity and enforceability of the following uninsured Deed:

Grantor:	Palmdale Family Housing Investors, L.P., a California limited partnership
Grantee:	Highridge Costa Housing Partners, LLC, a Delaware limited liability company
Recording Date:	December 4, 2014
Recording No.:	20141308356 of Official Records

2. The Company will require the following documents for review prior to the issuance of any title insurance predicated upon a conveyance or encumbrance from the entity named below:

   Limited Liability Company: Highridge Costa Housing Partners, LLC, a Delaware limited liability company

   a) A copy of its operating agreement, if any, and all amendments, supplements and/or modifications thereto, certified by the appropriate manager or member.

   b) If a domestic Limited Liability Company, a copy of its Articles of Organization and all amendments thereto with the appropriate filing stamps.

   c) If the Limited Liability Company is member-managed, a full and complete current list of members certified by the appropriate manager or member.

   d) A current dated certificate of good standing from the proper governmental authority of the state in which the entity is currently domiciled.

   e) If less than all members, or managers, as appropriate, will be executing the closing documents, furnish evidence of the authority of those signing.

   f) If Limited Liability Company is a Single Member Entity, a Statement of Information for the Single Member will be required.

   g) Each member and manager of the LLC without an Operating Agreement must execute in the presence of a notary public the Certificate of California LLC (Without an Operating Agreement) Status and Authority form.

3. Unrecorded matters which may be disclosed by an Owner's Affidavit or Declaration. A form of the Owner's Affidavit/Declaration is attached to this Preliminary Report/Commitment. This Affidavit/Declaration is to be completed by the record owner of the land and submitted for review prior to the closing of this transaction. Your prompt attention to this requirement will help avoid delays in the closing of this transaction. Thank you.

   The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit/Declaration.

END OF REQUIREMENTS

INFORMATIONAL NOTES SECTION

1. Note: The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

2. Note: There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

END OF INFORMATIONAL NOTES

Chris Scurti (MA)/gp

Wire Fraud Alert

This Notice is not intended to provide legal or professional advice. If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the phone number of relevant parties to the transaction as soon as an escrow account is opened**. DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

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Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

Types of Information Collected
We may collect two types of information from you: Personal Information and Browsing Information.

Personal Information. FNF may collect the following categories of Personal Information:
- contact information (*e.g.,* name, address, phone number, email address);
- demographic information (*e.g.,* date of birth, gender, marital status);
- identity information (*e.g.,* Social Security Number, driver's license, passport, or other government ID number);
- financial account information (*e.g.,* loan or bank account information); and
- other personal information necessary to provide products or services to you.

Browsing Information. FNF may automatically collect the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or mobile device:
- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website

How Personal Information is Collected
We may collect Personal Information about you from:
- information we receive from you on applications or other forms;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

How Browsing Information is Collected
If you visit or use an FNF Website, Browsing Information may be collected during your visit. Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics
Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to other websites. FNF is not responsible for the privacy practices or the content of any of those other websites. We advise you to read the privacy policy of every website you visit.

Use of Personal Information
FNF uses Personal Information for three main purposes:
- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and third parties' products and services, jointly or independently.

When Information Is Disclosed
We may make disclosures of your Personal Information and Browsing Information in the following circumstances:
- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;
- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or

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- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Please see "**Choices With Your Information**" to learn the disclosures you can restrict.

Security of Your Information
We maintain physical, electronic, and procedural safeguards to guard your Personal Information. We limit access to nonpublic personal information about you to employees who need to know that information to do their job. When we provide Personal Information to others as discussed in this Privacy Notice, we expect that they process such information in compliance with our Privacy Notice and in compliance with applicable privacy laws.

Choices With Your Information
If you do not want FNF to share your information with our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties, except as permitted by California law.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.

For Oregon Residents: We will not share your Personal Information and Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not share information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children
The FNF Websites are meant for adults and are not intended or designed to attract persons under the age of eighteen (18).We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users
FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence for any of the purposes described in this Privacy Notice. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

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Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except (1) as required or authorized by contract with the mortgage loan servicer or lender, or (2) as required by law or in the good-faith belief that such disclosure is necessary to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

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By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The revised Privacy Notice, showing the new revision date, will be posted on the FNF Website. Each time you provide information to us following any amendment of this Privacy Notice, your provision of information to us will signify your assent to and acceptance of the terms of the revised Privacy Notice for all previously collected information and information

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Attn: Chief Privacy Officer

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Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the field rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for each discount. These discounts only apply to transaction involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

FNF Underwritten Title Company
FNTC - Fidelity National Title Company
FNTCCA –Fidelity National Title Company of California

FNF Underwriter
FNTIC - Fidelity National Title Insurance Company

Available Discounts

CREDIT FOR PRELIMINARY REPORTS AND/OR COMMITMENTS ON SUBSEQUENT POLICIES (FNTIC)
Where no major change in the title has occurred since the issuance of the original report or commitment, the order may be reopened within 12 or 36 months and all or a portion of the charge previously paid for the report or commitment may be credited on a subsequent policy charge.

DISASTER LOANS (FNTIC)
The charge for a lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within 24 months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be 50% of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (FNTIC)
On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be 50% to 70% of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be 40% to 50% of the appropriate title insurance rate, depending on the type of coverage selected.

OWNER'S DECLARATION

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)

   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at _____, further described as follows: See Preliminary Report/Commitment No. 30026552-987-987-CS7 for full legal description (the "Land").

   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at _____, further described as follows: See Preliminary Report/Commitment No. 30026552-987-987-CS7 for full legal description (the "Land").

2. (Fill in the applicable paragraph and strike the other)

   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.

   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.

3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.

4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records.

5. The Land is currently in use as _____; _____occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____

6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.

7. There are no outstanding options to purchase or rights of first refusal affecting the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on ____ at _____.

Signature: _____

ATTACHMENT ONE

CALIFORNIA LAND TITLE ASSOCIATION

STANDARD COVERAGE POLICY – 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
   (c) resulting in no loss or damage to the insured claimant;
   (d) attaching or created subsequent to Date of Policy; or
   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;

d. improvements on the Land;
e. land division; and
f. environmental protection.

This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.

2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.
5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% % of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% % of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;

   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.

   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;

(b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
(c) resulting in no loss or damage to the Insured Claimant;
(d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13 or 14); or
(e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.

4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

(Except as provided in Schedule B - Part II,(t(or T)his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of:

(PART I

(The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:)

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
      (i) the occupancy, use, or enjoyment of the Land;
      (ii) the character, dimensions, or location of any improvement erected on the Land;
      (iii) the subdivision of land; or
      (iv) environmental protection;
      or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or

(e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.

4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees or expenses, that arise by reason of: (The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown in the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and that are not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.
7. (Variable exceptions such as taxes, easements, CC&R's, etc. shown here.)

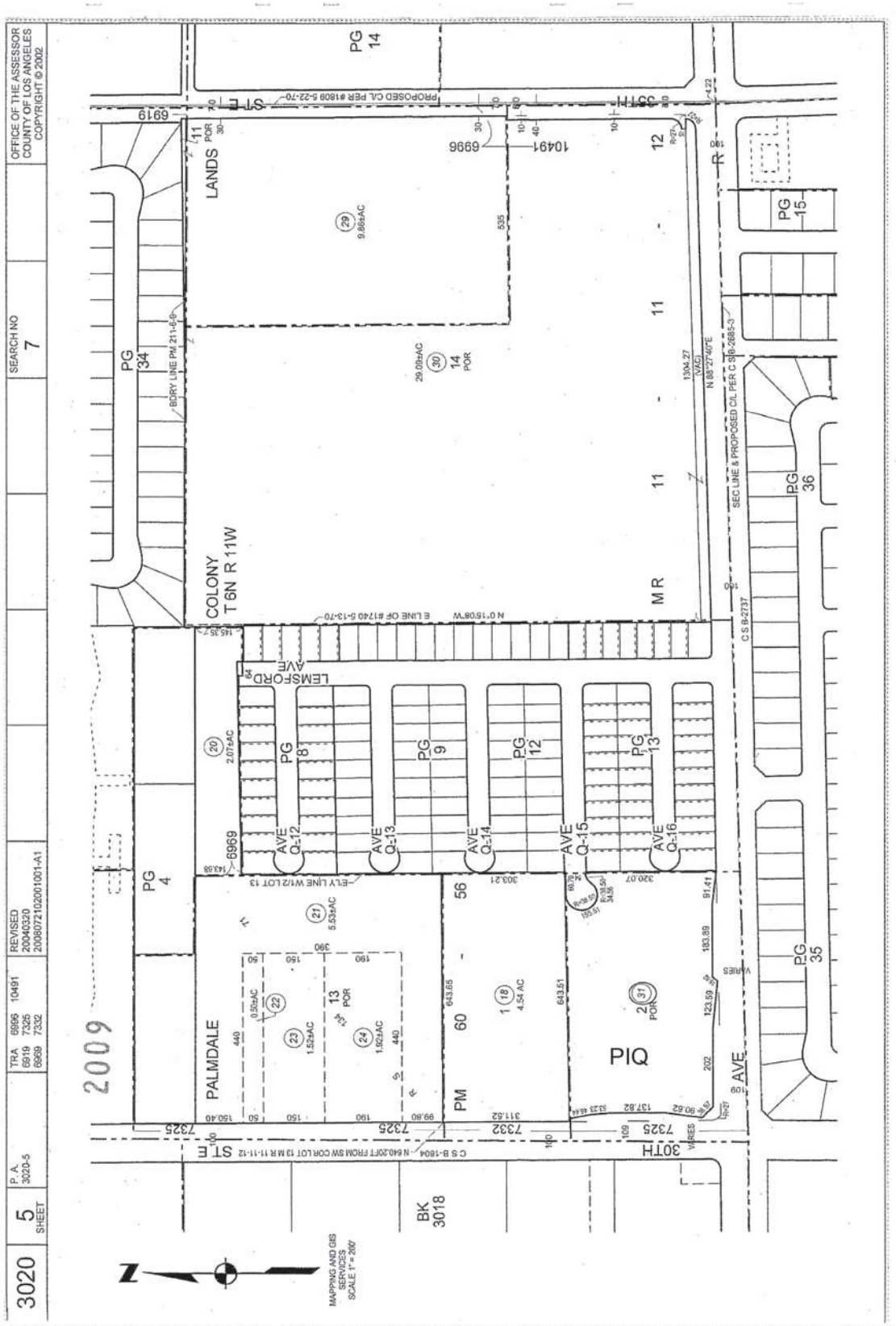
ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.

8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.



This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

OWNER'S DECLARATION

Escrow No.: 30026552-987-987-CS7
Property Address: Cor Avenue R Pav 30th Ste
Palmdale, CA 93552

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)
   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at Cor Avenue R Pav 30th Ste, Palmdale, CA 93552, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").
   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at Cor Avenue R Pav 30th Ste, Palmdale, CA 93552, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").
2. (Fill in the applicable paragraph and strike the other)
   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.
   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.
3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.
4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.
5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____
6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.
7. There are no outstanding options to purchase or rights of first refusal affecting the Land.
8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

Signature: _____

OWNER'S DECLARATION

Escrow No.: 30026552-987-987-CS7
Property Address: Cor Avenue R Pav 30th Ste
Palmdale, CA 93552

The undersigned hereby declares as follows:

1. (Fill in the applicable paragraph and strike the other)
   a. Declarant ("Owner") is the owner or lessee, as the case may be, of certain premises located at Cor Avenue R Pav 30th Ste, Palmdale, CA 93552, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").
   b. Declarant is the _____ of _____ ("Owner"), which is the owner or lessee, as the case may be, of certain premises located at Cor Avenue R Pav 30th Ste, Palmdale, CA 93552, further described as follows: See Preliminary Report/Commitment No. for full legal description (the "Land").
2. (Fill in the applicable paragraph and strike the other)
   a. During the period of six months immediately preceding the date of this declaration no work has been done, no surveys or architectural or engineering plans have been prepared, and no materials have been furnished in connection with the erection, equipment, repair, protection or removal of any building or other structure on the Land or in connection with the improvement of the Land in any manner whatsoever.
   b. During the period of six months immediately preceding the date of this declaration certain work has been done and materials furnished in connection with _____ upon the Land in the approximate total sum of $_____, but no work whatever remains to be done and no materials remain to be furnished to complete the construction in full compliance with the plans and specifications, nor are there any unpaid bills incurred for labor and materials used in making such improvements or repairs upon the Land, or for the services of architects, surveyors or engineers, except as follows: _____. Owner, by the undersigned Declarant, agrees to and does hereby indemnify and hold harmless Fidelity National Title Company against any and all claims arising therefrom.
3. Owner has not previously conveyed the Land; is not a debtor in bankruptcy (and if a partnership, the general partner thereof is not a debtor in bankruptcy); and has not received notice of any pending court action affecting the title to the Land.
4. Except as shown in the above-referenced Preliminary Report/Commitment, there are no unpaid or unsatisfied mortgages, deeds of trust, Uniform Commercial Code financing statements, regular assessments, special assessments, periodic assessments or any assessment from any source, claims of lien, special assessments, or taxes that constitute a lien against the Land or that affect the Land but have not been recorded in the public records. There are no violations of the covenants, conditions and restrictions as shown in the above-referenced Preliminary Report/Commitment.
5. The Land is currently in use as _____; _____ occupy/occupies the Land; and the following are all of the leases or other occupancy rights affecting the Land:

   _____
6. There are no other persons or entities that assert an ownership interest in the Land, nor are there unrecorded easements, claims of easement, or boundary disputes that affect the Land.
7. There are no outstanding options to purchase or rights of first refusal affecting the Land.
8. Between the most recent Effective Date of the above-referenced Preliminary Report/Commitment and the date of recording of the Insured Instrument(s), Owner has not taken or allowed, and will not take or allow, any action or inaction to encumber or otherwise affect title to the Land.

This declaration is made with the intention that Fidelity National Title Company (the "Company") and its policy issuing agents will rely upon it in issuing their title insurance policies and endorsements. Owner, by the undersigned Declarant, agrees to indemnify the Company against loss or damage (including attorneys fees, expenses, and costs) incurred by the Company as a result of any untrue statement made herein.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on _____ at _____.

Signature: _____

Appendix D

KRAZAN & ASSOCIATES, INC.
PHASE I ESA OWNER QUESTIONNAIRE

Date: **April 4, 2019** Completed By: **Pierre Harispuru**

Site Address: NEC of Avenue R and 30th Street East APN: 3020-005-031 (5.04 Acres)

Owner /Name/ Company / Address: **Highridge Costa Housing Partners, LLC**

Owner Telephone No: **424-258-2906** Owner Email Address: **moe.mohanna@housingpartners.com**

Knowledge of Previous Owner(s) and Phone Number? **Unknown**

How are you associated with the subject site? **Owner's Representative**

How long have you been associated with the subject site? **2008**

What is the subject site currently used for? **Empty Lot**

Are there structures on the subject site? **No** How Many/General Size **0**

Do you know of any previous structures on the subject site? **No**

Do you have any current or past knowledge of the presence or underground or aboveground storage tanks being located on the subject site? **No**

Please describe any past earthwork, grading or excavations at the subject site? **N/A**

Do you know of any chemical or hazardous materials, persistent pesticides/herbicides being used, stored or discharged on the subject site? **No**

Do you know of any Environmental Institutional Controls, Environmental Cleanup Liens, or Engineering Controls (slurry walls or vapor barriers) filed or recorded for or against the subject site? **No**

Do you know of any buried materials, burn pits, or dry wells on the subject site? **No**

Do you know of any current or former pipelines on the subject site? **No**

Do you know of any current or former septic systems on the subject site? **No**

Do you know of any current or former water wells on the subject site? **No**

Do you know of any current or former monitoring wells on the subject site? **No**

Are there any drainage or disposal ponds located on the subject site? **No**

Is the subject site connected to municipal water and sewer systems? **Unknown**

Do you have obvious indications pointing to the presence of likely presence of contamination of the subject site? **No**

Do you have any concerns about adjacent property usage such as gasoline stations, industrial uses or USTs or ASTs on adjacent properties? **No**

AAI – USER Questions

"In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfield Revitalization Act of 2001 (the 'Brownfields Amendments'), the user must provide the following information (if available) to the environmental professional. Failure to provide this information could result in a determination that 'all appropriate inquiry' is not completed"- American Society for Testing and Materials (ASTM) E1527-05 Appendix X3: User Questionnaire

1. Are you aware of any environmental cleanup liens against the subject site that are filed or recorded under federal, tribal, state, or local law?
No

2. Are you aware of any activity use limitations (AULs) such as engineering controls, land use restrictions, or institutional controls that are in place at the subject site and/or have been filed or recorded in a registry under federal, tribal, state, or local law?
No

3. As the user of the Phase I Environmental Site Assessment (ESA), do you have any specialized knowledge or experience related to the subject site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the subject site or an adjacent property so that you would have specialized knowledge of the chemicals and processes used by this type of business?
No

4. Does the purchase price being paid for the subject site reasonably reflect the fair market value of the subject site? Yes
No

A. If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the subject site?

5. Are you aware of commonly known or reasonably ascertainable information about the subject site that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:

A. Do you know the past uses of the subject site? If so, briefly explain.
No

B. Do you know of specific chemicals that are present or once were present at the subject site?
If so, briefly explain.
No

C. Do you know of spills or other chemical releases that have taken place at the subject site?
If so, briefly explain.
No

D. Do you know of any environmental cleanups that have taken place at the subject site?
If so, briefly explain.
No

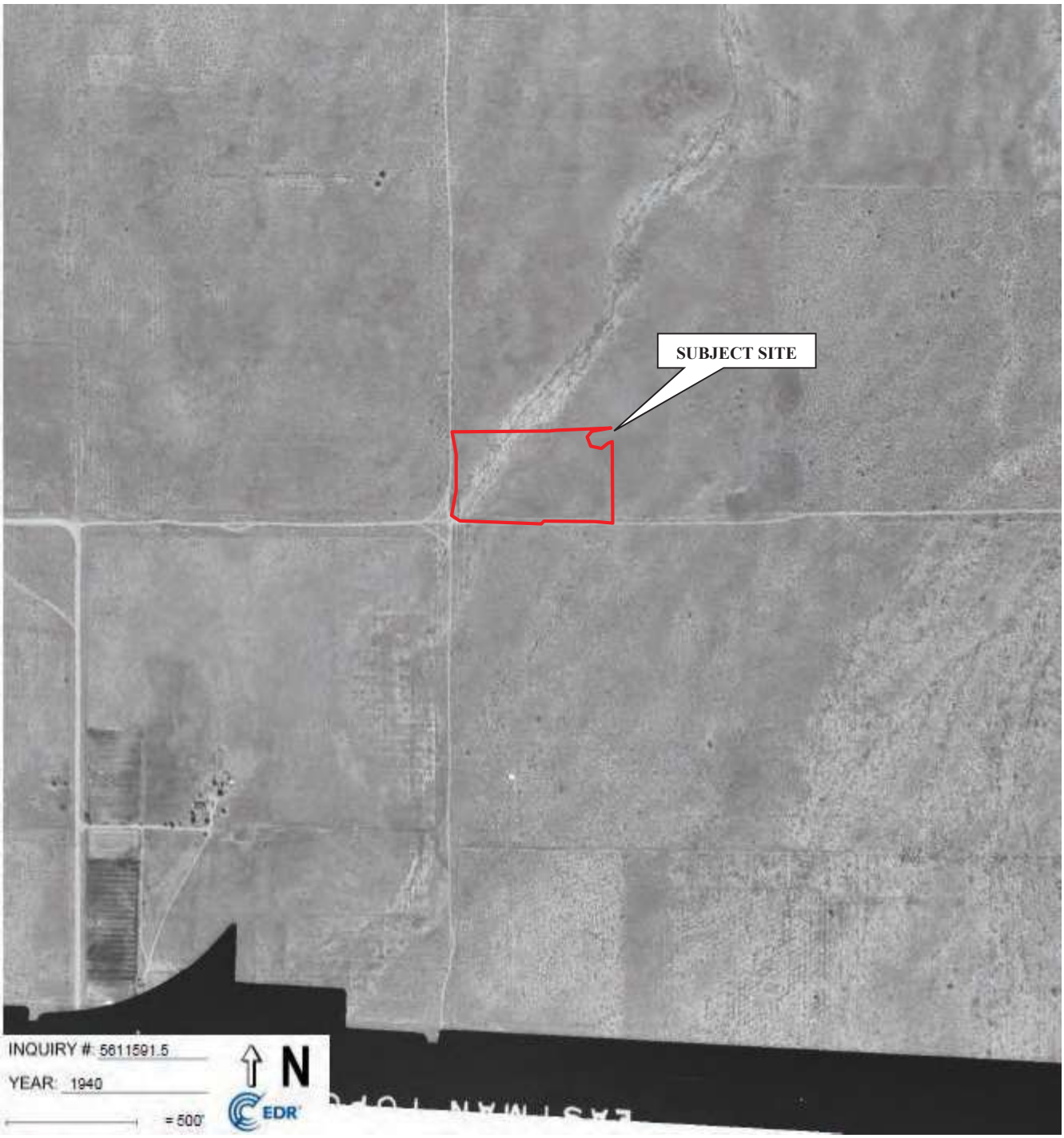
6. As the user of the Phase I ESA, based on your knowledge and experience related to the subject site, are there any obvious indicators that point to the presence or likely presence of contamination at the subject site?
No

7. What is the reason for preparation of this Phase I ESA? (Property purchase/sale; bank loan; proposed development; etc.)
Development of Affordable Housing

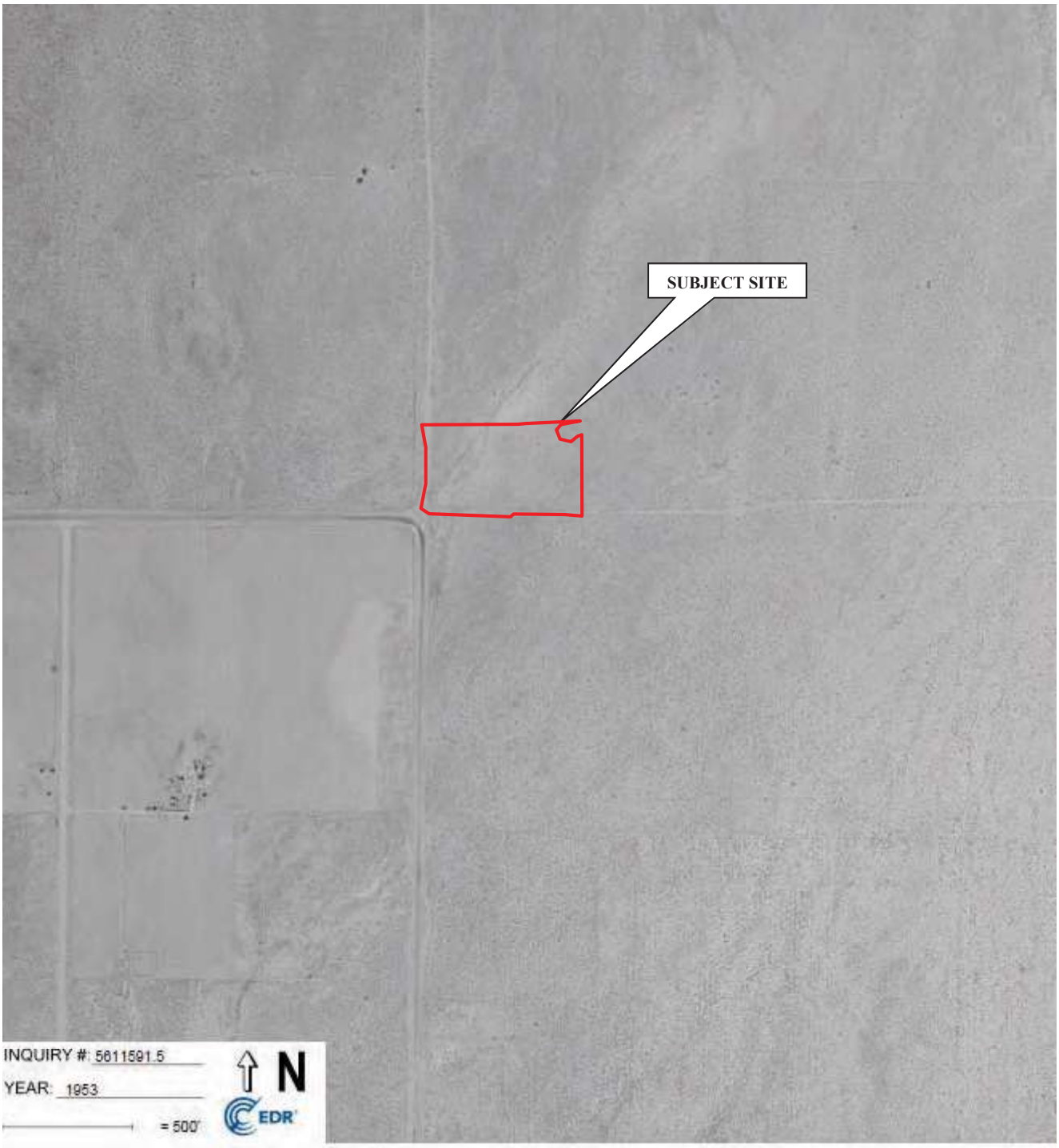
Name: **Pierre Harispuru** Date: **April 4, 2019**
(Please Print)

Signature:

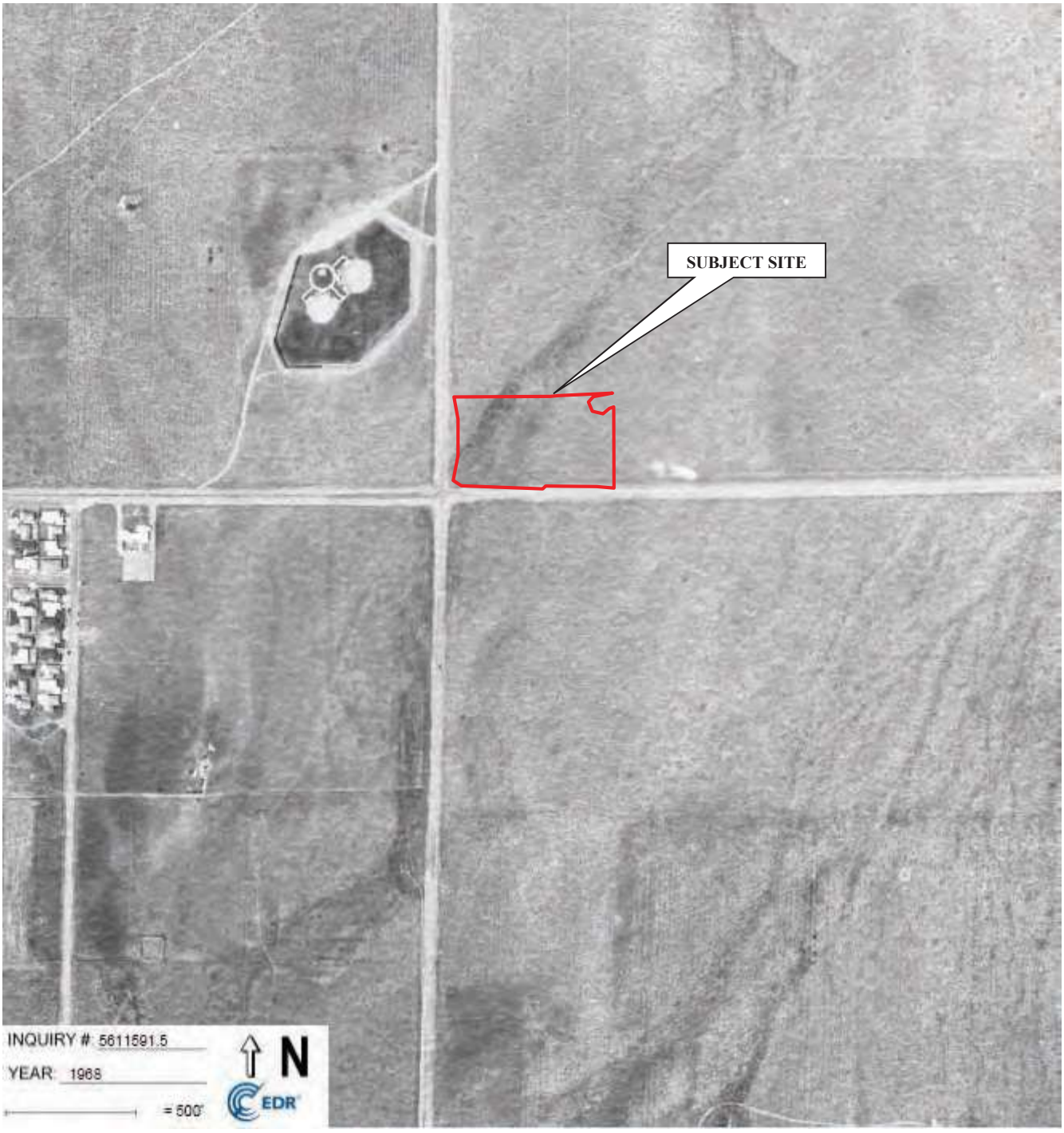
Appendix E



1940 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA**	**Scale:** 1" ≈ 500'	**Date:** April 2019	Krazan **SITE DEVELOPMENT ENGINEERS** ***Serving The Western United States***
	Drawn By: BC	**Approved by:** BC	
	Project No. 024- 19024	**Source:** EDR	



1953AERIAL PHOTOGRAPH	**Scale:** 1" ≈ 500'	**Date:** April 2019	Krazan SITE DEVELOPMENT ENGINEERS *Serving The Western United States*
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA	**Drawn By:** BC	**Approved by:** BC	
	Project No. 024- 19024	**Source:** EDR	



1968 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA**	**Scale:** 1" ≈ 500'	**Date:** April 2019	Krazan **SITE DEVELOPMENT ENGINEERS** ***Serving The Western United States***
	Drawn By: BC	**Approved by:** BC	
	Project No. 024- 19024	**Source:** EDR	

1972 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA**	**Scale:** 1" ≈ 500'	**Date:** April 2019	Krazan **SITE DEVELOPMENT ENGINEERS** ***Serving The Western United States***
	Drawn By: BC	**Approved by:** BC	
	Project No. 024- 19024	**Source:** EDR	

1983 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA**	**Scale:** 1" ≈ 500'	**Date:** April 2019	Krazan **SITE DEVELOPMENT ENGINEERS** ***Serving The Western United States***
	Drawn By: BC	**Approved by:** BC	
	Project No. 024- 19024	**Source:** EDR	

1989 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA**	**Scale:** 1" ≈ 500'	**Date:** April 2019	Krazan **SITE DEVELOPMENT ENGINEERS** ***Serving The Western United States***
	Drawn By: BC	**Approved by:** BC	
	Project No. 024- 19024	**Source:** EDR	

1994 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA**	**Scale:** 1" ≈ 500'	**Date:** April 2019	Krazan **SITE DEVELOPMENT ENGINEERS** ***Serving The Western United States***
	Drawn By: BC	**Approved by:** BC	
	Project No. 024- 19024	**Source:** EDR	

2005 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA**	**Scale:** 1" ≈ 500'	**Date:** April 2019	Krazan **SITE DEVELOPMENT ENGINEERS** *Serving The Western United States*
	Drawn By: BC	**Approved by:** BC	
	Project No. 024- 19024	**Source:** EDR	

2009 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA**	**Scale:** 1" ≈ 500'	**Date:** April 2019	Krazan **SITE DEVELOPMENT ENGINEERS** ***Serving The Western United States***
	Drawn By: BC	**Approved by:** BC	
	Project No. 024- 19024	**Source:** EDR	

2016 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY NEC OF EAST AVENUE R AND 30TH STREET EAST PALMDALE, CALIFORNIA**	**Scale:** 1" ≈ 500'	**Date:** April 2019	Krazan **SITE DEVELOPMENT ENGINEERS** ***Serving The Western United States***
	Drawn By: BC	**Approved by:** BC	
	Project No. 024- 19024	**Source:** EDR	

Appendix F

HC
Avenue R and 30th Street East
Palmdale, CA 93550

Inquiry Number: 5611591.2s
April 04, 2019

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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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), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

AVENUE R AND 30TH STREET EAST
PALMDALE, CA 93550

COORDINATES

Latitude (North):	34.5735250 - 34° 34' 24.69"
Longitude (West):	118.0749290 - 118° 4' 29.74"
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	401400.4
UTM Y (Meters):	3826079.0
Elevation:	2623 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5630797 PALMDALE, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140515
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
AVENUE R AND 30TH STREET EAST
PALMDALE, CA 93550

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	THE SOUTHLAND CORP S	2873 E AVE R	SWEEPS UST	Higher	578, 0.109, WSW
A2	7-11 #15127	2873 R	HIST CORTESE	Higher	578, 0.109, WSW
A3	7-ELEVEN STORE 15127	2873 EAST AVENUE R	HIST UST	Higher	578, 0.109, WSW
4	7-11 #15127	02873 AVE R E	LUST	Higher	994, 0.188, WSW
5	PROPOSED ANTELOPE VA	PALMDALE BLVD/30TH S	ENVIROSTOR, SCH	Lower	1498, 0.284, NNW
6	CHEVRON #9-2870	2850 PALMDALE	LUST, HIST CORTESE	Lower	2374, 0.450, NNW
7	PEP BOYS #772	3054 E PALMDALE BLVD	RCRA-SQG, LUST, SWEEPS UST, FINDS, ECHO, HAZNET,...	Lower	2492, 0.472, NNW
8	EAST ELEMENTARY SCHO	AVENUE R-12/26TH STR	ENVIROSTOR, SCH	Higher	4156, 0.787, SSW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

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

NPL ---------- National Priority 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
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

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-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List

US INST CONTROL ..... Sites with Institutional Controls

Federal ERNS list

ERNS ..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ..... State Response Sites

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
CPS-SLIC ..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST ..... Underground Storage Tank Listing
UST ..... Active UST Facilities
AST ..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ..... Voluntary Cleanup Priority Listing
VCP ..... Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ..... Waste Management Unit Database
SWRCY ..... Recycler Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
ODI ..... Open Dump Inventory
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

AOCONCERN ..... Key Areas of Concerns in Los Angeles County

US HIST CDL	Delisted National Clandestine Laboratory Register
HIST Cal-Sites	Historical Calsites Database
SCH	School Property Evaluation Program
CDL	Clandestine Drug Labs
CERS HAZ WASTE	CERS HAZ WASTE
Toxic Pits	Toxic Pits Cleanup Act Sites
US CDL	National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST	Facility Inventory Database
CERS TANKS	California Environmental Reporting System (CERS) Tanks

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report 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
FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees

INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
ECHO	Enforcement & Compliance History Information
DOCKET HWC	Hazardous Waste Compliance Docket Listing
UXO	Unexploded Ordnance Sites
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
LOS ANGELES CO. HMS	HMS: Street Number List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
LA Co. Site Mitigation	Site Mitigation List
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CIWQS	California Integrated Water Quality System
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
WIP	Well Investigation Program Case List
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner	EDR Exclusive Historical Cleaners

EXECUTIVE SUMMARY

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank

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

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 01/28/2019 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
EAST ELEMENTARY SCHO	***AVENUE R-12/26TH STR***	***SSW 1/2 - 1 (0.787 mi.)***	***8***	***25***
Facility Id: 19000037				
Status: No Action Required				

Lower Elevation	Address	Direction / Distance	Map ID	Page
PROPOSED ANTELOPE VA	***PALMDALE BLVD/30TH S***	***NNW 1/4 - 1/2 (0.284 mi.)***	***5***	***13***
Facility Id: 60000475				
Status: No Action Required				

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there are 3 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
7-11 #15127	02873 AVE R E	WSW 1/8 - 1/4 (0.188 mi.)	4	10
Database: LUST REG 6V, Date of Government Version: 06/07/2005 Database: LUST, Date of Government Version: 12/10/2018 Status: Completed - Case Closed Global Id: T0603700327 Close Date: 12/30/1997 Status: Case Closed				

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHEVRON #9-2870	***2850 PALMDALE***	***NNW 1/4 - 1/2 (0.450 mi.)***	***6***	***15***
Database: LUST REG 6V, Date of Government Version: 06/07/2005 Database: LUST, Date of Government Version: 12/10/2018 Status: Completed - Case Closed Global Id: T0603700285 Close Date: 11/26/1991 Status: Case Closed				
PEP BOYS #772	***3054 E PALMDALE BLVD***	***NNW 1/4 - 1/2 (0.472 mi.)***	***7***	***18***
Database: LUST REG 6V, Date of Government Version: 06/07/2005 Database: LUST, Date of Government Version: 12/10/2018 Status: Completed - Case Closed Global Id: T0603700393 Status: Leak being confirmed				

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Registered Storage Tanks

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
THE SOUTHLAND CORP S	2873 E AVE R	WSW 0 - 1/8 (0.109 mi.)	A1	9
Status: A Tank Status: A				

Comp Number: 10079

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 is 1 HIST UST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
7-ELEVEN STORE 15127 Facility Id: 00000003804	2873 EAST AVENUE R	WSW 0 - 1/8 (0.109 mi.)	A3	10

Other Ascertainable Records

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 3 HIST CORTESE sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
7-11 #15127 Reg Id: 6B1900438T	2873 R	WSW 0 - 1/8 (0.109 mi.)	A2	9

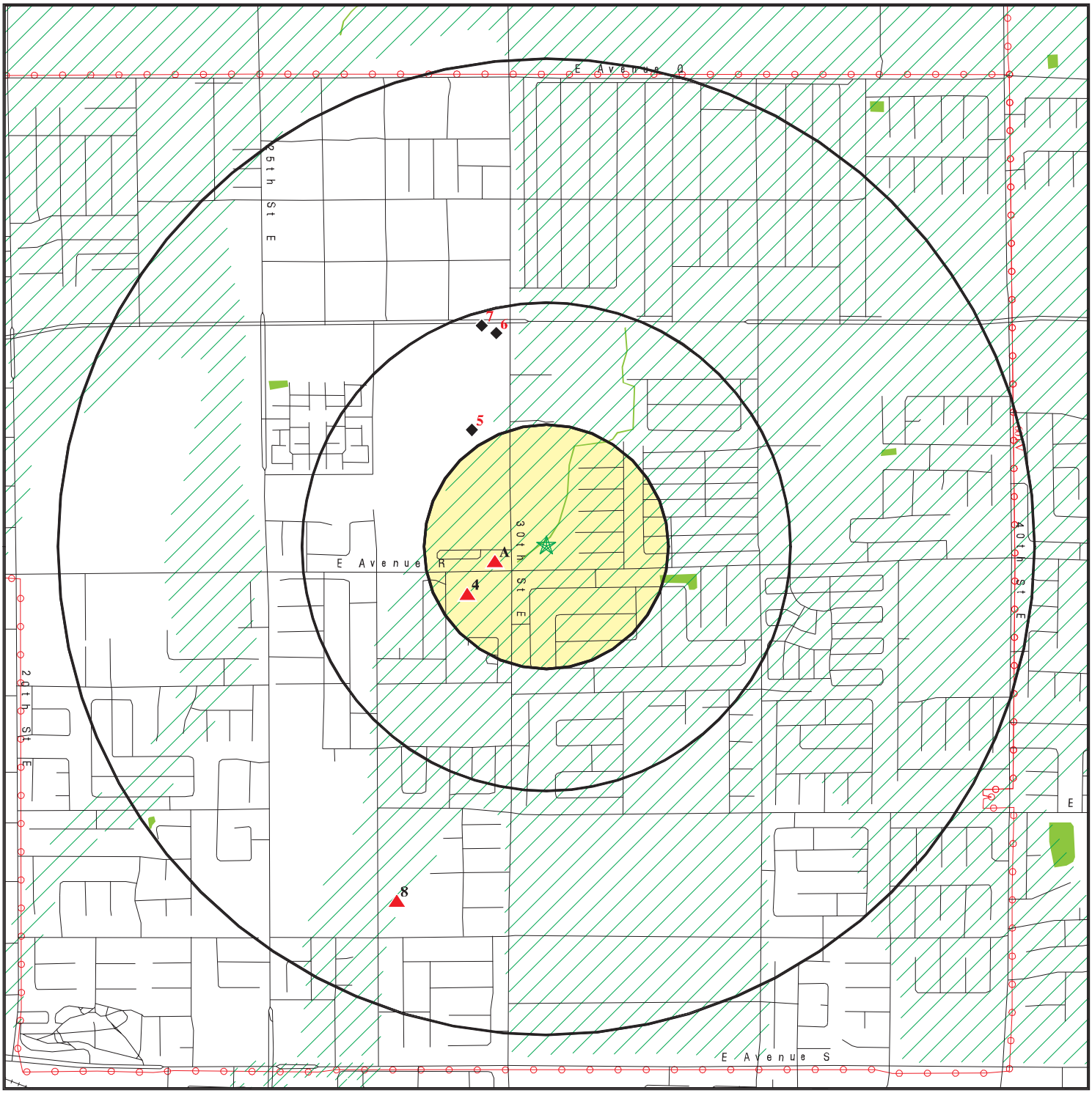
Lower Elevation	Address	Direction / Distance	Map ID	Page
CHEVRON #9-2870 Reg Id: 6B1900250T	***2850 PALMDALE***	***NNW 1/4 - 1/2 (0.450 mi.)***	***6***	***15***
PEP BOYS #772 Reg Id: 6B1900887T	***3054 E PALMDALE BLVD***	***NNW 1/4 - 1/2 (0.472 mi.)***	***7***	***18***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 7 records.

Site Name	Database(s)
	CDL
	CDL
	CDL
SUNFLOWER CLEANERS	DRYCLEANERS
SUNFLOWER CLEANERS DBA WESTSIDE GA	DRYCLEANERS
SILVER HANGER CLEANERS	DRYCLEANERS
PALMDALE FIELD	ENVIROSTOR

OVERVIEW MAP - 5611591.2S



0 1/4 1/2 1 Miles

- 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
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- 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: HC ADDRESS: Avenue R and 30th Street East Palmdale CA 93550 LAT/LONG: 34.573525 / 118.074929	CLIENT: Krazan & Associates, Inc. CONTACT: Bill Cooper INQUIRY #: 5611591.2s DATE: April 04, 2019 2:38 pm

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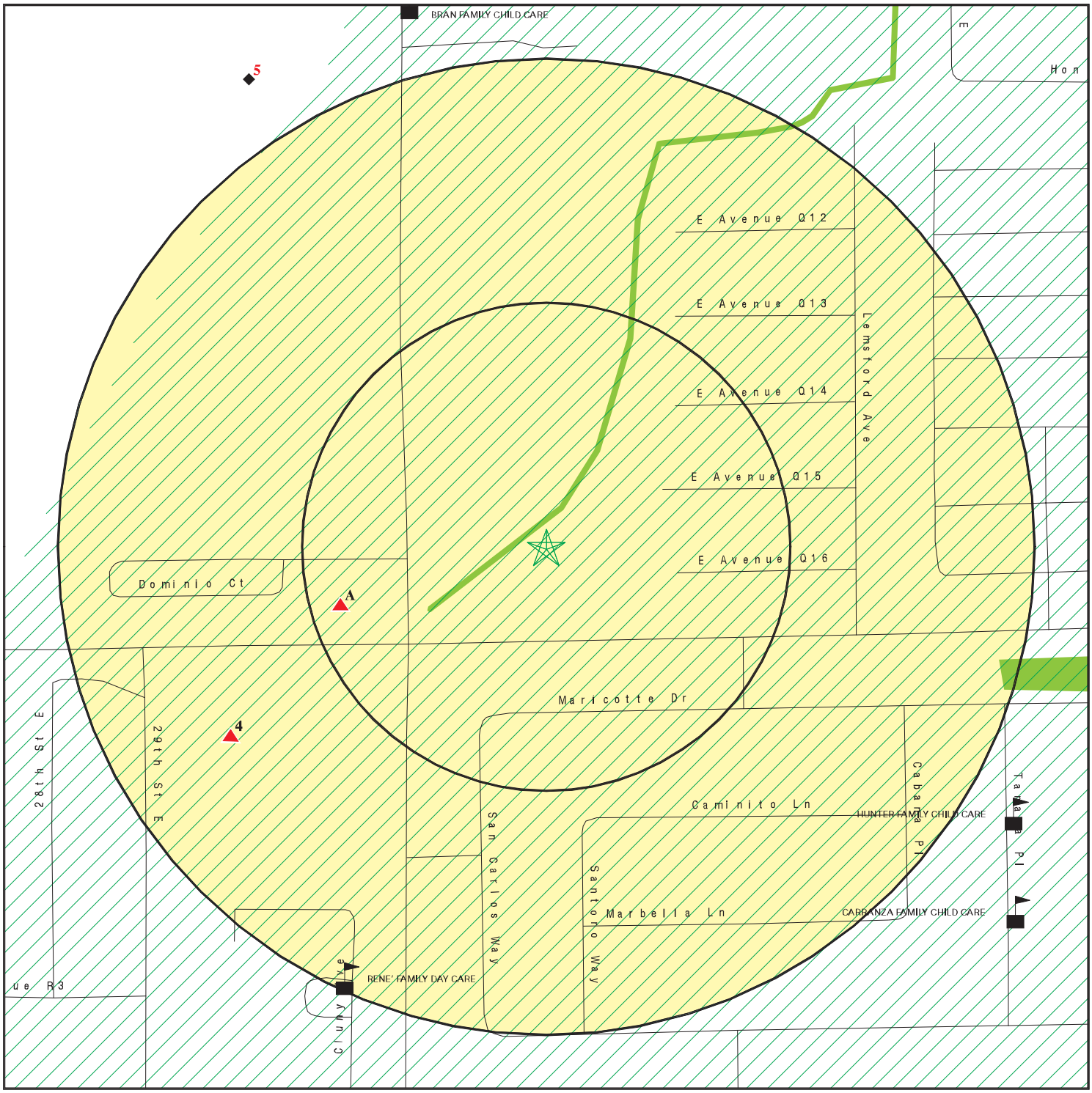
DETAIL MAP - 5611591.2S



- 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
- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- 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: HC	CLIENT: Krazan & Associates, Inc.
ADDRESS: Avenue R and 30th Street East Palmdale CA 93550	CONTACT: Bill Cooper
LAT/LONG: 34.573525 / 118.074929	INQUIRY #: 5611591.2s DATE: April 04, 2019 2:43 pm

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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	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
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		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	1	NR	2
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		0	1	2	NR	NR	3

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
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN 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		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	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
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
AOCONCERN	1.000		0	0	0	0	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		1	0	NR	NR	NR	1
HIST UST	0.250		1	0	NR	NR	NR	1
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	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
LIENS 2	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		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
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
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	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
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		1	0	2	NR	NR	3
LOS ANGELES CO. HMS	TP		NR	NR	NR	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
LA Co. Site Mitigation	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	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 Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	3	1	5	1	0	10

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

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
WSW
< 1/8
0.109 mi.
578 ft.

THE SOUTHLAND CORP SS 15127
2873 E AVE R
PALMDALE, CA

Site 1 of 3 in cluster A

SWEEPS UST **S103649664**
N/A

Relative:
Higher

Actual:
2630 ft.

SWEEPS UST:

Status:	Active
Comp Number:	10079
Number:	9
Board Of Equalization:	44-002251
Referral Date:	06-30-89
Action Date:	Not reported
Created Date:	06-30-89
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-000-010079-000001
Tank Status:	A
Capacity:	Not reported
Active Date:	06-30-89
Tank Use:	UNKNOWN
STG:	W
Content:	Not reported
Number Of Tanks:	2

Status:	Active
Comp Number:	10079
Number:	9
Board Of Equalization:	44-002251
Referral Date:	06-30-89
Action Date:	Not reported
Created Date:	06-30-89
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-000-010079-000002
Tank Status:	A
Capacity:	Not reported
Active Date:	06-30-89
Tank Use:	UNKNOWN
STG:	W
Content:	Not reported
Number Of Tanks:	Not reported

A2
WSW
< 1/8
0.109 mi.
578 ft.

7-11 #15127
2873 R
PALMDALE, CA 93550

Site 2 of 3 in cluster A

HIST CORTESE **S101297698**
N/A

Relative:
Higher

Actual:
2630 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	19
Reg By:	LTNKA
Reg Id:	6B1900438T

A3
WSW
< 1/8
0.109 mi.
578 ft.

7-ELEVEN STORE 15127 (2144)
2873 EAST AVENUE R
PALMDALE, CA 93550

HIST UST **U001586958**
N/A

Site 3 of 3 in cluster A

Relative:
Higher

Actual:
2630 ft.

HIST UST:

File Number:	00028C26
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00028C26.pdf
Region:	STATE
Facility ID:	00000003804
Facility Type:	Gas Station
Other Type:	Not reported
Contact Name:	ALAN AND RUTH RACKERBY
Telephone:	2133624384
Owner Name:	THE SOUTHLAND CORPORATION
Owner Address:	1240 S. STATE COLLEGE BLVD., S
Owner City,St,Zip:	ANAHEIM, CA 92806
Total Tanks:	0002
Tank Num:	001
Container Num:	01
Year Installed:	1972
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor, 10
Tank Num:	002
Container Num:	02
Year Installed:	1972
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	REGULAR
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor, 10

Click here for Geo Tracker PDF:

4
WSW
1/8-1/4
0.188 mi.
994 ft.

7-11 #15127
02873 AVE R E
PALMDALE, CA 93550

LUST **S104402938**
N/A

Relative:
Higher

Actual:
2634 ft.

LUST:

Lead Agency:	LAHONTAN RWQCB (REGION 6V)
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0603700327
Global Id:	T0603700327
Latitude:	34.5728202
Longitude:	-118.0767946
Status:	Completed - Case Closed
Status Date:	12/30/1997
Case Worker:	Not reported
RB Case Number:	6B1900438T
Local Agency:	LOS ANGELES COUNTY
File Location:	Not reported
Local Case Number:	Not reported

7-11 #15127 (Continued) **S104402938**

Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

LUST:
Global Id: T0603700327
Contact Type: Local Agency Caseworker
Contact Name: Manual Regalado
Organization Name: LOS ANGELES COUNTY
Address: Not reported
City: Palmdale
Email: mregalado@dpw.lacounty.gov
Phone Number: Not reported

LUST:
Global Id: T0603700327
Action Type: Other
Date: 10/08/1992
Action: Leak Reported

Global Id: T0603700327
Action Type: Other
Date: 05/21/1992
Action: Leak Discovery

Global Id: T0603700327
Action Type: Other
Date: 05/21/1992
Action: Leak Stopped

LUST:
Global Id: T0603700327
Status: Completed - Case Closed
Status Date: 12/30/1997

Global Id: T0603700327
Status: Open - Case Begin Date
Status Date: 05/14/1992

Global Id: T0603700327
Status: Open - Site Assessment
Status Date: 05/14/1992

Global Id: T0603700327
Status: Open - Site Assessment
Status Date: 12/08/1992

Global Id: T0603700327
Status: Open - Site Assessment
Status Date: 12/17/1992

LUST Region 6V:
Region: 6V
Case Number: 6B1900438T
Leak Record: 1/15/1993

7-11 #15127 (Continued) **S104402938**

Report Date:	10/8/1992
Reported By Address:	Not reported
Responsible Party:	SOUTHLAND CORP
Operator:	Not reported
Cross Street:	30TH ST E
Local Agency:	19000
Regional Board:	6V
Chemical:	Gasoline
Case Type:	Soil only
Funding:	Not reported
Enforce Type:	N
How Found:	Tank Closure
How Stopped:	Not reported
Cause of Leak:	UNK
Leak Source:	UNK
Global ID:	T0603700327
Stop Date:	5/21/1992
Leak Confirm:	12/17/1992
Submit Workplan:	Not reported
Prelim Assess:	5/14/1992
Pollution Char:	12/8/1992
Remed Plan:	Not reported
Remed Action:	Not reported
Monitoring:	Not reported
Close Date:	12/30/1997
Discovered:	5/21/1992
Enforce Date:	1/1/1965
Review Date:	6/29/1998
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
MTBE class:	*
Max MTBE Grnd Wtr:	Not reported
Max MTBE Soil:	Not reported
MTBE Counts:	0
MTBE Fuel:	1
MTBE Tested:	NT
Organization Name:	Not reported
Status:	Case Closed
Contact:	Not reported
Interim Action:	No
Pilot Program:	LUST
Lat/Long:	34.5728653 / -118
Staff Initials:	DMV
Local Agency Staff:	UNK
Lead Agency:	Regional Board
Summary:	GAS CONTAM. 2 TANKS RMVD 5/14/92. PHC DSCVRD IN SOIL AT THAT TIME.REMED CONSISTD OF SVE. SYSTM STARTD UP 10/25/95.CONFIRM BORINGS INDIC SITE CONDTNS PROTCTV OF WQ BUS & HH. CASE PENDING CLSR.
Basin Number:	ANTELOPE VALLEY (6-4
Beneficial:	Not reported
Priority:	Not reported
UST Cleanup Fund ID:	Not reported
Suspended:	Not reported
Local Case Number:	Not reported
Amount:	Not reported
Abate Method:	Not reported
Water System:	Not reported

7-11 #15127 (Continued) **S104402938**

Well Name: Not reported
Distance: 4263.465219
Wst Disch Reqrmnt Global ID: Not reported
Wst Disch Reqrmnt Name: Not reported

5
NNW
1/4-1/2
0.284 mi.
1498 ft.

PROPOSED ANTELOPE VALLEY ACADEMY
PALMDALE BLVD/30TH STREET EAST
PALMDALE, CA 93350

ENVIROSTOR SCH **S118757122 N/A**

Relative:
Lower

Actual:
2618 ft.

ENVIROSTOR:
Facility ID: 60000475
Status: No Action Required
Status Date: 11/30/2006
Site Code: 304549
Site Type: School Investigation
Site Type Detailed: School
Acres: 4.67
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Aslam Shareef
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 36
Senate: 21
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 34.577
Longitude: -118.0776
APN: NONE SPECIFIED
Past Use: NONE
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: 31000-NO
Potential Description: NMA
Alias Name: 304549
Alias Type: Project Code (Site Code)
Alias Name: 60000475
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 11/30/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 11/29/2006
Comments: PhaseI closed as the Site was clean

Future Area Name: Not reported
Future Sub Area Name: Not reported

PROPOSED ANTELOPE VALLEY ACADEMY (Continued) **S118757122**

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

SCH:

Facility ID:	60000475
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	4.67
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Aslam Shareef
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	304549
Assembly:	36
Senate:	21
Special Program Status:	Not reported
Status:	No Action Required
Status Date:	11/30/2006
Restricted Use:	NO
Funding:	School District
Latitude:	34.577
Longitude:	-118.0776
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	NONE SPECIFIED, No Contaminants found
Confirmed COC:	31000-NO
Potential Description:	NMA
Alias Name:	304549
Alias Type:	Project Code (Site Code)
Alias Name:	60000475
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	11/30/2006
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	11/29/2006
Comments:	PhaseI closed as the Site was clean
Future Area Name:	Not reported
Future Sub Area Name:	Not reported

PROPOSED ANTELOPE VALLEY ACADEMY (Continued) **S118757122**

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

6
NNW
1/4-1/2
0.450 mi.
2374 ft.

CHEVRON #9-2870
2850 PALMDALE
PALMDALE, CA 93550

LUST **S104402925**
HIST CORTESE **N/A**

Relative:
Lower

Actual:
2608 ft.

LUST:
Lead Agency: LOS ANGELES COUNTY
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0603700285
Global Id: T0603700285
Latitude: 34.579879
Longitude: -118.076725
Status: Completed - Case Closed
Status Date: 11/26/1991
Case Worker: Not reported
RB Case Number: 6B1900250T
Local Agency: LOS ANGELES COUNTY
File Location: Not reported
Local Case Number: Not reported
Potential Media Affect: Under Investigation
Potential Contaminants of Concern: Gasoline
Site History: Not reported

LUST:
Global Id: T0603700285
Contact Type: Regional Board Caseworker
Contact Name: JEHIEL CASS
Organization Name: LAHONTAN RWQCB (REGION 6V)
Address: 15095 Armagosa Road, Building 2, Suite 210
City: VICTORVILLE
Email: jehiel.cass@waterboards.ca.gov
Phone Number: 7602412434

Global Id: T0603700285
Contact Type: Local Agency Caseworker
Contact Name: Manual Regalado
Organization Name: LOS ANGELES COUNTY
Address: Not reported
City: Palmdale
Email: mregalado@dpw.lacounty.gov
Phone Number: Not reported

LUST:
Global Id: T0603700285
Action Type: Other
Date: 11/21/1990
Action: Leak Reported

Global Id: T0603700285

CHEVRON #9-2870 (Continued) **S104402925**

Action Type: Other
Date: 10/24/1990
Action: Leak Discovery

Global Id: T0603700285
Action Type: Other
Date: 10/24/1990
Action: Leak Stopped

Global Id: T0603700285
Action Type: ENFORCEMENT
Date: 12/19/1990
Action: * Historical Enforcement

LUST:
Global Id: T0603700285
Status: Completed - Case Closed
Status Date: 11/26/1991

Global Id: T0603700285
Status: Open - Case Begin Date
Status Date: 03/20/1987

Global Id: T0603700285
Status: Open - Remediation
Status Date: 03/20/1987

Global Id: T0603700285
Status: Open - Site Assessment
Status Date: 03/20/1987

Global Id: T0603700285
Status: Open - Site Assessment
Status Date: 11/21/1990

LUST Region 6V:
Region: 6V
Case Number: 6B1900250T
Leak Record: 1/8/1991
Report Date: 11/21/1990
Reported By Address: Not reported
Responsible Party: CHEVRON USA
Operator: MORRIS TOBY
Cross Street: 30TH ST E
Local Agency: 19000
Regional Board: 6V
Chemical: Gasoline
Case Type: Undefined
Funding: Not reported
Enforce Type: EF
How Found: Tank Closure
How Stopped: Not reported
Cause of Leak: UNK
Leak Source: UNK
Global ID: T0603700285

CHEVRON #9-2870 (Continued) **S104402925**

Stop Date:	10/24/1990
Leak Confirm:	11/21/1990
Submit Workplan:	Not reported
Prelim Assess:	3/20/1987
Pollution Char:	3/20/1987
Remed Plan:	Not reported
Remed Action:	3/20/1987
Monitoring:	Not reported
Close Date:	11/26/1991
Discovered:	10/24/1990
Enforce Date:	12/19/1990
Review Date:	1/8/1991
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
MTBE class:	*
Max MTBE Grnd Wtr:	Not reported
Max MTBE Soil:	Not reported
MTBE Counts:	0
MTBE Fuel:	1
MTBE Tested:	NT
Organization Name:	Not reported
Status:	Case Closed
Contact:	Not reported
Interim Action:	No
Pilot Program:	LUST
Lat/Long:	34.580035 / -118
Staff Initials:	KD
Local Agency Staff:	UNK
Lead Agency:	Local Agency
Summary:	Not reported
Basin Number:	ANTELOPE VALLEY (6-4
Beneficial:	Not reported
Priority:	Not reported
UST Cleanup Fund ID:	Not reported
Suspended:	Not reported
Local Case Number:	Not reported
Amount:	Not reported
Abate Method:	Excavate and Dispose - remove contaminated soil and dispose in approved site
Water System:	Not reported
Well Name:	Not reported
Distance:	5893.831825
Wst Disch Reqrmnt Global ID:	Not reported
Wst Disch Reqrmnt Name:	Not reported

HIST CORTESE:

Region:	CORTESE
Facility County Code:	19
Reg By:	LTNKA
Reg Id:	6B1900250T

7
NNW
1/4-1/2
0.472 mi.
2492 ft.

Relative:
Lower

Actual:
2608 ft.

PEP BOYS #772
3054 E PALMDALE BLVD
PALMDALE, CA 93550

RCRA-SQG **1000105185**
LUST **CAD982507675**
SWEEPS UST
FINDS
ECHO
HAZNET
HIST CORTESE
LOS ANGELES CO. HMS

RCRA-SQG:

Date form received by agency:	01/09/1990
Facility name:	PEP BOYS #772
Facility address:	3054 E PALMDALE BLVD PALMDALE, CA 93550
EPA ID:	CAD982507675
Mailing address:	PO BOX 15806 LOS ANGELES, CA 90015
Contact:	ENVIRONMENTAL MANAGER
Contact address:	3054 E PALMDALE BLVD PALMDALE, CA 93550
Contact country:	US
Contact telephone:	213-745-5750
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:	PEP BOYS OF CALIFORNIA
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	415-555-1212
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
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
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

PEP BOYS #772 (Continued) **1000105185**

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

Violation Status: No violations found

LUST:
Lead Agency: LOS ANGELES COUNTY
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0603700393
Global Id: T0603700393
Latitude: 34.579966
Longitude: -118.0748654
Status: Completed - Case Closed
Status Date: 11/30/2010
Case Worker: KBR
RB Case Number: 6B1900887T
Local Agency: LOS ANGELES COUNTY
File Location: Local Agency
Local Case Number: 008493-014798
Potential Media Affect: Under Investigation
Potential Contaminants of Concern: Gasoline
Site History: Not reported

LUST:
Global Id: T0603700393
Contact Type: Local Agency Caseworker
Contact Name: KATTYA BATRES RINZE
Organization Name: LOS ANGELES COUNTY
Address: 900 SOUTH FREMONT AVE
City: ALHAMBRA
Email: gbatres@dpw.lacounty.gov
Phone Number: Not reported

Global Id: T0603700393
Contact Type: Regional Board Caseworker
Contact Name: OMAR PACHECO
Organization Name: LAHONTAN RWQCB (REGION 6V)
Address: 15095 Armagosa Road, Building 2, Suite 210
City: VICTORVILLE
Email: omar.pacheco@waterboards.ca.gov
Phone Number: 7602417377

LUST:

PEP BOYS #772 (Continued) **1000105185**

Global Id: T0603700393
Action Type: Other
Date: 06/18/1998
Action: Leak Reported

Global Id: T0603700393
Action Type: ENFORCEMENT
Date: 04/03/2002
Action: Staff Letter

Global Id: T0603700393
Action Type: Other
Date: 04/20/1998
Action: Leak Discovery

Global Id: T0603700393
Action Type: Other
Date: 04/03/1998
Action: Leak Stopped

LUST:
Global Id: T0603700393
Status: Completed - Case Closed
Status Date: 11/30/2010

Global Id: T0603700393
Status: Open - Case Begin Date
Status Date: 04/03/1998

Global Id: T0603700393
Status: Open - Inactive
Status Date: 07/15/2009

Global Id: T0603700393
Status: Open - Site Assessment
Status Date: 06/18/1998

LUST Region 6V:
Region: 6V
Case Number: 6B1900887T
Leak Record: 9/22/1998
Report Date: 6/18/1998
Reported By Address: Not reported
Responsible Party: PEP BOYS INC
Operator: GREG MC LUCAS
Cross Street: 30TH ST E
Local Agency: 19000
Regional Board: 6V
Chemical: Gasoline
Case Type: Undefined
Funding: Not reported
Enforce Type: SEL
How Found: OM
How Stopped: Not reported
Cause of Leak: UNK

PEP BOYS #772 (Continued) **1000105185**

Leak Source: UNK
Global ID: T0603700393
Stop Date: 4/3/1998
Leak Confirm: 6/18/1998
Submit Workplan: Not reported
Prelim Assess: Not reported
Pollution Char: Not reported
Remed Plan: Not reported
Remed Action: Not reported
Monitoring: Not reported
Close Date: Not reported
Discovered: 4/20/1998
Enforce Date: Not reported
Review Date: 9/22/1998
GW Qualifier: Not reported
Soil Qualifier: Not reported
MTBE class: *
Max MTBE Grnd Wtr: Not reported
Max MTBE Soil: Not reported
MTBE Counts: 0
MTBE Fuel: 1
MTBE Tested: NT
Organization Name: Not reported
Status: Leak being confirmed
Contact: Not reported
Interim Action: Not reported
Pilot Program: LUST
Lat/Long: 34.579966 / -118
Staff Initials: GDC
Local Agency Staff: UNK
Lead Agency: Local Agency
Summary: Not reported
Basin Number: ANTELOPE VALLEY (6-4
Beneficial: Not reported
Priority: Not reported
UST Cleanup Fund ID: Not reported
Suspended: Not reported
Local Case Number: Not reported
Amount: Not reported
Abate Method: Not reported
Water System: Not reported
Well Name: Not reported
Distance: 5435.834739
Wst Disch Reqrmnt Global ID: Not reported
Wst Disch Reqrmnt Name: Not reported

SWEEPS UST:
Status: Active
Comp Number: 14798
Number: 9
Board Of Equalization: 44-010401
Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-014798-000001
Tank Status: A

PEP BOYS #772 (Continued) **1000105185**

Capacity:	Not reported
Active Date:	06-30-89
Tank Use:	UNKNOWN
STG:	W
Content:	Not reported
Number Of Tanks:	2

Status:	Active
Comp Number:	14798
Number:	9
Board Of Equalization:	44-010401
Referral Date:	06-30-89
Action Date:	Not reported
Created Date:	06-30-89
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-000-014798-000002
Tank Status:	A
Capacity:	Not reported
Active Date:	06-30-89
Tank Use:	UNKNOWN
STG:	W
Content:	Not reported
Number Of Tanks:	Not reported

FINDS:

Registry ID: 110002836575

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.

STATE MASTER

UORS (California - Used Oil Recycling System). California Integrated Waste Management Board (CIWMB) helps communities establish and promote convenient collection opportunities for used oil and used oil filters.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000105185
Registry ID:	110002836575
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110002836575

PEP BOYS #772 (Continued) **1000105185**

HAZNET:

Facility Name:	PEP BOYS STORE#0772
envid:	1000105185
Year:	2017
GEPAID:	CAD982507675
Contact:	ALANA PERSAD
Telephone:	2154309226
Mailing Name:	Not reported
Mailing Address:	3111 W ALLEGHENY AVE
Mailing City,St,Zip:	PHILADELPHIA, PA 191321116
Gen County:	Los Angeles
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.06255
Cat Decode:	Unspecified oil-containing waste
Method Decode:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County:	Los Angeles

envid:	1000105185
Year:	2017
GEPAID:	CAD982507675
Contact:	ALANA PERSAD
Telephone:	2154309226
Mailing Name:	Not reported
Mailing Address:	3111 W ALLEGHENY AVE
Mailing City,St,Zip:	PHILADELPHIA, PA 191321116
Gen County:	Los Angeles
TSD EPA ID:	CAD008364432
TSD County:	Los Angeles
Waste Category:	Alkaline solution without metals pH >= 12.5
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.0265
Cat Decode:	Alkaline solution without metals pH >= 12.5
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Los Angeles

envid:	1000105185
Year:	2017
GEPAID:	CAD982507675
Contact:	ALANA PERSAD
Telephone:	2154309226
Mailing Name:	Not reported
Mailing Address:	3111 W ALLEGHENY AVE
Mailing City,St,Zip:	PHILADELPHIA, PA 191321116
Gen County:	Los Angeles
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.06255

PEP BOYS #772 (Continued) **1000105185**

Cat Decode:	Unspecified oil-containing waste
Method Decode:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County:	Los Angeles
envid:	1000105185
Year:	2017
GEPAID:	CAD982507675
Contact:	ALANA PERSAD
Telephone:	2154309226
Mailing Name:	Not reported
Mailing Address:	3111 W ALLEGHENY AVE
Mailing City,St,Zip:	PHILADELPHIA, PA 191321116
Gen County:	Los Angeles
TSD EPA ID:	CAD008364432
TSD County:	Los Angeles
Waste Category:	Alkaline solution without metals pH >= 12.5
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.0265
Cat Decode:	Alkaline solution without metals pH >= 12.5
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Los Angeles
envid:	1000105185
Year:	2017
GEPAID:	CAD982507675
Contact:	ALANA PERSAD
Telephone:	2154309226
Mailing Name:	Not reported
Mailing Address:	3111 W ALLEGHENY AVE
Mailing City,St,Zip:	PHILADELPHIA, PA 191321116
Gen County:	Los Angeles
TSD EPA ID:	CAD008364432
TSD County:	Los Angeles
Waste Category:	Alkaline solution without metals pH >= 12.5
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.0265
Cat Decode:	Alkaline solution without metals pH >= 12.5
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Los Angeles

Click this hyperlink while viewing on your computer to access
496 additional CA_HAZNET: record(s) in the EDR Site Report.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	19
Reg By:	LTNKA
Reg Id:	6B1900887T

LOS ANGELES CO. HMS:

Region:	LA

PEP BOYS #772 (Continued) **1000105185**

Permit Category: I
Facility Id: 008493-I14798
Facility Type: 01
Facility Status: Closed
Area: 4A
Permit Number: 000010067
Permit Status: Closed

Region: LA
Permit Category: T
Facility Id: 008493-014798
Facility Type: 0
Facility Status: Removed
Area: 4A
Permit Number: 00005780T
Permit Status: Removed

8
SSW
1/2-1
0.787 mi.
4156 ft.

EAST ELEMENTARY SCHOOL
AVENUE R-12/26TH STREET EAST
PALMDALE, CA 93550

ENVIROSTOR
SCH

S118756511
N/A

Relative:
Higher

Actual:
2669 ft.

ENVIROSTOR:
Facility ID: 19000037
Status: No Action Required
Status Date: 08/17/2004
Site Code: 304464
Site Type: School Investigation
Site Type Detailed: School
Acres: 13
NPL: NO
Regulatory Agencies: DTSC
Lead Agency: DTSC
Program Manager: Not reported
Supervisor: Javier Hinojosa
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 36
Senate: 21
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 34.563
Longitude: -118.0803
APN: NONE SPECIFIED
Past Use: NONE
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: NONE SPECIFIED
Potential Description: NMA
Alias Name: PALMDALE SD-PRPSD EAST ELEMENTARY SCL
Alias Type: Alternate Name
Alias Name: 304464
Alias Type: Project Code (Site Code)
Alias Name: 19000037
Alias Type: Envirostor ID Number

Completed Info:

EAST ELEMENTARY SCHOOL (Continued) **S118756511**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	08/09/2004
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	08/04/2004
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	08/17/2004
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

SCH:

Facility ID:	19000037
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	13
National Priorities List:	NO
Cleanup Oversight Agencies:	DTSC
Lead Agency:	DTSC
Lead Agency Description:	* DTSC
Project Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	304464
Assembly:	36
Senate:	21
Special Program Status:	Not reported
Status:	No Action Required
Status Date:	08/17/2004
Restricted Use:	NO
Funding:	School District
Latitude:	34.563
Longitude:	-118.0803
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	NONE SPECIFIED, No Contaminants found
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA

EAST ELEMENTARY SCHOOL (Continued) **S118756511**

Alias Name: PALMDALE SD-PRPSD EAST ELEMENTARY SCL
Alias Type: Alternate Name
Alias Name: 304464
Alias Type: Project Code (Site Code)
Alias Name: 19000037
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 08/09/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 08/04/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 08/17/2004
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

Count: 7 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
LAKE LOS ANGELES	S107526664		100 85TH ST EAST (CROSS-AVENUE	93550	CDL
PALMDALE	S107535926		70TH ST EAST (.5 MI S OF AVENU		CDL
PALMDALE	S100351765	PALMDALE FIELD	70TH STREET, 0.25 MILES N OF A	93550	ENVIROSTOR
PALMDALE	S108541307	SUNFLOWER CLEANERS	2321 E AVENUE S STE E7	93550	DRYCLEANERS
PALMDALE	S112225093	SUNFLOWER CLEANERS DBA WESTSIDE GA	2331 E AVENUE S STE D1	93550	DRYCLEANERS
PALMDALE	S121700246	SILVER HANGER CLEANERS	2331 E AVENUE S SUITE D-1	93550	DRYCLEANERS
PALMDALE	S107530795		21053 E AVENUE, R08	93550	CDL

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: 03/11/2019
Date Data Arrived at EDR: 03/14/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 18

Source: EPA
Telephone: N/A
Last EDR Contact: 03/14/2019
Next Scheduled EDR Contact: 04/15/2019
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 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

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: 03/11/2019
Date Data Arrived at EDR: 03/14/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 18

Source: EPA
Telephone: N/A
Last EDR Contact: 03/14/2019
Next Scheduled EDR Contact: 04/15/2019
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

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: 03/11/2019
Date Data Arrived at EDR: 03/14/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 18

Source: EPA
Telephone: N/A
Last EDR Contact: 03/14/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Quarterly

Federal CERCLIS list

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: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 01/04/2019
Next Scheduled EDR Contact: 04/15/2019
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list 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). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/06/2019
Date Data Arrived at EDR: 02/15/2019
Date Made Active in Reports: 03/15/2019
Number of Days to Update: 28

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS 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 the 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. The 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 potential NPL site.

Date of Government Version: 02/06/2019
Date Data Arrived at EDR: 02/15/2019
Date Made Active in Reports: 03/15/2019
Number of Days to Update: 28

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/14/2019
Next Scheduled EDR Contact: 04/29/2019
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: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/27/2019
Next Scheduled EDR Contact: 07/08/2019
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: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/27/2019
Next Scheduled EDR Contact: 07/08/2019
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: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/27/2019
Next Scheduled EDR Contact: 07/08/2019
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: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/27/2019
Next Scheduled EDR Contact: 07/08/2019
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: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/27/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

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: 10/17/2018
Date Data Arrived at EDR: 10/25/2018
Date Made Active in Reports: 12/07/2018
Number of Days to Update: 43

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/07/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Varies

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: 01/31/2019
Date Data Arrived at EDR: 02/04/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/04/2019
Next Scheduled EDR Contact: 06/10/2019
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: 01/31/2019
Date Data Arrived at EDR: 02/04/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/04/2019
Next Scheduled EDR Contact: 06/10/2019
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: 02/04/2019
Date Data Arrived at EDR: 02/08/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 28

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/26/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

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: 01/28/2019
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
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: 01/28/2019
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
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: 02/11/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 21

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/12/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

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 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 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 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 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: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/11/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

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 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 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 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

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

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: 04/10/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
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: 04/25/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
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: 04/24/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/01/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
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: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

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: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

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: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
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

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 03/25/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/03/2019
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 03/13/2019
Next Scheduled EDR Contact: 06/24/2019
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/11/2018
Next Scheduled EDR Contact: 03/25/2019
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: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 03/18/2019
Next Scheduled EDR Contact: 07/01/2019
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: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

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: 04/10/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
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: 04/25/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

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: 04/24/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
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: 04/01/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

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: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

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: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

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: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 03/07/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

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: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/25/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Varies

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: 01/28/2019
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 35
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
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

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 12/20/2018
Date Data Arrived at EDR: 12/21/2018
Date Made Active in Reports: 02/28/2019
Number of Days to Update: 69
Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/26/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

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: 12/17/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 24
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/19/2019
Next Scheduled EDR Contact: 07/01/2019
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

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: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/13/2019
Next Scheduled EDR Contact: 06/24/2019
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 02/09/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/27/2019
Number of Days to Update: 43

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 03/26/2019
Next Scheduled EDR Contact: 05/27/2019
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: 01/29/2019
Next Scheduled EDR Contact: 05/13/2019
Data Release Frequency: Varies

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

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: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 02/01/2019
Next Scheduled EDR Contact: 05/13/2019
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 09/21/2018
Date Data Arrived at EDR: 09/21/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 49

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: No Update Planned

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: 01/28/2019
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 35

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

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: 12/31/2017
Date Data Arrived at EDR: 06/12/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 55

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
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

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: 09/21/2018
Date Data Arrived at EDR: 09/21/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 49

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

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

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 12/04/2018
Date Data Arrived at EDR: 12/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
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

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 09/11/2018
Date Data Arrived at EDR: 09/12/2018
Date Made Active in Reports: 10/11/2018
Number of Days to Update: 29

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

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

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 02/28/2019
Date Data Arrived at EDR: 03/01/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 32

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Varies

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: 03/11/2019
Date Data Arrived at EDR: 03/14/2019
Date Made Active in Reports: 03/21/2019
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 03/14/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Semi-Annually

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: 03/04/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 27

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 06/17/2019
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: 02/08/2019
Date Data Arrived at EDR: 02/08/2019
Date Made Active in Reports: 03/21/2019
Number of Days to Update: 41

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/26/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

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: 10/24/2018
Date Data Arrived at EDR: 01/24/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 40

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)
Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)
Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
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: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/27/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

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: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 04/03/2019
Next Scheduled EDR Contact: 06/03/2019
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: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

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: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: N/A

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: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Varies

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: 01/31/2019
Date Data Arrived at EDR: 02/04/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/26/2019
Next Scheduled EDR Contact: 07/08/2019
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: 02/08/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

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: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/08/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

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: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/22/2019
Next Scheduled EDR Contact: 07/01/2019
Data Release Frequency: Every 4 Years

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: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/20/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Annually

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: 03/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Annually

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: 03/11/2019
Date Data Arrived at EDR: 03/14/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 18

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/14/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Annually

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: 02/01/2019
Date Data Arrived at EDR: 02/14/2019
Date Made Active in Reports: 03/21/2019
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

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

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 08/13/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/09/2018
Number of Days to Update: 36

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 03/14/2019
Next Scheduled EDR Contact: 05/20/2019
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: 09/14/2018
Date Data Arrived at EDR: 10/11/2018
Date Made Active in Reports: 12/07/2018
Number of Days to Update: 57

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
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: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Quarterly

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: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
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: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

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: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
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: 03/07/2019
Next Scheduled EDR Contact: 06/17/2019
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: 03/05/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/25/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

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: 01/02/2019
Date Data Arrived at EDR: 01/03/2019
Date Made Active in Reports: 03/15/2019
Number of Days to Update: 71
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/02/2019
Next Scheduled EDR Contact: 07/15/2019
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

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/21/2019
Number of Days to Update: 51
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/29/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

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: 12/31/2018
Date Data Arrived at EDR: 02/11/2019
Date Made Active in Reports: 03/21/2019
Number of Days to Update: 38

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
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: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Biennially

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: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

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: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/22/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 03/11/2019
Date Data Arrived at EDR: 03/14/2019
Date Made Active in Reports: 03/21/2019
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 03/14/2019
Next Scheduled EDR Contact: 04/15/2019
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

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: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

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: 11/27/2018
Date Data Arrived at EDR: 02/27/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 33

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/01/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/01/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2018
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/21/2019
Next Scheduled EDR Contact: 06/24/2019
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: 02/15/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 03/15/2019
Number of Days to Update: 10

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 74

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 03/01/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 03/03/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 02/21/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 39

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Quarterly

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

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: 12/20/2018
Date Data Arrived at EDR: 12/21/2018
Date Made Active in Reports: 02/28/2019
Number of Days to Update: 69

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/26/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 01/23/2019
Date Data Arrived at EDR: 02/26/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 34

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 02/26/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Varies

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 09/11/2018
Date Data Arrived at EDR: 09/12/2018
Date Made Active in Reports: 09/19/2018
Number of Days to Update: 7

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 32

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Varies

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: 12/13/2018
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 47

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Annually

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 10/05/2018
Date Made Active in Reports: 11/01/2018
Number of Days to Update: 27

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 03/22/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 47

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/22/2019
Next Scheduled EDR Contact: 07/01/2019
Data Release Frequency: Varies

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: 11/01/2018
Date Data Arrived at EDR: 11/02/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 41

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 03/18/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 01/10/2019
Date Data Arrived at EDR: 01/23/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 41

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
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: 02/15/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 14

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/11/2019
Next Scheduled EDR Contact: 05/27/2019
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: 12/31/2017
Date Data Arrived at EDR: 10/10/2018
Date Made Active in Reports: 11/16/2018
Number of Days to Update: 37

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 02/20/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 13

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 02/20/2019
Next Scheduled EDR Contact: 06/03/2019
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

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 02/20/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 13

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/20/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Quarterly

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: 01/07/2019
Date Data Arrived at EDR: 01/08/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 56

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/08/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Quarterly

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: 02/20/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 28

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 02/11/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 23

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 02/12/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/05/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 37

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/13/2019
Next Scheduled EDR Contact: 06/24/2019
Data Release Frequency: Quarterly

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: 09/19/2018
Date Data Arrived at EDR: 09/20/2018
Date Made Active in Reports: 10/19/2018
Number of Days to Update: 29

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/18/2019
Next Scheduled EDR Contact: 07/01/2019
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 04/27/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 34

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/13/2019
Next Scheduled EDR Contact: 06/24/2019
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 07/11/2018
Date Made Active in Reports: 09/13/2018
Number of Days to Update: 64

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Varies

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: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Quarterly

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)

Military privatized sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)

Projects sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/18/2019
Number of Days to Update: 37

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 03/13/2019
Next Scheduled EDR Contact: 06/24/2019
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 03/05/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 28

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/24/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

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: 03/25/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 12/10/2018
Date Data Arrived at EDR: 12/11/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 03/25/2019
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 Hist Auto: EDR Exclusive Historical Auto 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 Hist Cleaner: EDR Exclusive Historical 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

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:

CS ALAMEDA: 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: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/07/2019
Date Data Arrived at EDR: 01/08/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 59

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List

Cupa Facility List

Date of Government Version: 01/07/2019
Date Data Arrived at EDR: 01/08/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 58

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 01/24/2019
Date Data Arrived at EDR: 01/25/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 39

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/25/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 32

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 02/14/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 17

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 01/16/2019
Date Data Arrived at EDR: 02/05/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 28

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 32

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: 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: 10/16/2018
Date Data Arrived at EDR: 10/18/2018
Date Made Active in Reports: 11/14/2018
Number of Days to Update: 27

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 03/29/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/19/2018
Next Scheduled EDR Contact: 03/04/2019
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 01/18/2019
Date Data Arrived at EDR: 01/23/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 41

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 01/28/2019
Date Data Arrived at EDR: 02/07/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 29

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: 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: 02/14/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 14

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 02/08/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/12/2019
Number of Days to Update: 28

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/17/2019
Date Data Arrived at EDR: 01/18/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 46

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

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: N/A
Telephone: N/A
Last EDR Contact: 03/18/2019
Next Scheduled EDR Contact: 07/01/2019
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 12/19/2018
Date Data Arrived at EDR: 01/10/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 56
Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/14/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51
Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/15/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51
Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 01/15/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/30/2019
Date Data Arrived at EDR: 02/01/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 34
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 02/01/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 01/14/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Semi-Annually

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Annually

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 10/02/2018
Date Data Arrived at EDR: 10/05/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 28

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: 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: 02/20/2019
Date Data Arrived at EDR: 02/22/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 13

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 02/15/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 03/29/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/29/2018
Date Data Arrived at EDR: 08/31/2018
Date Made Active in Reports: 09/19/2018
Number of Days to Update: 19

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 03/18/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/21/2019
Date Data Arrived at EDR: 02/26/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 34

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 02/05/2019
Date Data Arrived at EDR: 02/07/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 26

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 04/01/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 02/21/2019
Date Data Arrived at EDR: 02/22/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 14

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 01/25/2019
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 35

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 01/02/2019
Date Data Arrived at EDR: 02/07/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 26

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/04/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 01/02/2019
Date Data Arrived at EDR: 02/08/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 26

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/04/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 01/02/2019
Date Data Arrived at EDR: 02/05/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 31

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/05/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 01/14/2019
Date Data Arrived at EDR: 01/18/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 46

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/29/2019
Date Data Arrived at EDR: 01/31/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 34

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/18/2019
Next Scheduled EDR Contact: 07/01/2019
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/29/2019
Date Data Arrived at EDR: 01/31/2019
Date Made Active in Reports: 03/08/2019
Number of Days to Update: 36

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/18/2019
Next Scheduled EDR Contact: 07/01/2019
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/07/2018
Date Data Arrived at EDR: 01/04/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 60

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/02/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Quarterly

ML SACRAMENTO: 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: 11/07/2018
Date Data Arrived at EDR: 12/28/2018
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 67

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/02/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 11/15/2018
Date Data Arrived at EDR: 11/16/2018
Date Made Active in Reports: 12/13/2018
Number of Days to Update: 27

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: 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: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 33

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 02/19/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: 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: 03/04/2019
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 04/02/2019
Number of Days to Update: 28

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 03/05/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/30/2018
Number of Days to Update: 38
Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 03/06/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

SAN DIEGO CO. SAM: 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: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: 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: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/05/2018
Date Data Arrived at EDR: 11/06/2018
Date Made Active in Reports: 12/14/2018
Number of Days to Update: 38
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/18/2019
Next Scheduled EDR Contact: 07/01/2019
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 02/13/2019
Date Data Arrived at EDR: 02/15/2019
Date Made Active in Reports: 03/14/2019
Number of Days to Update: 27

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 12/12/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 34

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/13/2019
Next Scheduled EDR Contact: 06/24/2019
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/23/2019
Number of Days to Update: 36

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/25/2019
Next Scheduled EDR Contact: 06/24/2019
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: 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: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 02/13/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 15

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

HIST LUST SANTA CLARA: 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

LUST SANTA CLARA: 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: 02/21/2019
Next Scheduled EDR Contact: 06/10/2019
Data Release Frequency: Annually

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 01/30/2019
Date Data Arrived at EDR: 02/01/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 34

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 02/13/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2018
Date Data Arrived at EDR: 12/04/2018
Date Made Active in Reports: 01/11/2019
Number of Days to Update: 38

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/05/2019
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 04/03/2019
Number of Days to Update: 27

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 12/21/2018
Date Data Arrived at EDR: 12/27/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 19

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/25/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/08/2019
Date Data Arrived at EDR: 01/10/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 55

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 03/25/2019
Next Scheduled EDR Contact: 07/08/2019
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 12/11/2018
Date Data Arrived at EDR: 12/13/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 33

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 12/13/2018
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 02/28/2019
Date Data Arrived at EDR: 03/01/2019
Date Made Active in Reports: 04/03/2019
Number of Days to Update: 33

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 02/27/2019
Next Scheduled EDR Contact: 06/17/2019
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 12/13/2018
Date Data Arrived at EDR: 12/18/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 28

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 01/18/2019
Date Data Arrived at EDR: 01/23/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 42

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 01/17/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 12/27/2018
Date Made Active in Reports: 01/15/2019
Number of Days to Update: 19

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 01/31/2019
Next Scheduled EDR Contact: 05/20/2019
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 03/18/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: 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: 12/26/2018
Date Data Arrived at EDR: 01/24/2019
Date Made Active in Reports: 02/28/2019
Number of Days to Update: 35

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

LF VENTURA: 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: 03/29/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Annually

LUST VENTURA: 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: 02/07/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: Quarterly

MED WASTE VENTURA: 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: 12/26/2018
Date Data Arrived at EDR: 01/24/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 42
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 01/22/2019
Next Scheduled EDR Contact: 05/06/2019
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/26/2019
Date Data Arrived at EDR: 03/13/2019
Date Made Active in Reports: 04/03/2019
Number of Days to Update: 21
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/13/2019
Next Scheduled EDR Contact: 06/24/2019
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/26/2018
Date Data Arrived at EDR: 01/03/2019
Date Made Active in Reports: 01/16/2019
Number of Days to Update: 13
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/29/2019
Next Scheduled EDR Contact: 07/15/2019
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 02/08/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/06/2019
Number of Days to Update: 22
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 01/28/2019
Next Scheduled EDR Contact: 05/11/2019
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: 02/11/2019
Date Data Arrived at EDR: 02/12/2019
Date Made Active in Reports: 03/04/2019
Number of Days to Update: 20
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/12/2019
Next Scheduled EDR Contact: 05/27/2019
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 07/13/2018
Date Made Active in Reports: 08/01/2018
Number of Days to Update: 19

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/07/2019
Next Scheduled EDR Contact: 04/22/2019
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: 01/01/2019
Date Data Arrived at EDR: 01/30/2019
Date Made Active in Reports: 02/14/2019
Number of Days to Update: 15

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/30/2019
Next Scheduled EDR Contact: 05/11/2019
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/27/2018
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/11/2019
Next Scheduled EDR Contact: 04/29/2019
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/19/2019
Next Scheduled EDR Contact: 06/03/2019
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/15/2018
Date Made Active in Reports: 07/09/2018
Number of Days to Update: 24

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/11/2019
Next Scheduled EDR Contact: 06/24/2019
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

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 was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

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.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

HC
AVENUE R AND 30TH STREET EAST
PALMDALE, CA 93550

TARGET PROPERTY COORDINATES

Latitude (North):	34.573525 - 34˚ 34' 24.69"
Longitude (West):	118.074929 - 118˚ 4' 29.74"
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	401400.4
UTM Y (Meters):	3826079.0
Elevation:	2623 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5630797 PALMDALE, CA
Version Date:	2012

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 principle 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).

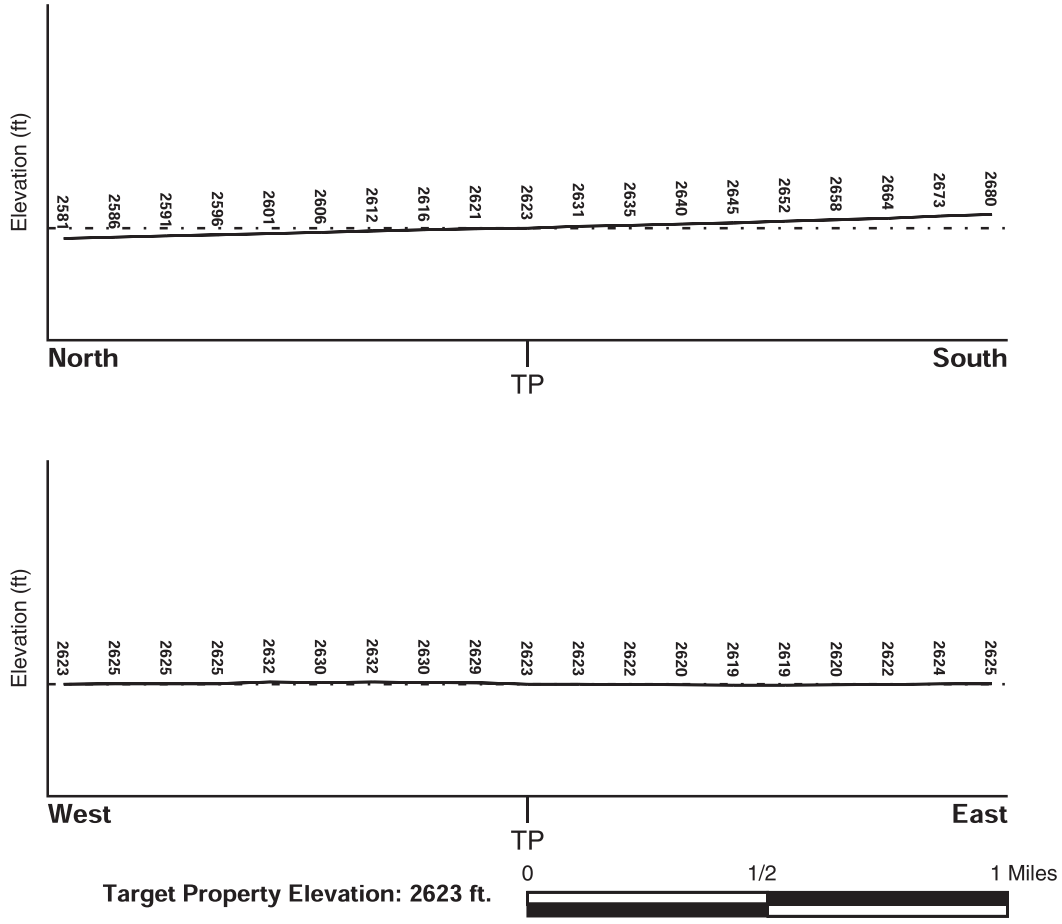
TOPOGRAPHIC INFORMATION

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 NNE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



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

Flood Plain Panel at Target Property	FEMA Source Type
06037C0700F	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
Not Reported	

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
PALMDALE	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

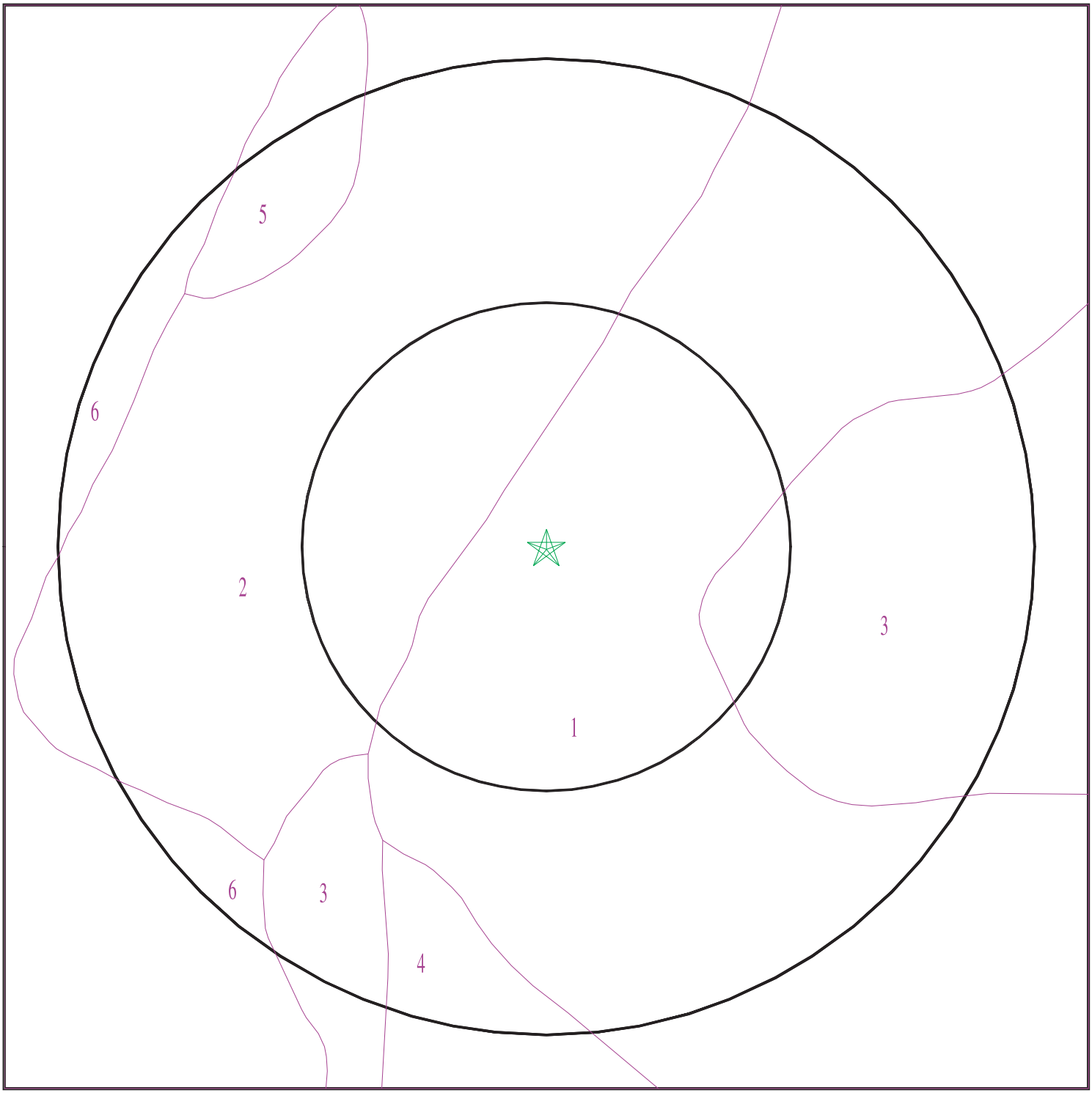
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

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 - 5611591.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	HC	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	Avenue R and 30th Street East Palmdale CA 93550	CONTACT:	Bill Cooper
LAT/LONG:	34.573525 / 118.074929	INQUIRY #:	5611591.2s
		DATE:	April 04, 2019 2:44 pm

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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: Adelanto

Soil Surface Texture: coarse sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 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	coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 7.9
2	16 inches	40 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 7.9
3	40 inches	79 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 7.9

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
4	79 inches	85 inches	stratified loamy sand to coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 7.9

Soil Map ID: 2

Soil Component Name: Hanford

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 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	7 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: 7.8 Min: 6.1
2	7 inches	70 inches	fine 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: 7.8 Min: 6.1

Soil Map ID: 3

Soil Component Name: Rosamond

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 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	7 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	Max: 14 Min: 4	Max: 8.4 Min: 7.9
2	7 inches	59 inches	stratified loam to silty 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

Soil Map ID: 4

Soil Component Name: Hesperia

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 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	3 inches	fine 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	3 inches	53 inches	fine 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
3	53 inches	77 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

Soil Map ID: 5

Soil Component Name: Hanford

Soil Surface Texture: coarse sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 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	7 inches	coarse 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: 7.8 Min: 6.6
2	7 inches	38 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: 7.8 Min: 6.6
3	38 inches	70 inches	gravelly loamy coarse 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: 7.8 Min: 6.6

Soil Map ID: 6

Soil Component Name: Greenfield

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 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	20 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: 7.3 Min: 6.6
2	20 inches	59 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: 7.3 Min: 6.6
3	59 inches	79 inches	stratified loamy sand to coarse 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: 7.3 Min: 6.6

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
A1	USGS40000147302	0 - 1/8 Mile ESE
A2	USGS40000147297	1/8 - 1/4 Mile ESE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B3	USGS40000147282	1/4 - 1/2 Mile WSW
C6	USGS40000147266	1/4 - 1/2 Mile ESE
7	USGS40000147236	1/2 - 1 Mile SW
12	USGS40000147430	1/2 - 1 Mile WNW
E14	USGS40000147232	1/2 - 1 Mile ESE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

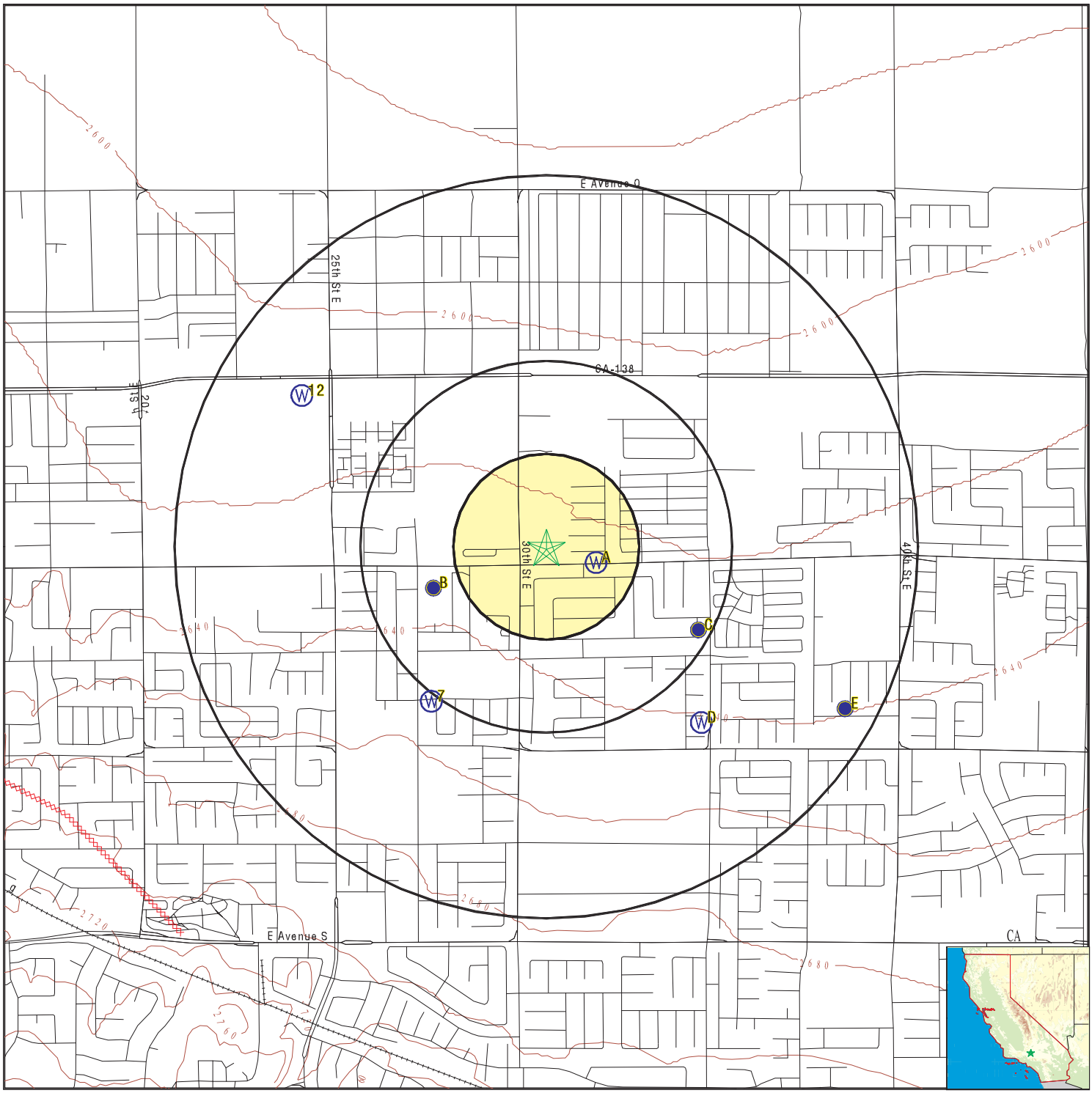
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B4	CADW60000023669	1/4 - 1/2 Mile WSW
C5	CADW60000023671	1/4 - 1/2 Mile ESE
D8	22858	1/2 - 1 Mile SE
D9	22857	1/2 - 1 Mile SE
D10	6718	1/2 - 1 Mile SE
D11	6717	1/2 - 1 Mile SE
E13	CADW60000023670	1/2 - 1 Mile ESE

PHYSICAL SETTING SOURCE MAP - 5611591.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- 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:	HC	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	Avenue R and 30th Street East Palmdale CA 93550	CONTACT:	Bill Cooper
LAT/LONG:	34.573525 / 118.074929	INQUIRY #:	5611591.2s
		DATE:	April 04, 2019 2:44 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
ESE
0 - 1/8 Mile
Higher | **FED USGS** | **USGS40000147302**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006N011W29N002S	Type:	Well
Description:	Not Reported	HUC:	18090206
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	160
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

A2
ESE
1/8 - 1/4 Mile
Higher | **FED USGS** | **USGS40000147297**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006N011W29N001S	Type:	Well
Description:	Not Reported	HUC:	18090206
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	106
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

B3
WSW
1/4 - 1/2 Mile
Higher | **FED USGS** | **USGS40000147282**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006N011W31A001S	Type:	Well
Description:	Not Reported	HUC:	18090206
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19591001	Well Depth:	444
Well Depth Units:	ft	Well Hole Depth:	444
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	32	Level reading date:	2004-03-30
Feet below surface:	243.78	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	2003-04-30	Feet below surface:	245.86
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-03-26	Feet below surface:	249.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-10-04	Feet below surface:	251.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-03-18	Feet below surface:	253.84
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-09-27	Feet below surface:	255.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-30	Feet below surface:	256.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-04-01	Feet below surface:	259.22
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-03-19	Feet below surface:	262.76
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-03-04	Feet below surface:	271.37
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-04-18	Feet below surface:	267.96
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-04-17	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	An obstruction was encountered in the well above the water surface (no water level recorded).		
Level reading date:	1994-04-14	Feet below surface:	270.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-04-21	Feet below surface:	268.24
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-04-13	Feet below surface:	268.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1991-03-19	Feet below surface:	266.87
Feet to sea level:	Not Reported	Note:	The site had been pumped recently.
Level reading date:	1989-03-23	Feet below surface:	265.24
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1988-03-29	Feet below surface:	264.22
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1987-02-26	Feet below surface:	Not Reported
Feet to sea level:	Not Reported	Note:	The site was being pumped.
Level reading date:	1985-03-27	Feet below surface:	263.35
Feet to sea level:	Not Reported	Note:	The site had been pumped recently.
Level reading date:	1984-03-06	Feet below surface:	263.17
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-04-12	Feet below surface:	262.95

Feet to sea level:	Not Reported	Note:	The site had been pumped recently.
Level reading date:	1982-02-09	Feet below surface:	260.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-16	Feet below surface:	259.92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-03-11	Feet below surface:	257.71
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-02-27	Feet below surface:	255.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-03-27	Feet below surface:	253.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1976-03-07	Feet below surface:	254.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1976-02-12	Feet below surface:	249.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1975-02-19	Feet below surface:	247.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1974-02-15	Feet below surface:	258.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-11-13	Feet below surface:	220.10
Feet to sea level:	Not Reported	Note:	Not Reported

B4
WSW
1/4 - 1/2 Mile
Higher

CA WELLS **CADW60000023669**

Objectid:	23669	Latitude:	34.5719
Longitude:	-118.0807	Site code:	345719N1180807W001
State well numbe:	06N11W31A001S	Local well name:	”
Well use id:	6	Well use descrip:	Unknown
County id:	19	County name:	Los Angeles
Basin code:	’6-44’	Basin desc:	Antelope Valley
Dwr region id:	80238	Dwr region:	Southern Region Office
Site id:	CADW60000023669		

C5
ESE
1/4 - 1/2 Mile
Higher

CA WELLS **CADW60000023671**

Objectid:	23671	Latitude:	34.5703
Longitude:	-118.0682	Site code:	345703N1180682W001
State well numbe:	06N11W32L001S	Local well name:	”
Well use id:	6	Well use descrip:	Unknown
County id:	19	County name:	Los Angeles
Basin code:	’6-44’	Basin desc:	Antelope Valley
Dwr region id:	80238	Dwr region:	Southern Region Office
Site id:	CADW60000023671		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C6
ESE
1/4 - 1/2 Mile
Higher | **FED USGS** | **USGS40000147266**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006N011W32L001S	Type:	Well
Description:	Not Reported	HUC:	18090206
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1963-11-13
Feet below surface:	185.50	Feet to sea level:	Not Reported
Note:	Not Reported		

7
SW
1/2 - 1 Mile
Higher | **FED USGS** | **USGS40000147236**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006N011W31H001S	Type:	Well
Description:	Not Reported	HUC:	18090206
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

D8
SE
1/2 - 1 Mile
Higher | **CA WELLS** | **22858**

Seq:	22858	Prim sta c:	G19/102-PMFPLIN
Frds no:	1910102031	County:	19
District:	07	User id:	4TH
System no:	1910102	Water type:	G
Source nam:	FILTER PLANT - INFLUENT	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	343400.0	Longitude:	1180400.0
Precision:	3	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	1910102	System nam:	PALMDALE WATER DIST.

Hqname:	Not Reported	Address:	2005 E. AVE. Q
City:	PALMDALE	State:	CA
Zip:	93550	Zip ext:	Not Reported
Pop serv:	70000	Connection:	23081
Area serve:	PALMDALE		
Sample date:	20-OCT-16	Finding:	4.
Chemical:	TOTAL ORGANIC CARBON (TOC)	Report units:	MG/L
Dlr:	0.3		
Sample date:	20-APR-16	Finding:	3.9
Chemical:	TOTAL ORGANIC CARBON (TOC)	Report units:	MG/L
Dlr:	0.3		
Sample date:	08-JAN-14	Finding:	0.169
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	08-JAN-14	Finding:	696.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	08-JAN-14	Finding:	57.7
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	08-JAN-14	Finding:	87.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	08-JAN-14	Finding:	3.08
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		

D9
SE
1/2 - 1 Mile
Higher

CA WELLS 22857

Seq:	22857	Prim sta c:	G19/102-PMFPLEF
Frds no:	1910102030	County:	19
District:	07	User id:	4TH
System no:	1910102	Water type:	G
Source nam:	FILTER PLANT - EFFLUENT	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	343400.0	Longitude:	1180400.0
Precision:	3	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		
System no:	1910102	System nam:	PALMDALE WATER DIST.
Hqname:	Not Reported	Address:	2005 E. AVE. Q
City:	PALMDALE	State:	CA
Zip:	93550	Zip ext:	Not Reported
Pop serv:	70000	Connection:	23081
Area serve:	PALMDALE		
Sample date:	14-FEB-18	Finding:	2.
Chemical:	ODOR THRESHOLD @ 60 C	Report units:	TON
Dlr:	1.		

Sample date:	14-FEB-18	Finding:	12.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	14-FEB-18	Finding:	7.9
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	14-FEB-18	Finding:	67.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	14-FEB-18	Finding:	81.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	14-FEB-18	Finding:	96.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	14-FEB-18	Finding:	23.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	14-FEB-18	Finding:	9.4
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	14-FEB-18	Finding:	42.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	14-FEB-18	Finding:	2.4
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	14-FEB-18	Finding:	70.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	14-FEB-18	Finding:	24.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	14-FEB-18	Finding:	0.13
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	14-FEB-18	Finding:	7.6
Chemical:	BROMODICHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	14-FEB-18	Finding:	3.6
Chemical:	DIBROMOCHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	14-FEB-18	Finding:	8.
Chemical:	CHLOROFORM (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	14-FEB-18	Finding:	230.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L

Dlr:	0.		
Sample date:	14-FEB-18	Finding:	0.15
Chemical:	LANGELIER INDEX @ 60 C	Report units:	Not Reported
Dlr:	0.		
Sample date:	14-FEB-18	Finding:	0.16
Chemical:	TURBIDITY, LABORATORY	Report units:	NTU
Dlr:	0.1		
Sample date:	14-FEB-18	Finding:	20.
Chemical:	TOTAL TRIHALOMETHANES	Report units:	UG/L
Dlr:	0.		
Sample date:	14-FEB-18	Finding:	430.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	11-OCT-17	Finding:	15.4
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	11-OCT-17	Finding:	58.7
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	12-JUL-17	Finding:	23.3
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	12-JUL-17	Finding:	62.7
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	06-APR-17	Finding:	108.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	06-APR-17	Finding:	0.111
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	06-APR-17	Finding:	53.9
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	16-MAR-17	Finding:	52.6
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	16-MAR-17	Finding:	115.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	16-MAR-17	Finding:	0.113
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	26-JAN-17	Finding:	58.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		

Sample date:	26-JAN-17	Finding:	0.14
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	26-JAN-17	Finding:	150.
Chemical:	BORON	Report units:	UG/L
Dlr:	100.		
Sample date:	26-JAN-17	Finding:	5.5
Chemical:	BROMODICHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	26-JAN-17	Finding:	3.
Chemical:	DIBROMOCHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	26-JAN-17	Finding:	4.
Chemical:	CHLOROFORM (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	26-JAN-17	Finding:	430.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	26-JAN-17	Finding:	8800.
Chemical:	CARBON DIOXIDE	Report units:	UG/L
Dlr:	0.		
Sample date:	26-JAN-17	Finding:	0.11
Chemical:	TURBIDITY, LABORATORY	Report units:	NTU
Dlr:	0.1		
Sample date:	26-JAN-17	Finding:	13.
Chemical:	TOTAL TRIHALOMETHANES	Report units:	UG/L
Dlr:	0.		
Sample date:	26-JAN-17	Finding:	11.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	26-JAN-17	Finding:	140.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	26-JAN-17	Finding:	3.5
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	26-JAN-17	Finding:	79.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	26-JAN-17	Finding:	14.
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	26-JAN-17	Finding:	29.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	26-JAN-17	Finding:	130.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L

Dlr:	0.		
Sample date:	26-JAN-17	Finding:	68.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	26-JAN-17	Finding:	56.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	26-JAN-17	Finding:	7.1
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	26-JAN-17	Finding:	2.
Chemical:	ODOR THRESHOLD @ 60 C	Report units:	TON
Dlr:	1.		
Sample date:	26-JAN-17	Finding:	680.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	20-OCT-16	Finding:	1.4
Chemical:	TOTAL ORGANIC CARBON (TOC)	Report units:	MG/L
Dlr:	0.3		
Sample date:	05-OCT-16	Finding:	46.1
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	05-OCT-16	Finding:	122.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	05-OCT-16	Finding:	0.117
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	13-JUL-16	Finding:	66.4
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	13-JUL-16	Finding:	0.165
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	13-JUL-16	Finding:	140.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	20-APR-16	Finding:	0.83
Chemical:	TOTAL ORGANIC CARBON (TOC)	Report units:	MG/L
Dlr:	0.3		
Sample date:	06-APR-16	Finding:	0.12
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	06-APR-16	Finding:	54.8
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		

Sample date:	06-APR-16	Finding:	93.2
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	0.21
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	17-MAR-16	Finding:	260.
Chemical:	BORON	Report units:	UG/L
Dlr:	100.		
Sample date:	17-MAR-16	Finding:	6.4
Chemical:	BROMODICHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	17-MAR-16	Finding:	1.4
Chemical:	BROMOFORM (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	17-MAR-16	Finding:	4.6
Chemical:	DIBROMOCHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	17-MAR-16	Finding:	3.9
Chemical:	CHLOROFORM (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	17-MAR-16	Finding:	500.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	0.16
Chemical:	LANGELIER INDEX @ 60 C	Report units:	Not Reported
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	3800.
Chemical:	CARBON DIOXIDE	Report units:	UG/L
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	16.
Chemical:	TOTAL TRIHALOMETHANES	Report units:	UG/L
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	12.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	87.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	17-MAR-16	Finding:	140.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	3.4
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	110.
Chemical:	SODIUM	Report units:	MG/L

Dlr:	0.		
Sample date:	17-MAR-16	Finding:	14.
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	36.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	150.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	92.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	75.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	7.6
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	17-MAR-16	Finding:	2.
Chemical:	ODOR THRESHOLD @ 60 C	Report units:	TON
Dlr:	1.		
Sample date:	17-MAR-16	Finding:	800.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	08-OCT-15	Finding:	0.224
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	08-OCT-15	Finding:	141.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	08-OCT-15	Finding:	77.8
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	02-JUL-15	Finding:	70.2
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	02-JUL-15	Finding:	0.222
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	02-JUL-15	Finding:	126.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	07-APR-15	Finding:	75.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		

Sample date:	07-APR-15	Finding:	113.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	07-APR-15	Finding:	0.223
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	12-FEB-15	Finding:	110.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	12-FEB-15	Finding:	80.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	12-FEB-15	Finding:	0.22
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	12-FEB-15	Finding:	210.
Chemical:	BORON	Report units:	UG/L
Dlr:	100.		
Sample date:	12-FEB-15	Finding:	3.2
Chemical:	BROMODICHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	12-FEB-15	Finding:	1.7
Chemical:	DIBROMOCHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	12-FEB-15	Finding:	2.9
Chemical:	CHLOROFORM (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	12-FEB-15	Finding:	410.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	12-FEB-15	Finding:	3.e-003
Chemical:	LANGELIER INDEX @ 60 C	Report units:	Not Reported
Dlr:	0.		
Sample date:	12-FEB-15	Finding:	3700.
Chemical:	CARBON DIOXIDE	Report units:	UG/L
Dlr:	0.		
Sample date:	12-FEB-15	Finding:	7.5e-002
Chemical:	TURBIDITY, LABORATORY	Report units:	NTU
Dlr:	0.1		
Sample date:	12-FEB-15	Finding:	7.8
Chemical:	TOTAL TRIHALOMETHANES	Report units:	UG/L
Dlr:	0.		
Sample date:	12-FEB-15	Finding:	12.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	12-FEB-15	Finding:	2.5
Chemical:	POTASSIUM	Report units:	MG/L

Dlr:	0.		
Sample date:	12-FEB-15	Finding:	84.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	12-FEB-15	Finding:	9.6
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	12-FEB-15	Finding:	32.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	12-FEB-15	Finding:	120.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	12-FEB-15	Finding:	89.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	12-FEB-15	Finding:	73.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	12-FEB-15	Finding:	7.6
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	12-FEB-15	Finding:	17.
Chemical:	ODOR THRESHOLD @ 60 C	Report units:	TON
Dlr:	1.		
Sample date:	12-FEB-15	Finding:	710.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	01-OCT-14	Finding:	0.197
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	01-OCT-14	Finding:	68.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	01-OCT-14	Finding:	121.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	02-JUL-14	Finding:	0.129
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	02-JUL-14	Finding:	70.1
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	02-JUL-14	Finding:	42.6
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		

Sample date:	08-MAY-14	Finding:	1.1
Chemical:	BROMOFORM (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	08-MAY-14	Finding:	3.2
Chemical:	BROMODICHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	08-MAY-14	Finding:	2.
Chemical:	DIBROMOCHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	08-MAY-14	Finding:	4.1
Chemical:	CHLOROFORM (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	08-MAY-14	Finding:	10.
Chemical:	TOTAL TRIHALOMETHANES	Report units:	UG/L
Dlr:	0.		
Sample date:	17-APR-14	Finding:	63.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	17-APR-14	Finding:	180.
Chemical:	BORON	Report units:	UG/L
Dlr:	100.		
Sample date:	17-APR-14	Finding:	370.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	17-APR-14	Finding:	0.13
Chemical:	LANGELIER INDEX @ 60 C	Report units:	Not Reported
Dlr:	0.		
Sample date:	17-APR-14	Finding:	2000.
Chemical:	CARBON DIOXIDE	Report units:	UG/L
Dlr:	0.		
Sample date:	17-APR-14	Finding:	0.19
Chemical:	TURBIDITY, LABORATORY	Report units:	NTU
Dlr:	0.1		
Sample date:	17-APR-14	Finding:	12.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	17-APR-14	Finding:	120.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	17-APR-14	Finding:	2.9
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	17-APR-14	Finding:	81.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	17-APR-14	Finding:	12.
Chemical:	MAGNESIUM	Report units:	MG/L

Dlr:	0.		
Sample date:	17-APR-14	Finding:	30.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	17-APR-14	Finding:	120.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	17-APR-14	Finding:	76.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	17-APR-14	Finding:	63.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	17-APR-14	Finding:	7.8
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	17-APR-14	Finding:	680.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	17-APR-14	Finding:	0.2
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	08-JAN-14	Finding:	2.69
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	08-JAN-14	Finding:	0.196
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	08-JAN-14	Finding:	57.3
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	08-JAN-14	Finding:	117.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	08-JAN-14	Finding:	609.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	03-OCT-13	Finding:	104.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	03-OCT-13	Finding:	768.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	03-OCT-13	Finding:	38.3
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		

Sample date:	03-OCT-13	Finding:	3.39
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	03-OCT-13	Finding:	0.194
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	11-JUL-13	Finding:	64.
Chemical:	ALUMINUM	Report units:	UG/L
Dlr:	50.		
Sample date:	01-JUL-13	Finding:	720.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	01-JUL-13	Finding:	0.169
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	01-JUL-13	Finding:	50.3
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	01-JUL-13	Finding:	104.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	01-JUL-13	Finding:	3.18
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	01-APR-13	Finding:	2.22
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	01-APR-13	Finding:	0.112
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	01-APR-13	Finding:	50.1
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	01-APR-13	Finding:	112.8
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	01-APR-13	Finding:	503.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	10-JAN-13	Finding:	3.
Chemical:	GROSS ALPHA MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	3.
Chemical:	GROSS BETA MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	2.
Chemical:	ODOR THRESHOLD @ 60 C	Report units:	TON

Dlr:	1.		
Sample date:	10-JAN-13	Finding:	590.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	7.5
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	57.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	70.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	110.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	23.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	14.
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	71.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	2.9
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	120.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	33.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	10-JAN-13	Finding:	2.3
Chemical:	GROSS ALPHA COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	1.2
Chemical:	GROSS BETA COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	2.2
Chemical:	BROMODICHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	10-JAN-13	Finding:	1.6
Chemical:	DIBROMOCHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		

Sample date:	10-JAN-13	Finding:	1.4
Chemical:	CHLOROFORM (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	10-JAN-13	Finding:	310.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	3900.
Chemical:	CARBON DIOXIDE	Report units:	UG/L
Dlr:	0.		
Sample date:	10-JAN-13	Finding:	11.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	09-JAN-13	Finding:	117.4
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	09-JAN-13	Finding:	0.101
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	09-JAN-13	Finding:	36.6
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	07-NOV-12	Finding:	29.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	07-NOV-12	Finding:	120.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	11-JUL-12	Finding:	0.133
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	11-JUL-12	Finding:	48.2
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	11-JUL-12	Finding:	97.4
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	04-APR-12	Finding:	95.2
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	04-APR-12	Finding:	0.107
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	04-APR-12	Finding:	52.8
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	20-MAR-12	Finding:	5.1
Chemical:	CHLOROFORM (THM)	Report units:	UG/L

Dlr:	1.		
Sample date:	20-MAR-12	Finding:	2.4
Chemical:	BROMODICHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	20-MAR-12	Finding:	9.1
Chemical:	TOTAL TRIHALOMETHANES	Report units:	UG/L
Dlr:	0.		
Sample date:	23-FEB-12	Finding:	6.5
Chemical:	TOTAL TRIHALOMETHANES	Report units:	UG/L
Dlr:	0.		
Sample date:	23-FEB-12	Finding:	4.1
Chemical:	CHLOROFORM (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	23-FEB-12	Finding:	1.6
Chemical:	BROMODICHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	14-FEB-12	Finding:	1.3
Chemical:	BROMODICHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	14-FEB-12	Finding:	5.5
Chemical:	TOTAL TRIHALOMETHANES	Report units:	UG/L
Dlr:	0.		
Sample date:	14-FEB-12	Finding:	3.5
Chemical:	CHLOROFORM (THM)	Report units:	UG/L
Dlr:	1.		
Sample date:	09-FEB-12	Finding:	110.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	09-FEB-12	Finding:	11.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	09-FEB-12	Finding:	270.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	09-FEB-12	Finding:	0.11
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	09-FEB-12	Finding:	48.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	09-FEB-12	Finding:	85.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	09-FEB-12	Finding:	2.5
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		

Sample date:	09-FEB-12	Finding:	50.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	09-FEB-12	Finding:	12.
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	09-FEB-12	Finding:	25.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	09-FEB-12	Finding:	5.4e-002
Chemical:	TURBIDITY, LABORATORY	Report units:	NTU
Dlr:	0.1		
Sample date:	09-FEB-12	Finding:	74.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	09-FEB-12	Finding:	61.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	09-FEB-12	Finding:	7.4
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	09-FEB-12	Finding:	500.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	05-JAN-12	Finding:	448.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	05-JAN-12	Finding:	0.112
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	05-JAN-12	Finding:	76.6
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	05-JAN-12	Finding:	46.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		

D10
SE
1/2 - 1 Mile
Higher

CA WELLS 6718

Seq:	6718	Prim sta c:	06N/11W-32P03 S
Frds no:	1910102032	County:	19
District:	07	User id:	4TH
System no:	1910102	Water type:	G
Source nam:	WELL 32	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	343400.0	Longitude:	1180400.0
Precision:	3	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported

Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		
System no:	1910102	System nam:	PALMDALE WATER DIST.
Hqname:	Not Reported	Address:	2005 E. AVE. Q
City:	PALMDALE	State:	CA
Zip:	93550	Zip ext:	Not Reported
Pop serv:	70000	Connection:	23081
Area serve:	PALMDALE		
Sample date:	07-MAR-18	Finding:	1.7
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	01-NOV-17	Finding:	1.6
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	11-OCT-17	Finding:	0.443
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	11-OCT-17	Finding:	0.132
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	11-OCT-17	Finding:	19.9
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	11-OCT-17	Finding:	0.443
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	11-OCT-17	Finding:	39.4
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	02-AUG-17	Finding:	1.6
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	12-JUL-17	Finding:	0.45
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	12-JUL-17	Finding:	20.6
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	12-JUL-17	Finding:	0.129
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	12-JUL-17	Finding:	0.45
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	12-JUL-17	Finding:	39.7
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		

Sample date:	03-MAY-17	Finding:	1.5
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	05-APR-17	Finding:	0.453
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	05-APR-17	Finding:	0.127
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	05-APR-17	Finding:	43.9
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	05-APR-17	Finding:	20.9
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	05-APR-17	Finding:	0.453
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	01-FEB-17	Finding:	1.6
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	11-JAN-17	Finding:	0.465
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	11-JAN-17	Finding:	0.135
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	11-JAN-17	Finding:	21.7
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	11-JAN-17	Finding:	0.465
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	11-JAN-17	Finding:	38.7
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	02-NOV-16	Finding:	1.7
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	05-OCT-16	Finding:	22.2
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	05-OCT-16	Finding:	39.3
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	05-OCT-16	Finding:	0.127
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L

Dlr:	0.1		
Sample date:	05-OCT-16	Finding:	0.479
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	05-OCT-16	Finding:	0.479
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	03-AUG-16	Finding:	1.6
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	13-JUL-16	Finding:	0.538
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	13-JUL-16	Finding:	40.9
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	13-JUL-16	Finding:	0.129
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	13-JUL-16	Finding:	0.538
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	13-JUL-16	Finding:	22.9
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	04-MAY-16	Finding:	1.6
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	06-APR-16	Finding:	0.51
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	06-APR-16	Finding:	0.12
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	06-APR-16	Finding:	47.1
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	06-APR-16	Finding:	22.9
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	06-APR-16	Finding:	0.51
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	03-FEB-16	Finding:	2.
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		

Sample date:	19-JAN-16	Finding:	12.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	19-JAN-16	Finding:	0.5
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	19-JAN-16	Finding:	400.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	19-JAN-16	Finding:	8.3
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	19-JAN-16	Finding:	110.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	19-JAN-16	Finding:	140.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	19-JAN-16	Finding:	0.5
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	19-JAN-16	Finding:	120.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	19-JAN-16	Finding:	37.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	19-JAN-16	Finding:	5.9
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	19-JAN-16	Finding:	32.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	19-JAN-16	Finding:	1.4
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	19-JAN-16	Finding:	25.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	19-JAN-16	Finding:	42.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	19-JAN-16	Finding:	0.14
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	19-JAN-16	Finding:	240.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L

Dlr:	0.		
Sample date:	19-JAN-16	Finding:	1.
Chemical:	LANGELIER INDEX @ 60 C	Report units:	Not Reported
Dlr:	0.		
Sample date:	19-JAN-16	Finding:	7.6e-002
Chemical:	TURBIDITY, LABORATORY	Report units:	NTU
Dlr:	0.1		
Sample date:	05-JAN-16	Finding:	0.45
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	05-JAN-16	Finding:	25.5
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	05-JAN-16	Finding:	0.45
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	05-JAN-16	Finding:	0.142
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	05-JAN-16	Finding:	38.9
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	04-NOV-15	Finding:	1.6
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	07-OCT-15	Finding:	510.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	07-OCT-15	Finding:	2.25
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	07-OCT-15	Finding:	0.138
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	07-OCT-15	Finding:	45.2
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	07-OCT-15	Finding:	23.8
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	05-AUG-15	Finding:	2.
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	01-JUL-15	Finding:	2.28
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		

Sample date:	01-JUL-15	Finding:	0.122
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	01-JUL-15	Finding:	42.8
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	01-JUL-15	Finding:	24.4
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	01-JUL-15	Finding:	517.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	06-MAY-15	Finding:	1.5
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	01-APR-15	Finding:	24.5
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	01-APR-15	Finding:	48.6
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	01-APR-15	Finding:	0.116
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	01-APR-15	Finding:	2.52
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	01-APR-15	Finding:	570.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	04-FEB-15	Finding:	1.6
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	07-JAN-15	Finding:	25.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	07-JAN-15	Finding:	41.6
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	07-JAN-15	Finding:	0.119
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	07-JAN-15	Finding:	2.63
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	07-JAN-15	Finding:	596.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L

Dlr:	0.4		
Sample date:	05-NOV-14	Finding:	0.42
Chemical:	RADIUM 226 MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	05-NOV-14	Finding:	1.5
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	05-NOV-14	Finding:	0.32
Chemical:	RADIUM 228 COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	05-NOV-14	Finding:	0.42
Chemical:	RADIUM 228 MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	01-OCT-14	Finding:	25.5
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	01-OCT-14	Finding:	41.4
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	01-OCT-14	Finding:	0.127
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	01-OCT-14	Finding:	635.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	01-OCT-14	Finding:	2.81
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	01-JUL-14	Finding:	39.5
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	01-JUL-14	Finding:	479.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	01-JUL-14	Finding:	2.12
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	01-JUL-14	Finding:	0.13
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	01-JUL-14	Finding:	25.5
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	02-APR-14	Finding:	26.2
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		

Sample date:	02-APR-14	Finding:	5.53
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	02-APR-14	Finding:	44.3
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	02-APR-14	Finding:	0.139
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	02-APR-14	Finding:	1251.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	08-JAN-14	Finding:	5.64
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	08-JAN-14	Finding:	0.137
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	08-JAN-14	Finding:	44.2
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	08-JAN-14	Finding:	23.2
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	08-JAN-14	Finding:	1276.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	02-OCT-13	Finding:	1324.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	02-OCT-13	Finding:	45.3
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	02-OCT-13	Finding:	26.7
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	02-OCT-13	Finding:	5.85
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	02-OCT-13	Finding:	0.139
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	01-APR-13	Finding:	986.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	01-APR-13	Finding:	23.3
Chemical:	CHLORIDE	Report units:	MG/L

Dlr:	0.		
Sample date:	01-APR-13	Finding:	42.2
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	01-APR-13	Finding:	0.103
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	01-APR-13	Finding:	4.36
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	29-JAN-13	Finding:	43.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	29-JAN-13	Finding:	250.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	29-JAN-13	Finding:	0.83
Chemical:	LANGELIER INDEX @ 60 C	Report units:	Not Reported
Dlr:	0.		
Sample date:	29-JAN-13	Finding:	2.6
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	29-JAN-13	Finding:	9.4e-002
Chemical:	TURBIDITY, LABORATORY	Report units:	NTU
Dlr:	0.1		
Sample date:	29-JAN-13	Finding:	12.
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	29-JAN-13	Finding:	600.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	29-JAN-13	Finding:	25.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	29-JAN-13	Finding:	1.6
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	29-JAN-13	Finding:	33.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	29-JAN-13	Finding:	6.7
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	29-JAN-13	Finding:	42.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		

Sample date:	29-JAN-13	Finding:	130.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	29-JAN-13	Finding:	140.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	29-JAN-13	Finding:	110.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	29-JAN-13	Finding:	8.1
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	29-JAN-13	Finding:	420.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	29-JAN-13	Finding:	0.12
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	09-JAN-13	Finding:	4.87
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	09-JAN-13	Finding:	0.127
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	09-JAN-13	Finding:	44.7
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	09-JAN-13	Finding:	25.4
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	09-JAN-13	Finding:	1102.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	07-NOV-12	Finding:	45.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	07-NOV-12	Finding:	2.8
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	07-NOV-12	Finding:	650.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	07-NOV-12	Finding:	26.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	11-JUL-12	Finding:	26.1
Chemical:	CHLORIDE	Report units:	MG/L

Dlr:	0.		
Sample date:	11-JUL-12	Finding:	44.5
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	11-JUL-12	Finding:	0.125
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	11-JUL-12	Finding:	4.2
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	11-JUL-12	Finding:	950.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	02-MAY-12	Finding:	1.6
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	03-APR-12	Finding:	4.05
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	03-APR-12	Finding:	0.109
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	03-APR-12	Finding:	40.7
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	03-APR-12	Finding:	24.2
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	03-APR-12	Finding:	915.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	04-JAN-12	Finding:	4.09
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	04-JAN-12	Finding:	0.128
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	04-JAN-12	Finding:	45.9
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	04-JAN-12	Finding:	26.3
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	04-JAN-12	Finding:	925.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

D11
SE
1/2 - 1 Mile
Higher | **CA WELLS** | **6717**

Seq:	6717	Prim sta c:	06N/11W-32P02 S
Frds no:	1910102010	County:	19
District:	07	User id:	4TH
System no:	1910102	Water type:	G
Source nam:	WELL 09	Station ty:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Latitude:	343400.0	Longitude:	1180400.0
Precision:	8	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	1910102	System nam:	PALMDALE WATER DIST.
Hqname:	Not Reported	Address:	2005 E. AVE. Q
City:	PALMDALE	State:	CA
Zip:	93550	Zip ext:	Not Reported
Pop serv:	70000	Connection:	23081
Area serve:	PALMDALE		

12
WNW
1/2 - 1 Mile
Lower | **FED USGS** | **USGS40000147430**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006N011W30L001S	Type:	Well
Description:	Not Reported	HUC:	18090206
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

E13
ESE
1/2 - 1 Mile
Higher | **CA WELLS** | **CADW60000023670**

Objectid:	23670	Latitude:	34.5672
Longitude:	-118.0613	Site code:	345672N1180613W001
State well numbe:	06N11W32H001S	Local well name:	”
Well use id:	6	Well use descrip:	Unknown
County id:	19	County name:	Los Angeles
Basin code:	’6-44’	Basin desc:	Antelope Valley
Dwr region id:	80238	Dwr region:	Southern Region Office
Site id:	CADW60000023670		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
FED USGS	**USGS40000147232**

E14
ESE
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006N011W32H001S	Type:	Well
Description:	Not Reported	HUC:	18090206
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1963-11-13
Feet below surface:	122.10	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
93550	29	0

Federal EPA Radon Zone for LOS ANGELES County: 2

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 LOS ANGELES COUNTY, CA

Number of sites tested: 63

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.711 pCi/L	98%	2%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.933 pCi/L	100%	0%	0%

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.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

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.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

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 Service (NRCS)
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 Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, 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.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
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.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
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.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

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.

STREET AND ADDRESS INFORMATION

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Appendix G

Krazan & ASSOCIATES, INC.

SITE DEVELOPMENT ENGINEERS

William R. Cooper, P.G.

Bakersfield Environmental Department Manager

AREAS OF EXPERTISE

Phase I Environmental Assessment, Phase II Environmental Site Assessments, Characterizations, and Remediation

EDUCATION AND CERTIFICATIONS

Bachelor of Science in Geology
California State University, Fresno, 1979
California Professional Geologist (P.G. 7427)

PROFESSIONAL AFFILIATIONS

Member, American Association of Petroleum Geologist/
San Joaquin Geological Society
Member, San Joaquin Well Logging Society

PROFESSIONAL EXPERIENCE

April 2005 to Present

Professional Geologist, Krazan & Associates, Inc.
Extensive experience conducting numerous ASTM Phase I Environmental Site Assessments (ESAs) for existing and proposed development of commercial, industrial, and residential property uses, and Phase II Soil and Groundwater Investigations, Site Characterization and Remediation projects of diverse geologic environments. Responsibilities include managing professional and technical environmental project personnel in the Bakersfield, California office that conduct Phase I ESAs and Phase II Soil and Groundwater Assessments and Remediation projects. Further responsibilities include preparation of proposals/cost estimates, planning and coordinating project scheduling, maintaining and establishing point-of-contact responsibilities, and marketing services to the Kern County client-base, consulting and negotiating with regulatory agencies for soil and groundwater investigations.

October 2001 to April 2005

Phase I ESA Manager, Twining Laboratories, Inc.
Responsibilities included managing professional and technical environmental project personnel in the Fresno, California office that conducted Phase I ESAs. Additionally, Project Manager for Phase II Site Characterization and Remediation projects.

June 2001 to October 2001

Project Geologist/Environmental Assessor,
Advanced Environmental Concepts
Responsibilities included conducting Phase I ESAs and Phase II Site Characterization and Remediation projects.

May 1980 to January 2001

Project Geologist/Environmental Coordinator/Technical Sales Representative
Goode Core Analysis Service
Responsibilities included planning and performing geological and engineering investigations for petroleum exploration and production. Developed, administered, and monitored policies, and procedures which addressed environmental health and safety issues.

Krazan & ASSOCIATES, INC.

SITE DEVELOPMENT ENGINEERS

Art Farkas, R.E.A.

Vice President
Environmental Division

AREAS OF EXPERTISE

Project Management and Oversight
Senior Quality Control Review
Staff Development
Information Management
Marketing, Public Relations and Publicity

EDUCATION AND ACCOMPLISHMENTS

California Environmental Protection Agency
Department of Toxic Substances Control
Registered Environmental Assessor I No. 07818
Bachelor of Electronic Engineering Technology,
University of Dayton, Ohio
CEQA Training: University of California Davis Extension
NEPA Training: U.S. Department of Housing and Urban Development Region 9, San Francisco

PROFESSIONAL EXPERIENCE

February 1998 to Present

Vice President, Krazan & Associates, Inc., Environmental Division
CEQA and NEPA project management specialist. Project Manager and senior quality control reviewer for Phase I and Phase II Environmental Site Assessments. Activities include division oversight, business development, regional coordination of technical services and delivery of efficient integrated site development engineering services in conjunction with the Geotechnical and Construction Testing and Inspection Divisions of the firm

Dec. 1994 to Feb. 1998

Executive Director, Downtown Association of Fresno
Responsibilities included management of business association for Central Business District of Fresno; Director of the Fresno Main Street Program; project operations and promotions management; policy formation, budgeting; marketing, public relations; publicity, fundraising and public speaking; management of 18-member Board of Directors for non-profit organization.

Apr. 1974 to Dec. 1994

Operations Manager/Program Director/Air Personality: Radio Broadcasting

1974 - 1980 KFIG	1981 - 1991 KKDJ
1980 - 1981 KIOY	1991 - 1994 KTHT

Responsibilities included operations management of staff and systems; program direction; on-air performance; production' promotions' public affairs and marketing.

APPENDIX F

PRELIMINARY DRAINAGE CONCEPT

Preliminary
Drainage Concept
(Hydrology/Hydraulics)
For
Avenue R Apartments

City of Palmdale

Hunsaker Project No:
0260-003-001
November 22, 2019

Prepared for:

Highridge Costa
330 W. Victoria Street
Gardena, CA 90248-3527

Prepared by:

Heidy Siles
Hunsaker and Associates, LA Inc.
26074 Avenue Hall, Suite 23
Valencia, CA 91355
Telephone: (661) 294-2211 Fax: (661) 294-9890

Under the supervision of:

Jason H. Fukumitsu RCE 40695 Exp. 3/31/21

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   B. HEC-RAS Offsite Analysis

   C. HEC-RAS Onsite Analysis

   D. Existing Flood Plain Exhibit
   Proposed Flood Control System Exhibit

   E.WSPG input & output

   F. Weir Analysis

1.0 INTRODUCTION

1.1 Report Summary

The purpose of this report is to present the offsite runoff affecting the proposed Avenue R Apartments project and the measures proposed onsite to control the offsite runoff. This report presents a proposed channel and weir onsite to convey the flows. The references and tools used for this analysis are the City of Palmdale Master Plan of Drainage Update Exhibit 4- Pearland Watershed Facility (MPD), HEC-RAS and WSPG. The engineering hydrologic and hydraulic analysis for the offsite and onsite proposed project are summarized in the following sections.

1.2 Project Description

The proposed Avenue R Apartments are located at the north east corner of Avenue R and 30th street East in the City of Palmdale. The 5.5-acre site is located on the east side of 30th street, between Avenue R and East Palmdale Blvd. The location of the site and its relationship to the surrounding areas is shown in Figure 1 below.

Figure 1

Currently the storm drain system, within the watershed for the project site, is not fully developed. All the storm runoff is conveyed by the streets. By field observation, there is an existing major naturally developed stream on site that drains northerly to a

neighboring lot. This report presents the existing floodplain generated by offsite flow and onsite mitigation.

After several site visits and surveying onsite and offsite, as well as performing observation on the entire watershed, the determined values to be used in this analysis are from the MPD. After doing research on already constructed storm drain systems, dry wells, and detention basins upstream, and due to insufficient hydrologic and hydraulic information from these upstream drainage facilities, the analysis took a conservative approach by using the MPD values. The offsite 50-year storm drain obtained can be found in Appendix A. Using the MPD value, an offsite HEC-RAS analysis is conducted to determine the runoff impacting the onsite. An onsite HEC-RAS analysis is also conducted to determine the floodplain within the site.

A trapezoidal channel is proposed onsite to convey the offsite flows impacting the onsite. The analysis for the trapezoidal channel is done using WSPG. A weir and rip rap is also proposed onsite to mitigate the offsite runoff.

2.0 METHODOLOGY

The project is part of the pearland watershed of the MPD from the city of Palmdale. The MPD analyzes the watersheds for the city of Palmdale providing the 50-year storm discharge used in this analysis. The nodes 822B and 826BC, off pearland watershed on the MPD are used for the offsite HEC-RAS analysis. The node 822B has a value of 878 cfs, which is the runoff on 30th Street upstream of the project site. The node 826BC is the sum of the runoff of 30th Street and Avenue R, with the total runoff of 1013 cfs. For the offsite analysis, the inflow of 878 cfs is from 30th Street flowing south to north and the inflow of 135 cfs is from Avenue R flowing west to east, which is the difference from node 826BC and node 822B. As a result of the analysis there is 806 cfs offsite runoff draining to the project site from the intersection and flowing from the south west corner of the project site to the north east corner. See appendix B for the offsite analysis. The onsite HEC-RAS analysis is conducted using the 806 cfs determined from the offsite analysis. The onsite HEC-RAS analysis, found in appendix C, demonstrates the limits of flood plain and water surface elevation through several cross sections along the site. See "Existing Flood Plain Exhibit, "on appendix D for floodplain and water surface elevation onsite and offsite at adjacent property.

A trapezoidal channel, weir and rip rap are proposed to mitigate the 806 cfs from offsite impacting the onsite. In order for the runoff to be adequately conveyed the proposed trapezoidal channel requires a minimum depth of 18" and a minimum width on top of 110'. LACDPW's approved program, WSPG, was used to model the flow within the trapezoidal channel and a hydraulic grade line was developed from this model to show the flow is contained within the channel. See appendix E for output. The existing outlet flood limit is approximate 321' and a 200' weir is proposed to control outlet from the channel. The east portion of the outlet including the natural stream will remain at existing condition and will be protected by riprap. Proposed rip-rap will be added along the outlet to prevent erosion and normalize the flow. The proposed weir is designed using the weir equation found on Hydraulic Design Manual to determine the depth of flow at the outlet. See appendix F for analysis.

3.0 DESIGN CRITERIA

Storm Event	50-yr storm
Weir coefficient	2.8 (Broad crested)
Manning coefficient	0.025 (River sand and gravel or equivalent)

4.0 CONCLUSION AND RECOMMENDATIONS

Based upon the hydrologic and hydraulic analysis performed, the total offsite runoff impacting the project site is 806 cfs. A proposed trapezoidal channel with a minimum depth of 18" and a width of 110' on top will convey the offsite runoff to the outlet of the project site. The proposed 200' weir and rip rap along the outlet will ensure runoff does not exceed pre-develop conditions. During low flow condition the discharge will remain at the existing natural stream east of the weir. During high flow storm event the proposed weir and rip rap added along the outlet will ensure the flow normalizes before exiting the project site. This ensures neighboring properties are not adversely affected during high flow conditions. See appendix D for "Proposed Flood Control System Exhibit". Ultimately, post development conditions are approximately equal to pre development conditions.

5.0 REFERENCES

1. Los Angeles County Flood Control District Hydraulic Design Manual, March March 1982
2. City of Palmdale Master Plan of Drainage Update

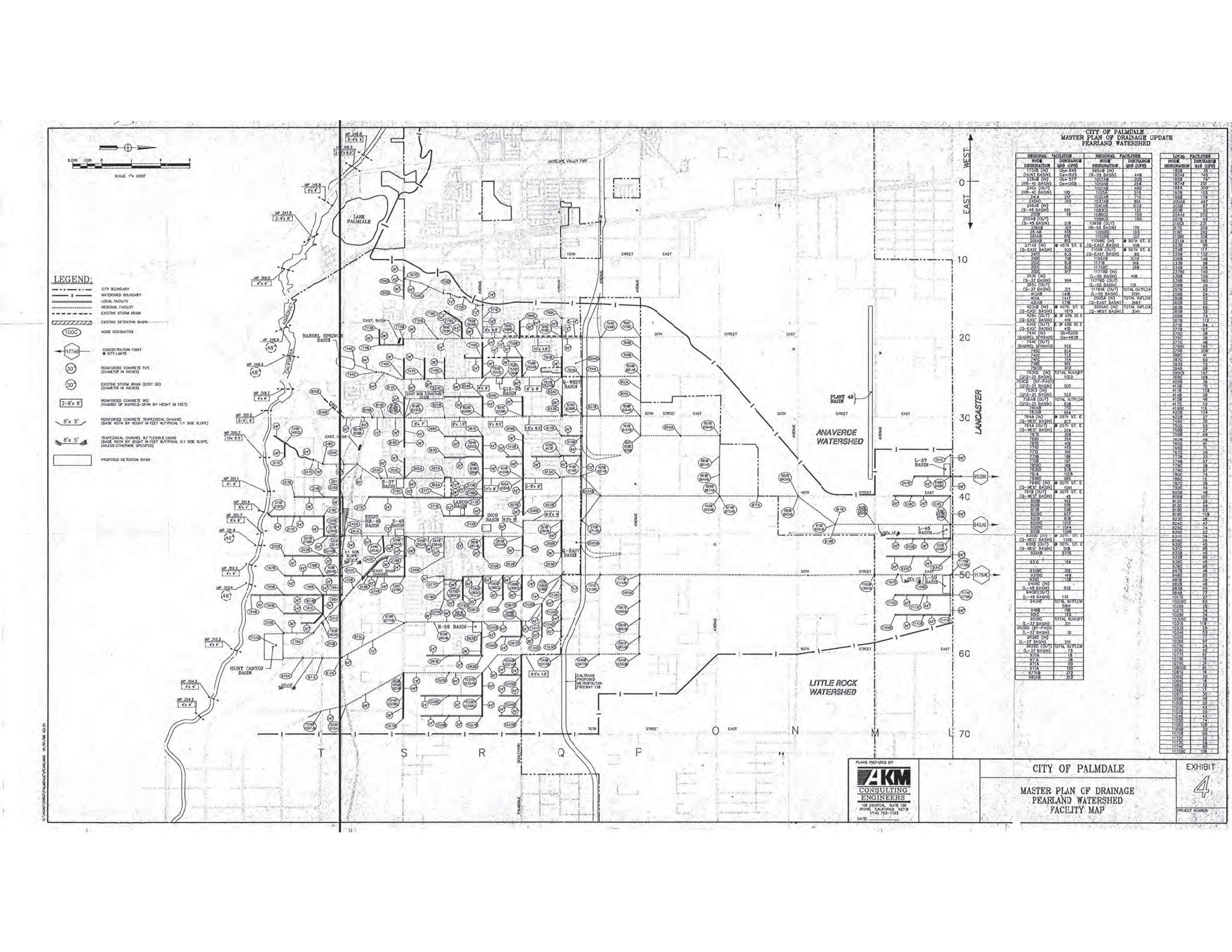
6.0 APPENDICES

Attachments

- City of Palmdale Master Plan of Drainage Update Exhibit 4- Pearland Watershed Facility Map
- HEC-RAS Offsite Analysis
- HEC-RAS Onsite Analysis
- Existing Flood Plain Exhibit
- Proposed Flood Control System Exhibit
- WSPG input & output
- Weir Analysis

APPENDICES

A. Master Plan of Drainage



CITY OF PALMDALE
MASTER PLAN OF DRAINAGE UPDATE
PEARLAND WATERSHED

REGIONAL FACILITIES NODE DESIGNATION	REGIONAL FACILITIES DISCHARGE Q50 (CFS)
173JB (IN) (HUNT BASIN)	Qtp=845 Qw=1825
236JB (IN) (RR-45 BASIN)	Qtp=577 Qw=1302
240G (OUT) (RR-45 BASIN)	180
246A	217
245AC	360
246JB (IN) (S-45 BASIN)	681
250B	19
252AB (OUT) (S-45 BASIN)	2.6
256AB	317
26 AB	415
261AB	512
268AB	813
271AB (IN) (Q-EAST BASIN)	@ 45TH ST. E 930
340C	633
348C	705
350C	8.8
352C	9.8
355C	917
353E (IN) (S-37 BASIN)	914
365A (OUT) (S-37 BASIN)	321
413AB	1.49
415A	1447
420AB	1748
423JB (IN) (Q-EAST BASIN)	@ 40TH ST. E 1675
428A (OUT) (Q-EAST BASIN)	@ 38TH ST. E 410
430E (OUT) (Q-EAST BASIN)	@ 43RD ST. E 410
444C (IN) (BARREL SPRINGS)	Qb=4205 Qw=4836
444C (OUT) (BARREL SPRINGS)	563
740C	614
745C	723
747C	774
748C	881
750C	972
753D (IN) (Q12-25 BASIN)	TOTAL RUNOFF 1123
753D (OUT) (Q12-25 BASIN)	500
756D (IN) (Q12-25 BASIN)	513
756AB (OUT) (Q12-25 BASIN)	TOTAL OUTFLOW 638
760AB	745
763AB	864
764A (IN) (Q-WEST BASIN)	@ 25TH ST. E 527
764A (OUT) (Q-WEST BASIN)	@ 25TH ST. E 527
767D	309
769D	344
770D	428
773D	445
775D	581
776AB	681
778B	127
778BC	349
778BD	818
781A	1005
788AC	905
791BC (IN) (Q-WEST BASIN)	@ 20TH ST. E 1061
791B (OUT) (Q-WEST BASIN)	@ 20TH ST. E 45
802B	412
808B	558
813B	668
820BC	857
822B	838
822BC	1013
833BC	1044
833D	1048
840CC (IN) (Q-WEST BASIN)	@ 30TH ST. E 1113
840B (OUT) (Q-WEST BASIN)	@ 30TH ST. E 308
930AB	5755
93.C	164
931BC	332
937BC	469
939C	1174
940BC (IN) (L-45 BASIN)	622
940BD (OUT) (L-45 BASIN)	134
941AE	TOTAL OUTFLOW 5811
946B	198
950C	112
950BC (L-37 BASIN)	TOTAL RUNOFF 321
952BD (IP-37 BASIN)	30
953BD (IN) (L-37 BASIN)	291
952C (OUT) (L-37 BASIN)	TOTAL OUTFLOW 73
970A	18
971A	38
972A	80
973A	150
977AB	272
982AB	353

REGIONAL FACILITIES NODE DESIGNATION	REGIONAL FACILITIES DISCHARGE Q50 (CFS)
985AB (IN) (R-55 BASIN)	448
1002AB	205
1010AB	264
1023AB	480
1025A	510
1033AB	710
1037AB	801
1041AB	1032
1083CD	121
1086CD	150
1089CD	180
1095B (OUT) (R-55 BASIN)	170
1099BD	233
1102BD	307
1099BC (IN) (Q-EAST BASIN)	@ 50TH ST. E 108
1109B (OUT) (Q-EAST BASIN)	@ 50TH ST. E 80
1165AB	3010
1171B	149
1175BC	289
1177BD (IN) (L-50 BASIN)	418
1177BD (OUT) (L-50 BASIN)	115
1178AE (OUT) (L-50 BASIN)	TOTAL OUTFLOW 3351
2002A (IN) (Q-EAST BASIN)	TOTAL INFLOW 3467
3004AC (IN) (Q-WEST BASIN)	TOTAL INFLOW 3041

LOCAL FACILITIES NODE DESIGNATION	LOCAL FACILITIES DISCHARGE Q10 (CFS)
180B	35
183AB	145
185B	74
187AB	251
189A	300
191B	153
196B	179
200AB	497
202B	67
203B	92
204AB	572
207B	92
215BD	231
217C	258
218C	682
219BC	558
221AB	918
223B	98
224B	117
225B	132
226B	148
233B	98
234B	109
237BD	140
239B	159
239B	180
256B	25
257B	62
259B	64
260B	52
262B	22
263B	65
265B	32
266B	74
267B	112
271B	84
272B	107
275C	28
276C	38
277C	48
278BC	185
279B	208
280C	41
287C	80
293D	72
294B	68
295CB	147
369C	168
409B	38
410B	70
411B	108
414B	28
420B	48
421C	52
422BC	118
423B	134
425B	57
749D	93
750D	53
759B	77
759B	69
762B	59
765D	41
766B	71
767D	20
773B	33
774B	57
778C	58
779C	57
780C	74
786C	12
787D	35
790C	44
805B	48
805B	107
812C	29
813C	64
818D	63
819D	108
823C	56
824C	67
825C	74
830C	23
831C	53
834C	28
900C	45
931C	85
932B	45
933B	85
934C	45
935C	85
947B	46
948C	85
981B	29
982B	48
983B	65
984B	27
1017C	27
1020BD	53
1026B	25
1027B	34
1028C	34
1030BC	98
1031B	119
1033B	25
1034B	53
1035C	77
1036C	57
1075C	24
1076C	42
1077C	81
1078C	16
1079C	31
1080BD	91
10810	18
10862	30
10845	18
10852	32
10862	17
10931	30
10936	48
11000	20
11010	43
11030	20
11045	43
11050	74
11060	105
11698	30
11708	60
11720	22
11730	52
11740	80
11750	158

PLANS PREPARED BY:
AKM CONSULTING ENGINEERS
108 FAGIICA, SUITE 150
IRVINE, CALIFORNIA 92718
(714) 753-7333
DATE:

CITY OF PALMDALE

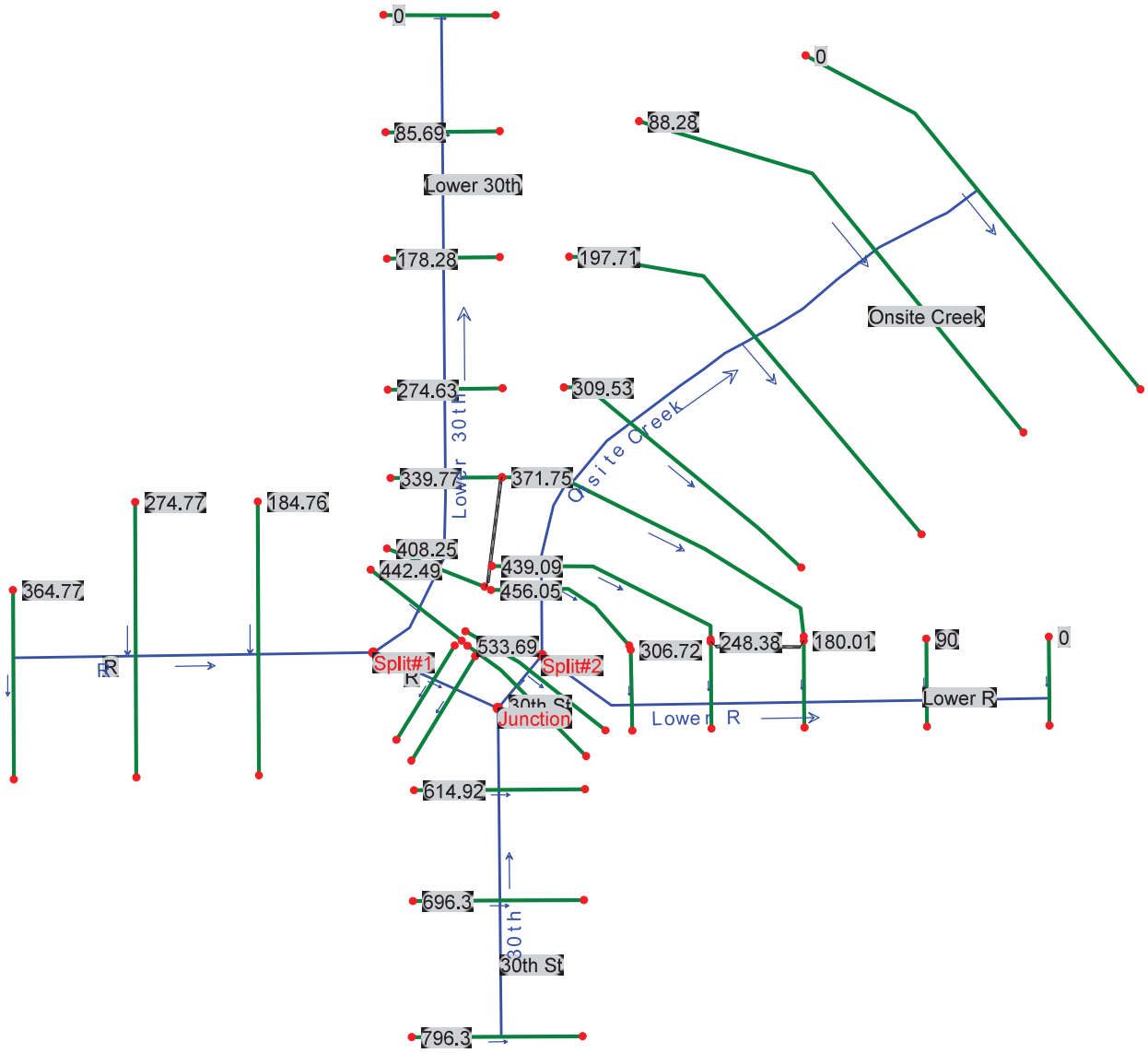
MASTER PLAN OF DRAINAGE
PEARLAND WATERSHED
FACILITY MAP

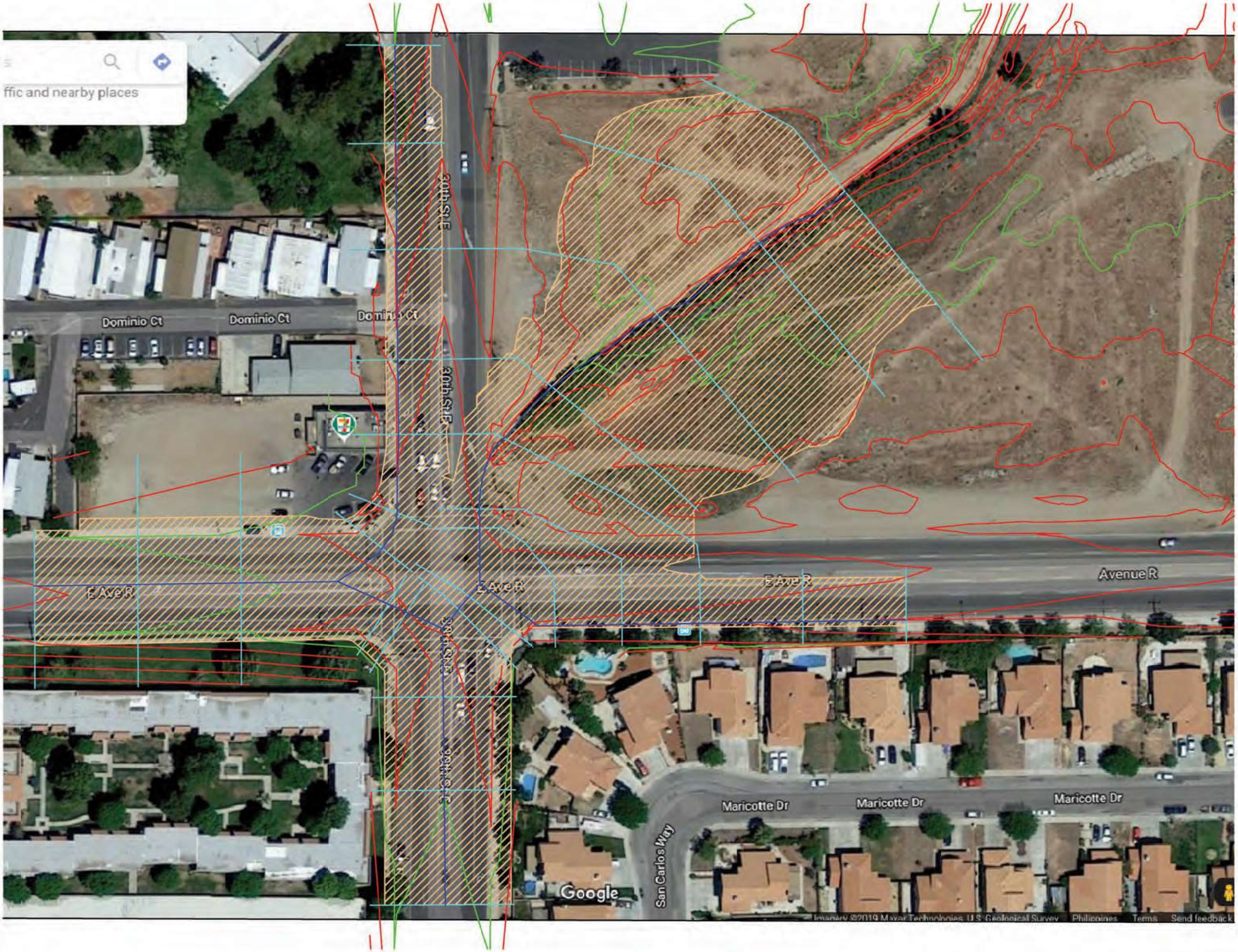
EXHIBIT 4

PROJECT NUMBER:

C:\ACAD\UNREG\PALMDALE\PCPEARLAND 07/01/98 03:51

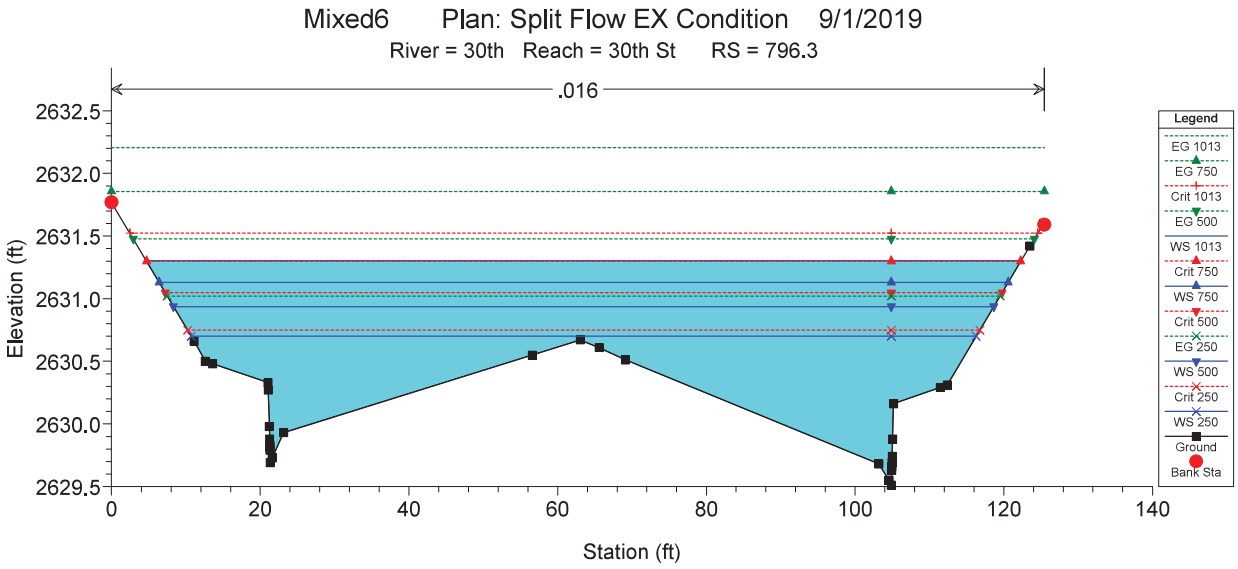
B. HEC-RAS Offsite Analysis

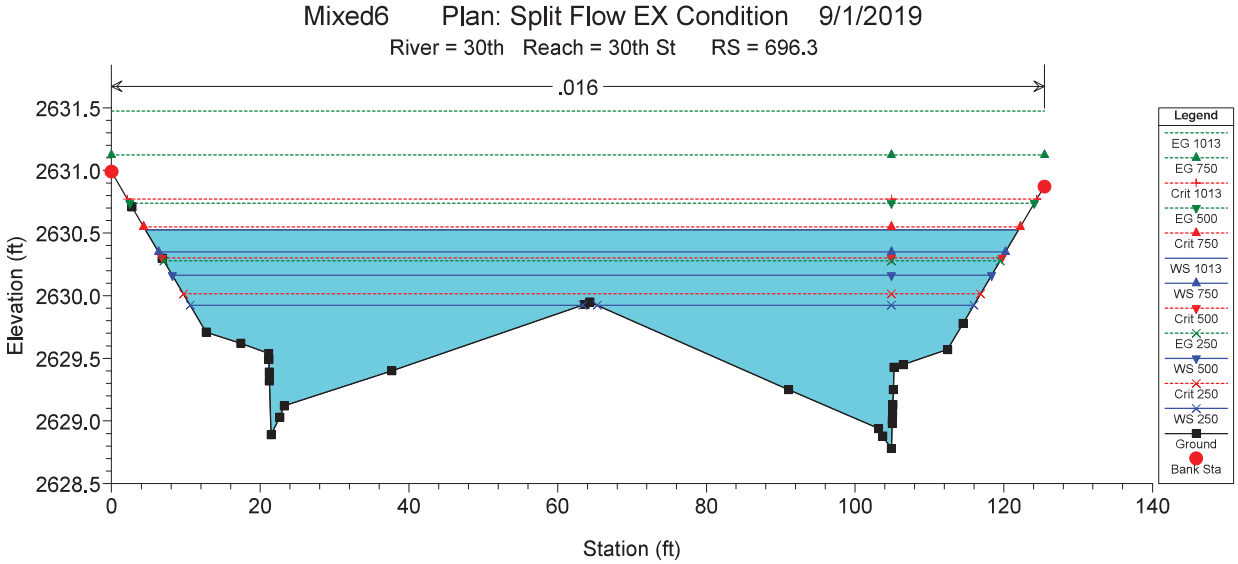

0
85.69
Lower 30th
178.28
274.63
Lower 30th
339.77
371.75
408.25
442.49
439.09
456.05
533.69
Split#1
Split#2
Junction
30th St
614.92
696.3
30th St
796.3
364.77
274.77
184.76
R
R
88.28
0
197.71
Onsite Creek
309.53
Onsite Creek
306.72
248.38
180.01
90
0
Lower R
Lowe R

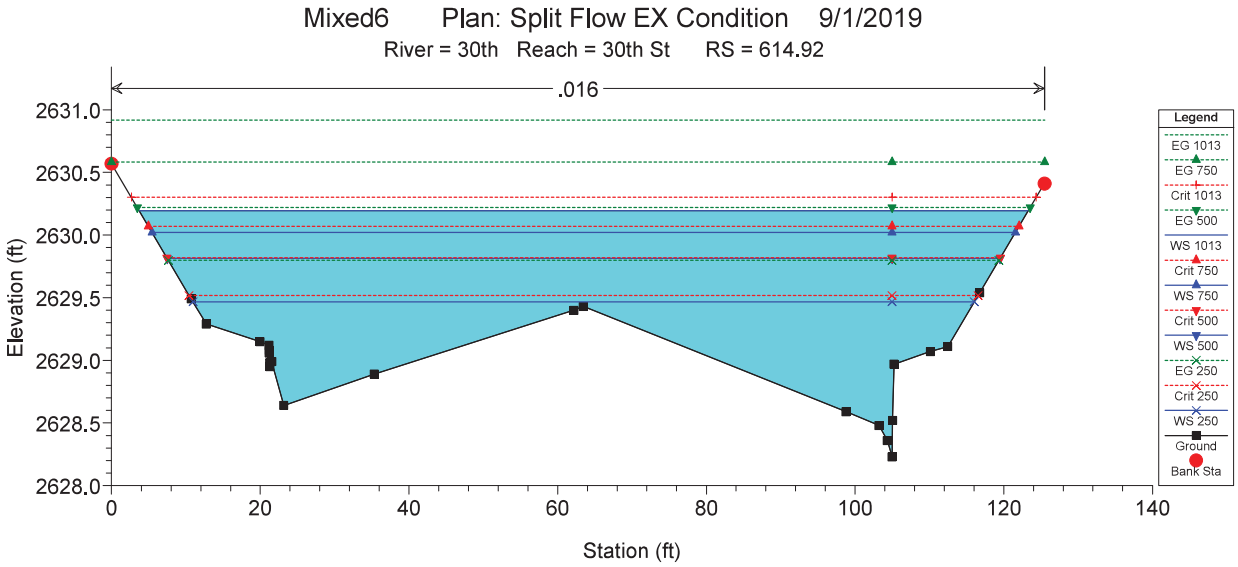

ffic and nearby places
Dominio Ct
Dominio Ct
Dominio Ct
20th St E
20th St E
20th St E
E Ave R
E Ave R
E Ave R
Avenue R
Maricotte Dr
Maricotte Dr
Maricotte Dr
San Carlos Way
Google
Imagery ©2019 Maxar Technologies, U.S. Geological Survey
Philippines
Terms
Send feedback

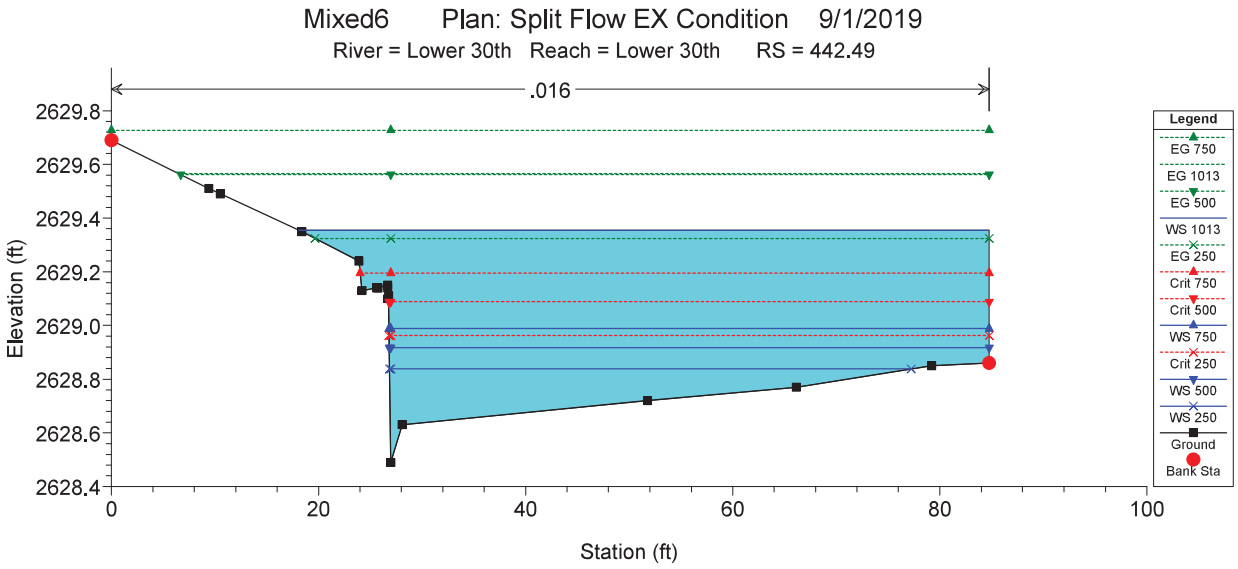
Q50=1,013 cfs

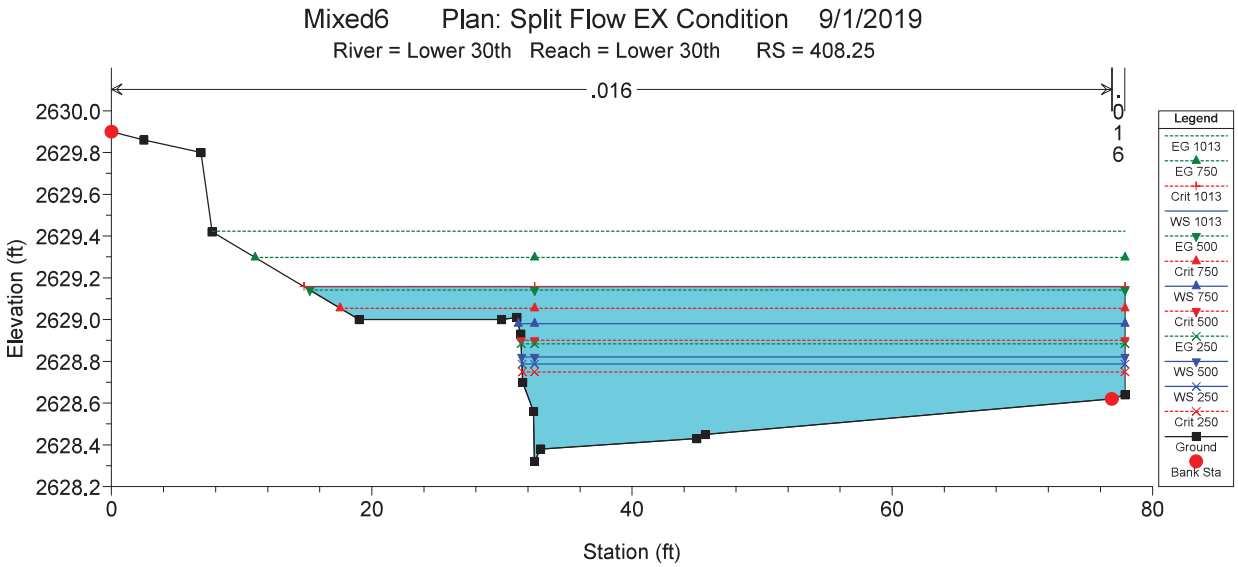
River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl	Depth (ft)
R	R	364.77	1013	135	2630.09	2631.15	2631.11	2631.32	0.004085	3.24	41.66	102.12	0.89	1.06
R	R	274.77	1013	135	2629.68	2630.7	2630.7	2630.89	0.005561	3.44	39.19	110.88	1.02	1.02
R	R	184.76	1013	135	2629.27	2630.62	2630.29	2630.67	0.000666	1.7	79.43	132.13	0.39	1.35
Onsite Creek	Onsite Creek	456.05	1013	772.94	2627.45	2629.18	2629.18	2629.74	0.053274	6.01	128.71	118.42	1.02	1.73
Onsite Creek	Onsite Creek	439.09	1013	793.23	2626.87	2628.9	2628.33	2629.07	0.012233	3.3	240.43	181.09	0.5	2.03
Onsite Creek	Onsite Creek	371.75	1013	806.05	2625.08	2628.22	0	2628.34	0.009265	2.69	299.47	248.49	0.43	3.14
Onsite Creek	Onsite Creek	309.53	1013	806.05	2625.95	2627.53	0	2627.68	0.012121	3.1	259.74	213.8	0.5	1.58
Onsite Creek	Onsite Creek	197.71	1013	806.05	2623.93	2626.37	0	2626.47	0.009575	2.6	310.23	279.28	0.43	2.44
Onsite Creek	Onsite Creek	88.28	1013	806.05	2622.97	2625.76	0	2625.82	0.003938	1.88	429.04	322.55	0.29	2.79
Onsite Creek	Onsite Creek	0	1013	806.05	2621.93	2625.18	2624.58	2625.29	0.010001	2.66	303.52	273.05	0.44	3.25
Middle R	R	51.71	1013	0.01	2628.44	2630.65	0	2630.65	0	0	131.97	81.38	0	2.21
Middle R	R	34.5	1013	0.01	2628.37	2630.65	0	2630.65	0	0	141.67	87.48	0	2.28
Middle 30th	30th St	533.69	1013	878	2628.08	2629.68	2629.97	2630.75	0.008852	8.29	105.91	113.26	1.51	1.6
Middle 30th	30th St	518.92	1013	878	2627.94	2629.54	2629.85	2630.6	0.010004	8.25	106.47	125.99	1.58	1.6
Lower R	Lower R	306.72	1013	105.06	2627.81	2628.66	2628.94	2629.74	0.035916	8.34	12.6	38.19	2.56	0.85
Lower R	Lower R	248.38	1013	105.06	2627.67	2628.92	2628.8	2629.07	0.002424	3.12	33.67	58.89	0.73	1.25
Lower R	Lower R	200		Lat Struct										
Lower R	Lower R	180.01	1013	92.24	2627.58	2628.7	0	2628.87	0.003598	3.35	27.54	58.5	0.86	1.12
Lower R	Lower R	90	1013	92.24	2627.18	2628.41	0	2628.57	0.003033	3.18	28.98	58.45	0.8	1.23
Lower R	Lower R	0	1013	92.24	2626.89	2628.14	2628.06	2628.3	0.003003	3.17	29.1	58.63	0.79	1.25
Lower 30th	Lower 30th	442.49	1013	135	2628.49	2629.36	0	2629.57	0.003543	3.68	36.71	66.66	0.87	0.87
Lower 30th	Lower 30th	408.25	1013	135	2628.32	2629.16	2629.16	2629.42	0.00479	4.14	32.76	63.1	1.01	0.84
Lower 30th	Lower 30th	400		Lat Struct										
Lower 30th	Lower 30th	339.77	1013	114.71	2627.65	2628.77	2628.8	2629.06	0.005991	4.33	26.48	55.92	1.11	1.12
Lower 30th	Lower 30th	274.63	1013	114.71	2627.2	2628.23	2628.32	2628.59	0.009178	4.77	24.06	60.92	1.34	1.03
Lower 30th	Lower 30th	178.28	1013	114.71	2626.43	2627.6	2627.63	2627.89	0.005758	4.28	26.8	56.13	1.09	1.17
Lower 30th	Lower 30th	85.69	1013	114.71	2625.65	2626.79	2626.9	2627.19	0.009876	5.12	22.42	53.8	1.4	1.14
Lower 30th	Lower 30th	0	1013	114.71	2624.98	2626.19	2626.24	2626.5	0.00626	4.42	25.97	55.25	1.14	1.21
30th	30th St	796.3	1013	878	2629.51	2631.3	2631.52	2632.21	0.007002	7.62	115.2	117.66	1.36	1.79
30th	30th St	696.3	1013	878	2628.78	2630.53	2630.77	2631.47	0.007555	7.8	112.5	117.42	1.41	1.75
30th	30th St	614.92	1013	878	2628.23	2630.19	2630.3	2630.92	0.004942	6.83	128.64	119.55	1.16	1.96

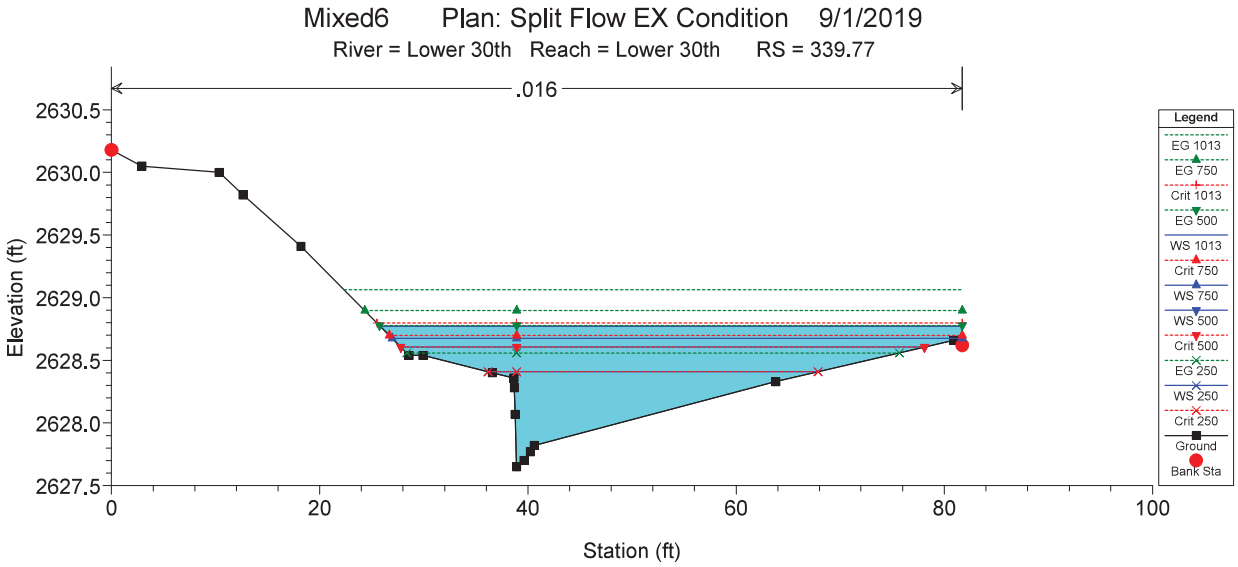

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = 30th Reach = 30th St RS = 796.3
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
Crit 1013
EG 500
WS 1013
Crit 750
WS 750
Crit 500
EG 250
WS 500
Crit 250
WS 250
Ground
Bank Sta

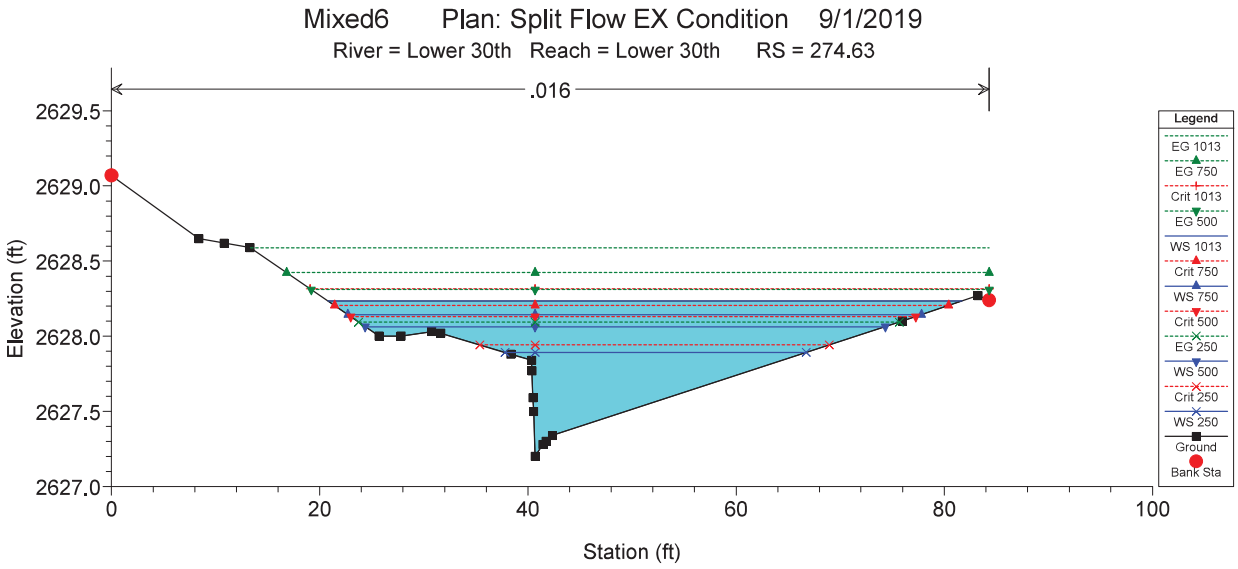

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = 30th Reach = 30th St RS = 696.3
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
Crit 1013
EG 500
Crit 750
WS 1013
WS 750
Crit 500
EG 250
WS 500
Crit 250
WS 250
Ground
Bank Sta

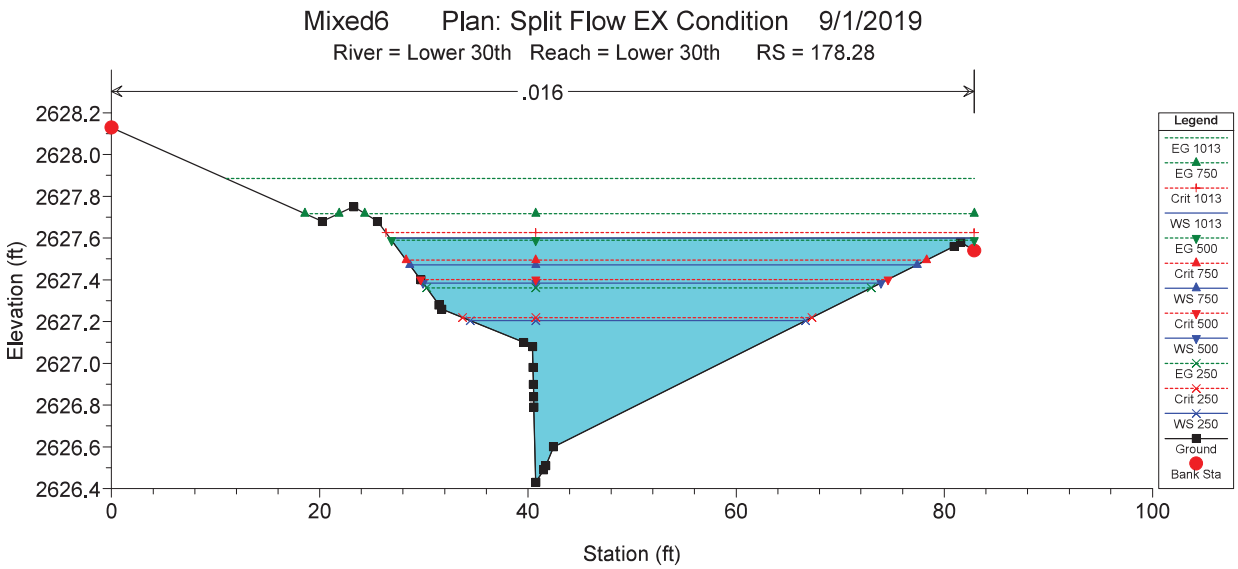

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = 30th Reach = 30th St RS = 614.92
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
Crit 1013
EG 500
WS 1013
Crit 750
WS 750
Crit 500
WS 500
EG 250
Crit 250
WS 250
Ground
Bank Sta

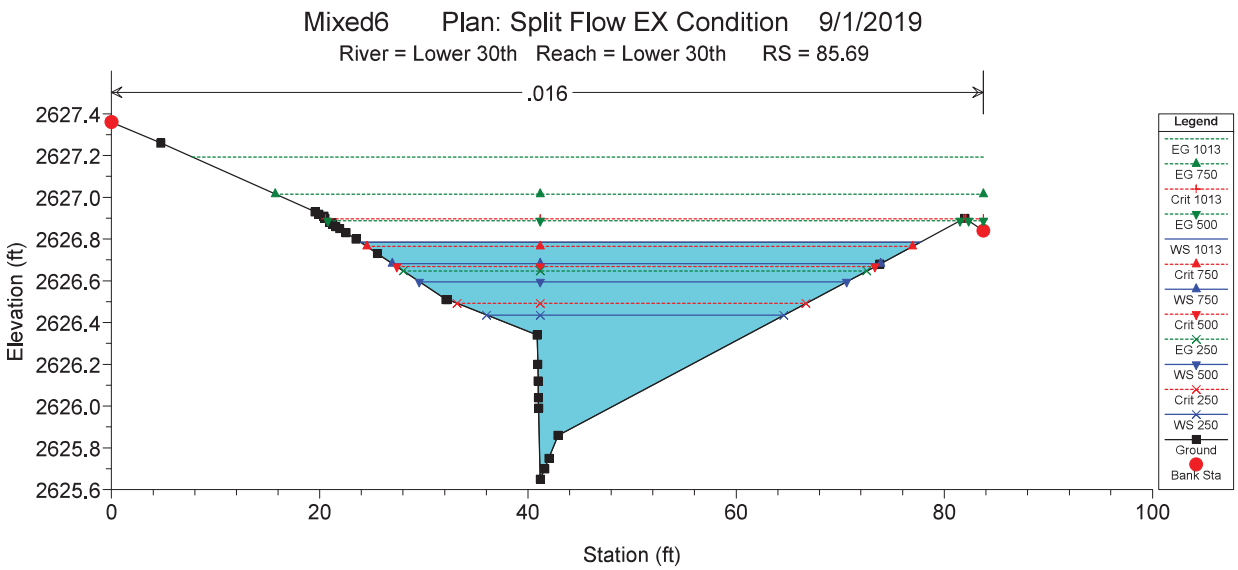

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Lower 30th Reach = Lower 30th RS = 442.49
.016
Elevation (ft)
Station (ft)
Legend
EG 750
EG 1013
EG 500
WS 1013
EG 250
Crit 750
Crit 500
WS 750
Crit 250
WS 500
WS 250
Ground
Bank Sta

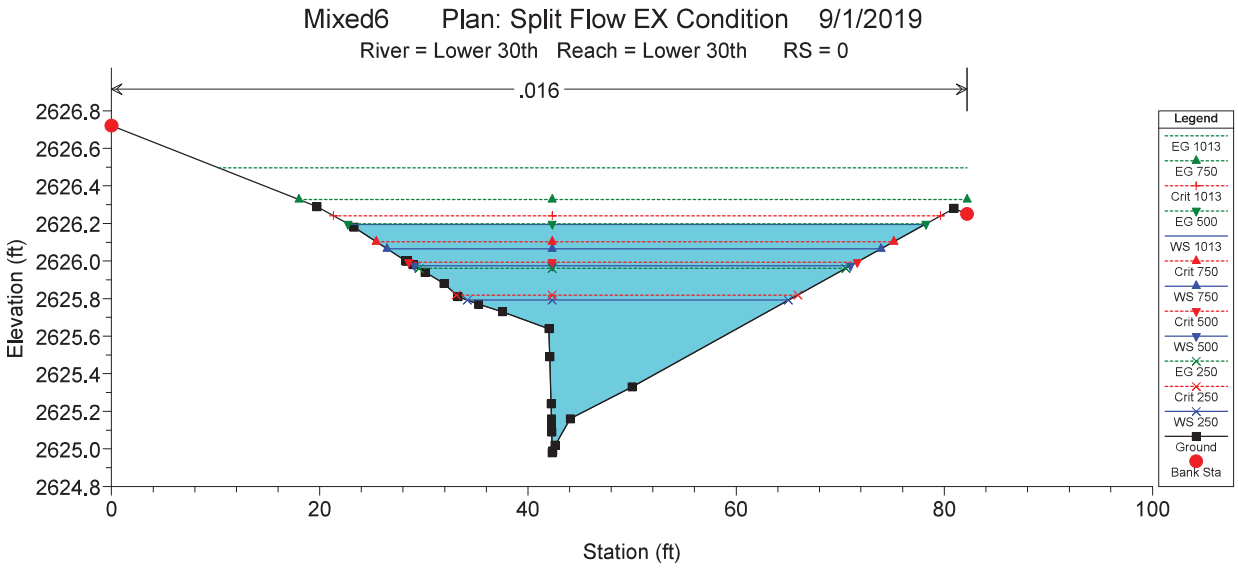

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Lower 30th Reach = Lower 30th RS = 408.25
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
Crit 1013
WS 1013
EG 500
Crit 750
WS 750
Crit 500
EG 250
WS 500
WS 250
Crit 250
Ground
Bank Sta

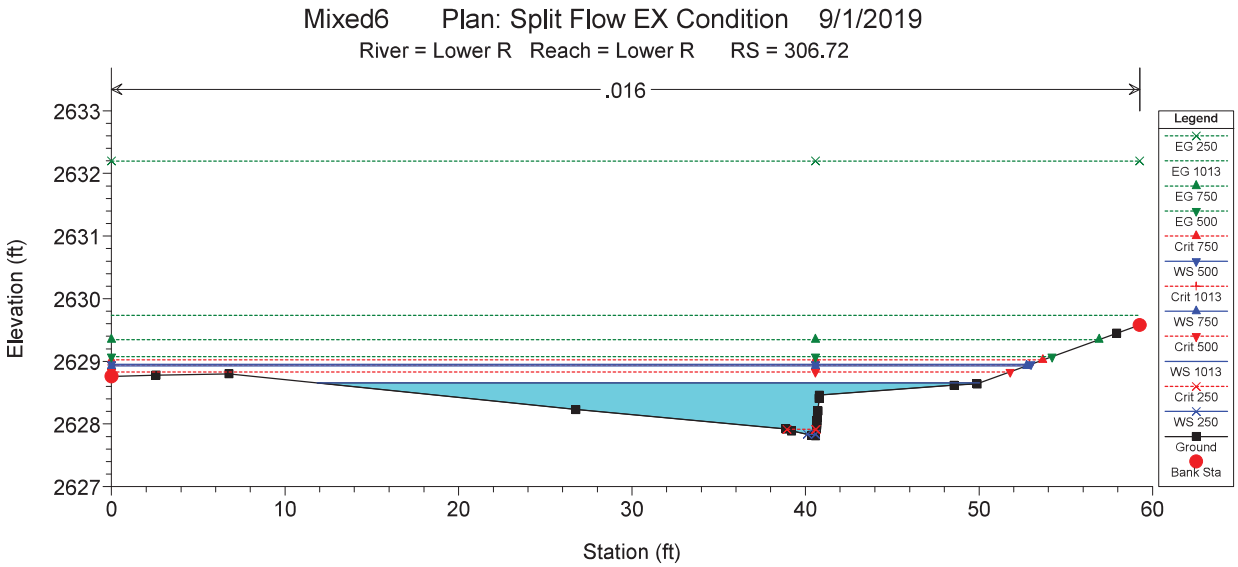

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Lower 30th Reach = Lower 30th RS = 339.77
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
Crit 1013
EG 500
WS 1013
Crit 750
WS 750
WS 500
Crit 500
EG 250
WS 250
Crit 250
Ground
Bank Sta

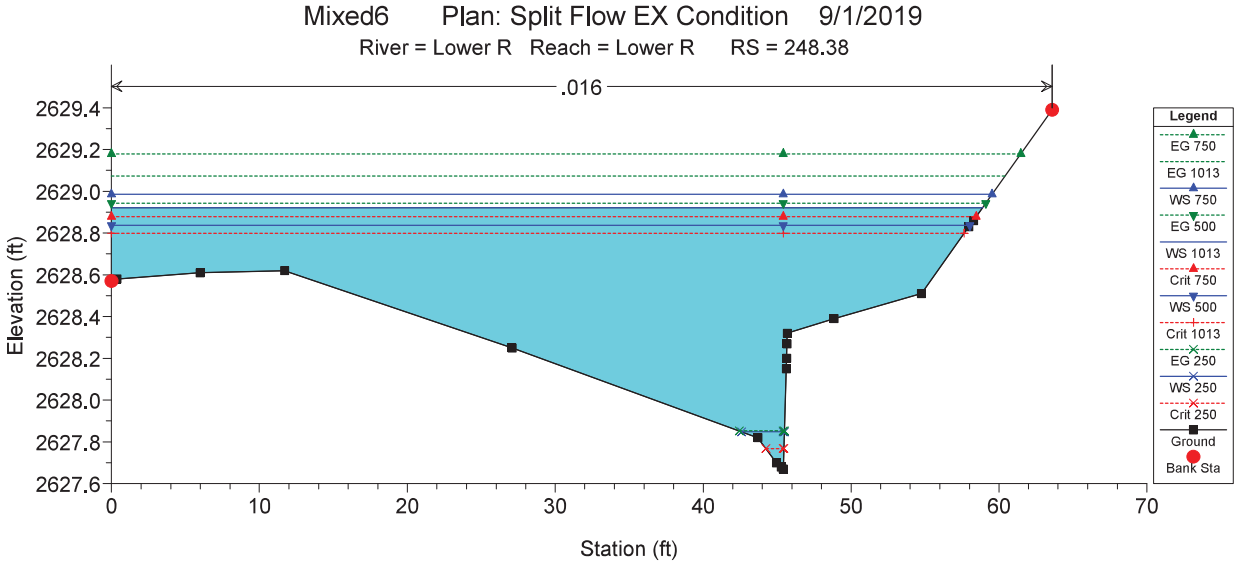

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Lower 30th Reach = Lower 30th RS = 274.63
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
Crit 1013
EG 500
WS 1013
Crit 750
WS 750
Crit 500
EG 250
WS 500
Crit 250
WS 250
Ground
Bank Sta

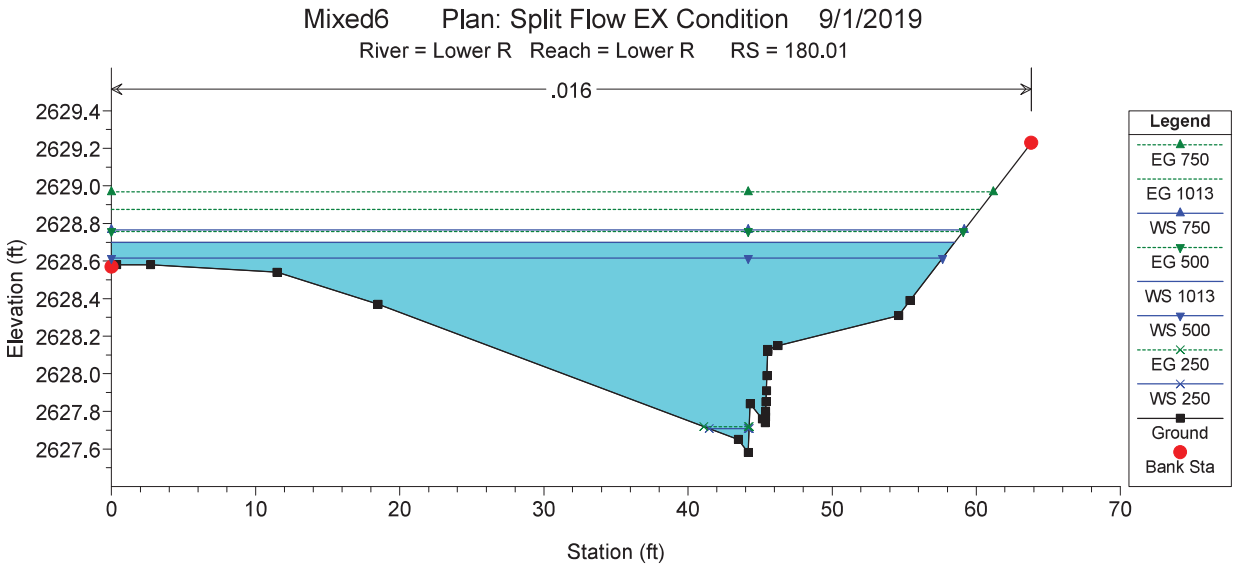

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Lower 30th Reach = Lower 30th RS = 178.28
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
Crit 1013
WS 1013
EG 500
Crit 750
WS 750
Crit 500
WS 500
EG 250
Crit 250
WS 250
Ground
Bank Sta

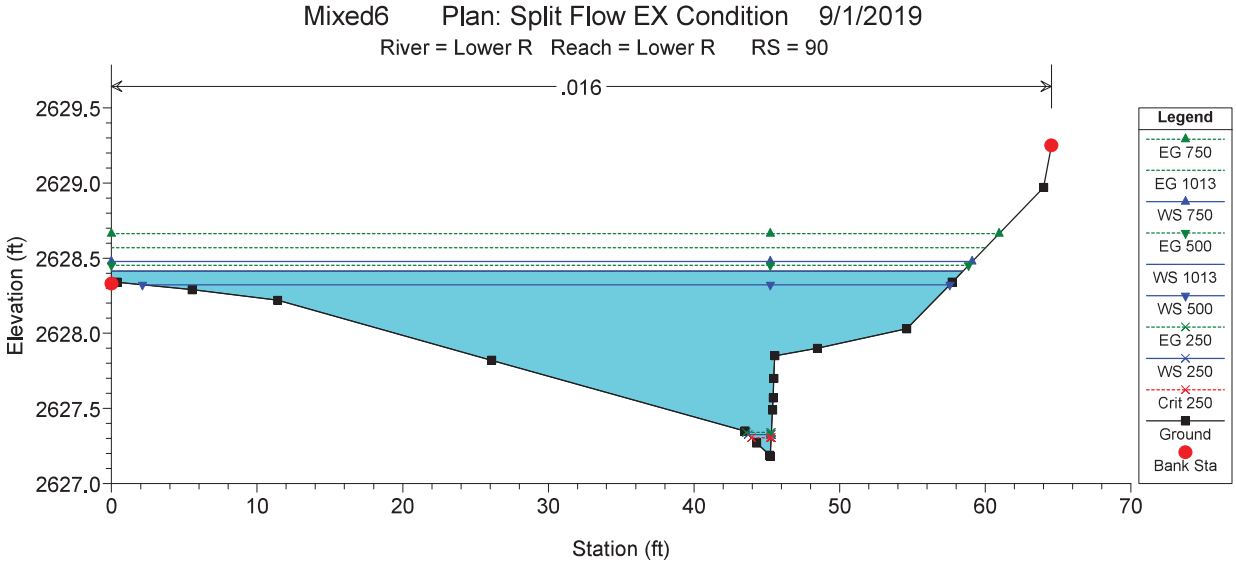

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Lower 30th Reach = Lower 30th RS = 85.69
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
Crit 1013
EG 500
WS 1013
Crit 750
WS 750
Crit 500
EG 250
WS 500
Crit 250
WS 250
Ground
Bank Sta

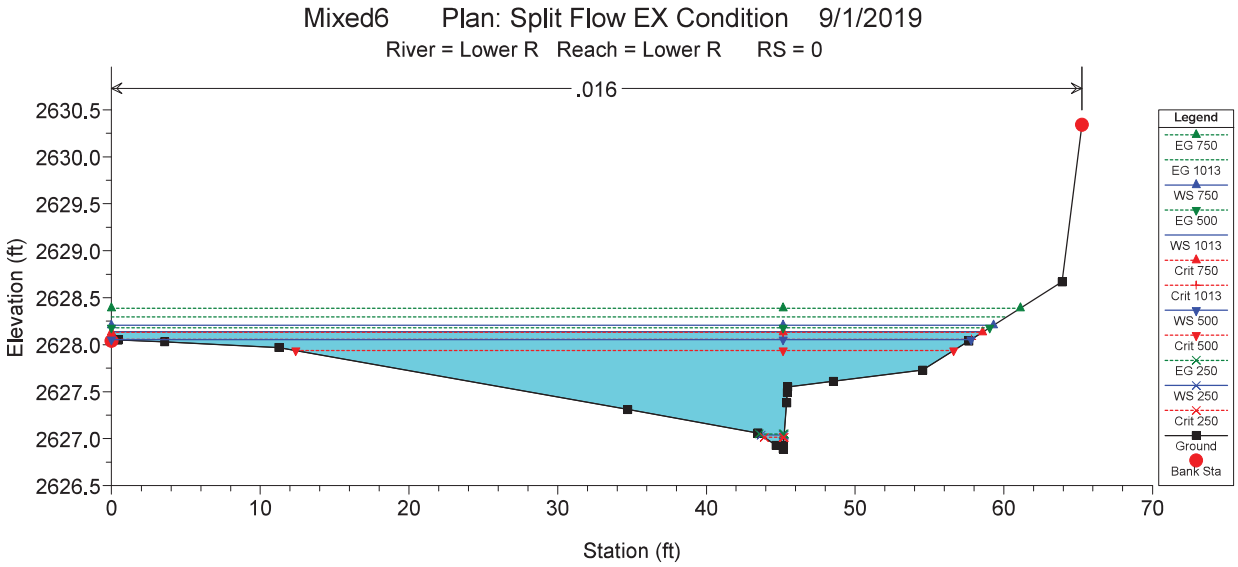

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Lower 30th Reach = Lower 30th RS = 0
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
Crit 1013
EG 500
WS 1013
Crit 750
WS 750
Crit 500
WS 500
EG 250
Crit 250
WS 250
Ground
Bank Sta

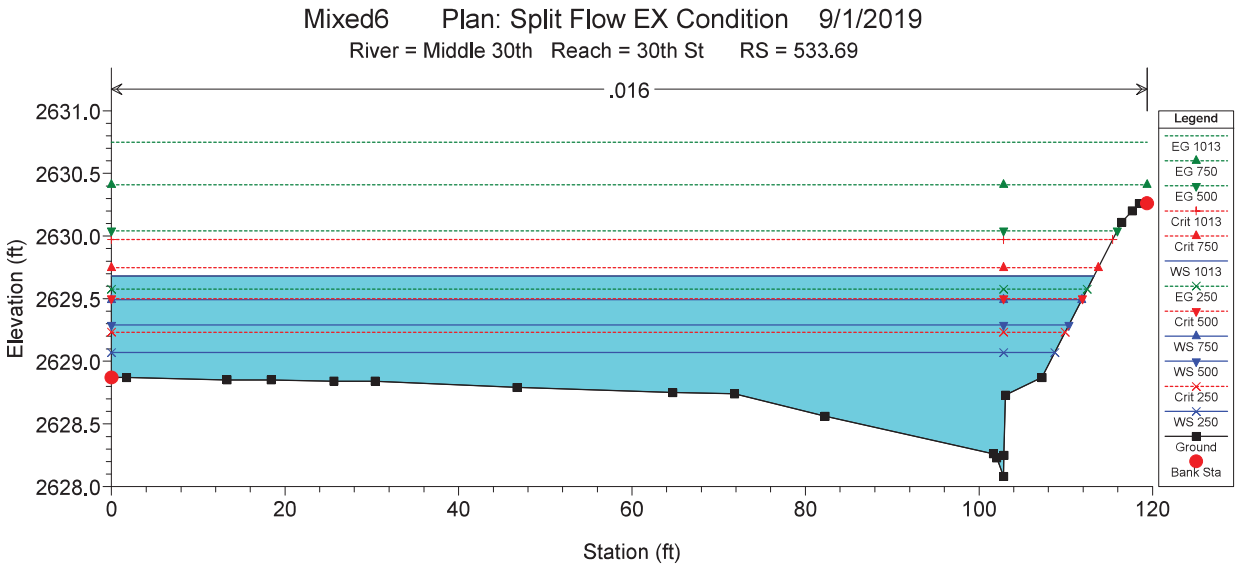

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Lower R Reach = Lower R RS = 306.72
.016
Elevation (ft)
Station (ft)
Legend
EG 250
EG 1013
EG 750
EG 500
Crit 750
WS 500
Crit 1013
WS 750
Crit 500
WS 1013
Crit 250
WS 250
Ground
Bank Sta

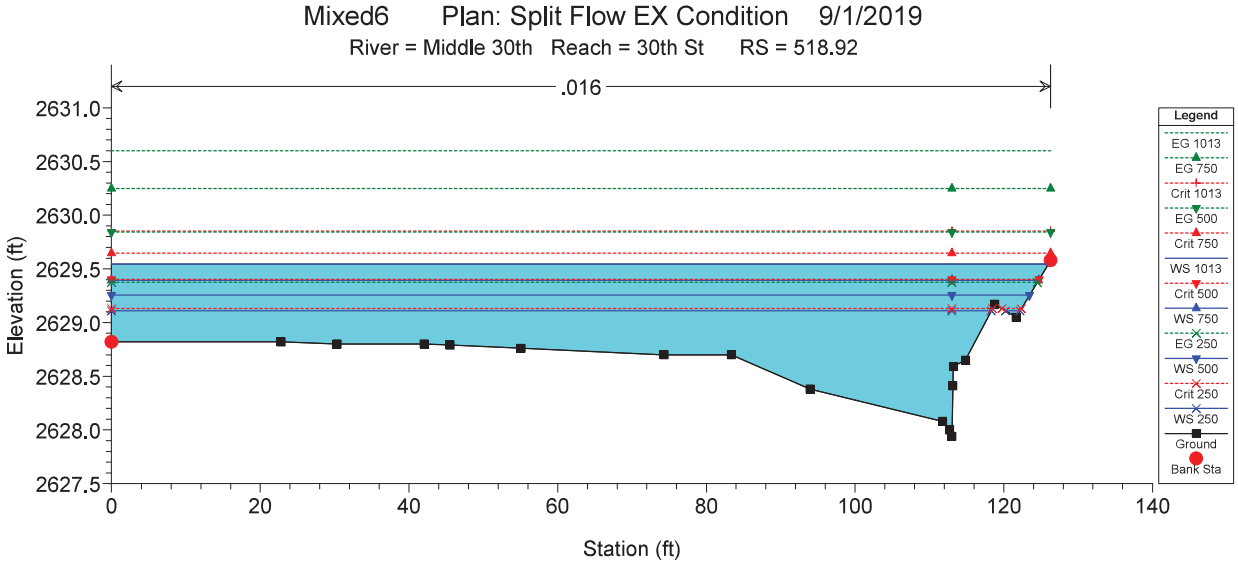

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Lower R Reach = Lower R RS = 248.38
.016
Elevation (ft)
Station (ft)
Legend
EG 750
EG 1013
WS 750
EG 500
WS 1013
Crit 750
WS 500
Crit 1013
EG 250
WS 250
Crit 250
Ground
Bank Sta

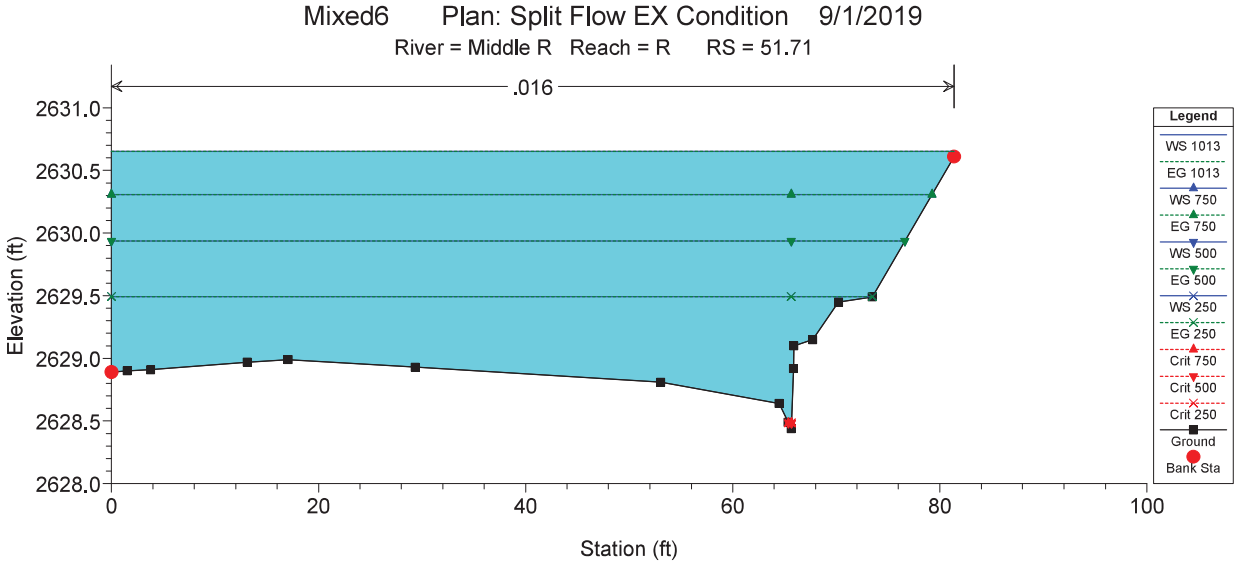

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Lower R Reach = Lower R RS = 180.01
.016
Elevation (ft)
Station (ft)
Legend
EG 750
EG 1013
WS 750
EG 500
WS 1013
WS 500
EG 250
WS 250
Ground
Bank Sta

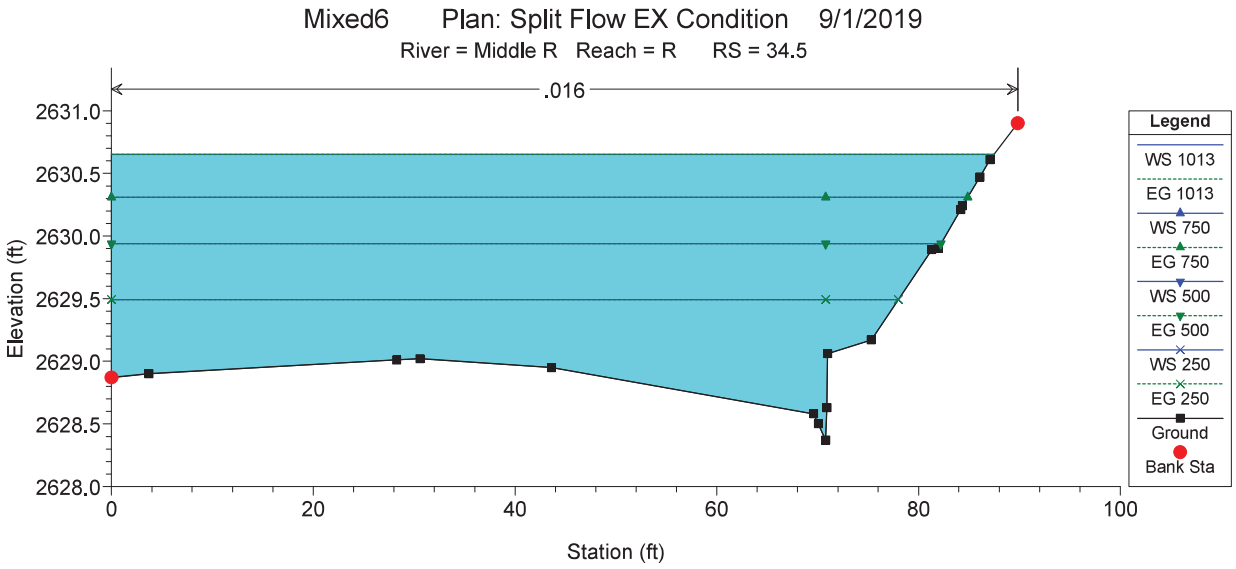

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Lower R Reach = Lower R RS = 90
.016
Elevation (ft)
Station (ft)
Legend
EG 750
EG 1013
WS 750
EG 500
WS 1013
WS 500
EG 250
WS 250
Crit 250
Ground
Bank Sta

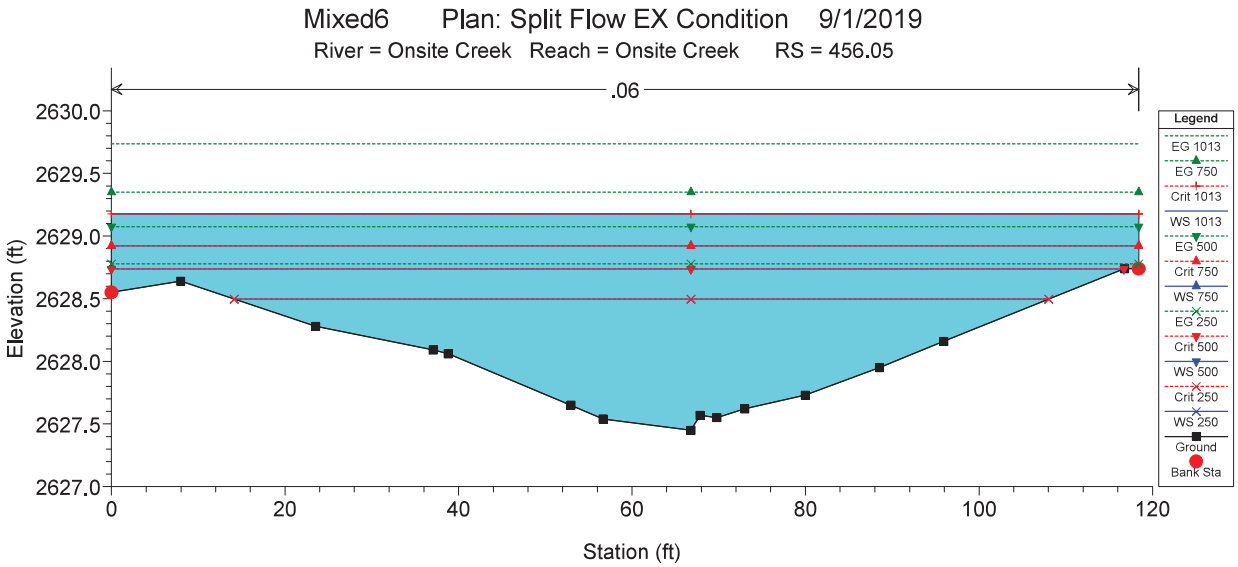

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Lower R Reach = Lower R RS = 0
.016
Elevation (ft)
Station (ft)
Legend
EG 750
EG 1013
WS 750
EG 500
WS 1013
Crit 750
Crit 1013
WS 500
Crit 500
EG 250
WS 250
Crit 250
Ground
Bank Sta

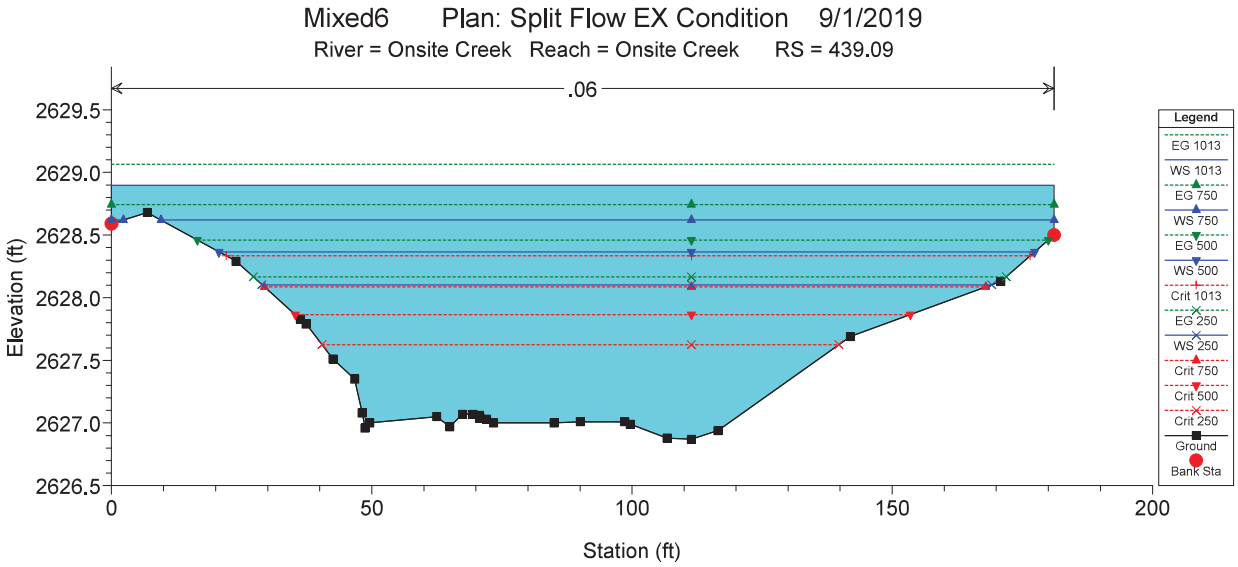

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Middle 30th Reach = 30th St RS = 533.69
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
EG 500
Crit 1013
Crit 750
WS 1013
EG 250
Crit 500
WS 750
WS 500
Crit 250
WS 250
Ground
Bank Sta

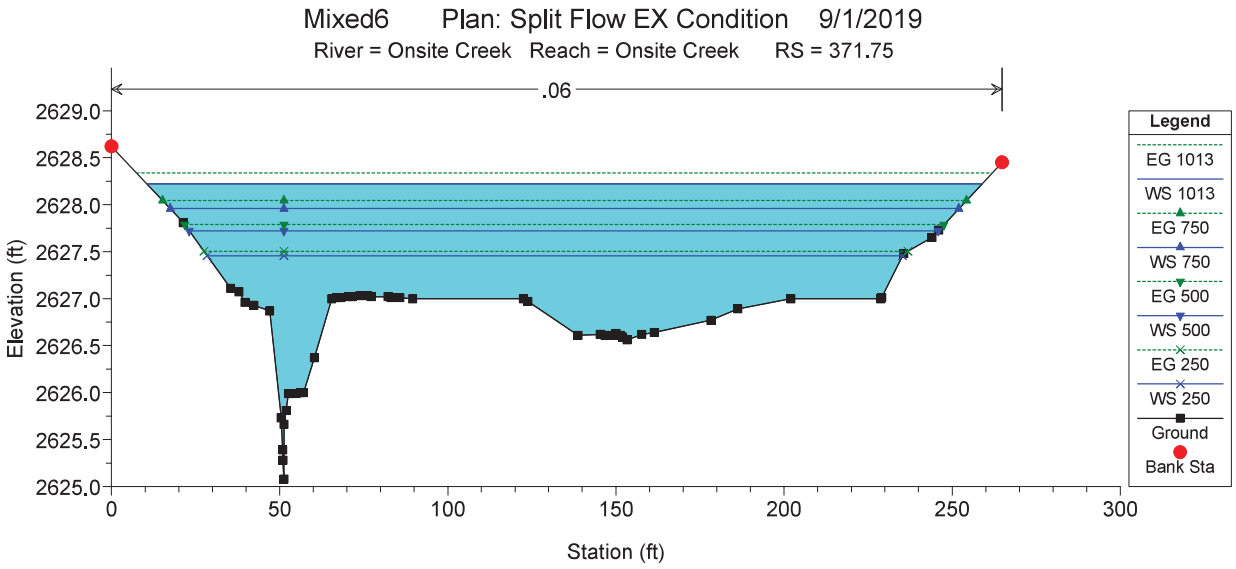

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Middle 30th Reach = 30th St RS = 518.92
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
Crit 1013
EG 500
Crit 750
WS 1013
Crit 500
WS 750
EG 250
WS 500
Crit 250
WS 250
Ground
Bank Sta

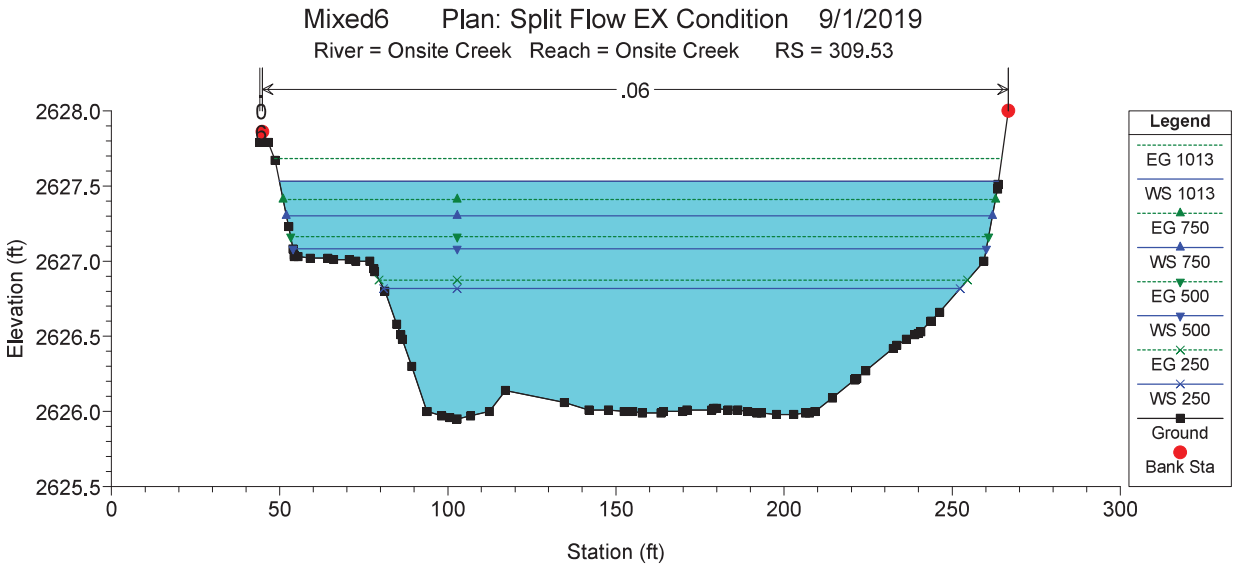

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Middle R Reach = R RS = 51.71
.016
Elevation (ft)
Station (ft)
Legend
WS 1013
EG 1013
WS 750
EG 750
WS 500
EG 500
WS 250
EG 250
Crit 750
Crit 500
Crit 250
Ground
Bank Sta

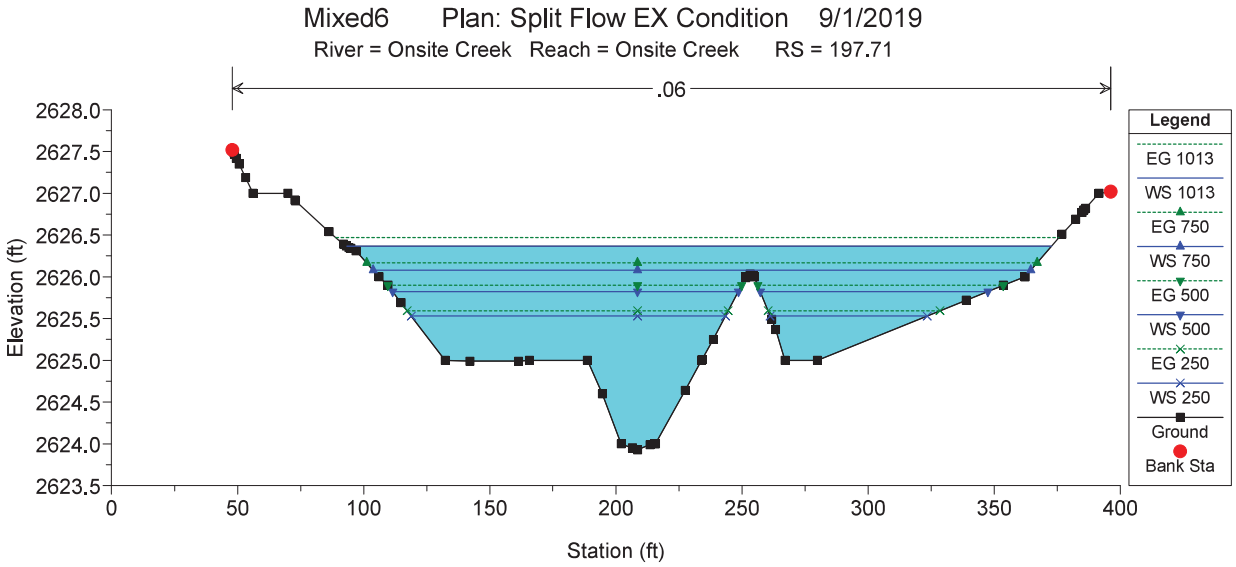

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Middle R Reach = R RS = 34.5
.016
Elevation (ft)
Station (ft)
Legend
WS 1013
EG 1013
WS 750
EG 750
WS 500
EG 500
WS 250
EG 250
Ground
Bank Sta

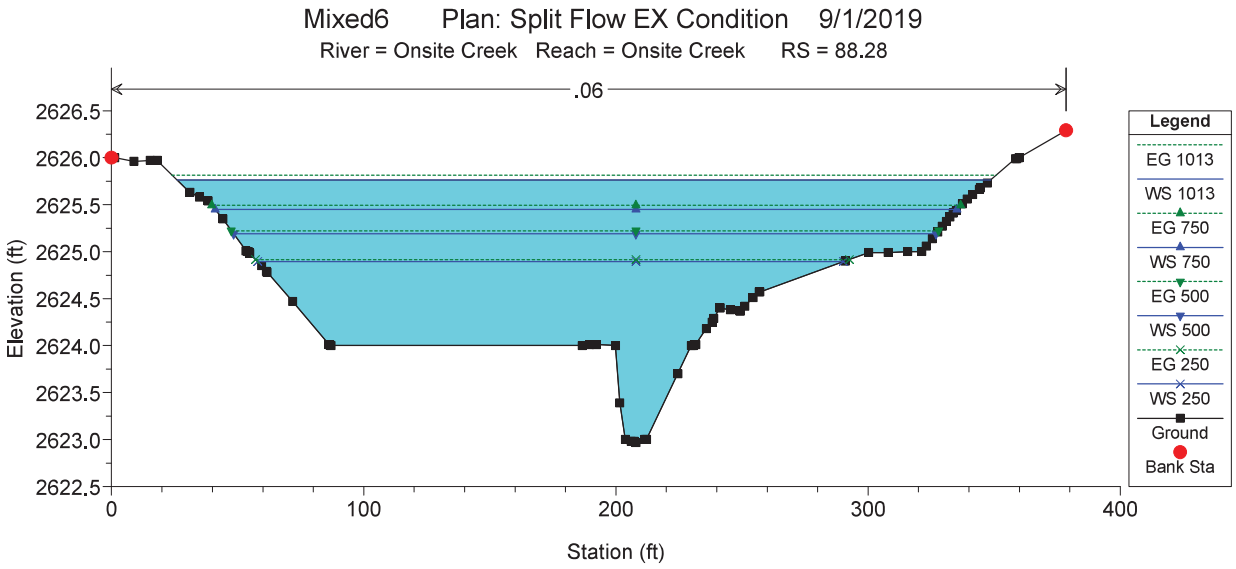

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Onsite Creek Reach = Onsite Creek RS = 456.05
.06
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
Crit 1013
WS 1013
EG 500
Crit 750
WS 750
EG 250
Crit 500
WS 500
Crit 250
WS 250
Ground
Bank Sta

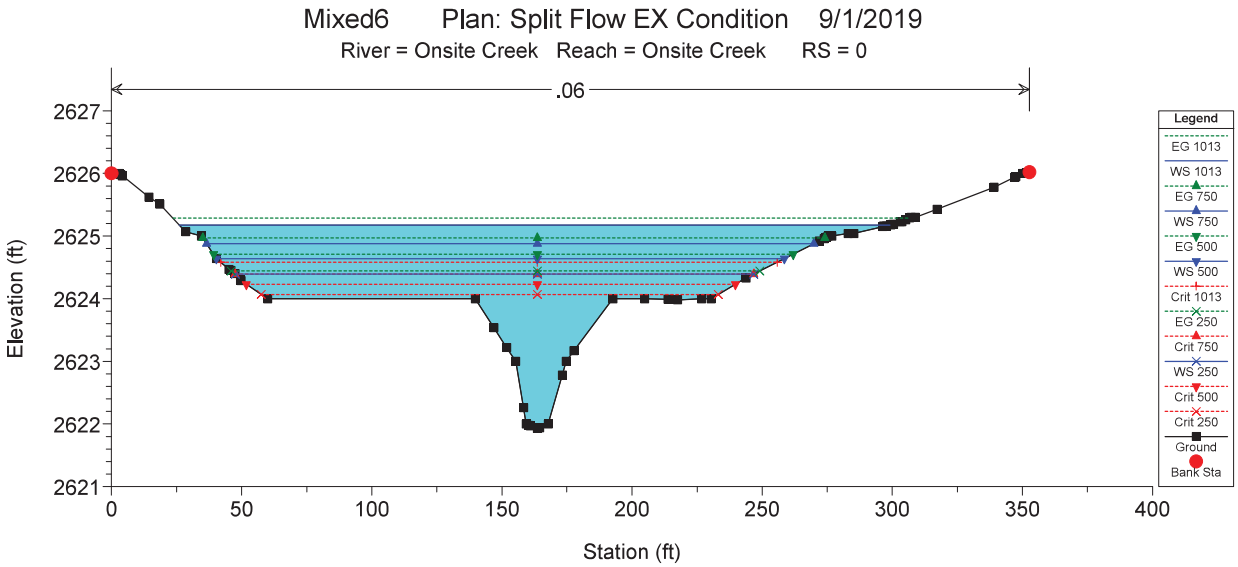

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Onsite Creek Reach = Onsite Creek RS = 439.09
.06
Elevation (ft)
Station (ft)
Legend
EG 1013
WS 1013
EG 750
WS 750
EG 500
WS 500
Crit 1013
EG 250
WS 250
Crit 750
Crit 500
Crit 250
Ground
Bank Sta

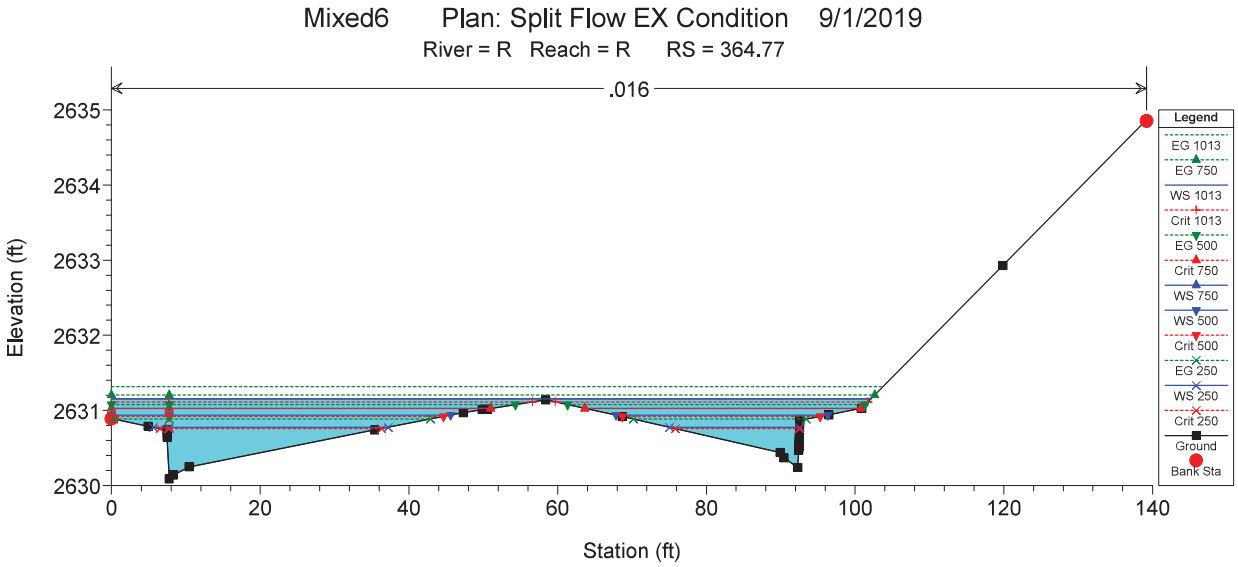

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Onsite Creek Reach = Onsite Creek RS = 371.75
.06
Elevation (ft)
Station (ft)
Legend
EG 1013
WS 1013
EG 750
WS 750
EG 500
WS 500
EG 250
WS 250
Ground
Bank Sta

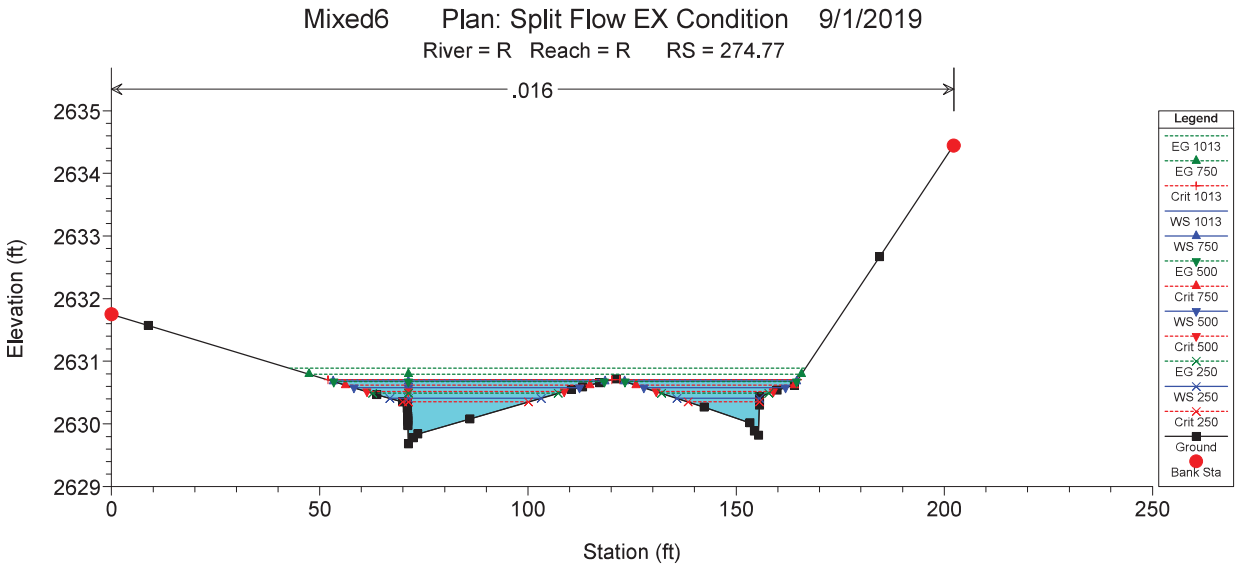

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Onsite Creek Reach = Onsite Creek RS = 309.53
.06
Elevation (ft)
Station (ft)
Legend
EG 1013
WS 1013
EG 750
WS 750
EG 500
WS 500
EG 250
WS 250
Ground
Bank Sta

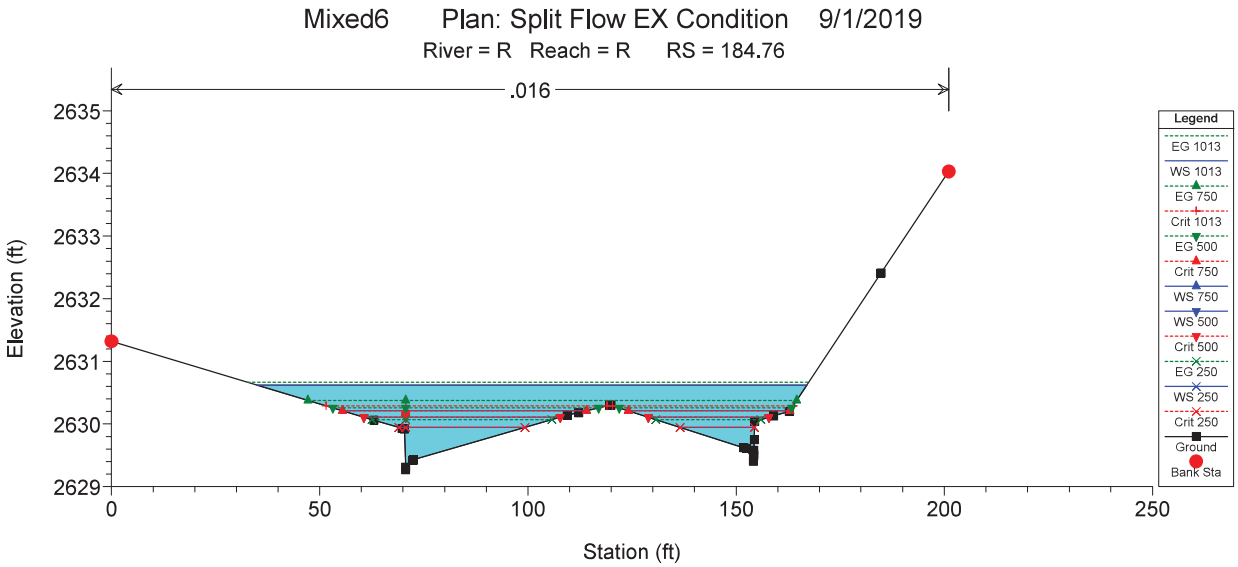

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Onsite Creek Reach = Onsite Creek RS = 197.71
.06
Elevation (ft)
Station (ft)
Legend
EG 1013
WS 1013
EG 750
WS 750
EG 500
WS 500
EG 250
WS 250
Ground
Bank Sta


Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Onsite Creek Reach = Onsite Creek RS = 88.28
.06
Elevation (ft)
Station (ft)
Legend
EG 1013
WS 1013
EG 750
WS 750
EG 500
WS 500
EG 250
WS 250
Ground
Bank Sta

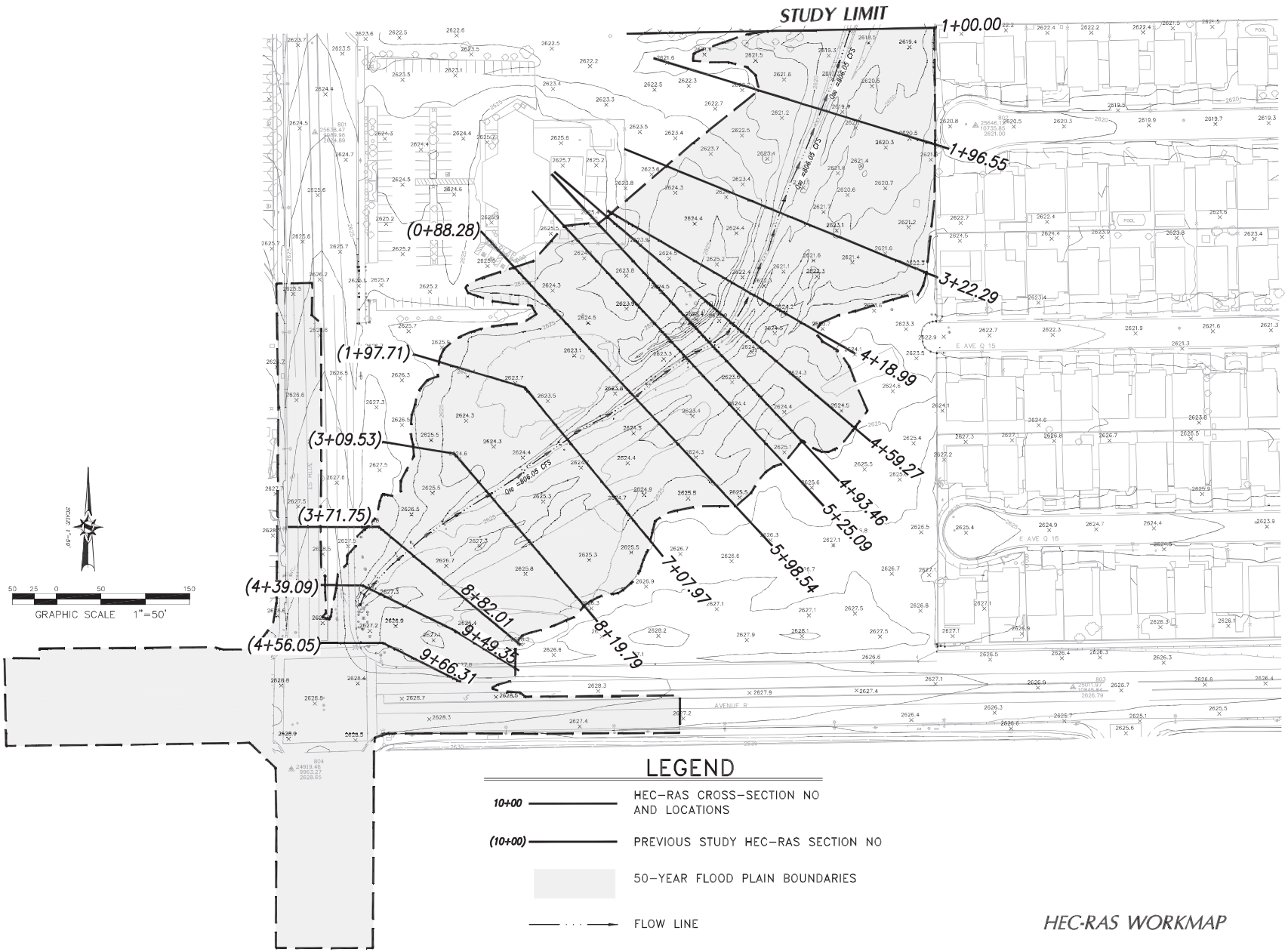

Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = Onsite Creek Reach = Onsite Creek RS = 0
.06
Elevation (ft)
Station (ft)
Legend
EG 1013
WS 1013
EG 750
WS 750
EG 500
WS 500
Crit 1013
EG 250
Crit 750
WS 250
Crit 500
Crit 250
Ground
Bank Sta


Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = R Reach = R RS = 364.77
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
WS 1013
Crit 1013
EG 500
Crit 750
WS 750
WS 500
Crit 500
EG 250
WS 250
Crit 250
Ground
Bank Sta


Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = R Reach = R RS = 274.77
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
EG 750
Crit 1013
WS 1013
WS 750
EG 500
Crit 750
WS 500
Crit 500
EG 250
WS 250
Crit 250
Ground
Bank Sta


Mixed6 Plan: Split Flow EX Condition 9/1/2019
River = R Reach = R RS = 184.76
.016
Elevation (ft)
Station (ft)
Legend
EG 1013
WS 1013
EG 750
Crit 1013
EG 500
Crit 750
WS 750
WS 500
Crit 500
EG 250
WS 250
Crit 250
Ground
Bank Sta

C. HEC-RAS Onsite Analysis



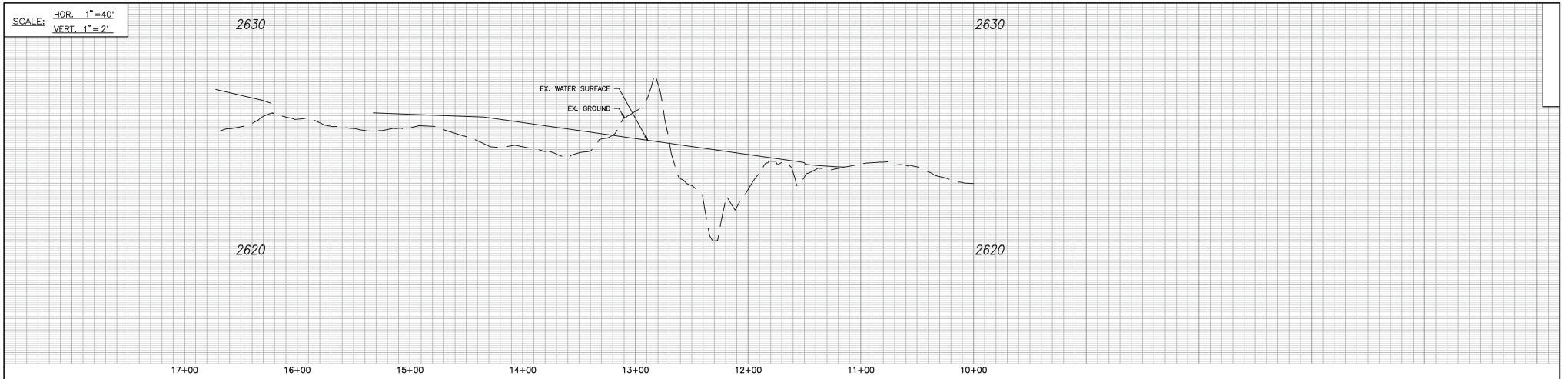
HEC-RAS WORKMAP

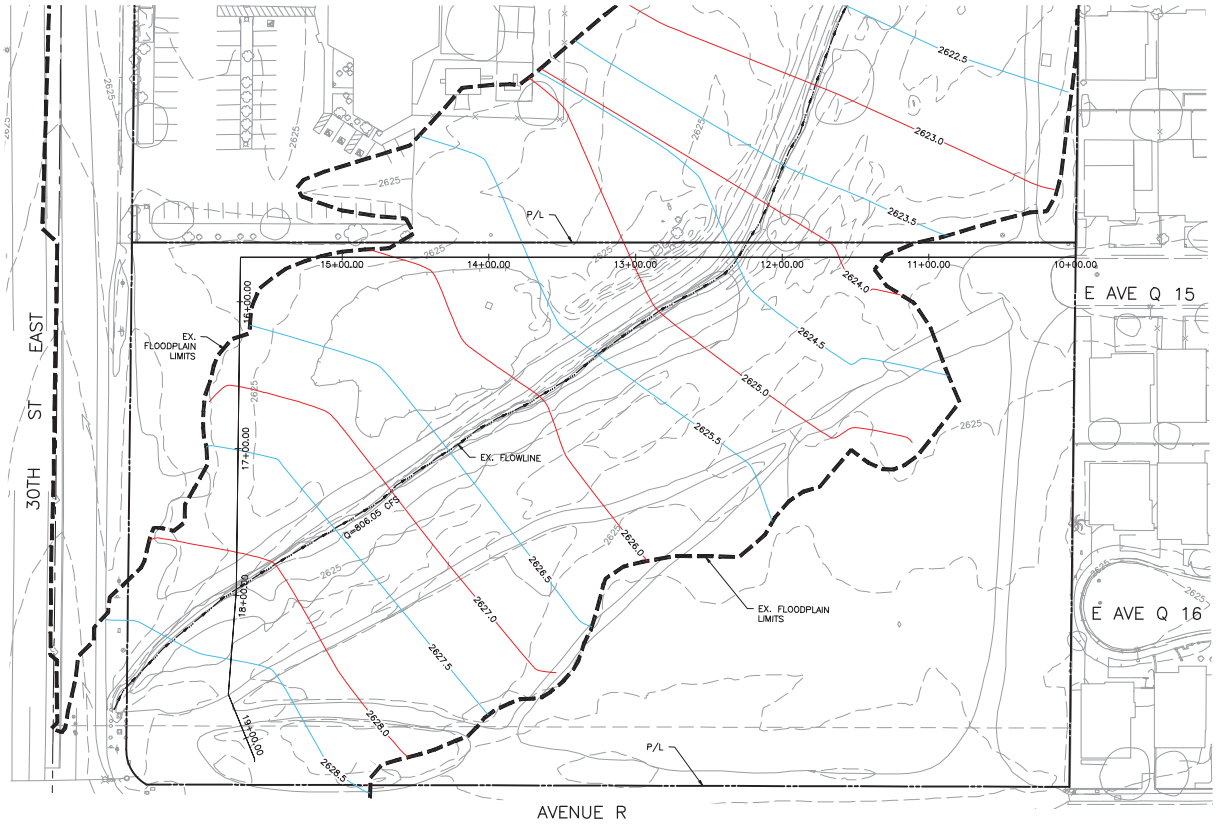
HEC-RAS Plan: Split FlowEX River: Onsite Creek Reach: Onsite Creek Profile: 1013

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Onsite Creek	966.31	1013	772.94	2627.45	2629.18	1.73	2629.18	2629.74	0.052801	5.99	129.05	118.42	1.01
Onsite Creek	949.35	1013	793.23	2626.87	2628.90	2.03	2628.33	2629.07	0.012233	3.30	240.43	181.09	0.50
Onsite Creek	882.01	1013	806.05	2625.08	2628.22	3.14		2628.34	0.009260	2.69	299.53	248.51	0.43
Onsite Creek	819.79	1013	806.05	2625.95	2627.53	1.58		2627.68	0.012113	3.10	259.79	213.80	0.50
Onsite Creek	707.97	1013	806.05	2623.93	2626.37	2.43		2626.47	0.009606	2.60	309.89	279.18	0.44
Onsite Creek	598.54	1013	806.05	2622.97	2625.63	2.66		2625.70	0.005229	2.07	388.77	311.87	0.33
Onsite Creek	525.09	1013	806.05	2620.77	2625.33	4.56		2625.40	0.003399	2.28	416.92	333.64	0.28
Onsite Creek	493.46	1013	806.05	2620.52	2625.17	4.65		2625.26	0.005042	2.75	350.29	298.71	0.34
Onsite Creek	459.27	1013	806.05	2620.46	2624.91	4.45		2625.04	0.008091	3.25	308.24	332.04	0.43
Onsite Creek	418.99	1013	806.05	2620.22	2623.85	3.63	2623.73	2624.44	0.029846	6.29	137.77	112.37	0.82
Onsite Creek	322.29	1013	806.05	2619.56	2622.89	3.33		2623.01	0.007430	2.75	293.60	200.29	0.40
Onsite Creek	196.55	1013	806.05	2617.78	2621.90	4.11	2621.20	2622.04	0.008012	3.29	277.86	208.92	0.43
Onsite Creek	100.00	1013	806.05	2616.98	2621.03	4.05	2620.29	2621.18	0.010000	3.08	261.46	186.60	0.46

D. Existing Flood Plain Exhibit
Proposed Flood Control System Exhibit

SCALE: HOR. 1"=40'
VERT. 1"=2'





LEGEND:

EX.	EXISTING
P/L	PROPERTY LINE
	EXISTING FLOODPLAIN LIMITS
	EXISTING FLOWLINE
	PROPERTY LINE

FEET: 40' 20' 0 40' 80'
INCHES: 1" 1/2" 0 1" 2"

NORTH

CITY OF PALMDALE
AVE. R APARTMENTS
EXISTING FLOOD PLAIN EXHIBIT

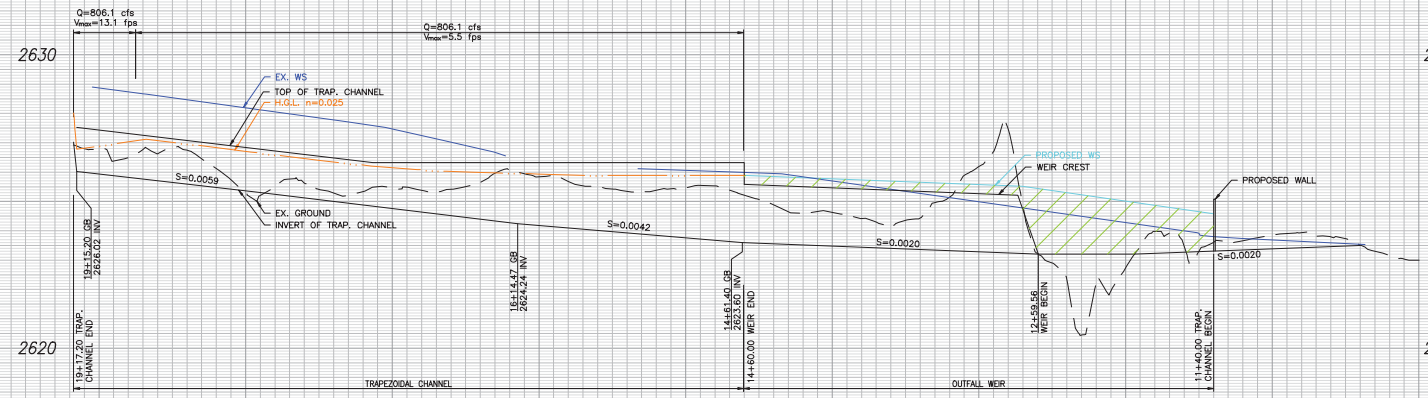
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING • ENGINEERING • SURVEYING
25074 Avenue Hall, Suite #23 • Valencia, CA 91355
Ph: (661) 294-2211 Fx: (661) 294-9890

DATE: 10/19/2017 REV DATE: 11/13/2019
PROJECT NO: 0280-003-001 SHEET 1 OF 1

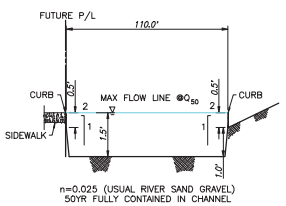
HAR-003-001_Existing Flood Plain.dwg

Z:\Ave R & 30th St East - Palmdale,CA\HAR-003-01_Existing Flood Plain.dwg Plotted on Nov 13, 2019 by gregoryk

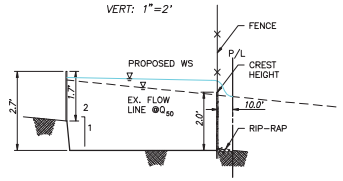
SCALE: HOR. 1"=40'
VERT. 1"=2'



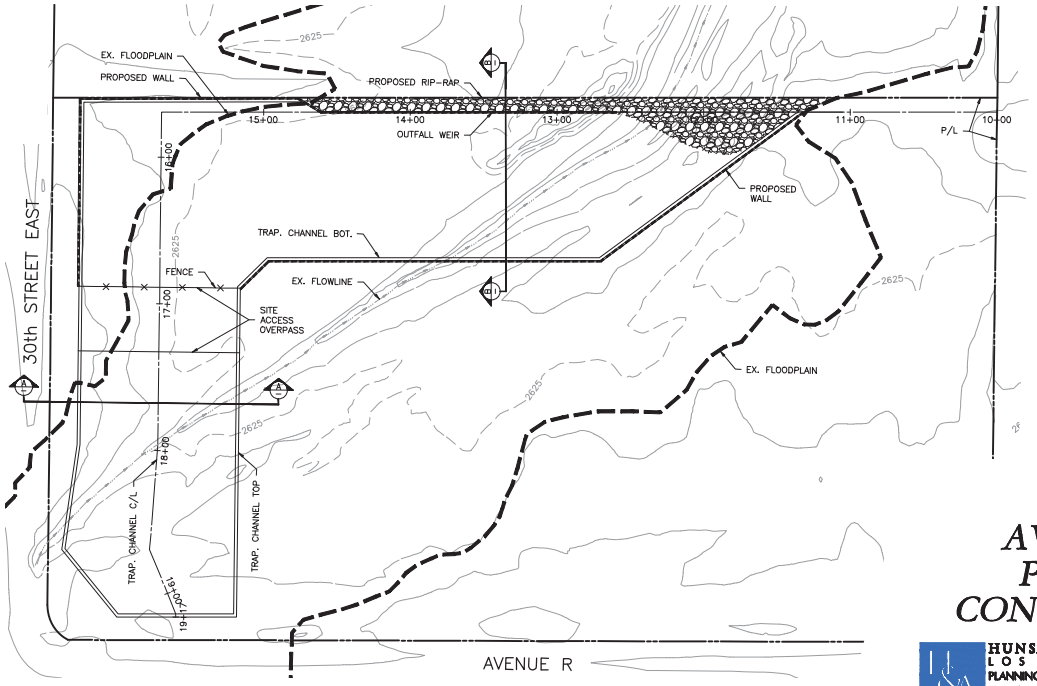
PROPOSED FLOOD CONTROL SYSTEM PROFILE



SECTION A-A
SCALE:
HORIZ: 1"=40'
VERT: 1"=2'



SECTION B-B
SCALE:
HORIZ: 1"=40'
VERT: 1"=2'



LEGEND:

	FLOW AREA
BOT	BOTTOM
C/L	CENTER LINE
EX.	EXISTING
P/L	PROPERTY LINE
TRAP.	TRAPEZOIDAL
WS	WATER SURFACE
	EXISTING FLOODPLAIN
	EXISTING FLOWLINE
	EXISTING WATER SURFACE
	H.G.L.=HYDRAULIC GRADE LINE
	PROPERTY LINE
	PROPOSED WALL
	PROPOSED WATER SURFACE

40' 20' 0 40' 80' FEET
1" 1/2" 0 1" 2" INCHES
NORTH

CITY OF PALMDALE
AVE. R APARTMENTS
PROPOSED FLOOD CONTROL SYSTEM EXHIBIT

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING • ENGINEERING • SURVEYING
26074 Avenue Hall, Suite #23 • Valencia, CA 91355
Ph: (661) 294-2211 • Fx: (661) 294-9890

DATE: 11/08/2019 REV. DATE:
PROJECT NO: 020-003-001 SHEET 1 OF 1

HAR-006-001_Proposed Flood Control System.DWG

Z:\Ave R & 30th St East – Palmdale\Civil\HAR-006-01_Proposed Flood Control System.dwg Plotted on Nov 15, 2019 by gregoryk

E.WSPG input & output

```
T1 PALMDALE SD                                                          0
T2 PRELIM TRAP CHANNEL n=.025
T3 GK
SO   1569.4702624.050  2      .025               2625.890          .000    .000 0
R    1614.5802624.240  2      .025                                 .000    .000 0
R    1796.6402625.350  2      .025                                 .000   3.809 0
R    1867.7702625.750  2      .025                                 .000 -26.442 0
TS   1915.2002626.024  1      .025                                 .000  22.390
R    1917.2002627.020  1      .025                                 .000
WE   1917.2002627.020  1      .500
SH   1917.2002627.020  1                         2628.02
CD   1  5   0    .000             .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
CD   2  5   0    .000             .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
CD   3  5   0    .000             .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
PTS  1 6   .001   .500   .001   .000 81.550   .000 81.550   .500 81.550   .500
PTS      81.550   .500
PTS  2 6   .001  1.500   .001  1.000  2.000   .000108.570   .000110.570  1.000
PTS     110.570  1.500
PTS  3 9   .000  5.490149.620  3.460226.590  7.480272.210   .000323.240  3.550
PTS     344.460  2.190363.100  3.190459.030  2.920459.040 20.000
Q           806.050   .0
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Program Package Serial Number: 1656

WATER SURFACE PROFILE LISTING Date:11-15-2019 Time: 2: 4:13

PALMDALE SD
PRELIM TRAP CHANNEL n=.025
GK

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1569.470	2624.050	1.840	2625.890	806.05	4.00	.25	2626.14	.00	1.20	110.57		2		0 .0
30.816	.0042					.0023	.07	1.84	.52	1.491	.025			IR-OPEN
1600.286	2624.180	1.755	2625.935	806.05	4.20	.27	2626.21	.00	1.20	110.57		2		0 .0
14.294	.0042					.0025	.04	1.76	.56	1.491	.025			IR-OPEN
1614.580	2624.240	1.720	2625.960	806.05	4.28	.29	2626.24	.00	1.20	110.57		2		0 .0
15.681	.0061					.0028	.04	1.72	.58	1.335	.025			IR-OPEN
1630.261	2624.336	1.640	2625.976	806.05	4.49	.31	2626.29	.00	1.20	110.57		2		0 .0
15.723	.0061					.0033	.05	1.64	.62	1.335	.025			IR-OPEN
1645.983	2624.432	1.565	2625.997	806.05	4.71	.34	2626.34	.00	1.20	110.57		2		0 .0
16.965	.0061					.0039	.07	1.57	.67	1.335	.025			IR-OPEN
1662.949	2624.535	1.493	2626.028	806.05	4.94	.38	2626.41	.00	1.20	110.57		2		0 .0
20.045	.0061					.0045	.09	1.49	.72	1.335	.025			IR-OPEN
1682.994	2624.657	1.424	2626.082	806.05	5.18	.42	2626.50	.00	1.20	110.57		2		0 .0
31.302	.0061					.0053	.17	1.42	.77	1.335	.025			IR-OPEN
1714.296	2624.848	1.358	2626.207	806.05	5.44	.46	2626.67	.00	1.20	110.57		2		0 .0
35.724	.0061					.0059	.21	1.36	.83	1.335	.025			IR-OPEN
1750.020	2625.066	1.335	2626.401	806.05	5.54	.48	2626.88	.00	1.20	110.57		2		0 .0
46.620	.0061					.0061	.28	1.33	.85	1.335	.025			IR-OPEN

Program Package Serial Number: 1656

WATER SURFACE PROFILE LISTING Date:11-15-2019 Time: 2: 4:13

PALMDALE SD
PRELIM TRAP CHANNEL n=.025
GK

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1796.640	2625.350	1.335	2626.685	806.05	5.54	.48	2627.16	.00	1.20	110.57			2	0 .0
41.740	.0056					.0059	.24	1.33	.85	1.367	.025			IR-OPEN
1838.380	2625.585	1.367	2626.952	806.05	5.40	.45	2627.41	.00	1.20	110.57			2	0 .0
29.390	.0056					.0056	.17	1.37	.82	1.367	.025			IR-OPEN
1867.770	2625.750	1.367	2627.117	806.05	5.40	.45	2627.57	.00	1.20	110.57			2	0 .0
TRANS STR	.0058							1.367	.820		.025			IR-OPEN
1915.200	2626.024	.755	2626.779	806.05	13.09	2.66	2629.44	.00	1.45	81.55			1	0 .0
.422	.4980					.0676	.03	.75	2.66	.422	.025			IR-OPEN
1915.622	2626.234	.787	2627.021	806.05	12.55	2.44	2629.47	.00	1.45	81.55			1	0 .0
.417	.4980					.0582	.02	.79	2.49	.422	.025			IR-OPEN
1916.039	2626.442	.826	2627.268	806.05	11.96	2.22	2629.49	.00	1.45	81.55			1	0 .0
.361	.4980					.0497	.02	.83	2.32	.422	.025			IR-OPEN
1916.400	2626.622	.866	2627.488	806.05	11.41	2.02	2629.51	.00	1.45	81.55			1	0 .0
.311	.4980					.0425	.01	.87	2.16	.422	.025			IR-OPEN
1916.711	2626.776	.908	2627.685	806.05	10.87	1.84	2629.52	.00	1.45	81.55			1	0 .0
.264	.4980					.0363	.01	.91	2.01	.422	.025			IR-OPEN
1916.975	2626.908	.953	2627.861	806.05	10.37	1.67	2629.53	.00	1.45	81.55			1	0 .0
.225	.4980					.0310	.01	.95	1.87	.422	.025			IR-OPEN

Program Package Serial Number: 1656

WATER SURFACE PROFILE LISTING Date:11-15-2019 Time: 2: 4:13

PALMDALE SD
PRELIM TRAP CHANNEL n=.025
GK

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1917.200	2627.020	1.000	2628.020	806.05	9.88	1.52	2629.54	.00	1.45	81.55		1	0	.0

F. Weir Analysis

$Q=2.8Lh^{1.5}$

Sta	Crest Elev.	Prop. WS Elev.	H	Q discharge	Total Q discharge
1460	2625.58	2625.90	0.32	0.51	810.98
1459	2625.58	2625.90	0.32	0.51	
1458	2625.58	2625.90	0.32	0.51	
1457	2625.57	2625.89	0.32	0.51	
1456	2625.57	2625.89	0.32	0.51	
1455	2625.57	2625.89	0.32	0.51	
1454	2625.57	2625.89	0.32	0.51	
1453	2625.57	2625.89	0.32	0.51	
1452	2625.56	2625.88	0.32	0.51	
1451	2625.56	2625.88	0.32	0.51	
1450	2625.56	2625.88	0.32	0.51	
1449	2625.56	2625.88	0.32	0.51	
1448	2625.56	2625.88	0.32	0.51	
1447	2625.55	2625.87	0.32	0.51	
1446	2625.55	2625.87	0.32	0.51	
1445	2625.55	2625.87	0.32	0.51	
1444	2625.55	2625.87	0.32	0.51	
1443	2625.55	2625.87	0.32	0.51	
1442	2625.54	2625.86	0.32	0.51	
1441	2625.54	2625.86	0.32	0.51	
1440	2625.54	2625.86	0.32	0.51	
1439	2625.54	2625.86	0.32	0.51	
1438	2625.54	2625.86	0.32	0.51	
1437	2625.53	2625.85	0.32	0.51	
1436	2625.53	2625.85	0.32	0.51	
1435	2625.53	2625.85	0.32	0.51	
1434	2625.53	2625.85	0.32	0.51	
1433	2625.53	2625.85	0.32	0.51	
1432	2625.52	2625.84	0.32	0.51	
1431	2625.52	2625.84	0.32	0.51	
1430	2625.52	2625.84	0.32	0.51	
1429	2625.52	2625.84	0.32	0.51	
1428	2625.52	2625.84	0.32	0.51	
1427	2625.51	2625.83	0.32	0.51	
1426	2625.51	2625.83	0.32	0.51	
1425	2625.51	2625.83	0.32	0.51	
1424	2625.51	2625.83	0.32	0.51	
1423	2625.51	2625.83	0.32	0.51	
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1143	2623.99	2624.61	0.62	1.37
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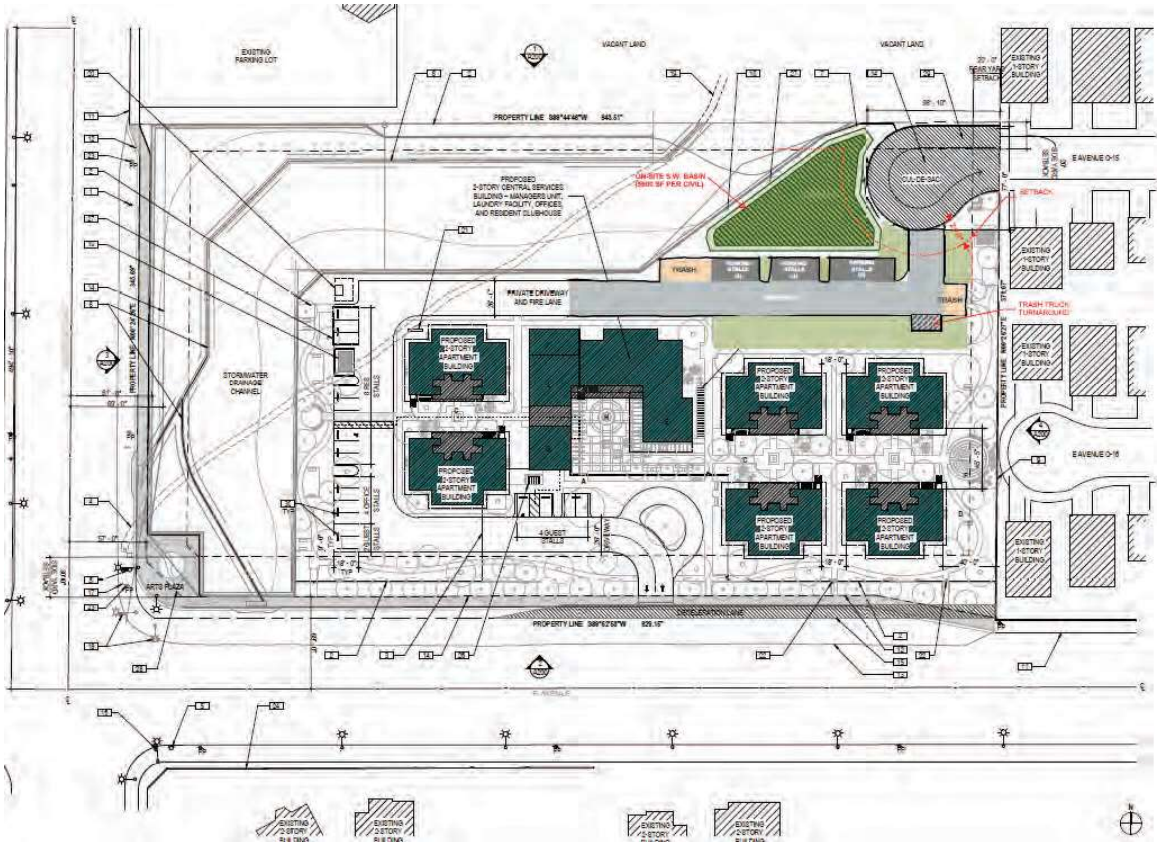
APPENDIX G

ENVIRONMENTAL NOISE STUDY



ENVIRONMENTAL NOISE STUDY FOR AVE R APARTMENTS PROJECT

SEPTEMBER 10, 2020

PREPARED FOR:
HIGHRIDGE COSTA DEVELOPMENT COMPANY

PREPARED BY:
ACOUSTICS GROUP, INC.
CONSULTANTS IN ACOUSTICS, NOISE & VIBRATION

Environmental Noise Study for Ave R Apartments Project

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EXECUTIVE SUMMARY

Acoustics Group, Inc., (AGI) was retained to conduct an environmental noise study of the Ave R Apartments Project located at the northeast corner of Avenue R & 30th Street in Palmdale, CA. This report presents an assessment of the potential construction and operational noise impacts associated with the Project.

The project site is exposed to over 70 dBA CNEL and is considered by the City of Palmdale Land-Use Guidelines in the Normally Unacceptable range and is ***potentially-significant-unless-mitigation-incorporated***. The project requires an acoustical study to demonstrate that the residences and project area have been designed to limit intruding transportation noise to a maximum exterior noise level of 65 dBA CNEL and maximum interior noise level of 45 dBA CNEL.

The project site is located over 3 miles south of Palmdale Regional Airport and is situated significantly outside of the 65 dB noise contour. Aircraft noise has a ***less-than-significant*** contribution to the future noise environment at the project site.

Exterior peak hour construction noise levels (Leq) from the proposed Project's center of the construction could be expected to be as high as 68.3, 60.4, 70.9, 70.9, and 60.4 dBA at receivers R1, R2, R3, R4, and R5, respectively. Exterior peak hour construction noise levels (Leq) from the proposed Project for a worst case scenario can be expected to be as high as 82.3, 74.4, 87.1, 85.5, 87.1, and 74.4 dBA at receivers R1, R2, R3, R4, and R5, respectively. As the City of Palmdale establishes construction noise hours (no construction between the hours of 8 PM and 6:30 AM) but not construction noise limits, the project would have a ***less-than-significant*** impact. However, the construction noise would be a potential source of annoyance during the periods of highest activity.

The maximum construction-related vibration level would be well below the 0.20 PPV in/sec criteria for vibration induced architectural damage at the nearby structures. Construction vibration experienced at residential receptors would also be below the 78 VdB threshold for human annoyance during the daytime. Vibration would be considered ***less-than-significant***.

Project generated traffic would have a ***less-than-significant*** increase in noise levels on local roadways.

The future peak hour noise level from community activities (people talking at the patio and plaza areas, cars exiting and entering the project site) would be as high as 12.7, 27.6, 27.6, 25.3, and 25.9 dBA at receptors R1 through R5, respectively. The operational noise from community activity would comply with the City of Palmdale Noise Standard of 65 dBA at residential property lines and would not increase the ambient noise levels by more than 3 dB. Operational community noise would have a ***less-than-significant*** impact on the adjacent noise sensitive receptors.

Future peak hour Leq from the exterior mechanical condensers would be as high as 23.4, 35.3, 46.8, 40.7, and 32.4 dBA at receptors R1 through R5, respectively. The operational noise from exterior mechanical units would comply with the City of Palmdale Noise Standard of 65 dBA at residential property lines and would not increase the ambient noise levels by more than 3 dB. Exterior mechanical condensers noise would have a ***less-than-significant*** impact on the adjacent noise sensitive receptors.

The following mitigation measures have been recommended to reduce potential project-related noise impacts.

MM NOI-1: Construction activities shall be restricted on any Sunday, or on any other day after 8:00 p.m. or before 6:30 a.m..

MM NOI-2: Prior to the issuance of a building permit, a qualified noise consultant or acoustical engineer must conduct a detailed noise analysis to determine any special noise insulation features necessary to ensure that interior noise levels in the proposed residential units would not exceed 45 dBA CNEL/DNL in any habitable room with all doors and windows closed as per HUD and State of California Interior Noise Requirements. The noise analysis should stipulate required Sound Transmission Class (STC) ratings for window, door, and exterior wall assemblies to be employed in the project in order to achieve the required level of sound insulation. The acoustical design recommendations shall be incorporated into project plans and implemented during project construction.

MM NOI-3: Prior to the issuance of a building permit, a qualified noise consultant or acoustical engineer must conduct a detailed noise analysis to determine any noise control measures to ensure that exterior noise levels at the proposed exterior recreational areas would not exceed 65 dBA CNEL/DNL as per HUD Exterior Noise Requirements. The acoustical design recommendations shall be incorporated into project plans and implemented during project construction.

MM NOI-4: Party walls and floor/ceiling assemblies separating non-common residential units shall meet or exceed the HUD and California Building Code Requirements of STC 50 for designated assemblies (CCR Title 24 Part 2). Floor/ceiling assemblies separating non-common residential units shall meet or exceed the HUD and California Building Code requirements of IIC 50 for designated assemblies (CCR Title 24 Part 2). The acoustical design recommendations shall be incorporated into project plans and implemented during project construction.

This report has been organized into multiple sections for ease of reference. Section 1 introduces the Project and provides a general discussion on the Project Components. Section 2 discusses Noise and Vibration Fundamentals, and Section 3 presents the Noise and Vibration Standards. Section 4 discusses the Existing Noise Environment, Section 5 discusses the Analysis Methodology and Section 6 discusses the Future Noise and Vibration Environment, Impacts, and Mitigation Measures. Section 6 presents the Mitigation Measures and Section 7 presents the Conclusion.

1. INTRODUCTION

1.1 Purpose of the Report

This report analyzes potential noise impacts associated with the Ave R Apartments Project and, as appropriate, identifies measures which can be taken to avoid adverse impacts related to noise. The analysis follows the guidelines within the City of Palmdale's Local California Environmental Quality Act (CEQA) Significance Determination Thresholds and National Environmental Protection Act (NEPA).

1.2 Project Description

The Project proposes to construct a residential community at the northeast corner of Avenue R & 30th Street in Palmdale, CA. The project consists of a 57-unit Permanent Supportive Housing (PSH) community consisting of 56 studio units and one two-bedroom one bath manager's unit. Refer to Figure 1 for the general location of the Project Site and Vicinity Map. Land use immediately surrounding the site are comprised of primarily residential. To the north, there is the multi-family residential community (R1) and the Berean Fellowship Church (R2). To the east (R3), south (R4) and west (R5), there are single-family residential communities. Refer to the Appendix for the Project Drawings.

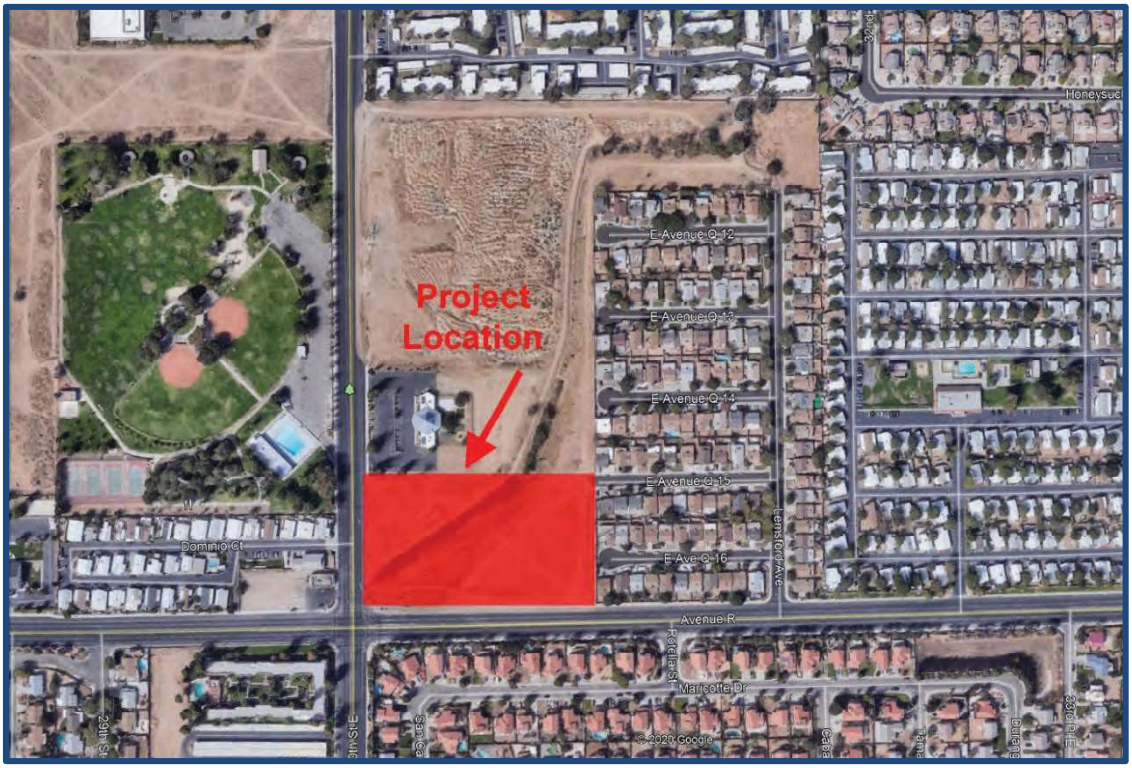

Figure 1. Location of the Project Site and Vicinity Map

2. NOISE AND VIBRATION FUNDAMENTALS & TERMINOLOGY

2.1 Noise

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) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental 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 contribute to the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

The amplitude of pressure waves generated by a sound source determines the loudness of that source. A logarithmic scale is used to describe sound pressure level (SPL) in terms of dBA units. The threshold of hearing for the human ear is approximately 0 dBA, which corresponds to 20 micro Pascals (mPa).

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than one source under the same conditions.

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting (dBA) to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol Leq, with a specified duration. The Community Noise Equivalent Level (CNEL) is a 24-hour average, where noise levels during the evening hours of 7:00 PM to 10:00 PM have an added 5 dBA weighting, and sound levels during the nighttime hours of 10:00 PM to 7:00 AM have an added 10 dBA weighting. This is similar to the Day Night sound level (LDN), which is a 24-hour average with an added 10 dBA weighting on the same nighttime hours, but no added weighting on the evening hours. For transportation noise, the CNEL and LDN are considered to be

equal. Sound levels expressed in CNEL are always based on dBA. These metrics are used to express noise levels for both measurement and municipal regulations, as well as for land use guidelines and enforcement of noise ordinances.

Technical acoustical terms commonly used in this section are defined in Table 1. The fundamental model of acoustics consists of a sound (i.e., noise) source, a receptor, and the propagation path between the two. The loudness of the noise source and the obstructions or atmospheric factors, which affect the propagation path to the receptor, determine the sound level and the characteristics of the noise perceived by the receptor.

The dB scale alone does not adequately characterize how humans perceive noise. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on human sensitivity to those frequencies. The common measure is the A-weighted sound level, which approximates the response of the average young ear to most ordinary sounds. Peoples' judgments regarding the relative loudness or annoyance of a sound tend to correlate well with the A-scale sound levels of those sounds. Table 2 provides typical noise levels in the environment.

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Table 1. Definitions of Acoustical Terms

Term	Definition
Sound	A vibratory disturbance created by a vibrating object, which when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism such as the human ear or a microphone.
Sound Level	In decibels, that quantity measured with a sound level meter as defined herein, by use of the "A" frequency weighting and "fast" time averaging unless some other time averaging is specified.
Noise	Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
Noise Level	The same as sound level. The terms may be used interchangeably.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micropascals, where 1 pascal is the pressure from a force of 1 newton exerted over an area of 1 square meter. The sound pressure level is more commonly expressed in decibels (see below). Sound pressure level is the quantity that is measured directly by a sound level meter.
Decibel (dB)	A unit measure of sound (noise) level. Just as feet is used to measure distances, decibels are used to measure sound (noise) levels. The decibel is defined as 10 times the common logarithm of the ratio of two amounts of sound power. The human ear can hear sounds from less than 10 dB to over 100 dB (sounds which are 100,000 times greater than the faintest sounds. A unit describing the amplitude of sound equal to 20 times the logarithm to base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micropascals.
Frequency, Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is 20 Hz - 20,000 Hz.
A-Weighted Sound Level (dBA)	As in decibel A-weighting (dB[A]). Represents the frequency characteristics of the average human ear for various sound intensities. An A-weight sound filters out lower frequencies, and provides a good indicator of the annoyance potential of a noise.
Average Sound Level	A sound level typical of the sound levels at a certain place during a given period of time, averaged by the general rule of combination for sound levels, said general rule being set forth in American National Standard Specifications for Sound Level Meters 1.4-1971. Average sound level is also called equivalent continuous level. (Leq.)
Equivalent Noise Level (L_{eq})	The average A-weighted noise level during the measurement period. The hourly L_{eq} used for this report is denoted as dBA L_{eq}.
Community Noise Equivalent Level (CNEL)	An average sound level during a 24-hour day, obtained after addition of five (5) decibels to sound levels in the evening from 7:00 PM to 10:00 PM, and after addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM. CNEL recognizes that noise annoyance is related to duration, how often the noise is present, how long it persists, and when it occurs.
Day/Night Noise Level (L_{dn})	The average A-weighted noise level during a 24-hour day, which is obtained by adding 10 dB to sound levels measured at night between 10:00 PM and 7:00 AM.
L_{01}, L_{10}, L_{50}, L_{90}	A-weighted noise levels that are exceeded 01, 10, 50, and 90 percent of the time during the measurement period. The L_{01} is indicative of the typical highest noise levels reached, L_{10} is typically considered the intrusive noise level, the L_{50} represents the median noise level, and the L_{90} represents, and is considered, the background, or ambient noise level.
Maximum Sound Level (Lmax)	The maximum A-weighted noise level measured during the measurement period.
Minimum Sound Level (Lmin)	The minimum A-weighted noise level measured during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive Noise	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence, and tonal or informational content as well as the prevailing ambient noise level.
Sound Level Meter	An instrument of the measurement of sound, including a microphone, an amplifier, an attenuator, networks at least for standardized frequency weighting A, and an indicating instrument having at least the standardizes dynamic characteristic "fast". As specified in American National Standard Specification for Sound Level Meters S1.4-1971 or its successor.

Table 2. Typical Noise Levels in the Environment

Common Outdoor Noise Source	Noise Level (dBA)	Common Indoor Noise Source
	120 dBA	
Jet fly-over at 300 meters		Rock concert
	110 dBA	
Pile driver at 30 meters	100 dBA	
		Night club with live music
	90 dBA	
Large truck passes by at 15 meters		
	80 dBA	Noisy restaurant
		Garbage disposal at 1 meter
Gas lawn mower at 30 meters	70 dBA	Vacuum cleaner at 3 meters
Commercial/Urban area daytime		Normal speech at 1 meter
Suburban expressway at 90 meters	60 dBA	
Suburban daytime		Active office environment
	50 dBA	
Urban area nighttime		Quiet office environment
	40 dBA	
Suburban nighttime		
Quiet rural areas	30 dBA	Library
		Quiet bedroom at night
Wilderness area	20 dBA	
	10 dBA	Quiet recording studio
Threshold of human hearing	0 dBA	Threshold of human hearing

Source: Caltrans, 2013.

2.2 Vibration

Groundborne vibration is an oscillatory motion of the soil with respect to the equilibrium position and can be quantified in terms of velocity or acceleration. It can be a serious concern for nearby neighbors of activities that cause buildings to shake and rumbling sounds to be heard, but it is unusual for vibration from sources such as buses and trucks on smooth roads to be perceptible, even in locations close to major roads. Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are heavy construction equipment and activities (such as blasting and pile driving), steel-wheeled trains, and heavy trucks on rough roads.

Table 3 summarizes common sources of groundborne vibration velocity levels (measured in decibel units [VdB]) and average human response to vibration that may be anticipated when a person is at rest in quiet surroundings (tolerance to vibration increases considerably during physical activity). The duration of the vibration event has an effect on human response, as does its frequency of occurrence: increases in both result in decreased tolerance. Typical background vibration levels in residential areas are usually 50 VdB or lower, well below the threshold (65 VdB) of perception for most humans.

Groundborne noise is a secondary phenomenon of groundborne vibration. When a building or structure vibrates, noise radiates into the interior of the building, producing rattling of windows, doors, stacked dishes, etc. Low-frequency vibration could produce graundborne noise perceived as a low rumble. Groundborne noise is quantified by the A-weighted sound level inside the building. The sound level accompanying vibration is generally 25 to 40 dBA lower than the vibration velocity level in VdB. Groundborne vibration levels of 65 VdB can result in groundborne noise levels up to 40 dBA, which can disturb sleep. Groundborne vibration levels of 85 VdB can result in groundborne noise levels up to 60 dBA, which can be annoying to daytime noise sensitive land uses such as schools (Federal Transit Administration, 2006).

Table 3. Typical Levels of Ground-borne Vibration

Human or Structural Response	Vibration Velocity Level (VdB)	Typical Sources (50 feet from source)
Threshold for minor cosmetic damage to fragile buildings	100	Blasting, pile driving, vibratory compaction equipment
Difficulty with tasks such as reading a video or computer screen	90	Heavy tracked vehicles (Bulldozers, cranes, drill rigs)
Threshold for residential annoyance for infrequent events (e.g., commuter rail)	80	Freight rail, typical Commuter rail, upper range
	70	Rapid transit, upper range
Threshold for residential annoyance for frequent events (e.g., rapid transit)	60	Commuter rail, typical Bus or truck over bump or on rough roads
Approximate threshold for human perception of vibration Limit for vibration sensitive equipment	50	Bus or truck over bump or on rough roads Rapid transit, typical
		Typical bus or truck on public road
		Typical background vibration

Source: USDOT Federal Transit Administration, 2006.

3. REGULATORY FRAMEWORK

3.1 Federal Regulations

3.1.1 National Environmental Policy Act (NEPA)

The National Environmental Policy Act of 1969 (NEPA) requires that an environmental impact statement (EIS) be prepared for federal or federally funded (including loans) projects. The EIS identifies potential impacts of the project and evaluates feasible alternatives for mitigating the impacts. The impacts and mitigation alternatives are taken into account by decision makers. However, mitigation of impacts is not required by NEPA.

3.1.2 United States Department of Housing and Urban Development (HUD) 24 CFR Part 51 Subpart B, Noise Abatement and Control

United States Department of Housing and Urban Development (HUD)'s establishes that all sites whose environmental or community noise exposure exceeds the day-night average sound level (DNL) of 65 decibels (dB) are considered noise-impacted areas. For new construction that is proposed in high noise areas, grantees shall incorporate noise attenuation features to the extent required by HUD environmental criteria and standards contained in Subpart B (Noise Abatement and Control) of 24 CFR Part 51. The interior standard is 45 dB DNL.

The "Normally Unacceptable" noise zone includes community noise levels from above 65 decibels to 75 decibels. Approvals in this noise zone require a minimum of 5 dB additional sound attenuation for buildings having noise-sensitive uses if the day-night average sound level is greater than 65 dB but does not exceed 70 dB, or a minimum of 10 decibels of additional sound attenuation if the day-night average sound level is greater than 70 dB but does not exceed 75 dB. Locations with day-night average noise levels above 75 dB have "Unacceptable" noise exposure.

For new construction, noise attenuation measures in these locations require the approval of the Assistant Secretary for Community Planning and Development (for projects reviewed under Part 50) or the Responsible Entity's Certifying Officer (for projects reviewed under Part 58). The acceptance of such locations normally requires an environmental impact statement.

3.2 State Regulations

3.2.1 California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973 (Act), find that excessive noise is a serious hazard

to the public health and welfare, and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. The Act also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

3.2.2 California Environmental Quality Act

Under CEQA, lead agencies are directed to assess conformance to local or other agency noise standards; measure and identify the potentially significant exposure of people to (or generation of) excessive ground-borne vibration or noise levels; and measure and identify potentially significant permanent or temporary increases in ambient noise levels. Implementation of CEQA ensures that during the decision-making stage of development, decision-makers and the public will be informed of any potentially excessive noise levels and available mitigation measures to reduce them to acceptable levels.

The 2020 CEQA Guidelines establishes that a significant noise impact will occur if the proposed project achieves any of the following:

1. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
    a. Therefore, a significant impact would be identified if traffic generated by the project or project improvements/operations would substantially increase noise levels at sensitive receivers in the vicinity. A substantial increase would occur if: a) the noise level increase is 5 dBA CNEL or greater where the future noise level is compatible in terms of noise and land use compatibility, or b) the noise level increase is 3 dBA CNEL or greater where the future noise level exceeds the compatibility threshold.
2. Generation of excessive groundborne vibration or groundborne noise levels?
3. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

3.2.3 California Noise Insulation Standards (California Code of Regulations Title 24)

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for hotels, motels, dormitories, and multi-family residential buildings (California Building Standards Commission [CBSC] 2016a). Title 24 requires that residential structures be designed to prevent the intrusion of exterior noise so that the interior noise, with windows closed, attributable to exterior sources shall not exceed 45 dBA CNEL in any habitable room. The regulations also specify that acoustical studies must be prepared whenever a multi-family residential building or structure may be exposed to exterior noise levels of 60 dBA CNEL or greater. Such acoustical analysis must demonstrate that the residences have been designed to limit intruding noise to a maximum interior noise level of 45 dBA CNEL.

3.2.3 California Building Code 2016

California Building Code 2016 Section 1207 establishes that walls, partitions and floor/ceiling assemblies separating dwelling units and sleeping units from each other or from public or service areas shall have a sound transmission class of not less than 50, or not less than 45 if field tested, for air-borne noise when tested in accordance with ASTM E90.

Floor/ceiling assemblies between dwelling units and sleeping units or between a dwelling unit or sleeping unit and a public or service area within the structure shall have an impact insulation class rating of not less than 50, or not less than 45 if field tested, when tested in accordance with ASTM E492.

3.3 Local Regulations

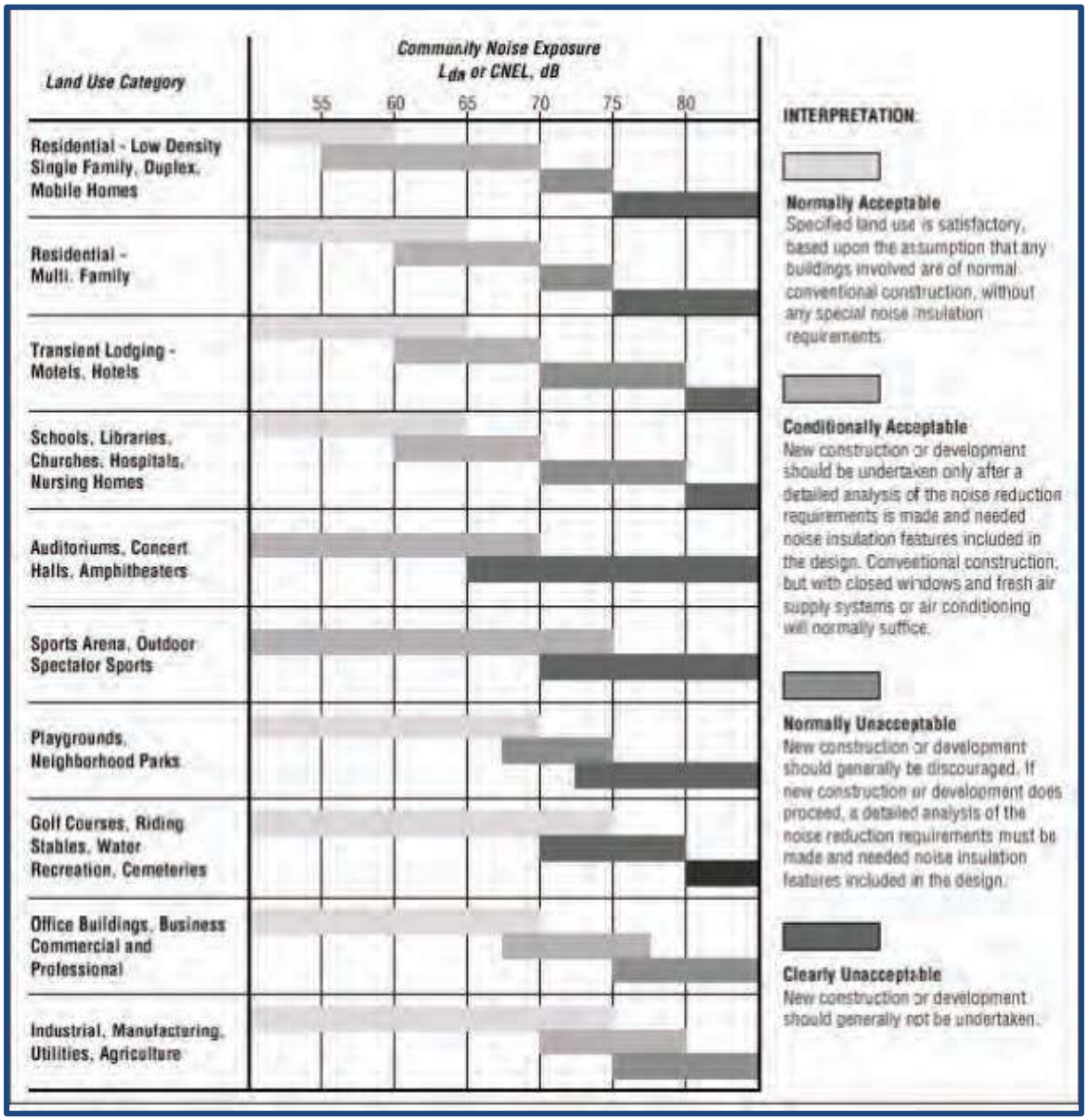
3.3.1 City of Palmdale Municipal Code

The Section 17.84.050 of the City of Palmdale Municipal Code establishes that “all existing or proposed uses shall conform to the Noise Element of the General Plan. All construction activity shall conform to Chapter 8.28 PMC, Building Construction Hours of Operation and Noise Control.”

The Section 8.28.030 contains provisions that restrict construction “on any Sunday, or any other day after 8:00 p.m. or before 6:30 a.m., in any residential zone or within 500 feet of any residence, hotel, motel or recreational vehicle park.”

3.3.2 City of Palmdale General Plan Noise Element

The Noise Element of the City of Palmdale General Plan establishes the Land Use - Noise Compatibility Guidelines, which identify the limits for acceptable noise levels for different land use categories, are illustrated in Figure 2. Proposed residential and other noise-sensitive projects impacted by a 65 dBA CNEL or greater would require additional acoustical analysis to achieve acceptable exterior noise levels.



Source: City of Palmdale's General Plan, adopted January 25, 1993.

Figure 2. City of Palmdale Land Use Compatibility Guidelines

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3.3.5 Vibration Standards

The City Municipal Code and General Plan do not include vibration standards. In lieu of such standards, this analysis will use the standards presented in the Federal Transit Administration (FTA) Guideline Manual Transit Noise and Vibration Impact Assessment (May 2006). Based on the FTA Guidelines, an impact would occur if construction activities generate vibration that is strong enough to physically damage buildings. The threshold for vibration-induced architectural damage is 0.2 peak particle velocity (PPV) in inches per second (in/sec) for typical wood-framed buildings. The threshold for human annoyance at residential receptors during the daytime is 78 VdB.

3.3.6 Local CEQA Guidelines

The City of Palmdale adopts Local CEQA Guidelines which establishes that a significant noise impact would occur if the proposed project achieves any of the following:

1. If the project is residential or noise sensitive, will it expose people to severe noise levels because it is located:
    a. adjacent to the Freeway?
    b. within 200 feet of the railroad?
    c. adjacent to an existing or future arterial street?
2. Is the proposed project within the Plant 42 over-flight area or the 65 CNEL boundary?
3. Will the project generate a noise level exceeding 65 CNEL at the project boundary after construction that could significantly impact an adjoining land use?

4. EXISTING NOISE ENVIRONMENT

Ambient noise levels were measured to characterize the existing sound environments near the Project Site. AGI conducted a site visit on September 1st to 2nd, 2020 to conduct one 24-hour ambient noise measurement (NM1) at the project site. Five short-term 20-minute measurements were also conducted on September 4, 2020 at the nearest noise sensitive receptors: the multi-family residential community to the north (ST1/R1) and the Berean Fellowship Church to the north (ST2/R2), single-family residential communities to the east (ST3/R3), single-family residential community to the south (ST4/R4), and single-family residential community to the west (ST5/R5), Figure 3 shows the locations of the noise measurements.

Noise measurement (NM1) was conducted at the southwest edge the project site. The hourly measured Leq ranged from 56.7 to 72.5 dBA with a CNEL of 71.4 dB and a DNL of 70.4 dB. The noise sources contributing to the ambient measurement data were from vehicular traffic.

The measured ambient background Leq at receptors R1 through R5 was 45.7, 52.2, 43.1, 77.0, and 62.8 dBA, respectively. An adjusted CNEL and DNL was calculated based on setback distance and the delta between the Leq of the measurement and the 24-hr CNEL and DNL. Table 4 summarizes the noise measurement data from the survey. Refer to the Appendix for the measurement data sheets.

Figure 3. Noise Measurement Locations

Table 4. Summary of Ambient Noise Measurements

Receiver Location		Date and Time	Lmin, dBA	Lmax, dBA	Leq, dBA	CNEL, dB	DNL, dB	Contributing Noise Sources
NM1	Project Site	9/1/20 1PM – 9/2/20 1PM	37.9	102.6	56.7 – 72.5	71.4	70.4	Vehicular traffic, aircraft
ST1	Nearest Residential Area to the North	9/4/20 12:32 PM – 12:52 PM	36.4	55.5	45.7	62 [1]	61 [1]	Wildlife, Vehicular Traffic
ST2	Church Property to the North	9/4/20 11:12AM – 11:44PM	41.1	65.9	52.2	65 [1]	64 [1]	Vehicular Traffic
ST3	Nearest Residential Area to the East	9/4/20 11:20AM – 11:41PM	35.8	53.7	43.1	63 [1]	62 [1]	Wildlife, Vehicular Traffic
ST4	Nearest Residential Area to the South	9/4/20 11:52AM – 12:12PM	44.7	103.2	77.0	71 [1]	70 [1]	Vehicular Traffic
ST5	Nearest Residential Area to the West	9/4/20 12:06AM – 12:26PM	42.1	77.7	62.8	71 [1]	70 [1]	Vehicular Traffic

Note: [1]Estimated CNEL and DNL.

5. NOISE ANALYSIS METHODOLOGY

5.1 Construction Noise

To evaluate noise from construction activities, the methodology outlined by the FHWA Roadway Construction Noise Model (RCNM) was used. The RCNM methodology considers the type and number of construction equipment used, individual equipment noise emissions, and time-usage factors for each phase of construction. Sound levels produced are acoustically summed to compute the construction noise levels. Distances from construction locations to sensitive receptors were measured on a map of the area and input to the RCNM.

Noise levels generated by construction equipment vary greatly depending on factors such as weather, the type, model, and condition of equipment, the amount of time that the equipment operates, and the activity performed. The dominant source of noise from most construction equipment is the engine, although in a few cases, noise generated by the process dominates. Table 5 shows the maximum noise levels for a variety of construction equipment at a reference distance of 50 feet. These reference sound levels are representative of the noise levels that would occur during the noisiest construction activities.

Overall average site construction noise levels vary with the numbers and types of equipment operating onsite at once and the proximity of the equipment to noise-sensitive receptors. Calculated hourly average noise levels, therefore, are estimates based on a typical complement of construction equipment that would be expected to be on-site to complete the various proposed Project components.

Table 5. Typical Construction Equipment Noise Emissions

Construction Equipment Phase	Noisiest Construction Equipment by Phase	Lmax @ 50 feet from Source, dBA	Acoustical Usage Factor, %
Ground Clearing	Truck	80	40
	Scraper	84	40
Excavation	Truck	80	40
Foundation	Pneumatic Tools	89	20
	Concrete Mixer	79	40
Erection	Pneumatic Tools	81	16
	Concrete Mixer	89	20
Finishing	Truck	80	40

Source:
[1]Environmental Protection Agency (EPA)'s Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances Study prepared by Bolt, Beranek and Newman.
[2]FHWA Roadway Construction Noise Model (RCNM), January 2006.

5.2 Operations Noise

To evaluate noise from operation activities, the CadnaA Noise Prediction Model was used to estimate the worst-case operations associated with the project. CadnaA uses industry-accepted propagation algorithms and user defined sound power based on ISO 9613-2 standards. ISO 9613-2 is an internationally recognized standard that establishes a method for calculating the attenuation of noise from outdoor propagation, in order to predict the levels of noise at a distance from a variety of sources. The calculations account for classical sound wave divergence, plus attenuation factors resulting from air absorption, basic ground effects, and barrier/structure shielding. Air absorption was considered to be under "standard day" conditions of 59° F and 70% relative humidity. The site plans and topography were inputted into CadnaA to establish the x, y, and z site geometrics for the analysis. The noise generated by future operations was calculated by inputting acoustical sources.

Specific operating parameters provided by Highridge Costa Development. AGI in-house acoustical database of people talking (in the plaza and patio areas) was modeled as area sources with constant level of activity calibrated to a 25% usage number of occupants. A projected traffic volume of 8 vehicles (25% of the 32-parking vehicle capacity) entering/exiting the Project was modeled in CadnaA per peak hour. Eight cars starting and eight car door slams were modeled as point sources with 5- and 1-minute operating times, respectively. The noise from the future mechanical equipment (exterior condensers) was modeled as point sources with a constant level of activity. At the time

of this study, mechanical units have not yet been chosen and a typical HVAC condenser with a sound power of 77 dBA was assumed. Refer to the Appendix for the CadnaA Input Output Tables.

5.3 Construction Vibration

Vibration impacts generated by construction and operations from the proposed Project have been evaluated using the Federal Transit Administration (FTA)'s Transit Noise and Vibration Impact Assessment Manual. The FTA's recommended procedures for estimating vibration impact from construction activities is as follows:

Vibration Damage Assessment

- Select the equipment and associated vibration source levels at a reference distance of 25 feet from Table 6.
- Make the propagation adjustment according to the following formula (this formula is based on point sources with normal propagation conditions):

$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

where: PPV_{equip} is the peak particle velocity in in/sec of the equipment adjusted for distance
PPV_{ref} is the reference vibration level in in/sec at 25 feet from Table 6
D is the distance from the equipment to the receiver in feet.

Table 6. Vibration Velocities for Construction Equipment at 25-ft

Equipment	PPV at 25 ft, in/sec	Approximate Lv at 25 ft
Vibratory Roller	0.210	94
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

Note: [1]RMS velocity in decibels (VdB) re 1 micro-inch/second.
[2]A crest factor of 4 (representing a PPV-rms difference of 12 VdB) was used to calculate the approximate rms vibration velocity levels from the PPV values.
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 2006.

Vibration Annoyance Assessment

Annoyance or interference with vibration-sensitive activities was determined by estimating the vibration level, L_v in VdB, at any distance D in feet, from the following equation and applying the vibration impact criteria of 78 VdB for residential daytime.

$$L_v(D) = L_v(25\text{ ft}) - 30 \times \log(D/25)$$

Vibration from construction equipment spreads through the ground and diminish in amplitude with distance from the source. Refer to Table 7 for the vibration levels in peak particle velocity (PPV) in inches per second and root mean squared (RMS) velocity level in VdB at reference distances of 25, 50, 100, and 200 feet from the source.

Table 7. Vibration Velocities for Construction Equipment

Equipment	PPV Velocity, in/sec				RMS Velocity Level, VdB[1]			
	25 ft	50 ft	100 ft	200 ft	25 ft	50 ft	100 ft	200 ft
Vibratory Roller	0.210	0.074	0.026	0.009	94	85	76	67
Large Bulldozer	0.089	0.031	0.011	0.004	87	78	69	60
Caisson Drilling	0.089	0.031	0.011	0.004	87	78	69	60
Loaded Trucks	0.076	0.027	0.010	0.003	86	77	68	58
Jackhammer	0.035	0.012	0.004	0.002	79	70	61	52
Small Bulldozer	0.003	0.001	0.000	0.000	58	48	39	30

Note: [1]RMS velocity in decibels (VdB) re 1 micro-inch/second.
[2]A crest factor of 4 (representing a PPV-rms difference of 12 VdB) was used to calculate the approximate rms vibration velocity levels from the PPV values.
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 2006.

5.4 Traffic Noise

The Federal Highway Administration's (FHWA) traffic noise model TNM to evaluate future traffic noise at the project site. The highest traffic noise level from a roadway is typically generated when traffic is heavy but still flowing freely. This situation is referred to as Level-of-Service (LOS) C by Transportation Engineers. Roadway traffic design capacity volumes and LOS ratios were obtained from Federal Highway Capacity Manual.

6. FUTURE NOISE ENVIRONMENT

6.1 Exterior Traffic Noise

The project space is affected by vehicular traffic from Avenue R and 30th Street. Avenue R and 30th Street are currently 4-lane arterials with a posted speed limit of 50 miles per hour. For the future peak hour traffic analysis, the truck mix distribution percentages for the analysis were assumed to be 2% for medium 2-axle trucks and 2% for heavy 3+-axle trucks. Table 8 lists the traffic data used in the future peak hour traffic noise analysis.

Table 8. Traffic Data Inputs for Future Peak Hour Traffic Analysis

Traffic Lane	Number of Lanes	Total Traffic Volumes /Hour	Travel Speed mph	Volumes by Vehicle Type					
				Cars/ Hour	% Cars	Medium Trucks/ Hour	% MT	Heavy Trucks/ Hour	% HT
WB Ave R	2	1,400	50	1,344	96.0	28	2.0	28	2.0
EB Ave R	2	1,400	50	1,344	96.0	28	2.0	28	2.0
NB 30th St	2	1,400	50	1,344	96.0	28	2.0	28	2.0
SB 30th St	2	1,400	50	1,344	96.0	28	2.0	28	2.0

Source: Federal Highway Capacity Manual

The TNM noise analysis indicates that the future peak hour traffic noise at the project site would be as high as 71.2 dBA at the nearest building elevation facing Avenue R. The 24-hour CNEL will be as high as 72.3 dB at the same location, based on a worst case 1.1 dB calibration factor between future peak hour Leq and 24-hour CNEL. Refer to the Appendix for the TNM Input and Output files from the traffic noise analysis.

The project site is exposed to over 70 dBA CNEL and is considered by the City of Palmdale Land-Use Guidelines in the Normally Unacceptable range and is ***potentially-significant-unless-mitigation-incorporated***. The project will require an acoustical study to demonstrate that the residences and project area have been designed to limit intruding noise to a maximum interior noise level of 45 dBA CNEL an exterior noise level of 65 dBA CNEL.

6.2 Aircraft Noise

AGI has reviewed the Palmdale Regional Airport/US Air Force Plant 42 Noise Contour Map (PMD) to evaluate the noise from aircraft operations at the project site. PMD is located over 3 miles north of the site. The site is situated significantly outside of the 65 dB noise contour. During the ambient noise survey, aircraft noise was not observed contributing to the ambient noise environment. Aircraft noise has a ***less-than-significant*** contribution to the future noise environment at the project site. Refer to the Figure 4 for the location of the project site relative to the 65 dBA CNEL noise contour.

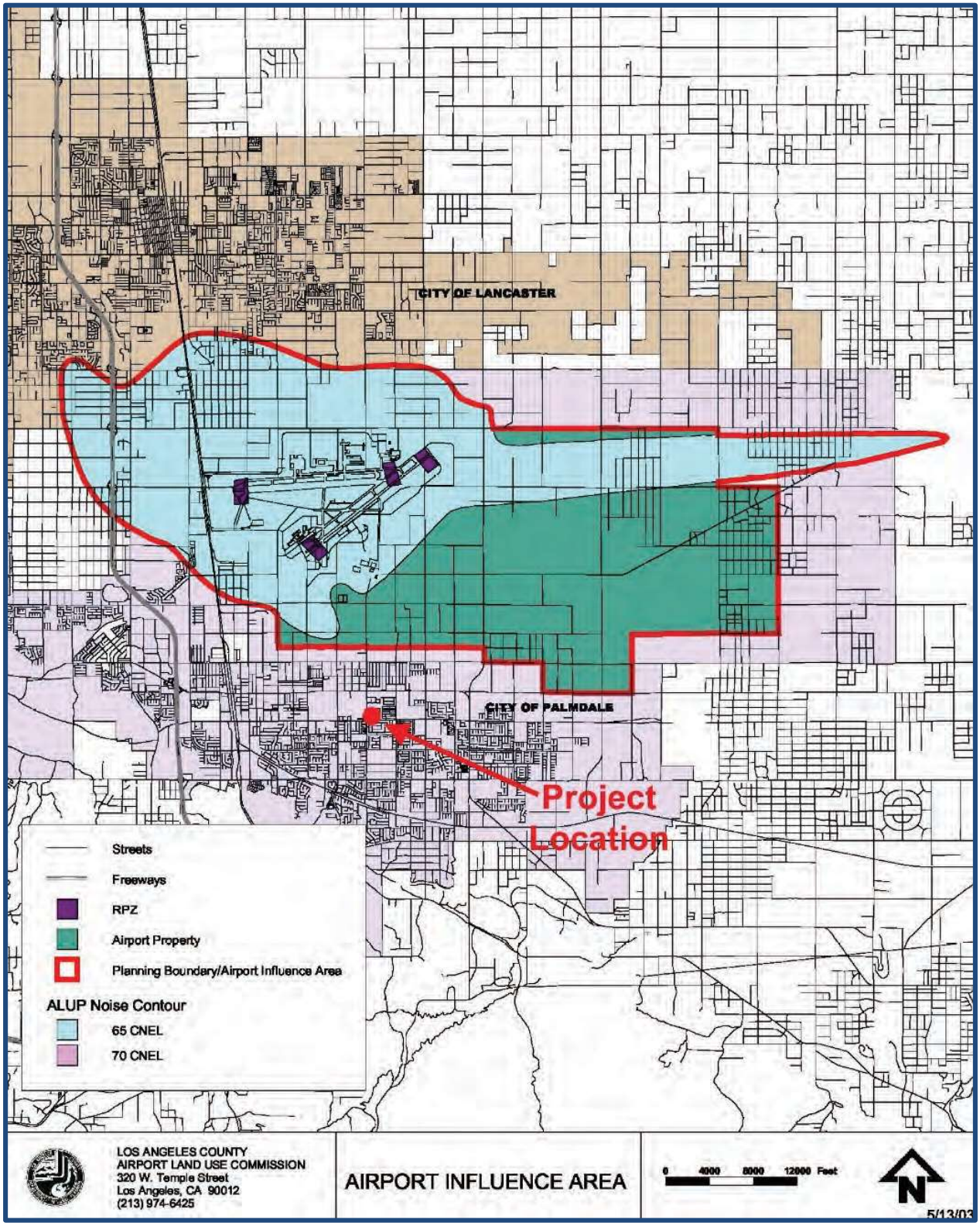


Figure 4. Palmdale Regional Airport/US Air Force Plant 42 Noise Contour Map

6.3 Construction Noise

Although typically short-term, construction can be a substantial source of noise. Construction activities related to implementation of the proposed Project would not take place all at once; however, future development accommodated by the proposed Project would have the potential to temporarily generate construction noise resulting in short-term elevated noise levels to nearby noise sensitive land uses.

Exterior peak hour construction noise levels (Leq) from the proposed Project's center of the construction be expected to be as high as 68.3, 60.4, 70.9, 70.9, and 60.4 dBA at receivers R1, R2, R3, R4, and R5, respectively. Table 9 summarizes the Construction Noise Levels from construction occurring at the Center of the Project Site.

Exterior peak hour construction noise levels (Leq) from the proposed Project for a worst case scenario can be expected to be as high as 82.3, 74.4, 84.8, 82.3, and 74.4, dBA at receivers R1, R2, R3, R4, and R5, respectively. Worst case construction operations are not typical and would only occur when construction activity is closest to the sensitive receptor. Table 10 summarizes the Construction Noise with Construction at the Center of the Project Site.

Table 9. Summary of Construction Noise – Construction at the Center of the Project Site

Receptor	Ground Clearing		Excavation		Foundation		Erection		Finishing	
	Peak Hourly Lmax, dBA	Peak Hourly Leq, dBA	Peak Hourly Lmax, dBA	Peak Hourly Leq, dBA	Peak Hourly Lmax, dBA	Peak Hourly Leq, dBA	Peak Hourly Lmax, dBA	Peak Hourly Leq, dBA	Peak Hourly Lmax, dBA	Peak Hourly Leq, dBA
R1	55.1	51.9	48.0	44.0	56.7	54.5	56.7	54.5	48.0	44.0
R2	65.9	62.6	58.7	54.7	67.5	65.2	67.5	65.2	58.7	54.7
R3	71.5	68.3	64.4	60.4	73.1	70.9	73.1	70.9	64.4	60.4
R4	71.5	68.3	64.4	60.4	73.1	70.9	73.1	70.9	64.4	60.4
R5	64.5	61.3	57.4	53.4	66.1	63.8	66.1	63.8	57.4	53.4

Table 10. Summary of Construction Noise – Worst Case

Receptor	Ground Clearing		Excavation		Foundation		Erection		Finishing	
	Peak Hourly Lmax, dBA	Peak Hourly Leq, dBA	Peak Hourly Lmax, dBA	Peak Hourly Leq, dBA	Peak Hourly Lmax, dBA	Peak Hourly Leq, dBA	Peak Hourly Lmax, dBA	Peak Hourly Leq, dBA	Peak Hourly Lmax, dBA	Peak Hourly Leq, dBA
R1	56.9	53.7	49.8	45.8	58.5	56.3	56.9	53.7	49.8	45.8
R2	69.6	66.4	62.5	58.5	71.2	68.9	69.6	66.4	62.5	58.5
R3	85.5	82.3	78.4	74.4	87.1	84.8	85.5	82.3	78.4	74.4
R4	75.6	72.4	68.5	64.5	77.2	74.9	75.6	72.4	68.5	64.5
R5	69.6	66.4	62.5	58.5	71.2	68.9	71.2	68.9	62.5	58.5

As the City of Palmdale establishes construction noise hours (no construction between the hours of 8 PM and 6:30 AM) but not construction noise limits, the project would have a ***less-than-significant impact***. However, the construction noise would be a source of annoyance.

6.4 Construction Vibration

No pile driving and rock blasting activities are anticipated during project construction. Because vibration dissipates quickly with distance, and because construction would mostly require the use of small earthmoving equipment that do not generate considerable amounts of vibration, the maximum construction-related vibration level would be well below the 0.20 PPV in/sec criteria for vibration induced architectural damage at the nearby structures. Construction vibration experienced at residential receptors would also be below the 78 VdB threshold for human annoyance during the daytime. Vibration would be considered ***less-than-significant***. Table 11 shows the vibration levels in peak particle velocity (PPV) in inches per second and root mean squared (RMS) velocity level in VdB from typical construction equipment at the nearest noise sensitive receptors.

Table 11. Vibration Velocities for Construction Equipment

	PPV Velocity, in/sec					RMS Velocity Level, VdB[1]				
Equipment	R1	R2	R3	R4	R5	R1	R2	R3	R4	R5
Hoe Ram	0.000	0.001	0.004	0.004	0.001	35	51	60	60	49
Large Bulldozer	0.000	0.001	0.004	0.004	0.001	35	51	60	60	49
Caisson Drilling	0.000	0.001	0.004	0.004	0.001	35	51	60	60	49
Loaded Trucks	0.000	0.001	0.003	0.003	0.001	34	50	58	58	48
Jackhammer	0.000	0.001	0.002	0.002	0.000	27	43	52	52	41
Small Bulldozer	0.000	0.000	0.000	0.000	0.000	6	22	30	30	20

Note: [1]RMS velocity in decibels (VdB) re 1 micro-inch/second.
[2]A crest factor of 4 (representing a PPV-rms difference of 12 VdB) was used to calculate the approximate rms vibration velocity levels from the PPV values.
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 2006.

6.5 Operations Noise

Future residential operations noise at the Ave R Apartments could cause an increase in ambient noise levels due to typical residential noise from people, community activities, mechanical and HVAC equipment.

6.5.1 Project Generated Traffic

Due to the limited quantity of expected project related traffic, the City of Palmdale has not required a Traffic Study for the Project. The max capacity of 32 cars would not result in a noticeable increase in noise levels (a doubling of traffic would be required for a minimally audible 3 dBA increase in noise to occur). Project generated traffic would have a ***less-than-significant*** increase in noise levels on local roadways.

6.5.2 Operational Community Noise

The future peak hour noise level from community activities (people talking at the patio and plaza areas, cars exiting and entering the project site) would be as high as 12.7, 27.6, 27.6, 25.3, and 25.9 dBA at receptors R1 through R5, respectively. The operational noise from community activity would comply with the City of Palmdale Noise Standard of 65 dBA at residential property lines and would not increase the ambient noise levels by more than 3 dB. Operational community noise would have a ***less-than-significant*** impact on the adjacent noise sensitive receptors.

6.5.3 Exterior Mechanical Condenser Noise

Future peak hour Leq from the exterior mechanical condensers would be as high as 23.4, 35.3, 46.8, 40.7, and 32.4 dBA at receptors R1 through R5, respectively. The operational noise from exterior mechanical units would comply with the City of Palmdale Noise Standard of 65 dBA at residential property lines and would not increase the ambient noise levels by more than 3 dB. Exterior mechanical condenser noise would have a ***less-than-significant impact*** on the adjacent noise sensitive receptors.

Refer to Tables 12 and 13 for the assessment of operational noise levels with the City of Palmdale Noise Standards and the CEQA/NEPA incremental increase of 3 dB, respectively.

Table 12. Assessment of Operational Noise Levels with Noise Standard

Noise Source	Receptor		Predicted Noise Level, dBA	Noise Standard, dBA	Noise Level above Noise Standard, dB	Impact Assessment
Community Activity	R1	Nearest Residential Area to the North	12.7	65	0/0	Compliance
	R2	Church Property to the North	27.6	65	0/0	Compliance
	R3	Nearest Residential Area to the East	27.6	65	0/0	Compliance
	R4	Nearest Residential Area to the South	25.3	65	0/0	Compliance
	R5	Nearest Residential Area to the West	25.9	65	0/0	Compliance
Condensers	R1	Nearest Residential Area to the North	23.4	65	0/0	Compliance
	R2	Church Property to the North	35.3	65	0/0	Compliance
	R3	Nearest Residential Area to the East	46.8	65	0/0	Compliance
	R4	Nearest Residential Area to the South	40.7	65	0/0	Compliance
	R5	Nearest Residential Area to the West	32.4	65	0/0	Compliance

Table 13. Assessment of Operational Noise Levels with Ambient Noise Level

Noise Source	Receptor		Predicted Noise Level, dBA	Adjusted Ambient Noise Level (CNEL/DNL), dBA	Noise Level above Ambient (CNEL/DNL), dB	Impact Assessment
Community Activity	R1	Nearest Residential Area to the North	12.7	62 / 61	0/0	Compliance
	R2	Church Property to the North	27.6	65 / 64	0/0	Compliance
	R3	Nearest Residential Area to the East	27.6	63 / 62	0/0	Compliance
	R4	Nearest Residential Area to the South	25.3	71 / 70	0/0	Compliance
	R5	Nearest Residential Area to the West	25.9	71 / 70	0/0	Compliance
Condensers	R1	Nearest Residential Area to the North	23.4	62 / 61	0/0	Compliance
	R2	Church Property to the North	35.3	65 / 64	0/0	Compliance
	R3	Nearest Residential Area to the East	46.8	63 / 62	0/0	Compliance
	R4	Nearest Residential Area to the South	40.7	71 / 70	0/0	Compliance
	R5	Nearest Residential Area to the West	32.4	71 / 70	0/0	Compliance

6.6 Operational Vibration

The operation of the proposed project would not include any long-term vibration sources. Thus, ***less-than-significant*** vibration effects or impacts from operations sources would occur and no mitigation measures are required.

7 MITIGATION MEASURES

Implementation of the following mitigation measure would reduce potential project-related noise impacts to less than significant levels.

MM NOI-1: Construction activities shall be restricted on any Sunday, or on any other day after 8:00 p.m. or before 6:30 a.m..

MM NOI-2: Prior to the issuance of a building permit, a qualified noise consultant or acoustical engineer must conduct a detailed noise analysis to determine any special noise insulation features necessary to ensure that interior noise levels in the proposed residential units would not exceed 45 dBA CNEL/DNL in any habitable room with all doors and windows closed as per HUD and State of California Interior Noise Requirements. The noise analysis should stipulate required Sound Transmission Class (STC) ratings for window, door, and exterior wall assemblies to be employed in the project in order to achieve the required level of sound insulation. The acoustical design recommendations shall be incorporated into project plans and implemented during project construction.

MM NOI-3: Prior to the issuance of a building permit, a qualified noise consultant or acoustical engineer must conduct a detailed noise analysis to determine any noise control measures to ensure that exterior noise levels at the proposed exterior recreational areas would not exceed 65 dBA CNEL/DNL as per City of Palmdale and HUD Exterior Noise Requirements. The acoustical design recommendations shall be incorporated into project plans and implemented during project construction.

MM NOI-4: Party walls and floor/ceiling assemblies separating non-common residential units shall meet or exceed the HUD and California Building Code Requirements of STC 50 for designated assemblies (CCR Title 24 Part 2). Floor/ceiling assemblies separating non-common residential units shall meet or exceed the HUD and California Building Code requirements of IIC 50 for designated assemblies (CCR Title 24 Part 2). The acoustical design recommendations shall be incorporated into project plans and implemented during project construction.

8 CONCLUSION

AGI has conducted an environmental noise study for the Ave R Apartments located in Palmdale, CA. AGI has assessed the potential construction and operational noise impacts associated with the Project.

The project site is exposed to over 70 dBA CNEL and is considered by the City of Palmdale Land-Use Guidelines in the Normally Unacceptable range and is ***potentially-significant-unless-mitigation-incorporated***. The project requires an acoustical study to demonstrate that the residences and project area have been designed to limit intruding noise to a maximum interior noise level of 45 dBA CNEL an exterior noise level of 65 dBA CNEL.

The project site is located over 3 miles south of Palmdale Regional Airport and is situated significantly outside of the 65 dB noise contour. Aircraft noise has a ***less-than-significant*** contribution to the future noise environment at the project site.

Exterior peak hour construction noise levels (Leq) from the proposed Project's center of the construction be expected to be as high as 68.3, 60.4, 70.9, 70.9, and 60.4 dBA at receivers R1, R2, R3, R4, and R5, respectively. Exterior peak hour construction noise levels (Leq) from the proposed Project for a worst case scenario can be expected to be as high as 82.3, 74.4, 87.1, 85.5, 87.1, and 74.4 dBA at receivers R1, R2, R3, R4, and R5, respectively. As the City of Palmdale establishes construction noise hours (no construction between the hours of 8 PM and 6:30 AM) but not construction noise limits, the project would have a ***less-than-significant*** impact. However, the construction noise would be a source of annoyance.

The maximum construction-related vibration level would be well below the 0.20 PPV in/sec criteria for vibration induced architectural damage at the nearby structures. Construction vibration experienced at residential receptors would also be below the 78 VdB threshold for human annoyance during the daytime. Vibration would be considered ***less-than-significant***.

Project generated traffic would have a ***less-than-significant*** increase in noise levels on local roadways.

The future peak hour noise level from community activities (people talking at the patio and plaza areas, cars exiting and entering the project site) would be as high as 12.7, 27.6, 27.6, 25.3, and 25.9 dBA at receptors R1 through R5, respectively. The operational noise from community activity would comply with the City of Palmdale Noise Standard of 65 dBA at residential property lines and would not increase the ambient noise levels by more

than 3 dB. Operational community noise would have a ***less-than-significant*** impact on the adjacent noise sensitive receptors.

Future peak hour Leq from the exterior mechanical condensers would be as high as 23.4, 35.3, 46.8, 40.7, and 32.4 dBA at receptors R1 through R5, respectively. The operational noise from exterior mechanical units would comply with the City of Palmdale Noise Standard of 65 dBA at residential property lines and would not increase the ambient noise levels by more than 3 dB. Exterior mechanical condensers noise would have a ***less-than-significant*** impact on the adjacent noise sensitive receptors.

The following mitigation measures have been recommended to reduce potential project-related noise impacts.

MM NOI-1: Construction activities shall be restricted on any Sunday, or on any other day after 8:00 p.m. or before 6:30 a.m..

MM NOI-2: Prior to the issuance of a building permit, a qualified noise consultant or acoustical engineer must conduct a detailed noise analysis to determine any special noise insulation features necessary to ensure that interior noise levels in the proposed residential units would not exceed 45 dBA CNEL/DNL in any habitable room with all doors and windows closed as per HUD and State of California Interior Noise Requirements. The noise analysis should stipulate required Sound Transmission Class (STC) ratings for window, door, and exterior wall assemblies to be employed in the project in order to achieve the required level of sound insulation. The acoustical design recommendations shall be incorporated into project plans and implemented during project construction.

MM NOI-3: Prior to the issuance of a building permit, a qualified noise consultant or acoustical engineer must conduct a detailed noise analysis to determine any noise control measures to ensure that exterior noise levels at the proposed exterior recreational areas would not exceed 65 dBA CNEL/DNL as per City of Palmdale and HUD Exterior Noise Requirements. The acoustical design recommendations shall be incorporated into project plans and implemented during project construction.

MM NOI-4: Party walls and floor/ceiling assemblies separating non-common residential units shall meet or exceed the HUD and California Building Code Requirements of STC 50 for designated assemblies (CCR Title 24 Part 2). Floor/ceiling assemblies separating non-common residential units shall meet or exceed the HUD and California Building Code requirements of IIC 50 for designated assemblies (CCR Title 24 Part 2). The acoustical design recommendations shall be incorporated into project plans and implemented during project construction.

9 REFERENCES

1. Project Drawings, dated August 7, 2020.
2. California Department of Transportation (Caltrans), Technical Noise Supplement to the Traffic Noise Analysis Protocol. Sept 2013.
3. 2020 California Environmental Quality Act (CEQA) Guidelines, effective January 1, 2019.
4. California Building Standards Commission (CBSC). 2016a. California Building Code, California Code of Regulations, Title 24, Part 2. July, 2016.
5. California Building Code, California Code of Regulations, Title 24, Part 11. July, 2016.
6. City of Palmdale General Plan Noise Element, adopted January 25, 1993.
7. City of Palmdale Municipal Code, dated May 5, 2020.
8. City of Palmdale Local California Environmental Quality Act Guidelines, July 1995.
9. Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment, May 2006.
10. U.S. Department of Transportation, Federal Highway Administration's (FHWA) Roadway Construction Noise Model, 2006.
11. U.S. Department of Transportation, Federal Highway Administration's (FHWA) Traffic Noise Model (TNM) Version 2.5, 2004.
12. Los Angeles County Airport Land Use Plan, prepared by Department of Regional Planning, adopted December 19, 1991. Noise Contour Maps updated, May 13, 2003.

10 APPENDIX

FIELD DATA SHEETS & MEASUREMENT DATA

NOISE STANDARDS

MODELING INPUT & OUTPUT

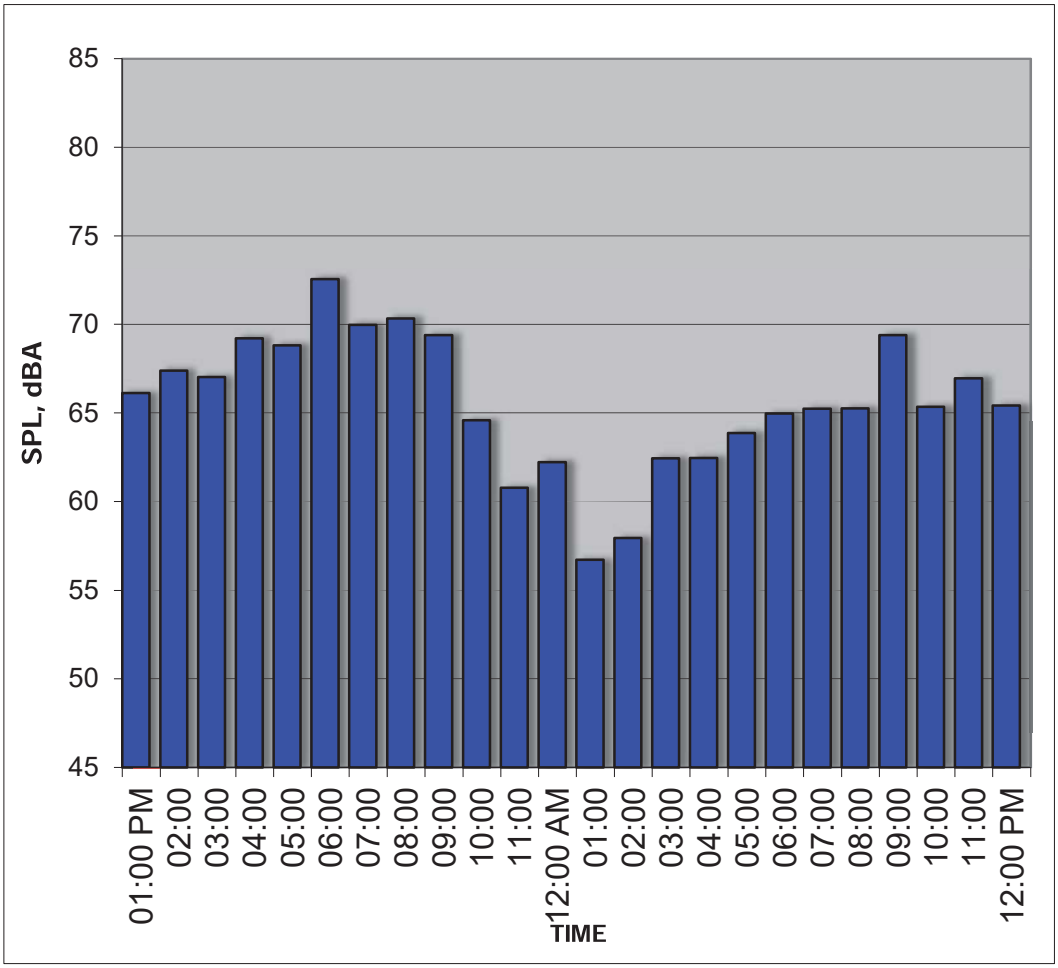
ARCHITECTURAL DRAWINGS

FIELD DATA SHEETS
&
MEASUREMENT DATA

MEASUREMENT DATA - HOURLY NOISE LEVELS

Project: Highridge Costa Development Company, LLC
Address: 30th St and Avenue R Palmdale, CA 93550
Location:
Noise Sources: Vehicular Traffic

Date: 9/1/2020 - 9/2/2020
Position: NM1



TIME	HNL, dB(A)
01:00 - 02:00 PM	66.1
02:00 - 03:00 PM	67.4
03:00 - 04:00 PM	67.0
04:00 - 05:00 PM	69.2
05:00 - 06:00 PM	68.8
06:00 - 07:00 PM	72.5
07:00 - 08:00 PM	70.0
08:00 - 09:00 PM	70.3
09:00 - 10:00 PM	69.4
10:00 - 11:00 PM	64.6
11:00 - 12:00 AM	60.8
12:00 - 01:00 AM	62.2
01:00 - 02:00 AM	56.7
02:00 - 03:00 AM	57.9
03:00 - 04:00 AM	62.4
04:00 - 05:00 AM	62.5
05:00 - 06:00 AM	63.9
06:00 - 07:00 AM	65.0
07:00 - 08:00 AM	65.3
08:00 - 09:00 AM	65.3
09:00 - 10:00 AM	69.4
10:00 - 11:00 AM	65.4
11:00 - 12:00 PM	67.0
12:00 - 01:00 PM	65.4
CNEL:	71.4
DNL:	70.4

Notes:

Source: Acoustics Group, Inc.

NOISE STANDARDS

Chapter 17.84
PERFORMANCE STANDARDS

17.84.010 Applicability

Performance standards contained in this Chapter shall apply to any existing or proposed use, or portion thereof, permitted in any zone. (Zoning Ordinance Amendment 95-6 adopted by City Council April 10, 1996.)

17.84.020 Smoke or Other Particulate Matter

All proposed uses shall comply with the applicable requirements of the South Coast Air Quality Management District.

17.84.030 Heat, Light, and Glare

Any existing or proposed use or portion thereof that creates heat, light, or glare that constitutes or may be considered a nuisance or hazard on any adjacent property, such as use of arc welders or furnaces, security lighting or spot lights, or reflecting building materials or water features, or similar equipment, shall shield or control all sources of heat, light, or glare in such manner as will prevent the issuance, continuance or recurrence of the disturbing emissions.

17.84.040 Electromagnetic Disturbances and Radiation

Any existing or proposed use or portion thereof that can or may generate any electrical disturbances or produce any electromagnetic or radioactive emanations that can or may be considered a nuisance or hazard shall shield or control the source of the electrical or radioactive emanations in such manner as will prevent the issuance, continuance, or recurrence of any hazardous or disturbing emanations.

17.84.050 Noise Standards

Any existing or proposed use or portion thereof that can or may generate noise that constitutes or may be considered a nuisance or hazard on any adjacent property, shall control the source of the noise in such manner as will prevent the issuance, continuance, or recurrence of any hazardous or disturbing emanations. All existing or proposed uses shall conform to the Noise Element of the General Plan. All construction activity shall conform to Chapter 8.28 PMC, Building Construction Hours of Operation and Noise Control.

17.84.060 Outdoor Storage

A. There shall be no uses or storage of materials not permitted by the type of structure or classification of occupancy as specified in the Building Code and Fire Code.

B. There shall be no outdoor storage unless specifically approved by the City. Any storage area which is visible from the public right-of-way shall be screened from view by a solid masonry block wall not less than 5' nor more than 6' in height.

C. The required access aisles shall not be used for storage purposes.

D. No areas designated for off-street parking shall be used for storage of vehicles or other material except as otherwise provided by this Ordinance.

17.84.070 Maintenance of Required Facilities

All physical facilities required in this Ordinance, such as buildings and structures, paving, fences, walls and landscaping, shall be kept and maintained in a neat, clean, orderly, operable and usable condition.

17.84.080 Fire Department Requirements

All plans shall meet the requirements of the Fire Department as to adequate fire protection.

17.84.090 Public Nuisance

Any existing or proposed use or portion thereof which produces any condition, substance or element including wastepaper, trash, or other debris, that constitutes or may be considered a nuisance or hazard due to its operation or maintenance, but is not subject to the standards contained in this Section, shall be eliminated or controlled as will prevent the issuance, continuance or recurrence of said nuisance or hazard.

The Palmdale Municipal Code is current through Ordinance 1548, passed July 14, 2020.

Disclaimer: The City Clerk’s office has the official version of the Palmdale Municipal Code. Users should contact the City Clerk’s office for ordinances passed subsequent to the ordinance cited above.

City Website: https://cityofpalmdale.org/
City Telephone: (661) 267-5151

Code Publishing Company

Chapter 8.28
BUILDING CONSTRUCTION HOURS OF OPERATION AND NOISE CONTROL

Sections:

8.28.010 Definitions.

8.28.030 Construction noise prohibited in residential zones.

8.28.040 Exceptions.

8.28.050 Appeals.

8.28.060 Exemptions – Generally.

8.28.070 Exemptions for public utilities.

8.28.080 Repealed.

8.28.090 Violations – Penalties.

8.28.010 Definitions.

As used in this chapter:

(A) “Person” means an individual, partnership, firm or corporation.

(B) “Section” means a section of this chapter.

(C) Reference to Ordinance or Statute. Whenever any reference is made to this chapter, or any other ordinance, or to any statute, such reference shall apply to all amendments and additions thereto, now or hereafter made. (Ord. 584 § 1, 1986)

8.28.030 Construction noise prohibited in residential zones.

Except as otherwise provided in this chapter, no person shall perform any construction or repair work on any Sunday, or any other day after 8:00 p.m. or before 6:30 a.m., in any residential zone or within 500 feet of any residence, hotel, motel or recreational vehicle park. For the purposes of this section, construction and repair work includes work of any kind upon any building or structure, earth excavating, filling, or moving, and delivery, preparation or operation of construction equipment, materials or supplies where any of the foregoing entails the use of an air compressor, jack hammer, power-driven drill, riveting machine, excavator, semi-truck, diesel power truck, tractor, cement truck, or earth moving equipment, hand hammer, or other machine, tool, device or equipment which makes loud noise which disturbs the peace and quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness sleeping or residing in the area. (Ord. 1335 § 1, 2007; Ord. 584 § 1, 1986)

8.28.040 Exceptions.

The provisions of PMC 8.28.030 do not apply to any person who performs the construction, repair, excavation or earth moving work involved pursuant to the express written permission of the City Engineer to perform such work at times prohibited in PMC 8.28.030. Upon receipt of an application in writing therefor, stating the reasons for the request and the facts upon which such reasons are based, the City Engineer may grant such permission if he finds that:

(A) The work proposed to be done is affected with public interest; or

(B) Hardship, injustice or unreasonable delay would result from the interruption thereof during the hours and days specified in PMC 8.28.030; or

(C) The building or structure involved is devoted or intended to be devoted to a use immediately incident to public defense. (Ord. 584 § 1, 1986)

8.28.050 Appeals.

Any person dissatisfied with the decision of the City made pursuant to the provisions of this chapter may appeal therefrom to the administrative hearing officer appointed pursuant to Chapter 1.20 PMC, within 15 days of the date of the decision, by filing with the City Clerk a written notice of appeal, briefly stating in the notice the grounds relied upon for appeal. If the appeal is made within the time prescribed, the City Clerk shall cause the matter to be set for hearing before the administrative hearing officer, to be held within 45 days

from the date of receipt of the notice of appeal, giving the appellant not less than five days' notice in writing of the time and place of hearing. The findings and determinations of the administrative hearing officer at the hearing shall be final and conclusive, and within three days after the findings and determinations are made, the City Clerk shall give notice thereof to the appellant.

In the event no appeal is taken by the permittee, the decision of the City Engineer shall become final and conclusive on the expiration of the time fixed in this section for appeal. (Ord. 1322 § 3, 2007; Ord. 584 § 1, 1986)

8.28.060 Exemptions – Generally.

The provisions of PMC 8.28.030 do not apply to the construction, repair, or excavation during prohibited hours as may be necessary for the preservation of life or property when such necessity arises during such hours as the offices of the City are closed, or where such necessity requires immediate action prior to the time at which it would be possible to obtain a permit pursuant to PMC 8.28.040, if the person doing such construction, repair or excavation obtains a permit therefor within one day after the office of the City Engineer is first opened subsequent to the making of such construction, repair or excavation. (Ord. 584 § 1, 1986)

8.28.070 Exemptions for public utilities.

The provisions of PMC 8.28.030 do not apply to the construction, repair, or excavation by a public utility which is subject to the jurisdiction of the Public Utilities Commission as may be necessary for the preservation of life or property and where such necessity makes it necessary to construct, repair, or excavate during the prohibited hours. (Ord. 584 § 1, 1986)

8.28.080 Exemptions in nonresidential zones.

Repealed by Ord. 1335. (Ord. 584 § 1, 1986)

8.28.090 Violations – Penalties.

Any person violating any provision of this chapter is guilty of a misdemeanor punishable by a fine of not more than $500.00 or by imprisonment in the County Jail for not more than six months or by both such fine and imprisonment. Every such person is guilty of a separate offense for every day during any portion of which any violation of any of the provisions of this chapter is committed, continued, or permitted by such person and shall be punished as provided by this chapter. (Ord. 584 § 1, 1986)

Disclaimer: The City Clerk's office has the official version of the Palmdale Municipal Code. Users should contact the City Clerk's office for ordinances passed subsequent to the ordinance cited above.

City Website: https://cityofpalmdale.org/
City Telephone: (661) 267-5151

Code Publishing Company

SECTION 1: INTRODUCTION

Noise has become a key factor in our perception of the quality of our environment. Noise affects both the home and work environment, and the enjoyment of recreational activity. For these reasons, noise is an important issue in the community planning process.

The State of California has mandated that each county and city prepare a noise element as part of its general plan. California Government Code, Division 1, Planning and Zoning, Chapter 3, Local Planning, Article 5, Section 65302(f) requires a plan including:

"A noise element which shall identify and appraise noise problems in the community. The noise element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Service and shall analyze and quantify, to the extent practicable, current and projected noise levels for all of the following sources:

1. Highways and freeways.

2. Primary arterials and major local streets.

3. Passenger and freight on-line railroad operations and ground rapid transit systems.

4. Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.

5. Local industrial plants, including, but not limited to, railroad classification yards.

6. Other ground stationary noise sources identified by local agencies as contributing to the community noise environment.

The noise contours shall be used as a guide for establishing a pattern of land uses in the Land Use Element that minimizes the exposure of community residents to excessive noise. The Noise Element shall include implementation measures of possible solutions that address existing and foreseeable noise problems, if any. The adopted Noise Element shall serve as a guideline for compliance with the state's Noise Insulation Standards."

The purpose of this document is to comply with the state mandate, to provide an easily understood discussion of noise and its impacts, and to set guidelines to prevent noise and land use conflicts. A further discussion of the means by which this mandate is to be

met by the City of Palmdale, and a discussion of the goals and guidelines implemented to achieve the relevant planning goals and objectives is contained in the following sections.

SECTION 2: GOALS, OBJECTIVES, AND POLICIES

GOAL N1: Minimize the exposure of residents to excessive noise to the extent possible, through the land planning and the development review process.

Objective N1.1: Utilize appropriate land use planning as the primary method of achieving noise compatibility among adjacent land uses.

Policy N1.1.1: Locate noise compatible land uses near existing and future air, rail and highway transportation noise sources.

Policy N1.1.2: Restrict noise sensitive land uses near existing or future air, rail or highway transportation noise sources unless mitigation measures have been incorporated into the design of the project to reduce the noise levels at the noise sensitive land use to less than 65 dBA CNEL at all exterior living spaces including but not limited to, single-family yards and multi-family patios, balconies, pool areas, cook-out areas and related private recreation areas.

Policy N1.1.3: When proposed stationary noise sources could exceed an exterior noise level of 65 dBA CNEL at present, or could impact future noise sensitive land uses, require preparation of an acoustical analysis and mitigation measures to reduce noise levels to no more than 65 dBA CNEL exterior and 45 dBA CNEL interior; if the noise level cannot be reduced to these thresholds through mitigation, the new noise source should not be permitted.

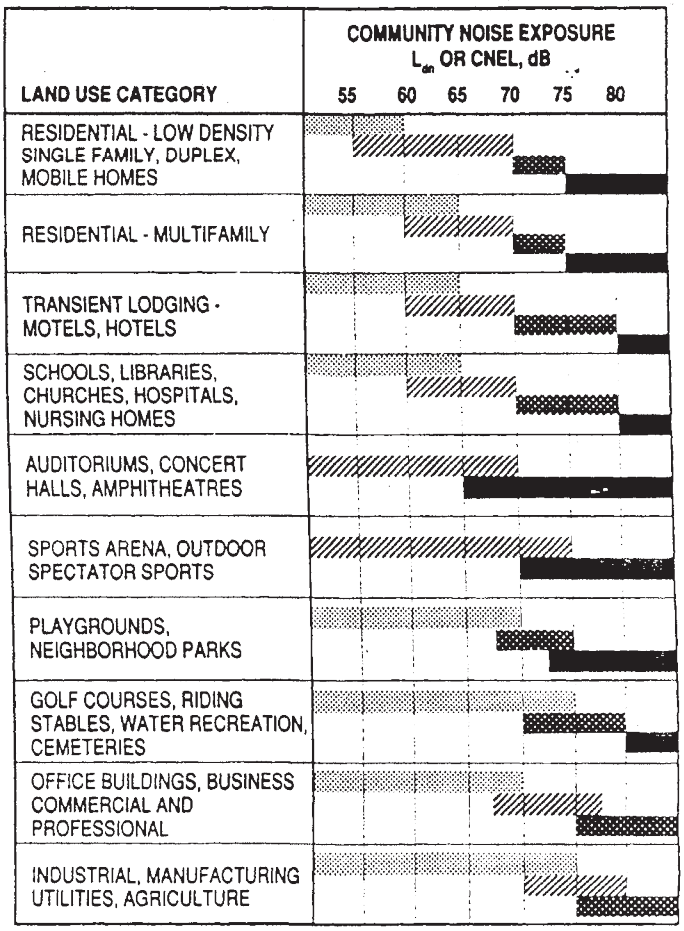
Policy N1.1.4: Consider the noise environment when making land use decisions with respect to the guidelines contained in Table N-1, and require noise standards consistent with the criteria listed on Table N-3. The State Recommended Acceptable Noise Guidelines, listed in Table N-1, are provided as guidelines only, and are not represented as standards.

Objective N1.2: Protect and maintain those areas having acceptable noise environments.

Policy N1.2.1: Locate new major noise sources in areas containing existing noise sources, and avoid their location adjacent to noise sensitive land uses unless a finding can be made, based on evidence in the record, that the placement of the new noise source will not result in adverse impacts to the existing noise sensitive land use.

TABLE N-1

State Recommended Noise Level Guidelines



LEGEND

NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or L_{dn}. Normalized values are obtained by adding or subtracting the constants described in Table 1 to the measured or calculated value of CNEL or L_{dn}.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL of L_{dn}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

Source: California Department of Health, Guidelines for the Preparation and Content of Noise Elements of The General Plan, February, 1976

Policy N1.2.2: Restrict construction hours during the evening, early morning and Sundays.

Policy N1.2.3: Utilize any or all of the following measures in order to maintain acceptable noise environments throughout the City:

1. Control of noise at its source, including noise barriers and other muffling devices built into the noise source.

2. The provision of buffer areas and/or wide setbacks between the noise source and other development.

3. The reduction of densities, where practical, adjacent to the noise source (freeway, airport, railroad).

4. The use of sound insulation, blank walls, double paned windows and other design or architectural techniques to reduce interior noise levels.

5. Designation of appropriate land uses adjacent to known noise sources.

Policy N1.2.4: Where deemed appropriate based upon available information, acoustical analysis and appropriate mitigation for noise-sensitive land uses should be required in areas which may be adversely impacted by significant intermittent noise sources. Such noise sources may include but not be limited to railroads, racetracks, stadiums, aircraft overflights and similar uses.

GOAL N2: Promote noise compatible land uses within the 65 CNEL contour and the Frequent Overflight Area of Air Force Plant 42.

Objective N2.1: Ensure that land uses planned in the vicinity of Plant 42 will not be adversely affected by present and future noise levels expected to be generated by Plant 42.

Policy N2.1.1: Designate and permit land uses within the 65 CNEL contour and the Frequent Overflight Area which are primarily industrial, business park, commercial and recreational uses which are not noise sensitive; permit other uses only when it is found that no adverse noise impacts will result.

Policy N2.1.2: Restrict noise sensitive land uses (such as residential uses, churches, schools, rest homes, or similar uses) within areas designated as within both the 65 CNEL contour and the Frequent Overflight Area.

Policy N2.1.3: In areas which are outside of the 65 dBA CNEL contour but which are within the Frequent Overflight Area, encourage establishment of compatible uses to the extent feasible.

Policy N2.1.4: Through the development review process, require that all new projects within the Accident Potential Zone (APZ) of Air Force Plant 42 provide an avigation easement. A disclosure statement indicating that the property is subject to frequent overflight and aircraft noise should be required upon sale of property within the APZ.

Policy N2.1.5: Through conditions of approval, require that any owner of developed or undeveloped property within the 65 CNEL noise contour or the low altitude overflight area which is seeking a land use action from the City, provide an avigation easement to the Los Angeles Department of Airports, the U.S. Air Force, and the City.

Policy N2.1.6: Investigate various means of obtaining avigation easements from all properties within the 65 CNEL noise contour and the low altitude overflight area, and obtain those easements to the extent feasible.

SECTION 3: IMPLEMENTATION

Noise control programs involve federal, state, county and city agencies. Table N-2 highlights noise control responsibilities by agency. Other agencies are also involved with noise control; however, those identified in Table N-2 cover the major noise issues found in the City. Through these programs, the City will limit and regulate intrusive noises that accompany development and population growth.

A. Land Use Compatibility

Introduction

The City of Palmdale can achieve a noise compatible environment through comprehensive land use planning. Proposed developments are evaluated in terms of the projected impact from future noise sources and the application of the City's objectives and policies. The City's noise compatibility criteria by land use are summarized in Table N-4 and are consistent with both federal and state standards and guidelines. Proposed residential and other noise-sensitive projects impacted by a 65 dBA CNEL or greater would require additional acoustical analysis to achieve acceptable exterior noise levels. Acceptable interior noise levels of 45 dBA CNEL or less must also be achieved.

Noise-Sensitive Land Uses Defined

"Noise-sensitive land uses" include residential (single and multi-family dwellings, mobile home parks, dormitories, and similar uses); transient lodging (including hotels, motels, and similar uses); hospitals, nursing homes, convalescent hospitals, and other facilities for long-term medical care; public or private educational facilities, libraries, churches, and places of public assembly. Each of these land uses is particularly susceptible to noise intrusions because of the nature of the use being made of the land, the expectation of the occupants regarding an appropriate noise environment, and because of the fact that, in most cases, these uses involve long-term exposure to the noise environment affecting the property. In other words, residential uses (both single-family and multi-family) involve situations where the residents have an expectation that their daily lives will not be exposed to excessive noise levels which interfere with normal residential activities, such as family conversations, entertaining, telephone use, watching television, and the ability to sleep uninterrupted by outside noise sources. Residential uses also are affected by long-term exposure to a localized noise environment, which can cause a cumulative level of "annoyance" among the residents because their continued exposure to the noise source(s) interferes with their normal expectations regarding an appropriate residential environment. These considerations

also apply to such uses as nursing homes, convalescent hospitals or other long-term medical care facilities.

Similarly, schools (public and private) are typically categorized as "noise sensitive uses" both because the students at a noise affected facility are exposed to continuing noise environment and because the noise is particularly inconsistent with the expected activity of the school - study and instructional conversation.

Some "noise sensitive uses" do not necessarily involve long-term exposure to a noise environment but are sensitive uses nevertheless because of the intended use of the facility and the expectation (or need) of the users for a quiet environment. Libraries and churches, for example, do not involve long-term exposure, since they are typically used only on a periodic basis by any given individual. Still, people using both libraries and places of worship have a reasonable expectation that they will be able to engage in the contemplative activities normally associated with these facilities free from excessive interruptions by external noise sources.

Other Land Uses

Other land uses are not "noise sensitive," or are substantially less sensitive to noise events than residential or other similar uses. This designation does not mean that some protection against noise intrusions is unnecessary or inappropriate for these uses; but these land uses differ from sensitive uses in many respects, and consequently in how they are affected by noise impact. In large part, there are differences in public expectations regarding the urban noise environment. For example, in commercial settings where noise is a factor, the public is present only for limited periods of time, and they have a choice as to whether to patronize any particular establishment. In industrial settings, interior noise levels from industrial or manufacturing operations are often high enough that exterior noise sources are not intrusive. Certain types of recreational uses are also substantially less "noise sensitive" (e.g., golf courses) because of the relative infrequency of use and the voluntary nature of public use of such facilities.

TABLE N-2

NOISE CONTROL RESPONSIBILITY BY ACTIVITY AND AGENCY[a]

Agency	Highway Noise	Aviation Noise	Occupational Noise	Construction Noise	Land Use Compatibility	Building Siting	Complaints	Research	Product Noise
Federal									
Department of Housing and Urban Development						X			
Department of Labor			X	X	X				
Environmental Protection Agency	X	X	X			X			X
Federal Aviation Administration	X								
Federal Highway Administration	X								
State									
Department of Health	X		X	X		X			X
Department of Transportation	X	X				X			
County of Los Angeles	X								
City of Palmdale									
City Council	X	X		X	X				
Building Department			X	X	X	X	X	X	
Planning Department	X	X	X					X	
Police Department			X						

In certain cases, there are potential land uses which are directly supportive of the activities of the facility which is the principal source of noise affecting the property. For example, there are many potential industrial, commercial, service and direct aviation support uses which could support not only the continued mission of Air Force Plant 42, but which would support and enhance the further development of that facility as a scheduled commercial air carrier facility. By directing these uses toward areas most seriously affected by noise from Air Force Plant 42, the City can allow reasonable economic use of property in the vicinity of the facility while simultaneously providing a buffer against noise intrusions into more noise sensitive areas and land uses. Encouraging development of these types of land uses in areas affected by significant and continuing noise sources, such as major arterial roadways, Air Force Plant 42, and rail yards, therefore offers the City significant planning opportunities and advantages.

For the City to achieve noise and land use compatibility, mitigation measures and/or restrictions should be imposed on future noise sensitive developments proposed within 65 dBA CNEL contours from transportation sources. The 45 dBA CNEL or less interior criteria for noise sensitive land uses must also be achieved. In addition, noise sensitive developments, proposed near existing stationary noise sources generating noise levels exceeding 65 dBA CNEL, should be discouraged.

These goals are also served by encouraging the development of compatible land uses in areas subject to continuing noise exposure from stationary or transportation sources. It is not the goal of the City to render the development of any private property economically infeasible, but to ensure that land uses are located appropriately in terms of noise sensitivity and the surrounding noise environment. Therefore, appropriate levels of protection for normally compatible uses have been established in consideration of the health and well-being of employees and the general public, as well as the need for the City to promote development uses on noise-affected properties which support the economic health and infrastructure of the entire community.

B. Acoustical Analysis Reports

The City will require acoustical analysis reports for those projects located within existing or future 60 dBA CNEL impact areas, areas subject to single-event noise episodes or as deemed necessary by the City. All acoustical analysis reports shall consider existing and future ambient and project related noise levels and shall be prepared by a qualified acoustical engineer with experience in environmental noise assessment and noise control design. Specifically, acoustical analysis reports shall include:

- Existing ambient and roadway noise levels recorded by a calibrated noise monitor.
- Roadway traffic noise level analysis models determining existing and future noise levels anticipated from proposed projects and related cumulative noise sources.
- Noise contour maps.
- Surrounding land uses with identification of sensitive noise receptors and noise sources.
- Impacts of the project to the existing ambient noise environment.
- Noise control measures where needed.
- Cumulative impacts due to related projects.
- Unavoidable adverse impacts to the project area.
- Assessment of Impacts from Single-Event Noise Episodes.

Acoustical analysis reports shall evaluate the impacts of the existing noise levels on the proposed project as well as the impact of the project on the existing noise environment. The Planning Department will evaluate projects to ensure that noise sensitive land uses, such as schools, hospitals, and residential developments, will not be located adjacent to sources of noise, when exceeding acceptable levels.

Where appropriate, the City will require acoustical analysis reports to include acoustical design for residential development adjacent to freeways or major arterials to achieve the appropriate interior and exterior noise levels through sound insulation, or other means, as indicated in Table N-3.

TABLE N-3

Land Use	Maximum Acceptable Levels Exterior	Interior	Scale
Residential			
SFR	65	45	dBA CNEL
MFR	65	45	dBA CNEL
MHP	65	45	dBA CNEL
Commercial including, but not limited to:	A noise level which does not jeopardize health, safety, and welfare of visitors.		
Retail		55	Leq(h)
Services		55	Leq(h)
Office		55	Leq(h)
Institutional including, but not limited to:	A noise level which does not jeopardize health, safety, and welfare of visitors.		
Schools		45	Leq(h)
Hospitals		45	Leq(h)
Nursing Homes		45	Leq(h)
Industrial including, but not limited to:	A noise level which does not interfere with normal business activity.		
Industrial Park		65	Leq(h)
Business Park		65	Leq(h)
Quarry	Maximum 65 Leq(h) at the interface with residentially designated land.	N/A	

Leq(h) The A-weighted equivalent sound level averaged over a period of "h" hours. An example would be Leq(12) where the equivalent sound level is the average over a specified 12-hour period (such as 7 a.m. to 7 p.m.). Typically, time period "h" is defined to match the hours of operation of a given type of use.

The Planning Department may require developments which will generate large congregations of people or maintain late nighttime hours to provide special mitigation measures, as indicated by the acoustical analysis.

C. Noise Ordinance

The City Municipal Code, Chapter 8.28 Building Construction Hours and Operation and Noise Control contains provisions that restrict construction between the hours of 8:00 p.m. and 6:30 a.m. and regulates the impact of offensive noise from sources such as loud parties. The City may elect to adopt a noise ordinance if deemed necessary in order to reduce potential health hazards associated with other high noise levels. Any such ordinance would establish noise impact thresholds for noise abatement and attenuation and would be compatible with state and federal standards. Noise

ordinances are typically directed at controlling noise from stationary sources and its intrusion onto adjacent properties. Enforcement of the noise ordinance would be an effective tool in controlling non-transportation noise sources. Federal and state laws regulate noise from transportation sources. *(General Plan Amendment 04-04, adopted by City Council July 26, 2004.)*

The Department of Building and Safety, the Planning Department, and the Sheriff's Department will work cooperatively to enforce the noise ordinance. The noise ordinance may include policies addressing the following issues:

- Land use compatibility.

- Restriction of hours of operation for construction equipment, power mowers, garbage collection, street sweeping, truck deliveries, leaf blowers, and other noise activities within the hours of 6:30 a.m. and 8:00 p.m., unless the work is made in response to an emergency or special purpose.

- Periodic investigation of noise sources throughout the City, with citations issued for offender, in addition to investigations conducted due to such complaints.

The Noise Ordinance shall set standards and penalties for violating the provisions contained therein. Penalties may range from warnings and monetary penalties to revocation of operating licenses for businesses.

D. General Plan Elements

The City will review other General Plan Elements for policies and programs relating to noise. Other General Plan Elements may provide important policy guidance to assist in decisions to ensure noise and land use compatibility. While all of the elements of the General Plan are related and interdependent to some degree, the Noise Element is most closely related to the Land Use, Housing, Circulation, and Environmental Resources Elements as shown in Exhibit N-1.

The objective of the Noise Element is to provide guidelines to achieve compatible land uses. The Land Use and Noise Elements are, therefore, closely related. The Noise Element, by identifying noise-sensitive land uses and establishing compatibility guidelines for land use and noise, will influence the general distribution, location, and intensity of future land use. Effective land use planning can alleviate noise problems.

Residential areas are one of the most noise-sensitive land uses. Therefore, the Housing Element is directly affected by the Noise Element. Enforcement of land use and noise compatibility guidelines can reduce noise impacts in residential locations. In addition, effective noise insulation in housing construction can mitigate exterior to interior noise intrusion.

The circulation system within a city is one of the major sources of noise. Therefore, the existing and future circulation system identified in the Circulation Element will greatly influence the noise environment. The circulation routes such as the freeway, highways, truck routes and the railroad should be located to minimize noise impacts upon noise-sensitive land use. The location and design of new transportation facilities and mitigation of noise from existing and planned facilities should be assessed in order to minimize noise impacts to the extent feasible.

Since noise can adversely affect the enjoyment of quiet outdoor activities, the Noise Element is also closely related to the Environmental Resources Element. Conversely, open space, or appropriate recreational uses, can be used as a noise buffer between incompatible land uses. Generally, the identification of development which is compatible with the local noise environment, and which allows property owners to realize beneficial use of their properties, is a preferred solution in the development of noise buffers between noise sources and land uses which are incompatible with the noise source. These techniques can reduce community noise impacts and also provide usable open space for recreation, or otherwise provide useful economic infrastructure and development without the need to acquire the property from the private land owner.

E. Joint Land Use Committee Policy Review

The City will review all new development applications for conformance with the Joint Land Use Committee (JLUC) policies relating to noise, as adopted by the Palmdale City Council on March 6, 1991. The JLUC policies were developed through the joint efforts of the City of Palmdale, the City of Lancaster and the United States (U. S.) Air Force to address basic air installation land use compatibility issues. These policies relate to both noise and safety issues; the safety related policies appear in the Safety Element of the General Plan. The General Plan Overlay Map shall identify the location of the 65 CNEL Contour and the Frequent Overflight Area for U. S. Air Force Plant 42.

1. Policies to govern land use within the 65 CNEL contour are as follows:

a. Land which currently has an industrial or commercial general plan designation shall not be changed to a residential or other incompatible use.

b. Applications (zone change, General Plan Amendment, etc.) for land use changes which increase residential density shall not be approved.

c. Existing residential land use designations shall be examined for potential redesignation to airport compatible designations. It should also be noted that this policy does not require that we re-designate any area, only that we look at the potential.

d. Any developed or undeveloped property which is seeking a land use action from the City shall be conditioned to provide an avigation easement to the Los Angeles Department of Airports, the U. S. Air Force, and the City.

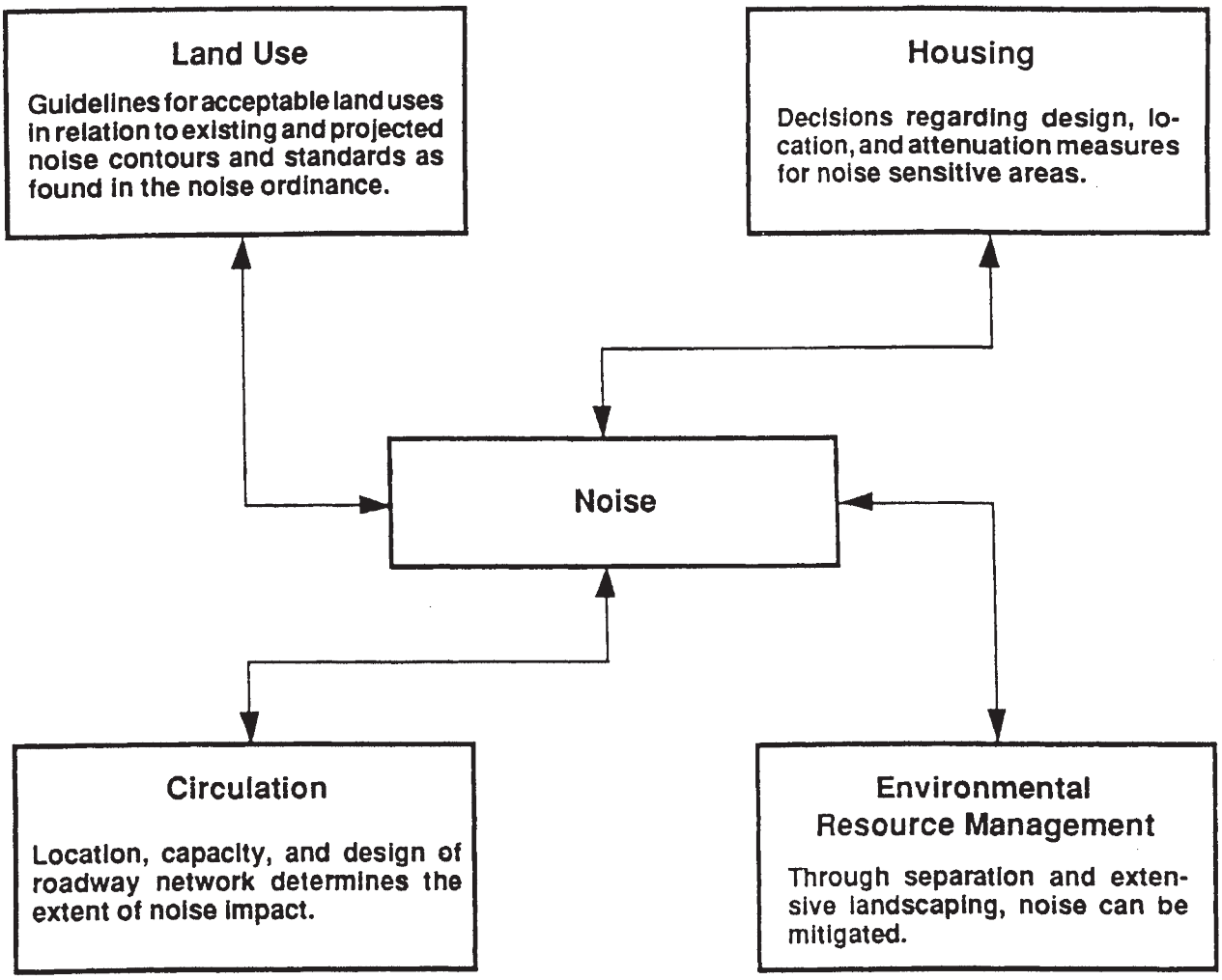
e. Research and develop a means of obtaining avigation easements from all properties.

f. A Joint Air Force Plant 42/City of Los Angeles Department of Airports/City of Palmdale/City of Lancaster Part 150 Study shall be conducted to determine the need for soundproofing of existing residential development, to make Plant 42 and the surrounding communities mutually more compatible through use of FAA funding.

g. Currently existing residential areas shall be examined to determine the potential of the redevelopment process to convert those land uses to airport compatible uses.

h. Noise sensitive receptors shall be excluded (examples of noise sensitive receptors are hospitals and schools).

i. The development and zoning of residentially designated property shall be at the minimum density of the General Plan designation.



Interrelationship of Noise Element with Other General Plan Elements
Palmdale General Plan

Exhibit N-1

2. **Policies to govern the land use for areas which are outside of the 65 CNEL contour but are frequently overflown by aircraft at low altitudes for take-off, landing, and closed pattern flight activity. Typically, this line would extend as far north as Avenue K-4 and as far south as Avenue Q-4. The easterly boundary of the area would extend to 85th Street East and westerly boundary would be Sierra Highway as shown on Exhibit S-17 of the Safety Element. These recommendations recognize that existing land uses within overflight areas may be inconsistent with the guidelines; however, the recommendations reflect long-range goals of the City and the Air Force for that area. The recommendations are as follows:** *(General Plan Amendment 04-04, adopted by City Council July 26, 2004.)*

   a. Higher density residential uses shall be discouraged and that - in order of priority - industrial, commercial, and low density residential land use designations (i.e., 1 du/ac or larger lots) shall be encouraged.

   b. Noise sensitive receptors shall be excluded (i.e. hospitals and schools).

   c. Currently existing areas which are occupied by incompatible uses shall be examined to determine the potential of the redevelopment process to convert those land uses to airport compatible uses.

   d. The General Plan shall designate this low altitude overflight area on the General Plan Overlay Map.

   e. Land which currently has an industrial or commercial general plan designation shall not be changed to a residential or other airport incompatible use.

   f. Any developed or undeveloped property which is seeking a land use action from the City shall be conditioned to provide an avigation easement to the Los Angeles City Department of Airports, the U.S. Air Force, and the City.

   g. Research and develop a means of obtaining avigation easements from all properties within this area.

JLUC Examples

Customer Intensive Uses - Customer intensive retail operations would include grocery stores, drug stores, convenience stores, theaters, shopping centers, department stores, and similar uses.

Low Customer Intensive Uses - Low customer intensive uses would include nurseries, lumber yards, contractor yards, warehousing, mini storage and similar uses.

F. Airport Land Use Commission

The City shall support the Airport Land Use Commission of Los Angeles County in planning for appropriate land uses around USAF Plant 42 through consistency of the City's General Plan with the County's Comprehensive Airport Land Use Plan. This implementation measure is further discussed in Section 3 of the Safety Element.

G. Noise Sensitive Land Uses

The City shall coordinate with appropriate agencies and developers to reduce unnecessary noise in the vicinity of noise-sensitive locations through the following actions:

- Maintain liaison with transportation agencies, such as Caltrans, regarding the reduction of noise from existing facilities and roadways. The design and location of facilities and roadways shall also be considered.

- Maintain liaison with Los Angeles County Health Department to update information on the effects and impacts of noise pollution on humans.

- Consider noise as a priority factor in evaluating residential or other noise-sensitive projects. Building orientation and configuration should be utilized to minimize or eliminate noise problems for a sites adjacent to the freeway, arterials, or rail lines. Additional effective noise reduction tools include the use of earthen berms, sound reducing walls, and generous setbacks.

- Maintain a liaison with the Southern Pacific rail line to reduce the level of noise produced by train movement within the City, through the regular maintenance of the tracks and trains. Monitor the existing operations on the rail line, as well as any plans for future development so as to predict future noise levels.

- Enforce regulations, such as the State Vehicle Code noise standards, for City owned and City operated vehicles.

H. Noise Sources and Receptors

The City will maintain a map of receptors and sources in the Planning Area for new development in order to anticipate and/or avoid incompatible land uses. Acoustical analysis reports will be required to incorporate the receptor and source map in the report on a smaller scale.

I. Acoustical Design

The City will require developments to implement noise control measures during construction. Acoustical design shall include measures to control noise at the source, along the transmission path or at the receptor.

SECTION 4: ISSUES AND OPPORTUNITIES

A. Noise Measurement

Community noise is generally not a steady state and varies with time. Under conditions of non-steady state noise, some type of statistical scale of measurement is necessary in order to quantify noise exposure over a long period of time. Several rating scales have been developed for describing the effects of noise on people. They are designed to account for the known effects of noise on people.

A variety of different noise measurement scales or "metrics" are used for measuring noise sources with differing characteristics. The metrics typically employed for measuring community stationary and mobile noise sources are the Equivalent Noise Level (LEQ), the Day/Night Noise Level (LDN) and the Community Noise Equivalent Level (CNEL). These metrics are defined as follows:

LEQ is the "energy" average noise level during the time period of the sample. It is a number that represents a decibel sound level. This constant sound level would contain an equal amount of energy as a fluctuating sound level over a given period of time. LEQ can be measured for any time period, but is typically measured for 15 minutes, 1 hour or 24 hours.

LDN is a 24 hour, time-weighted annual average noise level. Time-weighted refers to the fact that noise which occurs during certain sensitive time periods is penalized for occurring at these times. In the LDN scale, those events that take place during the night (10 pm to 7 am) are penalized by 10 dBA. This penalty was selected to attempt to account for increased human sensitivity to noise during the quieter period of a day, where sleep is the most probable activity.

CNEL is similar to the LDN scale except that it includes an additional 5 dBA penalty for events that occur during the evening (7 pm to 10 pm) time period. Either LDN or CNEL may be used to identify community noise impacts within the Noise Element.

Intermittent or occasional noise such as that associated with stationary noise sources is not of sufficient volume to exceed community noise standards that are based on a time averaged scale such as the CNEL scale. To account for intermittent noise, another method to characterize noise is the Percent Noise Level (L%). The Percent Noise Level is the level exceeded X% of the time during the measurement period. Percent Noise Levels are another method of characterizing ambient noise where, for example, L90 is the noise level exceeded 90 percent of the time, L50 is the level exceeded 50 percent of the time, and L10 is the level exceeded 10 percent of the time. L90 represents the

background or minimum noise level, L50 represents the average noise level, and L10 the peak or intrusive noise level.

B. Existing Noise Environment

The existing noise environment in the Planning Area was documented through both a community noise survey and computer generated noise contours. The noise survey identified existing noise levels at specific locations within the City while the computer analysis predicted existing and future roadway noise levels.

Community Noise Survey

A community noise survey was conducted on November 2, 1987 to document the existing noise environment within the City of Palmdale. Noise measurements were conducted at 12 sites between the hours of 7:30 a.m. and 4:10 p.m. The noise monitoring locations are identified in Exhibit N-2 and were selected with the assistance of the Planning Department. The locations were representative of residential, commercial, industrial, public use areas, and undeveloped property.

The noise measurements indicated that the City of Palmdale has noise levels typical of urban residential communities. However, unlike other urban communities, the City of Palmdale has two unique noise sources: military aircraft and major freight rail operations. Noise from military aircraft operations was recorded at 6 of the 12 measurement locations, with the maximum aircraft departure noise levels reaching 92 to 95 dBA at Site 4. Site 4 is located within the 70 dBA CNEL noise contour from USAF Plant 42. Approaching aircraft noise levels at Site 3, which is located approximately on the 65 dBA CNEL noise contour from USAF Plant 42, were somewhat lower at 85 to 92 dBA. Aircraft noise varied throughout flyovers, with high frequencies predominating while an aircraft approached and low frequencies predominating after the aircraft had passed overhead.

Freight rail movements were measured at Sites 2 and 9. Rail noise was characterized as being of extremely long duration (several minutes) with 100 rail cars plus freight movements. The maximum locomotive noise level recorded was 99 dBA with rail cars generating noise levels of 64 to 73 dBA.

The noise measurement results are summarized in Table N-4 and should be used as a guide or indication of noise levels throughout the community. Maximum noise levels ranged from 53.5 to 99.0 dBA with the highest level generated by a locomotive. The second and third highest noise levels were military aircraft operations at 95 and 92 dBA. Site 12 was at a new residential development on the western boundary of the City. This

site, because of its remote location and light traffic, had substantially lower noise levels than any other site.

Table N-4 also provides the sound level exceeded 10 percent (L10), 33 percent (L33), 50 percent (L50) and 90 percent (L90) of the measurement duration. While the Lmax provides the highest level measured, the L10 provides a better indication of peak noise levels that would typically be expected at the specific location. Disregarding the quiet environment, L10 of 53.0 dBA at Site 12 and the substantial number of aircraft approaches at Site 3 resulting in an L10 of 85.5 dBA, the L10 values only ranged from 63.0 to 75.5 dBA for the remaining 10 locations. The L50 values also were relatively consistent and only varied from 51.0 to 68.5 dBA. These values indicate a typical urban environment with a variety of noise sources, including roadway traffic, rail operations, aircraft and other non-transportation related activities.

L90 values are commonly termed the background noise level. Background noise levels throughout the City ranged from 45.5 dBA to 62.0 dBA. The background noise levels were less than 60 dBA for all locations except Sites 3 and 4 near Air Force Plant 42. The lowest background noise level was at Site 7, a quiet residential neighborhood. The L33 sound level is provided in Table N-5 since it is used by various federal agencies to evaluate transportation noise impacts.

The 12 sites fall into four general land use categories: residential, commercial, public use, and undeveloped property. Each of these categories is discussed below.

Residential: Sites 1, 5, 7, and 12 can all be considered residential locations. Measurements at all four residential locations included roadway traffic at slower speeds. Site 12 was a new residential development on the far west end of the City and away from major noise sources. It, therefore, had the lowest noise levels of any of the 12 sites. The four residential sites had L50 values ranging from 51.0 to 63.0 dBA. Both Sites 1 and 5 had higher noise values for two reasons: measurements included State Route 14 truck traffic noise and military aircraft flyover noise.

TABLE N-4

NOISE MEASUREMENT RESULTS BY SITE

Site No.	Land Use	Lmax[a]	L10[b]	L33[c]	L50[d]	L90[e]
1	Residential	72.0	64.5	62.0	58.5	55.5
2	Commercial	99.0	73.0	66.5	63.5	55.0
3	Undeveloped	92.0	85.5	73.5	68.0	61.5
4	Undeveloped	95.0	75.5	70.5	68.5	62.0
5	Residential	78.0	69.0	65.0	63.0	59.5
6	Park	72.0	63.0	59.0	57.5	53.5
7	Residential	74.5	64.5	58.5	55.5	45.5
8	School	75.5	66.5	63.5	61.5	57.5
9	Undeveloped	79.0	68.5	63.5	61.5	55.5
10	Commercial	79.5	66.0	61.5	59.5	55.0
11	Undeveloped	73.5	68.0	63.5	60.5	53.5
12	Residential	53.5	53.0	52.5	51.0	49.0
Range		53.5-99.0	53.0-85.5	52.2-73.5	51.0-68.5	45.5-62.0

a Lmax is the maximum sound level recorded during the noise measurement duration.
b Inferior L10 is the sound level exceeded 10 percent of the noise measurement duration.
c L33 is the sound level exceeded 33 percent of the noise measurement duration.
d L50 is the sound level exceeded 50 percent of the noise measurement duration.
e L90 is the sound level exceeded 90 percent of the noise measurement duration. It is also considered the background noise level.

Commercial: Noise measurements at commercial locations included Sites 2 and 10. Commercial locations generally have slightly higher noise levels than residential locations because of the greater volumes of traffic and higher percentage of truck traffic. The L50 for these two sites ranged from 59.5 to 63.5 dBA.

Public Use: Site 6, McAdam Park, and Site 8, Sage Intermediate School, are public use facilities. McAdam Park was a quiet location as demonstrated by an L50 of 57.5 dBA.

Noise levels were somewhat higher at Sage Intermediate School due to substantial traffic on Avenue R and 20th Street. The L50 at this site was 61.5 dBA.

Undeveloped Property: Sites 3, 4, 9 and 11 were representative of undeveloped locations within the City. The L50 values were as follows: Site 3, 68.0 dBA; Site 4, 68.5 dBA; Site 9, 61.5 dBA; and Site 11, 60.5 dBA. Sites 3 and 4 were on the arrival and departure ends of the primary runway at Air Force Plant 42. At Site 3, aircraft approach noise levels ranged from 68 to 92 dBA. Site 4 was approximately 4,000 feet from the primary runway at Air Force Plant 42 and aircraft departure noise ranged from 85 to 94 dBA. For comparison, traffic noise on Sierra Highway was 68 to 74 dBA at 150 feet. Sites 9 and 11 were at undeveloped locations to the southeast of the City. While Site 9 was near a residential community, a train pass-by during noise measurements resulted in higher noise levels. The L50 of 61.5 dBA was a combination of train (72 to 78 dBA) and truck (64 to 68 dBA) noise levels. Site 11, along Avenue T, had an L50 of 60.5 dBA with heavy trucks serving sand and gravel operations dominating the noise environment. Truck traffic noise levels at 150 feet ranged form 68 to 72 dBA.

Noise Contours

The Noise Element identifies both 60 and 65 dBA CNEL contours for transportation noise sources including the Antelope Valley Freeway (SR-14), Pearblossom Highway, two Southern Pacific Railroad lines (The Valley Mainline and the Colton/Palmdale Cutoff), U.S. Air Force Plant 42, and major roadways on Exhibits N-4 and N-5.

A 65 dBA CNEL level describes an area as having a time-average constant sound level of roughly 65 dBA even though the area would experience individual sound events higher and lower than 65 dBA. CNEL provides a common measure for a variety of differing noise environments. Thus, the same CNEL can describe both an area with very few high noise events and an area with many low level events.

CNEL values can be useful in comparing noise environments and indicating the potential degree of adverse noise impacts. However, the CNEL scale has limitations in its usefulness through averaging the sound event levels over a 24-hour period and possibly obscuring the periodic high noise levels of individual events and their possible adverse effects. In recognition of this limitation, the Environmental Protection Agency (EPA) has adopted maximum single event noise impacts levels for sources such as buses, garbage trucks, and railroad equipment.

Note that CNEL is not a measure but a computation of measured sound levels. People do not "hear" CNEL, but respond to the sound levels of individual events or noise sources. People may integrate their response to noise over long-term intervals (daily, weekly, etc.) and make subjective judgments about the "quality" of the noise

environment. This is one reason why CNEL may not be the most appropriate noise descriptor for land uses which do not involve continuous "long-term" exposure to the noise source occurring regularly over a 24 hour period.

The noise contours represent lines of equal noise exposure (see Exhibit N-3), just as the lines on a weather map indicate equal temperature or atmospheric pressure. The contours provide a visualization of estimates of sound level. Land forms and man-made structures have very complex effects on sound transmission and on noise contours. Generally, barriers between a source and receiver absorb and/or reflect noise resulting in a quieter environment. Where barriers or land forms do not interrupt the noise transmission path from source to receiver, the contours prove to be good estimates of the average noise level. In areas where barriers or land forms interrupt the sound transmission, the noise contours overestimate the extent to which a source intrudes into the community. Unfortunately, it is virtually impossible for the Noise Element to analyze each roadway segment of the City for barrier noise attenuation. Therefore, where specific projects are proposed within noise impacted areas, an acoustical analysis should be completed to evaluate the noise reduction provided by any barriers to the noise path.

CNEL values have been shown to be closely related to, and often within, 1dB of LDN values, a noise metric commonly used by federal agencies.

The noise contour analysis focused on transportation noise generators, which typically cause a constant increase in ambient noise levels. Specific findings of these studies are as follows:

Aircraft Noise: The U. S. Air Force Plant 42 is located in the City of Palmdale, east of the Sierra Highway and north of Avenue P. Aircraft noise contours (65, 70 and 80 dBA CNEL contours) for the U. S. Air Force Plant 42 were provided by the Department of the Air Force (AFSC Master Plan Air Installation Compatible Use Zone Map, August 1990). The noise contours reflect both aircraft operations and engine run-ups.

Railroad Noise: The Southern Pacific Railroad Company operates two rail lines through the City of Palmdale. The Valley Mainline runs north/south and operates adjacent to Sierra Highway. The Colton/Palmdale Cutoff branches from the Valley Mainland south of Avenue R and runs east. Railroad noise levels were calculated using the U. S. Department of Housing and Urban Development Noise Assessment guidelines. The following assumptions (based on information provided by S.P.R.R.) were made in the analysis of the Valley Mainline operations: 20 diesel trains per 24-hour period, 15 percent of the operations occurring at night; 4 diesel locomotives per train; 120 rail cars per train; average speed of 55 mph; welded tracks; and whistles required for grade crossings. The above assumptions also hold for the Colton/Palmdale Cutoff, with the

exception that 10 trains operate on the line in a 24-hour period. The 60 and 65 dBA CNEL contours for the two rail lines were generated from this analysis.

Roadway Noise: The City of Palmdale roadway noise contours were generated with the Federal Highway Administration's Highway (FHWA) Traffic Noise Prediction model, U.S. Department of Transportation (1978). This model was modified to generate CNEL values. Model input data included existing and projected average daily traffic volumes (provided by DKS Associates, 1989); day/evening/night percentages of autos, and medium and heavy trucks; vehicle speeds; ground attenuation factors (soft sight conditions were assumed); and roadway widths.

The results of the FHWA model analysis are summarized in Table N-5 which gives the distance from the roadway center line at the 60, 65 and 70 dBA CNEL contours, and the CNEL level at 50 feet away from the roadway centerline.

A graphic display of the noise contours for the existing major transportation noise sources is provided in Exhibit N-4. The 60, 65, 70 and 80 dBA CNEL contours are provided, showing the integrated effect from all transportation noise sources (aircraft, railway, and roadways where the CNEL contour is greater that 200 feet from the roadway centerline). The noise contours represent unmitigated conditions. Therefore, on roadways where walls, berms, or structures block the noise path, the contours overestimate the noise impact.

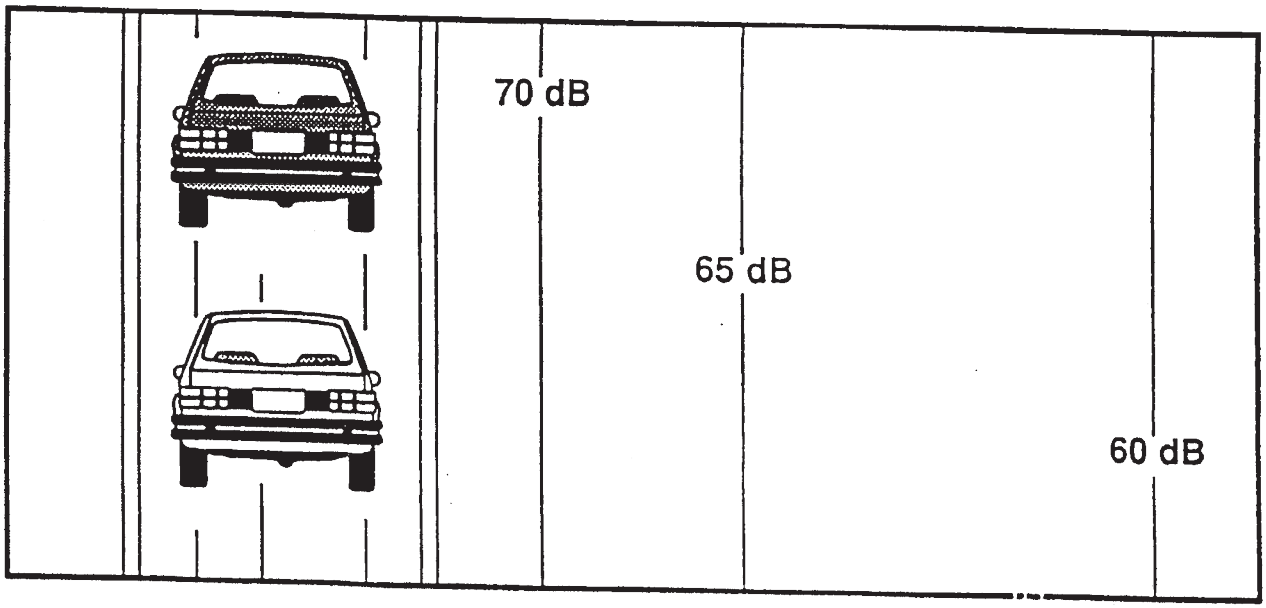
The population within each CNEL zone has been estimated in order to identify the number of persons that are impacted by transportation noise. There are approximately 10,000 residents within the City that are exposed to noise levels exceeding 65 dBA CNEL, and approximately 20,000 residents that are exposed to noise levels between 60 and 65 dBA CNEL.

Interpretation of Transportation Noise Contours

Exhibit N-4 displays the 80, 70, 65 and 60 dBA CNEL noise contours that were generated using the FHWA noise model for existing transportation noise sources in the City of Palmdale. The contours portray areas of equal noise level within that contour.

The dominant feature on this exhibit is the 65 dBA CNEL contour generated by the U. S. Air Force Plant 42. The contour is roughly oval in shape and covers an area from Avenue L-8 on the north to Avenue P on the south, and from 20th Street West to 130th Street East. The existing land uses in the area encompassed by the 65 dBA CNEL contour are the U.S. Air Force Plant 42, open space, industrial, and a few rural residential homes to the north of the plant.

EXHIBIT N-3



Example of Noise Contours
Palmdale General Plan

Table N-5

EXISTING ROADWAY NOISE LEVELS (CNEL)

Roadway	From/To	Distance (in feet) From Roadway Centerline to CNEL 70 CNEL	65 CNEL	60 CNEL	CNEL (dB) at 50 Feet
East/West Arterials					
Avenue L	50th St. W/40th St. W	<50	6	130	64.4
	40th St. W/25th St. W	<50	95	201	67.3
	25th St. W/Hwy 14	<50	109	231	68.2
	Hwy 14/Sierra Hwy	<50	75	159	65.7
Avenue M	50th St. W/30th St. W	<50	66	142	66.1
	30th St. W/10th St. W	<50	62	132	65.6
	10th St. W/10th St. E	<50	104	222	67.9
	10th St. E/30th St. E	<50	85	180	66.6
Avenue N	30th St. W/Hwy 14	<50	64	138	65.9
Avenue P	10th St. W/Sierra Hwy	73	153	328	70.5
	Sierra Hwy/30th St. E	69	145	311	70.1
	30th St. E/50th St. E	<50	79	170	67.3
	30th St. W/10th St. W[a]				
Avenue Q	20th St. W/Palmdale Blvd.	<50	56	120	65.0
	Sierra Hwy/10th St. E	<50	53	114	64.7
Elizabeth Lake	W of Bouquet Canyon Rd.	<50	<50	81	62.5
	Bouquet Cyn Rd/Grande Hill	<50	58	124	65.2
	Godde Hill/Foxholm Dr.	<50	<50	62	60.7
	Foxholm Dr./Palmdale Blvd.	<50	59	121	63.9
Palmdale Blvd. (Hwy 14)	10th St. W/Hwy 14	<50	95	200	66.8
	Hwy 14/20th St. E	291	626	1,347	79.3
	20th St. E/30th St. E	246	527	1,135	78.2
	30th St. E/40th St. E	216	464	998	77.3
	40th St. E/50th St. E	183	392	844	76.2
	50th St. E/90th St. E	0	97	205	67.4

[a] ADT less than 500, thus, not calculated.

TABLE N-5
(Continued)

Roadway	From/To	Distance (in feet) From Roadway Centerline to CNEL: 70 CNEL	65 CNEL	60 CNEL	CNEL (dB) at 50 Feet
Avenue R	Tierra Subida/Division St.	<50	<50	<50	58.9
	Division St./10th St. E	<50	67	143	66.2
	1<50th St. E/25th St. E	<50	76	161	65.8
	25th St. E/30th St. E	<50	96	206	68.0
	30th St. E/40th St. E	<50	79	169	67.2
	40th St. E/50th St. E	<50	58	125	65.3
Avenue R-8	12th St. E/25th St. E	<50	55	117	64.9
Avenue S	City Ranch Bypass/Tierra Subida	<50	<50	87	62.9
	Tierra Subida/Hwy 14	<50	<50	87	62.9
	Hwy 14/Sierra Hwy	<50	97	209	68.6
	Sierra Hwy/35th St. E	<50	99	211	68.1
	35th St. E/50th St. E	<50	67	144	66.2
Avenue T	Pearblossom Hwy/90th St. E	<50	100	216	68.8
	90th St. E/120th St. E	<50	102	219	68.9
Pearblossom Hwy (SR-138)	Sierra Hwy/Barrel Springs	152	327	703	75.5
	Barrel Springs/40th St. E	131	281	606	75.6
	40th St. E/Avenue T	131	281	606	75.6
	Avenue T/90th St. E	172	370	798	77.4
	90th St. E/120th St. E	172	370	798	77.4
Barrel Spgs.	Tierra Subida/Sierra Hwy.	<50	<50	<50	55.6
	Sierra Hwy/40th St. E	<50	<50	71	61.6
North/South Arterials					
Bouquet Canyon Rd.	South of Elizabeth Lake Rd.	<50	<50	<50	58.2
Godde Hill	60th St W./Elizabeth Lake Rd.	<50	<50	72	61.7
50th St. W	Avenue M/Avenue K	<50	<50	105	64.1
30th St. W	North of Avenue J	<50	<50	106	64.2
	Avenue J/Avenue K	<50	69	147	66.3
	Avenue K/Avenue L	<50	85	183	67.8
	Avenue L/Avenue N	<50	58	124	65.2
25th St. W	Avenue P/Avenue P-8	<50	<50	<50	55.6
	Avenue P-8/Elizabeth Lake	<50	<50	<50	56.9

TABLE N-5
(Continued)

Roadway	From/To	Distance (in feet) From Roadway Centerline to CNEL: 70 CNEL	65 CNEL	60 CNEL	CNEL (dB) at 50 Feet
20th St. W	North of Avenue K	<50	94	202	68.4
	Avenue K/Avenue L	<50	64	137	65.9
	Avenue L/Avenue M	<50	<50	106	64.2
10th St. W	North of Avenue K	72	155	334	71.7
	Avenue K/Avenue M	56	120	259	70.0
	Avenue M/Avenue N	51	108	233	69.3
	Avenue N/Avenue P	51	108	233	69.3
	Avenue P/Palmdale Blvd.	<50	89	191	68.0
Tierra Subida	Palmdale Blvd./S of Palmdale Blvd.	<50	<50	101	63.9
	S of Palmdale Blvd./Avenue R	<50	<50	101	63.9
	Avenue R/Avenue S	<50	<50	55	59.9
	Avenue S/Barrel Springs Rd.	<50	<50	<50	56.4
Sierra Hwy	Avenue M/Avenue P	85	179	383	71.5
	Avenue P/Avenue Q	69	145	310	70.1
	Avenue Q/Palmdale Blvd.	69	145	310	70.1
	Palmdale Blvd./Avenue R-8	<50	93	198	67.2
	Avenue R-8/Avenue S	<50	92	197	68.2
	Avenue S/1200' S of Avenue S	<50	<50	102	64.0
	1200' S of Avenue S/ 3000' N of Barrel Springs	<50	<50	104	62.9
	Soledad Cyn Rd./Pearblossom Highway	<50	86	183	66.6
	Pearblossom Hwy/Hwy 14	<50	103	220	67.9
10th St. E	North of Avenue J	<50	83	179	67.6
	Avenue J/Avenue K	<50	67	144	66.2
	Avenue K/Avenue M	<50	<50	104	64.0
20th St. E	Palmdale Blvd./Avenue S	<50	75	160	66.9
25th St. E	Avenue P/Palmdale Blvd.	<50	<50	92	63.3
	Palmdale Blvd./Avenue S	<50	73	156	66.7
	Avenue S/4200' S of Avenue S	<50	60	125	64.1
	4200' S of Avenue S/ Barrel Springs Rd.	<50	60	125	64.1
30th St. E	Avenue P/Avenue Q	<50	<50	75	61.9
	Avenue Q/Avenue S	<50	85	182	67.1

TABLE N-5
(Continued)

Roadway	From/To	Distance (in feet) From Roadway Centerline to CNEL: 70 CNEL	65 CNEL	60 CNEL	CNEL (dB) at 50 Feet
47th St. E	Palmdale Blvd./Avenue S	72	148	315	69.8
	Avenue S/Fort Tejon Rd.	72	148	315	69.8
50th St. E	Avenue M/Avenue P	<50	90	194	68.1
	Avenue P/Palmdale Blvd.	<50	90	194	68.1
	Palmdale Blvd./Avenue S	<50	104	225	69.1
Hwy 14	North of Avenue J	293	629	1,354	78.9
	Avenue J/Avenue K	325	699	1,505	79.6
	Avenue K/Avenue M	363	779	1,677	80.3
	Avenue M/L.A. Forest Hwy	373	801	1,734	80.5

State Route 14 transects the City from north to south and generates a 60 dBA CNEL contour that extends approximately 1,500 feet from the roadway centerline. A substantial number of both single- and multiple-family residential dwellings are located within this 60 dBA CNEL contour.

The Sierra Highway and the Valley Mainline Railroad run north/south and parallel to one another approximately 6,000 feet to the east of State Route 14. The combined noise levels of the Sierra Highway and the Valley Mainline generate a 60 dBA CNEL contour that extends approximately 1,800 feet from their centerpoints. The majority of the land uses in the area impacted by the 60 dBA CNEL contour are commercial and industrial. However, single and multiple-family residential dwellings are located within the 60 dBA CNEL contour, as well.

The Colton/Palmdale Cutoff railroad line, which branches off from the Valley Mainline Railroad at Avenue R and extends to the east, generates a 60 dBA CNEL contour that extends 1,000 feet from the railway centerline and affects single-family residential dwellings.

From 30th Street East to 60th Street East, Pearblossom Highway/Avenue T and the Colton Cutoff railroad line run parallel from east to west. Their noise levels combine to generate a 60 dBA CNEL that extends approximately 2,000 feet from their centerpoint. Rural residential dwellings lie within this 60 dBA CNEL contour.

The section of Palmdale Boulevard from the Antelope Valley Freeway to 47th Street East generates a 60 dBA CNEL contour that extends approximately 1,000 feet from the roadway centerline. Land use types within this contour are mostly commercial, but also impacted are single-family residential dwellings.

C. Future Noise Environment

Future average daily traffic volumes (provided by DKS Associates, 1989) were used in the FHWA Traffic Noise Prediction Model to generate future CNEL noise contours. The results of the analysis for future conditions are summarized in Table N-6, which gives the distance from the roadway centerline to the 60, 65 and 70 dBA CNEL contours, and the CNEL level at 50 feet from the roadway centerline. Airport noise contours taken from AFSC Master Plan, Air Installation Compatible Use Zones (AICUZ), August 1990, were incorporated into this report.

Future noise contours from the railroad and Plant 42 are depicted in Exhibit N-5 (Exhibit N-5 is provided as a separate large blue-line map). The 60, 65, 70 and 80 dBA CNEL contours are provided, showing the integrated effect from all transportation noise sources (railway, airport and roadways where the 60 dBA CNEL contour is greater than

200 feet from the roadway centerline). The roadway noise contours represent unmitigated conditions. Therefore, on roadways where walls, berms, or structures block the noise path, the contours overestimate the noise impacts. Exhibit N-5 shows the air installation compatible use zone noise contours developed by Force Plant 42 in 1990. The City of Los Angeles and the U. S. Air Force have reached a joint-use agreement allowing up to 400 commercial operations (take-offs or landings) per day on the northeast/southwest runway of the plant. Exhibit N-5 includes the addition of commercial flights which increased the size of the noise contours.

The population within each CNEL zone has been estimated in order to identify the number of persons that will be impacted by transportation noise. At the time of General Plan build-out, approximately 21,000 residents within the City will be exposed to noise levels exceeding 65 dBA CNEL, and approximately 28,000 residents will be exposed to noise levels between 60 and 65 dBA CNEL.

A comparison of Exhibit N-4 (existing noise contours) with Exhibit N-5 (future noise contours) shows that the transportation noise levels are expected to increase in the future. The discussion of land uses impacted within specified noise levels holds for the future also, with the exception that the noise contours are pushed outward from the roadways to encompass a larger area due to increased noise levels and, thus, will impact a greater area. A summary of noise impacts by source is provided in Table N-7.

Noise Impacts

The effects of 60 and 65 dBA CNEL on residents is summarized in Table N-8. The existing and future noise contours identify areas where outdoor speech interference can occur and a small percentage of the population will be highly annoyed. However, noise mitigation measures, such as berms and walls located between a noise source and receiver would reduce noise impacts.

TABLE N-6

FUTURE ROADWAY NOISE LEVELS (CNEL)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
East/West Arterials					
Ave L	10th St E/20th St E	158	327	698	73.7
	20th St E/40th St E	152	315	673	73.4
	40th St E/50th St E	140	287	611	72.8
	50th St E/90th St E	105	207	436	70.6
	90th St E/110th St E	113	226	478	71.2
Ave L-8	10TH St E/20th St E	< 50	104	220	67.4
	20th St E/50th St E	< 50	83	172	65.8
Ave M	90th St W/75th St W	< 50	59	119	63.3
	75th St W/60th St W	< 50	111	230	67.0
	60th St W/30th St W	106	218	465	71.6
	30th St W/15th St W	151	311	664	73.4
	15th St W/SR-14	161	335	715	73.8
	SR-14/Sierra Hwy	168	350	748	74.1
	Sierra Hwy/Division St	203	428	918	75.5
	Division St/10th St E	156	323	690	73.6
	10th St E/15th St E	158	327	698	73.7
	15th St E/50th St E	147	303	647	73.2
	50th St E/90th St E	74	145	304	68.8
	90th St E/120th St E	< 50	96	201	66.8
Ave M-8	70th St W/55th St W	< 50	96	201	66.8
	55th St W/45th St W	< 50	66	134	64.1
	45th St W/30th St W	< 50	63	128	63.8
Ave N	70th St W/60th St W	61	124	263	68.6
	60th St W/25th St W	110	226	481	71.8
	25th St W/SR-14	110	226	481	71.8
	SR-14/10th St W	106	218	465	71.6
	10th St W/Sierra Hwy	74	145	304	68.8
	2000' W of 40th St E /90th St E	80	158	334	69.4
	90th St E/120th St E	< 50	111	230	67.0
Ave N-8	Rancho Vista Blvd /30th St W	76	149	314	69.0
	10th St W/Sierra Hwy	< 50	63	128	63.8

TABLE N-6
(Continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Ave O	Rancho Vista Blvd /30th St W	76	149	314	69.0
	30th St W/10th St W	101	207	441	71.3
	10th St W/Sierra Hwy	84	167	353	69.8
	90th St E/120th St E	69	131	274	68.1
Ave O-8	Rancho Vista Blvd /10th St W	< 50	96	201	66.8
Rancho Vista Blvd					
	50th St W/Towncenter Dr	96	195	415	70.9
	Towncenter Dr/30th St W	110	226	481	71.8
Ave P	30th St W/15th St W	108	222	473	71.7
	15th St W/10th St W	116	240	513	72.2
	10th St W/Sierra Hwy	125	261	558	72.8
	Sierra Hwy/8th St E	103	211	449	71.4
	8th St E/20th St E	108	222	473	71.7
	20th St E/30th St E	105	215	457	71.5
	30th St E/50th St E	91	183	389	70.4
	90th St E/110th St E	98	199	424	71.0
Ave P-8	30th St W/25th St W	< 50	87	182	66.2
	25th St W/15th St W	60	120	255	68.4
	15th St W/SR-14	60	120	255	68.4
	SR-14/3RD St E	< 50	108	229	67.7
	3rd St E/Sierra Hwy	< 50	108	229	67.7
	Sierra Hwy/10th St E	< 50	92	192	66.5
	10th St E/40th St E	56	112	238	67.9
	40th St E/50th St E	< 50	< 50	104	62.4
	50th St E/90th St E	< 50	78	162	65.4
Ave Q	Palmdale Blvd /Division St	108	222	473	71.7
	Division St/6th St E	103	211	449	71.4
	6th St E/Sierra Hwy	106	218	465	71.6
	Sierra Hwy/20th St E	106	218	465	71.6
	20th St E/40th St E	110	226	481	71.8
	40th St E/60th St E	113	233	497	72.0
Santa Fe Hills Dr	Elizabeth Lake Rd /25th st W	< 50	100	211	67.1

TABLE N-6
(Continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Elizabeth Lake Rd					
	Godde Hill Rd/Bridge Rd	56	112	238	67.9
	Bridge Rd/25th St W	130	271	580	73.1
	25th St W/Foxholm Dr	149	307	655	73.3
	Foxholm Dr /Palmdale Blvd	158	327	698	73.7
Palmdale Blvd					
	Elizabeth Lake Rd/SR-14	147	303	647	73.2
	SR-14/Division St	165	342	732	74.0
	Division St/30th St E	122	254	543	72.6
	30th St E/47th St E	103	211	449	71.4
	47th St E/70th St E	93	187	398	70.6
	70th St E/90th St E	74	145	304	68.8
	90th St E/120th St E	86	171	362	70.0
City Ranch Rd					
	Ritter Ranch Rd /Ranch Center Dr	< 50	< 50	84	62.1
	Ranch Center Dr /Bridge Rd	68	139	295	69.4
	Bridge Rd /Tierra Subida Ave	< 50	83	172	65,8
Ave R	Tierra Subida Ave				
	/Division St	110	226	481	71.8
	Division St/6th St E	108	222	473	71.7
	6th St E/25th St E	106	218	465	71.6
	25th St E/30th St E	98	199	424	71.0
	30th St E/47th St E	106	218	465	71.6
	47th St E/60th St E	100	203	432	71.1
	60th St E/70th St E	< 50	84	168	64.8
	70th St E/90th St E	71	136	284	68.4
Ave R-8	Division St/6th St E	69	142	303	69.5
	6th St E/10th St E	69	142	303	69.5
	10th St E/25th St E	71	146	311	69.7
	25th St E /1200' W of 30th St E	65	132	279	69.9
	1200' W of 30th St E /1200' E of 35th St E	74	153	326	70.0
	1200' E of 35th St E /40th St E	69	142	303	69.5

TABLE N-6
(Continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Ave R-8	40th St E /1800' E of 47th St E	65	132	279	69.0
	1800' E of 47th St E /70th St E	82	169	362	70.7
	70th St E/90th St E	58	116	246	68.2
Ritter Ranch Rd					
	Elizabeth Lake Rd /City Ranch Rd	< 50	96	201	66.8
	City Ranch Rd /Ranch Center Dr	< 50	96	201	66.8
	Ranch Center Dr /Bridge Rd	84	167	353	69.8
Ave S	Bridge Rd /Tierra Subida Ave	114	237	505	72.2
	Tierra Subida Ave/SR-14	93	187	398	70.6
	SR-14/Sierra Hwy	115	230	488	71.3
	Sierra Hwy/10th St E	147	303	647	73.2
	10th St E/20th St E	132	270	575	72.4
	20th St E/25th St E	113	226	478	71.2
	25th St E/35th St E	142	291	620	72.9
	35th St E/47th St E	123	249	527	71.8
	47th St E /3800' E of 47th St E	97	187	393	69.9
	3800' E of 47th St E /60th St E	78	154	324	69.2
	60th St E/70th St E	67	126	263	67.9
	70th St E/90th St E	71	136	284	68.4
	90th St E/110th St E	93	187	398	70.6
Ave S-8	45th St E/Ft Tejon Rd	< 50	62	125	63.6
Pearblossom Hwy					
	Sierra Hwy /Barrel Springs Rd	152	315	673	73.4
	Barrel Springs Rd /40th St E	156	323	690	73.6
	40th St E/47th St E	145	299	638	73.1
	47th St E/Ave T	117	235	498	71.5
Ave T	Pearblossom Hwy /90th St E	100	203	432	71.1
	90th St E/120th St E	67	126	263	67.9

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Barrel Springs Rd				
Tierra Subida Ave /Sierra Hwy	< 50	106	218	66.6
Sierra Hwy /W of 25th St E	73	140	294	68.6
W of 25th St E /25th St E	73	140	294	68.6
25th St E /Pearblossom Hwy	98	199	424	71.0
Pearblossom Hwy /40th St E	74	145	304	68.8
40th St E/Chesboro Rd	< 50	< 50	110	61.8
Old Herald Rd				
25th st E /Barrel Springs Rd	< 50	87	182	66.2
State Route 138 (SR-138)				
Ave T/90th St E	109	225	480	71.8
90th St E/120th St E	< 50	< 50	98	61.0
North/South Arterials				
70th St West				
Ave M/Ave M-8	< 50	108	229	67.7
Ave M-8/Ave N	60	120	255	68.4
65th St West				
Ave M/Ave N	< 50	< 50	< 50	55.4
60th St West				
Ave M/Ave N	< 50	104	220	67.4
Godde Hill Rd				
60th St W /Elizabeth Lake Rd	65	132	279	69.0
55th St West				
Ave M-8/Ave N	< 50	< 50	76	60.2

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
50th St West				
Ave L/Ave M	< 50	104	220	67.4
Ave M/Ave N	63	128	271	68.8
45th St West				
Ave N/Ave O	< 50	96	201	66.8
Ranch Center Dr				
Elizabeth Lake Rd /Ritter Ranch Rd	< 50	58	116	63.2
30th St West				
Ave M/Ave N	86	171	362	70.0
Ave N/Ave P	71	136	284	68.4
Ave P/Ave P-8	< 50	101	206	66.2
25th St West				
Ave O/Ave P	< 50	63	128	63.8
Ave P/Ave P-8	< 50	100	211	67.1
Ave P-8 /Elizabeth Lake Rd	86	171	362	70.0
20th St West				
Ave M/Ave N	56	112	238	67.9
Ave N/Ave P	< 50	108	228	67.7
Ave P/Elizabeth Lake Rd	60	120	255	68.4
15th St West				
Ave M/Ave N	61	124	263	68.6
Ave N/Ave P	< 50	87	182	66.2
Ave O-8/Ave P-8	< 50	73	151	64.9
10th St West				
Ave M/Ave N	145	299	638	73.1
Ave N/Ave P	158	327	698	73.7
Ave P/Palmdale Blvd	140	287	611	72.8
Tierra Subida Ave				
Palmdale Blvd/Ave R	82	163	343	69.6
Ave R/Ave S	108	222	473	71.7
Ave S/Barrel Springs Rd	< 50	83	172	65.8
5th St West				
Ave P-8/Palmdale Blvd	131	275	587	73.1
Palmdale Blvd /Tierra Subida Ave	63	128	271	68.8

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Division St				
Ave M/Ave O	113	233	497	72.0
Ave O/Ave P	91	183	389	70.4
Ave P/1500' N of Ave Q	103	210	449	71.4
1500' N of Ave Q/Ave R	101	207	441	71.3
Ave R/Ave R-8	65	121	252	67.6
5th St East				
Ave Q/Palmdale Blvd	< 50	< 50	104	62.4
Palmdale Blvd/Ave R-8	< 50	63	128	63.8
Ave R-8/Ave S	< 50	58	116	63.2
6th St East				
Sierra Hwy /Palmdale Blvd	< 50	58	116	63.2
Palmdale Blvd/Ave R	< 50	58	116	63.2
Sierra Hwy				
Ave M/Ave P	152	315	673	73.4
Ave P/Ave Q	119	247	528	72.4
Ave Q/Palmdale Blvd	84	167	353	69.8
Palmdale Blvd/Ave R-8	84	167	353	69.8
Ave R-8/Ave S	82	163	343	69.6
Ave S/1200' S of Ave S	82	163	343	69.6
1200' S of Ave S /3000' N of Barrel Springs Rd	82	163	343	69.6
3000' N of Barrel Springs Rd /Pearblossom Hwy	82	163	343	69.6
Pearblossom Hwy/SR-14	173	361	772	74.3
10th St East				
Ave L/Ave M	94	191	407	70.7
Ave O-8/Ave P	100	203	432	71.1
Ave P/Palmdale Blvd	110	226	481	71.8
Palmdale Blvd/Ave R-8	60	120	255	68.4
Ave R-8/Ave S	61	124	263	68.6
15th St East				
Ave L/Ave L-8	< 50	78	162	65.4
Ave L-8/Ave M	< 50	77	160	65.3
Ave P/Palmdale Blvd	< 50	96	201	66.8
Palmdale Blvd/Ave R	< 50	73	151	64.9

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
20th St East				
Ave L/Ave M	73	140	294	68.6
Ave P/Palmdale Blvd	< 50	96	201	66.8
Palmdale Blvd/Ave S	63	128	271	68.8
25th St East				
Ave L/Ave M	< 50	< 50	90	61.4
Ave P/Palmdale Blvd	94	191	407	70.7
Palmdale Blvd/Ave R-8	91	183	389	70.4
Ave R-8/Ave S	93	187	398	70.6
Ave S/4200' S of Ave S	131	275	587	73.1
4200' S of Ave S /Barrel Springs Rd	93	187	398	70.6
30th St East				
Ave L/Ave M	67	126	263	67.9
Ave P/Ave Q	80	158	334	69.4
Ave Q/Palmdale Blvd	93	187	398	70.6
Palmdale Blvd /1300' S of Palmdale Blvd	84	167	353	70.0
1300' S of Palmdale Blvd/Ave R	84	167	353	70.0
Ave R/1000' S of Ave R	89	179	380	70.3
1000' S of Ave R /600' N of Ave R-8	89	179	380	70.3
600' N of Ave R-8 /Ave R-8	89	179	380	70.3
Ave R-8/Ave S	< 50	84	168	64.8
Ave S/1600' S of Ave S	–	–	–	---
35th St East				
Ave L/Ave M	< 50	< 50	104	62.4
Ave P/Ave Q	< 50	58	116	63.2
Ave Q/Palmdale Blvd	65	132	279	69.0
Palmdale Blvd /1200' N of Ave R	65	132	279	69.0
1200' N Ave R/Ave R	66	132	279	69.0
Ave R/Ave S	< 50	73	151	64.9
Ave S/1600' S of Ave S	< 50	78	162	65.4

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
40th St East				
Ave L/Ave M	< 50	100	211	67.1
Ave N/Ave P	< 50	109	229	67.7
Ave P/Palmdale Blvd	96	195	415	70.9
Palmdale Blvd/Ave S	91	183	389	70.4
Ave S/Pearblossom Hwy	103	211	449	71.4
Pearblossom Hwy /Barrel Springs Rd	< 50	108	229	67.7
45th St East				
Ave L/Ave M	< 50	< 50	90	61.4
47th St East				
Palmdale Blvd/Ave S	149	307	655	73.3
Ave S/Fort Tejon Rd	121	244	518	71.7
Fort Tejon Rd /Pearblossom Hwy	78	154	324	69.2
Pearblossom Hwy /Barrel Springs Rd	< 50	< 50	60	58.4
Fort Tejon Rd				
47th St E /Pearblossom Hwy	75	133	271	67.4
50th St East				
Ave L/Ave M	163	338	723	73.9
Ave M/Ave P	180	376	804	74.6
Ave P/Crosstown Fwy	156	323	690	73.6
Crosstown Fwy /Palmdale Blvd	168	350	748	74.1
55th St East				
Ave O/Ave S	< 50	87	182	66.2
60th St East				
Ave L/Ave N	< 50	111	230	67.0
Ave O/Ave R	114	237	505	72.2
Ave R/Ave S	80	158	334	69.4
60th St East				
Ave S/Ave T	67	126	263	67.9
Ave T/Mt Emma Rd	< 50	< 50	90	61.4

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
70th St East				
Ave L/Ave N	< 50	83	172	65.8
Ave P-8/Ave R	< 50	100	211	67.1
Ave R/Ave S-8	60	120	255	68.4
80th St East				
Ave L/Ave N	< 50	87	182	66.2
90th St East				
Ave L/Ave N	94	191	407	70.7
Ave N/Palmdale Blvd	113	233	497	72.0
Palmdale Blvd/Ave S	94	191	407	70.7
Ave S/Ave T	< 50	104	220	67.4
Ave T/SR-138	< 50	< 50	104	62.4
SR-138/Fort Tejon Rd	< 50	< 50	< 50	55.4
110th St East				
Ave L/Ave N	< 50	63	128	63.8
Ave N/Ave P	< 50	96	201	66.8
Ave P/Ave S	< 50	92	192	66.5
Ave S/SR-138	< 50	< 50	76	60.2
SR-138/Fort tejon Rd	< 50	< 50	60	58.4
State Route 14 (SR-14)				
Ave L/Ave N	355	756	1625	78.7
Ave N/Ave P	379	809	1738	79.1
Ave P/Palmdale Blvd	391	834	1793	79.3
Palmdale Blvd/Ave S	272	578	1241	77.4
Ave S /L. A. Forest Hwy	260	551	1184	77.1
L. A. Forest Hwy /Crown Valley Rd	319	682	1466	78.5
Bypass Fwy				
Ave L/Ave M	222	472	1015	76.7
Ave M/Ave O	235	501	1077	77.1
Ave O/Palmdale Blvd	157	331	710	74.4
Crosstown Fwy				
SR-14/10th St E	233	496	1066	77.0
10th St E/25th St E	235	501	1077	77.1
25th St E/40th St E	228	487	1046	76.9
40th St E/50th St E	241	515	1107	77.3
50th St E/Bypass Fwy	157	331	710	74.4

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Airport Fwy				
Crosstown Fwy/70th St E	280	381	818	75.3
70th St E/Bypass Fwy	160	337	723	74.5

Source: Michael Brandman Associates, 1992.

TABLE N-7

NOISE IMPACTS BY SOURCE

U.S. Air Force Plant 42	CNEL noise contours extend substantial distances into the community. The 70 dBA CNEL extends beyond SR-14 on the west.
Antelope Valley Freeway	CNEL noise levels are significant and the 60 dBA CNEL demonstrates that freeway noise extends a substantial distance off the right-of-way.
Sierra Highway/Southern Pacific Railroad Line	These transportation noise sources have overlapping noise contours resulting in substantial noise impacts. Major rail freight movements result in single events of long duration.
Pearblossom Highway	The 60 and 65 dBA CNEL contours extend substantial distances into the community.
Major Roadways	Noise-sensitive land uses along major roadways are impacted by traffic noise.
Commercial/Industrial	In general, commercial/industrial operations and activities are not considered a City-wide noise problem. Isolated noise problems occur where commercial/industrial uses are located near a noise-sensitive land use. Sand and gravel operations are presently far removed from noise sensitive land uses. However, sensitive residential uses are being developed closer to those operations and traffic along Avenue T will impact more residential uses as development spreads outward from the existing developed areas.
Construction	Construction noise can be annoying to adjacent noise-sensitive land uses.

TABLE N-8

EFFECTS OF NOISE ON PEOPLE (RESIDENTIAL LAND USES)

Effects[a]	dBA CNEL 60	dBA CNEL 65
Hearing Loss	Will not occur	Will not occur
Speech Interference Outdoor (distance for 95% sentence intelligibility)	2.0 meters (6.6 ft.)	1.5 meters (4.9 ft.)
Indoor (sentence intelligibility)	100%	100%
Highly Annoyed[b]	9%	15%
Average Community Recreation[c]	Moderate	Significant
General Community Attitude Towards Area	No more important than various other environmental factors	Adverse aspect on the community environment

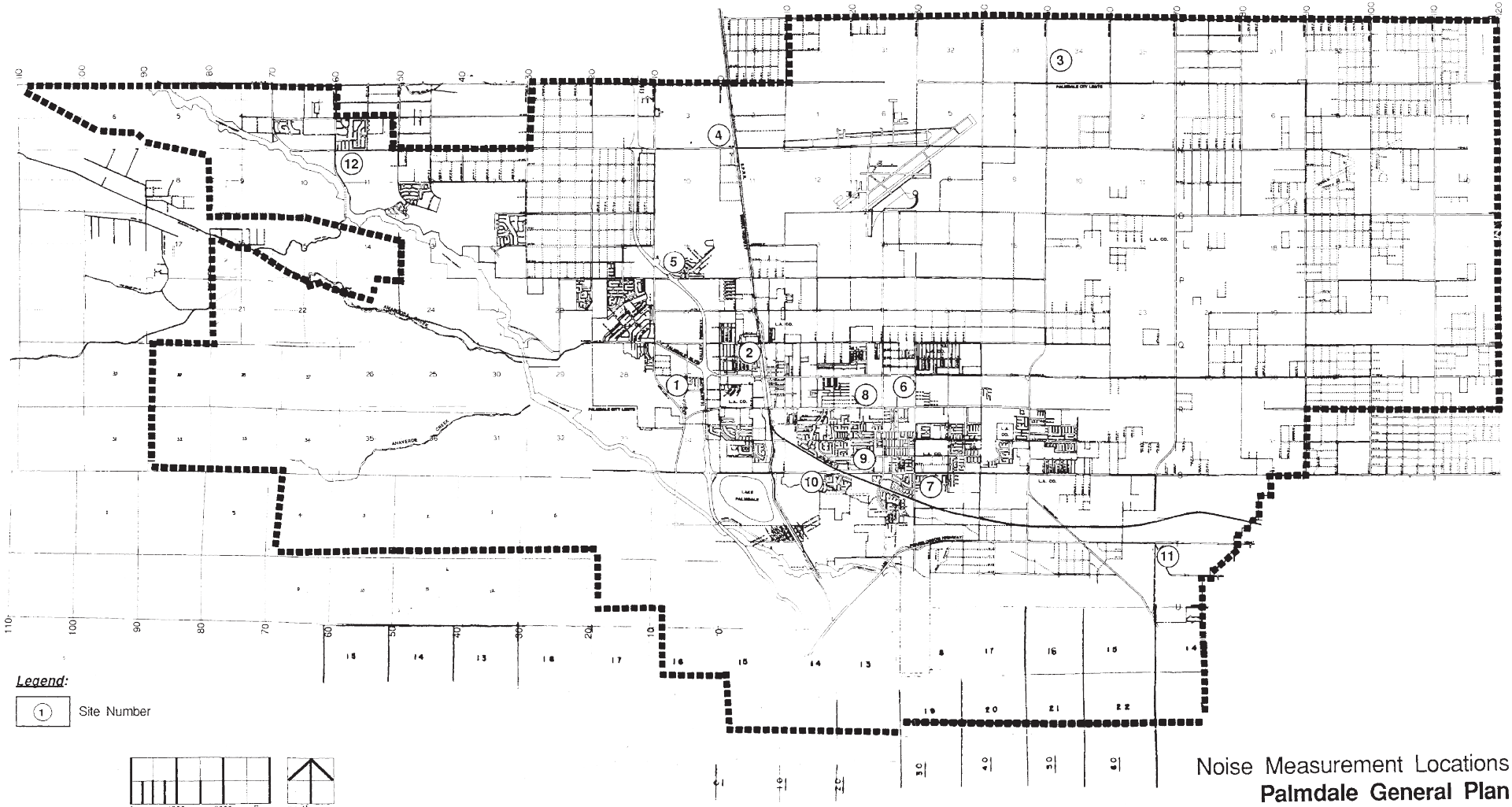
a "Speech Interference" data are drawn from the following tables in EPA's "Levels Document": Table 3, Fig. D-1, Fig. D-2, Fig. D-3. All other data from National Academy of Science 1977 report "Guidelines for Preparing Environmental Impact Statements on Noise, Report of Working Group 69 on Evaluation of Environmental Impact of Noise."

b Depends on attitudes and other factors. An unknown small percentage of people will report being "highly annoyed" even in the quietest surroundings. One reason is the difficulty all people have in integrating annoyance over a very long time.

c Attitudes or other non-acoustic factors can modify this. Noise at low levels can still be an important problem, particularly when it intrudes into a quiet environment.

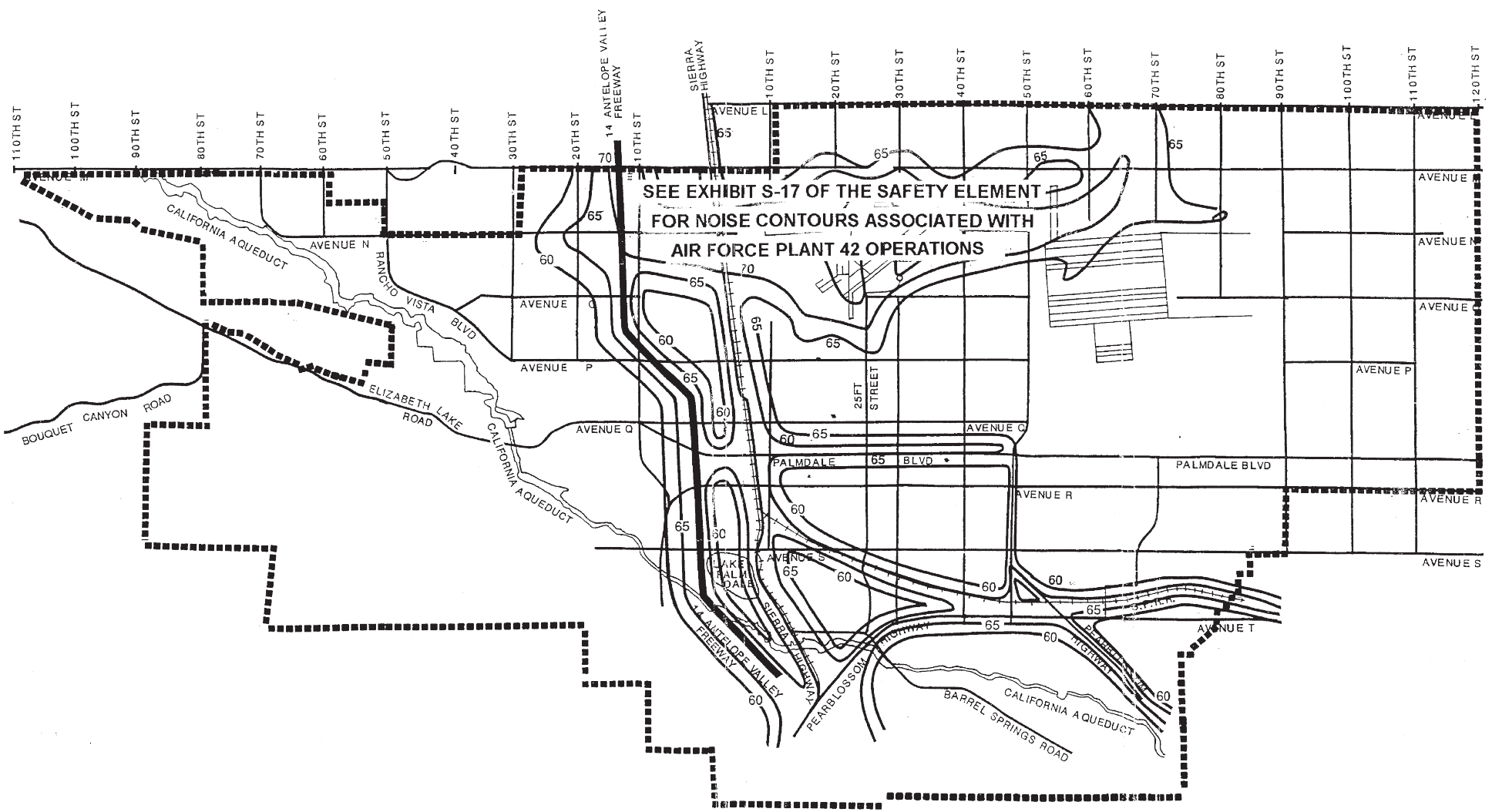
Note: Research implicates noise as a factor producing stress-related health effects such as heart disease, high-blood pressure and stroke, and ulcers and other digestive disorders. The relationships between noise and these effects, however, have not as yet been quantified.

Source: U. S. Department of Transportation, Federal Interagency Committee on Urban Noise, Guidelines for Considering Noise in Land Use Planning Control, page D-2, June 1980.



Noise Measurement Locations
Palmdale General Plan

Adopted by City Council 1/25/93 **EXHIBIT N-2**



Existing Transportation Noise Contours
Palmdale General Plan

Adopted by City Council
1/25/93

EXHIBIT N-4

Section 1206 Sound Transmission

1206.1 Scope

This section shall apply to common interior walls, partitions and floor/ceiling assemblies between adjacent *dwelling units* and *sleeping units* or between *dwelling units* and *sleeping units* and adjacent public areas such as halls, *corridors*, *stairways* or *service areas*.

1206.2 Airborne sound

Walls, partitions and floor-ceiling assemblies separating *dwelling units* and *sleeping units* from each other or from public or service areas shall have a sound transmission class of not less than 50, or not less than 45 if field tested, for airborne noise where tested in accordance with ASTM E90. Alternatively, the sound transmission class of walls, partitions and floor-ceiling assemblies shall be established by engineering analysis based on a comparison of walls, partitions and floor-ceiling assemblies having sound transmission class ratings as determined by the test procedures set forth in ASTM E90. Penetrations or openings in construction assemblies for piping; electrical devices; recessed cabinets; bathtubs; soffits; or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings. This requirement shall not apply to entrance doors; however, such doors shall be tight fitting to the frame and sill.

1206.2.1 Masonry

The sound transmission class of concrete masonry and clay masonry assemblies shall be calculated in accordance with TMS 0302 or determined through testing in accordance with ASTM E90.

1206.3 Structure-borne sound

AMENDMENT

Floor-ceiling assemblies between *dwelling units* and *sleeping units* or between a *dwelling unit* or *sleeping unit* and a public or service area within the structure shall have an impact insulation class rating of not less than 50, or not less than 45 if field tested, where tested in accordance with ASTM E492. Alternatively, the impact insulation class of floor-ceiling assemblies shall be established by engineering analysis based on a comparison of floor-ceiling assemblies having impact insulation class ratings as determined by the test procedures in ASTM E492.

Exception: Impact sound insulation is not required for floor-ceiling assemblies over nonhabitable rooms or spaces not designed to be occupied, such as garages, mechanical rooms or storage areas.

1206.4 Allowable interior noise levels

AMENDMENT

Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.

1206.5 Acoustical control

AMENDMENT

[BSC-CG] See *California Green Building Standards Code*, Chapter 5, Division 5.5 for additional sound transmission requirements.

Exported from UpCodes

3535(d)); the National Environmental Policy Act of 1969 (42 U.S.C. 4321); and the other statutes that are referred to in this part.

[61 FR 13333, Mar. 26, 1996]

§ 51.3 Responsibilities.

The Assistant Secretary for Community Planning and Development is responsible for administering HUD's environmental criteria and standards as set forth in this part. The Assistant Secretary for Community Planning and Development may be assisted by HUD officials in implementing the responsibilities established by this part. HUD will identify these HUD officials and their specific responsibilities through FEDERAL REGISTER notice.

[61 FR 13333, Mar. 26, 1996]

§ 51.4 Program coverage.

Environmental standards shall apply to all HUD actions except where special provisions and exemptions are contained in each subpart.

Subpart B—Noise Abatement and Control

§ 51.100 Purpose and authority.

(a) It is the purpose of this subpart B to:

(1) Call attention to the threat of noise pollution;

(2) Encourage the control of noise at its source in cooperation with other Federal departments and agencies;

(3) Encourage land use patterns for housing and other noise sensitive urban needs that will provide a suitable separation between them and major noise sources;

(4) Generally prohibit HUD support for new construction of noise sensitive uses on sites having unacceptable noise exposure;

(5) Provide policy on the use of structural and other noise attenuation measures where needed; and

(6) Provide policy to guide implementation of various HUD programs.

(b) *Authority.* Specific authorities for noise abatement and control are contained in the Noise Control Act of 1972, as amended (42 U.S.C. 4901 *et seq.*); and the General Services Administration, Federal Management Circular 75–2; *Compatible Land Uses at Federal Airfields.*

[44 FR 40861, July 12, 1979, as amended at 61 FR 13333, Mar. 26, 1996]

§ 51.101 General policy.

(a) It is HUD's general policy to provide minimum national standards applicable to HUD programs to protect citizens against excessive noise in their communities and places of residence.

(1) *Planning assistance.* HUD requires that grantees give adequate consideration to noise exposures and sources of noise as an integral part of the urban environment when HUD assistance is provided for planning purposes, as follows:

(i) Particular emphasis shall be placed on the importance of compatible land use planning in relation to airports, highways and other sources of high noise.

(ii) Applicants shall take into consideration HUD environmental standards impacting the use of land.

(2) *Activities subject to 24 CFR part 58.* (i) Responsible entities under 24 CFR part 58 must take into consideration the noise criteria and standards in the environmental review process and consider ameliorative actions when noise sensitive land development is proposed in noise exposed areas. Responsible entities shall address deviations from the standards in their environmental reviews as required in 24 CFR part 58.

(ii) Where activities are planned in a noisy area, and HUD assistance is contemplated later for housing and/or other noise sensitive activities, the responsible entity risks denial of the HUD assistance unless the HUD standards are met.

(3) *HUD support for new construction.* HUD assistance for the construction of new noise sensitive uses is prohibited generally for projects with unacceptable noise exposures and is discouraged for projects with normally unacceptable noise exposure. (Standards of acceptability are contained in § 51.103(c).) This policy applies to all HUD programs providing assistance, subsidy or insurance for housing, manufactured home parks, nursing homes, hospitals, and all programs providing assistance or insurance for land development, redevelopment or any other provision of

facilities and services which are directed to making land available for housing or noise sensitive development. The policy does not apply to research demonstration projects which do not result in new construction or reconstruction, flood insurance, interstate land sales egistration, or any action or emergency assistance under disaster assistance provisions or appropriations which are provided to save lives, protect property, protect public health and safety, remove debris and wreckage, or assistance that has the effect of restoring facilities substantially as they existed prior to the disaster.

(4) *HUD support for existing construction.* Noise exposure by itself will not result in the denial of HUD support for the resale and purchase of otherwise acceptable existing buildings. However, environmental noise is a marketability factor which HUD will consider in determining the amount of insurance or other assistance that may be given.

(5) *HUD support of modernization and rehabilitation.* For modernization projects located in all noise exposed areas, HUD shall encourage noise attenuation features in alterations. For major or substantial rehabilitation projects in the Normally Unacceptable and Unacceptable noise zones, HUD actively shall seek to have project sponsors incorporate noise attenuation features, given the extent and nature of the rehabilitation being undertaken and the level or exterior noise exposure. In Unacceptable noise zones, HUD shall strongly encourage conversion of noise-exposed sites to land uses compatible with the high noise levels.

(6) *Research, guidance and publications.* HUD shall maintain a continuing program designed to provide new knowledge of noise abatement and control to public and private bodies, to develop improved methods for anticipating noise encroachment, to develop noise abatement measures through land use and building construction practices, and to foster better understanding of the consequences of noise. It shall be HUD's policy to issue guidance documents periodically to assist HUD personnel in assigning an acceptability category to projects in accordance with noise exposure standards, in evaluating noise attenuation measures, and in advising local agencies about noise abatement strategies. The guidance documents shall be updated periodically in accordance with advances in the state-of-the-art.

(7) *Construction equipment, building equipment and appliances.* HUD shall encourage the use of quieter construction equipment and methods in population centers, the use of quieter equipment and appliances in buildings, and the use of appropriate noise abatement techniques in the design of residential structures with potential noise problems.

(8) *Exterior noise goals.* It is a HUD goal that exterior noise levels do not exceed a day-night average sound level of 55 decibels. This level is recommended by the Environmental Protection Agency as a goal for outdoors in residential areas. The levels recommended by EPA are not standards and do not take into account cost or feasibility. For the purposes of this regulation and to meet other program objectives, sites with a day-night average sound level of 65 and below are acceptable and are allowable (see Standards in §51.103(c)).

(9) *Interior noise goals.* It is a HUD goal that the interior auditory environment shall not exceed a day-night average sound level of 45 decibels. Attenuation measures to meet these interior goals shall be employed where feasible. Emphasis shall be given to noise sensitive interior spaces such as bedrooms. Minimum attenuation requirements are prescribed in §51.104(a).

(10) *Acoustical privacy in multifamily buildings.* HUD shall require the use of building design and acoustical treatment to afford acoustical privacy in multifamily buildings pursuant to requirements of the Minimum Property Standards.

[44 FR 40861, July 12, 1979, as amended at 50 FR 9268, Mar. 7, 1985; 61 FR 13333, Mar. 26, 1996]

§51.102 Responsibilities.

(a) *Surveillance of noise problem areas.* Appropriate field staff shall maintain surveillance of potential noise problem areas and advise local officials, developers, and planning groups of the unacceptability of sites because of noise exposure at the earliest possible

time in the decision process. Every attempt shall be made to insure that applicants' site choices are consistent with the policy and standards contained herein.

(b) *Notice to applicants.* At the earliest possible stage, HUD program staff shall:

(1) Determine the suitability of the acoustical environment of proposed projects;

(2) Notify applicants of any adverse or questionable situations; and

(3) Assure that prospective applicants are apprised of the standards contained herein so that future site choices will be consistent with these standards.

(c) *Interdepartmental coordination.* HUD shall foster appropriate coordination between field offices and other departments and agencies, particularly the Environmental Protection Agency, the Department of Transportation, Department of Defense representatives, and the Department of Veterans Affairs. HUD staff shall utilize the acceptability standards in commenting on the prospective impacts of transportation facilities and other noise generators in the Environmental Impact Statement review process.

[44 FR 40861, July 12, 1979, as amended at 54 FR 39525, Sept. 27, 1989; 61 FR 13333, Mar. 26, 1996]

§ 51.103 Criteria and standards.

These standards apply to all programs as indicated in § 51.101.

(a) *Measure of external noise environments.* The magnitude of the external noise environment at a site is determined by the value of the day-night average sound level produced as the result of the accumulation of noise from all sources contributing to the external noise environment at the site. Day-night average sound level, abbreviated as DNL and symbolized as L_{dn}, is the 24-hour average sound level, in decibels, obtained after addition of 10 decibels to sound levels in the night from 10 p.m. to 7 a.m. Mathematical expressions for average sound level and day-night average sound level are stated in the Appendix I to this subpart.

(b) *Loud impulsive sounds.* On an interim basis, when loud impulsive sounds, such as explosions or sonic booms, are experienced at a site, the day-night average sound level produced by the loud impulsive sounds alone shall have 8 decibels added to it in assessing the acceptability of the site (see appendix I to this subpart). Alternatively, the C-weighted day-night average sound level (L_{Cdn}) may be used without the 8 decibel addition, as indicated in § 51.106(a)(3). Methods for assessing the contribution of loud impulsive sounds to day-night average sound level at a site and mathematical expressions for determining whether a sound is classed as ''loud impulsive'' are provided in the appendix I to this subpart.

(c) *Exterior standards.* (1) The degree of acceptability of the noise environment at a site is determined by the sound levels external to buildings or other facilities containing noise sensitive uses. The standards shall usually apply at a location 2 meters (6.5 feet) from the building housing noise sensitive activities in the direction of the predominant noise source. Where the building location is undetermined, the standards shall apply 2 meters (6.5 feet) from the building setback line nearest to the predominant noise source. The standards shall also apply at other locations where it is determined that quiet outdoor space is required in an area ancillary to the principal use on the site.

(2) The noise environment inside a building is considered acceptable if: (i) The noise environment external to the building complies with these standards, and (ii) the building is constructed in a manner common to the area or, if of uncommon construction, has at least the equivalent noise attenuation characteristics.

SITE ACCEPTABILITY STANDARDS

	Day-night average sound level (in decibels)	Special approvals and requirements
Acceptable	Not exceeding 65 dB(1)	None.
Normally Unacceptable	Above 65 dB but not exceeding 75 dB	Special Approvals (2) Environmental Review (3). Attenuation (4).

SITE ACCEPTABILITY STANDARDS—Continued

	Day-night average sound level (in decibels)	Special approvals and requirements
Unacceptable	Above 75 dB	Special Approvals (2). Environmental Review (3). Attenuation (5).

Notes: (1) Acceptable threshold may be shifted to 70 dB in special circumstances pursuant to §51.105(a).
(2) See §51.104(b) for requirements.
(3) See §51.104(b) for requirements.
(4) 5 dB additional attenuation required for sites above 65 dB but not exceeding 70 dB and 10 dB additional attenuation required for sites above 70 dB but not exceeding 75 dB. (See §51.104(a).)
(5) Attenuation measures to be submitted to the Assistant Secretary for CPD for approval on a case-by-case basis.

[44 FR 40861, July 12, 1979, as amended at 49 FR 12214, Mar. 29, 1984]

§51.104 Special requirements.

(a)(1) *Noise attenuation.* Noise attenuation measures are those required in addition to attenuation provided by buildings as commonly constructed in the area, and requiring open windows for ventilation. Measures that reduce external noise at a site shall be used wherever practicable in preference to the incorporation of additional noise attenuation in buildings. Building designs and construction techniques that provide more noise attenuation than typical construction may be employed also to meet the noise attenuation requirements.

(2) *Normally unacceptable noise zones and unacceptable noise zones.* Approvals in Normally Unacceptable Noise Zones require a minimum of 5 decibels additional sound attenuation for buildings having noise-sensitive uses if the day-night average sound level is greater than 65 decibels but does not exceed 70 decibels, or a minimum of 10 decibels of additional sound attenuation if the day-night average sound level is greater than 70 decibels but does not exceed 75 decibels. Noise attenuation measures in Unacceptable Noise Zones require the approval of the Assistant Secretary for Community Planning and Development, or the Certifying Officer for activities subject to 24 CFR part 58. (See §51.104(b)(2).)

(b) *Environmental review requirements.* Environmental reviews shall be conducted pursuant to the requirements of 24 CFR parts 50 and 58, as applicable, or other environmental regulations issued by the Department. These requirements are hereby modified for all projects proposed in the Normally Unacceptable and Unacceptable noise exposure zones as follows:

(1) *Normally unacceptable noise zone.* (i) All projects located in the Normally Unacceptable Noise Zone require a Special Environmental Clearance except an EIS is required for a proposed project located in a largely undeveloped area, or where the HUD action is likely to encourage the establishment of incompatible land use in this noise zone.

(ii) When an EIS is required, the concurrence of the Program Assistant Secretary is also required before a project can be approved. For the purposes of this paragraph, an area will be considered as largely undeveloped unless the area within a 2-mile radius of the project boundary is more than 50 percent developed for urban uses and infrastructure (particularly water and sewers) is available and has capacity to serve the project.

(iii) All other projects in the Normally Unacceptable zone require a Special Environmental Clearance, except where an EIS is required for other reasons pursuant to HUD environmental policies.

(2) *Unacceptable noise zone.* An EIS is required prior to the approval of projects with unacceptable noise exposure. Projects in or partially in an Unacceptable Noise Zone shall be submitted to the Assistant Secretary for Community Planning and Development, or the Certifying Officer for activities subject to 24 CFR part 58, for approval. The Assistant Secretary or the Certifying Officer may waive the EIS requirement in cases where noise is the only environmental issue and no outdoor noise sensitive activity will take place on the site. In such cases, an environmental review shall be made

pursuant to the requirements of 24 CFR parts 50 or 58, as appropriate.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13333, Mar. 26, 1996]

§ 51.105 Exceptions.

(a) *Flexibility for non-acoustic benefits.* Where it is determined that program objectives cannot be achieved on sites meeting the acceptability standard of 65 decibels, the Acceptable Zone may be shifted to L_{dn} 70 on a case-by-case basis if all the following conditions are satisfied:

(1) The project does not require an Environmental Impact Statement under provisions of §51.104(b)(1) and noise is the only environmental issue.

(2) The project has received a Special Environmental Clearance and has received the concurrence of the Environmental Clearance Officer.

(3) The project meets other program goals to provide housing in proximity to employment, public facilities and transportation.

(4) The project is in conformance with local goals and maintains the character of the neighborhood.

(5) The project sponsor has set forth reasons, acceptable to HUD, as to why the noise attenuation measures that would normally be required for new construction in the L_{dn} 65 to L_{dn} 70 zone cannot be met.

(6) Other sites which are not exposed to noise above L_{dn} 65 and which meet program objectives are generally not available.

The above factors shall be documented and made part of the project file.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13334, Mar. 26, 1996]

§ 51.106 Implementation.

(a) *Use of available data.* HUD field staff shall make maximum use of noise data prepared by others when such data are determined to be current and adequately projected into the future and are in terms of the following:

(1) *Sites in the vicinity of airports.* The noise environment around airports is described sometimes in terms of Noise Exposure Forecasts, abbreviated as NEF or, in the State of California, as Community Noise Equivalent Level, abbreviated as CNEL. The noise environment for sites in the vicinity of airports for which day-night average sound level data are not available may be evaluated from NEF or CNEL analyses using the following conversions to DNL:

$DNL \approx NEF+35$
$DNL \approx CNEL$

(2) *Sites in the vicinity of highways.* Highway projects receiving Federal aid are subject to noise analyses under the procedures of the Federal Highway Administration. Where such analyses are available they may be used to assess sites subject to the requirements of this standard. The Federal Highway Administration employs two alternate sound level descriptors: (i) The A-weighted sound level not exceeded more than 10 percent of the time for the highway design hour traffic flow, symbolized as L_{10}; or (ii) the equivalent sound level for the design hour, symbolized as L_{eq}. The day-night average sound level may be estimated from the design hour L_{10} or L_{eq} values by the following relationships, provided heavy trucks do not exceed 10 percent of the total traffic flow in vehicles per 24 hours and the traffic flow between 10 p.m. and 7 a.m. does not exceed 15 percent of the average daily traffic flow in vehicles per 24 hours:

$DNL \approx L_{10}$ (design hour)—3 decibels
$DNL \approx L_{eq}$ (design hour) decibels

Where the auto/truck mix and time of day relationships as stated in this section do not exist, the HUD Noise Assessment Guidelines or other noise analysis shall be used.

(3) *Sites in the vicinity of installations producing loud impulsive sounds.* Certain Department of Defense installations produce loud impulsive sounds from artillery firing and bombing practice ranges. Noise analyses for these facilities sometimes encompass sites that may be subject to the requirements of this standard. Where such analyses are available they may be used on an interim basis to establish the acceptability of sites under this standard. The Department of Defense uses day-night average sound level based on C-weighted sound level, symbolized L_{Cdn}, for the analysis of loud impulsive

sounds. Where such analyses are provided, the 8 decibel addition specified in §51.103(b), is not required, and the same numerical values of day-night average sound level used on an interim basis to determine site suitability for non-impulsive sounds apply to the L_{CDn}.

(4) *Use of areawide acoustical data.* HUD encourages the preparation and use of areawide acoustical information, such as noise contours for airports. Where such new or revised contours become available for airports (civil or military) and military installations they shall first be referred to the HUD State Office (Environmental Officer) for review, evaluation and decision on appropriateness for use by HUD. The HUD State Office shall submit revised contours to the Assistant Secretary for Community Planning and Development for review, evaluation and decision whenever the area affected is changed by 20 percent or more, or whenever it is determined that the new contours will have a significant effect on HUD programs, or whenever the contours are not provided in a methodology acceptable under §51.106(a)(1) or in other cases where the HUD State Office determines that Headquarters review is warranted. For other areawide acoustical data, review is required only where existing areawide data are being utilized and where such data have been changed to reflect changes in the measurement methodology or underlying noise source assumptions. Requests for determination on usage of new or revised areawide data shall include the following:

(i) Maps showing old, if applicable, and new noise contours, along with brief description of data source and methodology.

(ii) Impact on existing and prospective urbanized areas and on development activity.

(iii) Impact on HUD-assisted projects currently in processing.

(iv) Impact on future HUD program activity. Where a field office has determined that immediate approval of new areawide data is necessary and warranted in limited geographic areas, the request for approval should state the circumstances warranting such approval. Actions on proposed projects shall not be undertaken while new areawide noise data are being considered for HUD use except where the proposed location is affected in the same manner under both the old and new noise data.

(b) *Site assessments.* Compliance with the standards contained in §51.103(c) shall, where necessary, be determined using noise assessment guidelines, handbooks, technical documents and procedures issued by the Department.

(c) *Variations in site noise levels.* In many instances the noise environment will vary across a site, with portions of the site being in an Acceptable noise environment and other portions in a Normally Unacceptable noise environment. The standards in §51.103(c) shall apply to the portions of a building or buildings used for residential purposes and for ancillary noise sensitive open spaces.

(d) *Noise measurements.* Where noise assessments result in a finding that the site is borderline or questionable, or is controversial, noise measurements may be performed. Where it is determined that noise measurements are required, such measurements will be conducted in accordance with methods and measurement criteria established by the Department. Locations for noise measurements will depend on the location of noise sensitive uses that are nearest to the predominant noise source (see §51.103(c)).

(e) *Projections of noise exposure.* In addition to assessing existing exposure, future conditions should be projected. To the extent possible, noise exposure shall be projected to be representative of conditions that are expected to exist at a time at least 10 years beyond the date of the project or action under review.

(f) *Reduction of site noise by use of berms and/or barriers.* If it is determined by adequate analysis that a berm and/or barrier will reduce noise at a housing site, and if the barrier is existing or there are assurances that it will be in place prior to occupancy, the environmental noise analysis for the site may reflect the benefits afforded by the berm and/or barrier. In the environmental review process under §51.104(b), the location height and design of the berm and/or barrier shall be evaluated

to determine its effectiveness, and impact on design and aesthetic quality, circulation and other environmental factors.

[44 FR 40861, July 12, 1979, as amended at 61 FR 13334, Mar. 26, 1996]

APPENDIX I TO SUBPART B OF PART 51—DEFINITION OF ACOUSTICAL QUANTITIES

1. *Sound Level.* The quantity in decibels measured with an instrument satisfying requirements of American National Standard Specification for Type 1 Sound Level Meters S1.4–1971. Fast time-averaging and A-frequency weighting are to be used, unless others are specified. The sound level meter with the A-weighting is progressively less sensitive to sounds of frequency below 1,000 hertz (cycles per second), somewhat as is the ear. With fast time averaging the sound level meter responds particularly to recent sounds almost as quickly as does the ear in judging the loudness of a sound.

2. *Average Sound Level.* Average sound level, in decibels, is the level of the mean-square A-weighted sound pressure during the stated time period, with reference to the square of the standard reference sound pressure of 20 micropascals.

Day-night average sound level, abbreviated as DNL, and symbolized mathematically as L_{dn} is defined as:

$$L_{dn} = 10 \log_{10} \left[\frac{1}{86400} \left(\int_{0000}^{0700} 10^{[L_A(t)+10]/10} dt + \int_{0700}^{2200} 10^{L_A(t)/10} dt + \int_{2200}^{2400} 10^{[L_A(t)+10]/10} dt \right) \right]$$

Time t is in seconds, so the limits shown in hours and minutes are actually interpreted in seconds. $L_A(t)$ is the time varying value of A-weighted sound level, the quantity in decibels measured by an instrument satisfying requirements of American National Standard Specification for Type 1 Sound Level Meters S1.4–1971.

3. *Loud Impulsive Sounds.* When loud impulsive sounds such as sonic booms or explosions are anticipated contributors to the noise environment at a site, the contribution to day-night average sound level produced by the loud impulsive sounds shall have 8 decibels added to it in assessing the acceptability of a site.

A loud impulsive sound is defined for the purpose of this regulation as one for which:

(i) The sound is definable as a discrete event wherein the sound level increases to a maximum and then decreases in a total time interval of approximately one second or less to the ambient background level that exists without the sound; and

(ii) The maximum sound level (obtained with slow averaging time and A-weighting of a Type 1 sound level meter whose characteristics comply with ANSI S1.4–1971) exceeds the sound level prior to the onset of the event by at least 6 decibels; and

(iii) The maximum sound level obtained with fast averaging time of a sound level meter exceeds the maximum value obtained with slow averaging time by at least 4 decibels.

[44 FR 40861, July 12, 1979; 49 FR 10253, Mar. 20, 1984; 49 FR 12214, Mar. 29, 1984]

Subpart C—Siting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature

AUTHORITY: 42 U.S.C. 3535(d).

SOURCE: 49 FR 5103, Feb. 10, 1984, unless otherwise noted.

§ 51.200 Purpose.

The purpose of this subpart C is to:

(a) Establish safety standards which can be used as a basis for calculating acceptable separation distances (ASD) for HUD-assisted projects from specific, stationary, hazardous operations which store, handle, or process hazardous substances;

(b) Alert those responsible for the siting of HUD-assisted projects to the inherent potential dangers when such projects are located in the vicinity of such hazardous operations;

MODELING INPUT & OUTPUT

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/2/2020
Case Descr Ave R Apartments - Center of Construction - Ground Clearing

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM1	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	1320	0
Scraper	No	40		83.6	1320	0

	Calculated (dBA)		Results Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	48	44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	55.1	51.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	55.1	51.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM2	Commercia	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	385	0
Scraper	No	40		83.6	385	0

	Calculated (dBA)		Results Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	

Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	58.7	54.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	65.9	61.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.9	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM3	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	200	0
Scraper	No	40		83.6	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	64.4	60.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.5	68.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM4	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	200	0
Scraper	No	40		83.6	200	0

Results

Calculated (dBA)	Noise Limits (dBA)	Noise Limit Exceedance (dBA)

			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	64.4	60.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.5	68.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM5	Residential	50	50	50

			Equipment Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Dump Truck	No	40		76.5	450	0
Scraper	No	40		83.6	450	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	57.4	53.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	64.5	60.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	64.5	61.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/9/2020
Case Descr Ave R Apartments - Center of Construction - Excavation

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM1	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	1320	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Noise Limit Exceedance (dBA) Evening Lmax	Leq	Night Lmax	Leq
Dump Truck	48	44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	48	44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM2	Commercia	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	385	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Noise Limit Exceedance (dBA) Evening Lmax	Leq	Night Lmax	Leq
Dump Truck	58.7	54.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	63.3	58.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM3	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	64.4	60.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69	64.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM4	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	64.4	60.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69	64.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM5	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	450	0

	Calculated (dBA)		Results						Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	57.4	53.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	61.9	57.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/2/2020
Case Descr Ave R Apartments - Center of Construction - Foundation

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM1	Residential	50	50	50

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Pneumatic Tools	No	50		85.2	1322	0
Concrete Mixer Truck	No	40		78.8	1322	0

			Results											
	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	56.7	53.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	50.4	46.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	56.7	54.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM2	Commercia	50	50	50

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Pneumatic Tools	No	50		85.2	385	0
Concrete Mixer Truck	No	40		78.8	385	0

		Results					
	Calculated (dBA)	Noise Limits (dBA)			Noise Limit Exceedance (dBA)		
		Day	Evening	Night	Day	Evening	Night

Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	67.5	64.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	61.1	57.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.5	65.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM3	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	200	0
Concrete Mixer Truck	No	40		78.8	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	73.1	70.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	66.8	62.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	73.1	70.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM4	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	200	0
Concrete Mixer Truck	No	40		78.8	200	0

Results

Calculated (dBA)	Noise Limits (dBA)	Noise Limit Exceedance (dBA)

			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	73.1	70.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	66.8	62.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	73.1	70.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM5	Residential	50	50	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	450	0
Concrete Mixer Truck	No	40		78.8	450	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	66.1	63.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	59.7	55.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	66.1	63.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/2/2020
Case Descr Ave R Apartments - Center of Construction - Erection

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM1	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	1320	0
Concrete Mixer Truck	No	40		78.8	1320	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	56.7	53.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	50.4	46.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	56.7	54.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM2	Commercia	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	385	0
Concrete Mixer Truck	No	40		78.8	385	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	

Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	67.5	64.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	61.1	57.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.5	65.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM3	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	200	0
Concrete Mixer Truck	No	40		78.8	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	73.1	70.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	66.8	62.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	73.1	70.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM4	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	200	0
Concrete Mixer Truck	No	40		78.8	200	0

Results

Calculated (dBA)	Noise Limits (dBA)	Noise Limit Exceedance (dBA)

			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	73.1	70.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	66.8	62.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	73.1	70.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM5	Residential	50	50	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	450	0
Concrete Mixer Truck	No	40		78.8	450	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	66.1	63.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	59.7	55.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	66.1	63.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/9/2020
Case Descr Ave R Apartments - Center of Construction - Excavation

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM1	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	1320	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Noise Limit Exceedance (dBA) Evening Lmax	Leq	Night Lmax	Leq
Dump Truck	48	44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	48	44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM2	Commercia	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	385	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax	Leq	Day Lmax	Leq	Noise Limit Exceedance (dBA) Evening Lmax	Leq	Night Lmax	Leq
Dump Truck	58.7	54.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	63.3	58.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM3	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	64.4	60.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69	64.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM4	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	64.4	60.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69	64.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM5	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	450	0

	Calculated (dBA)		Results						Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	57.4	53.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	61.9	57.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/9/2020
Case Descr Ave R Apartments - Center of Construction - Ground Clearing

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM1	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	1075	0
Scraper	No	40		83.6	1075	0

	Calculated (dBA)		Results Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	49.8	45.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	56.9	53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	56.9	53.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM2	Commercia	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	250	0
Scraper	No	40		83.6	250	0

	Calculated (dBA)		Results Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	

Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	62.5	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	69.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69.6	66.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM3	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	40	0
Scraper	No	40		83.6	40	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	78.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	85.5	81.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	85.5	82.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM4	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	125	0
Scraper	No	40		83.6	125	0

Results

Calculated (dBA)	Noise Limits (dBA)	Noise Limit Exceedance (dBA)

			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	68.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	75.6	71.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	75.6	72.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM5	Residential	50	50	50

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Dump Truck	No	40		76.5	250	0
Scraper	No	40		83.6	250	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	62.5	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	69.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69.6	66.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/9/2020
Case Descr Ave R Apartments - Worst Case Construction - Excavation

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM1	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	1075	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	49.8	45.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	49.8	45.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM2	Commercia	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	250	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	62.5	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	62.5	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM3	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	40	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	78.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	78.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM4	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	125	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	68.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	68.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM5	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	250	0

	Calculated (dBA)		Results											
			Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	62.5	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	62.5	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/9/2020
Case Descr Ave R Apartments - Worst Case Construction - Foundation

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM1	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	1075	0
Concrete Mixer Truck	No	40		78.8	1075	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	58.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	52.2	48.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	58.5	56.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM2	Commercia	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	250	0
Concrete Mixer Truck	No	40		78.8	250	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	

Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	71.2	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	64.8	60.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.2	68.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM3	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	40	0
Concrete Mixer Truck	No	40		78.8	40	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	87.1	84.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	80.7	76.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	87.1	84.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM4	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	125	0
Concrete Mixer Truck	No	40		78.8	125	0

Results

Calculated (dBA)	Noise Limits (dBA)	Noise Limit Exceedance (dBA)

			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	70.8	66.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.2	74.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM5	Residential	50	50	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	250	0
Concrete Mixer Truck	No	40		78.8	250	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	71.2	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	64.8	60.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.2	68.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/9/2020
Case Descr Ave R Apartments - Worst Case Construction - Erection

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM1	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	1075	0
Concrete Mixer Truck	No	40		78.8	1075	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	58.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	52.2	48.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	58.5	56.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM2	Commercia	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	250	0
Concrete Mixer Truck	No	40		78.8	250	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	

Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	71.2	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	64.8	60.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.2	68.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM3	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	40	0
Concrete Mixer Truck	No	40		78.8	40	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	87.1	84.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	80.7	76.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	87.1	84.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM4	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	125	0
Concrete Mixer Truck	No	40		78.8	125	0

Results

Calculated (dBA)	Noise Limits (dBA)	Noise Limit Exceedance (dBA)

			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	70.8	66.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.2	74.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM5	Residential	50	50	50

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pneumatic Tools	No	50		85.2	250	0
Concrete Mixer Truck	No	40		78.8	250	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Pneumatic Tools	71.2	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	64.8	60.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.2	68.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/9/2020
Case Descr Ave R Apartments - Worst Case Construction - Finishing

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM1	Residential	50	50	50

			Equipment			
	Impact		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Dump Truck	No	40		76.5	1075	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	49.8	45.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	49.8	45.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM2	Commercia	50	50	50

			Equipment			
	Impact		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Dump Truck	No	40		76.5	250	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	62.5	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	62.5	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM3	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	40	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	78.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	78.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
NM4	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	125	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	68.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	68.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #5 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
NM5	Residential	50	50	50

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dump Truck	No	40		76.5	250	0

	Calculated (dBA)		Results											
			Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dump Truck	62.5	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	62.5	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Highridge Costa 9-Sep-20
AGI TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Ave R Aparments
RUN: Highridge Costa

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	m			m	m	m		km/h	%		
WB Ave R	3.7	point1	1	256.4	246.3	0				Average	
		point2	2	770.8	255.7	0					
EB Ave R	3.7	point3	3	260.1	233.8	0				Average	
		point4	4	770.8	244.9	0					
NB 30th	3.7	point5	5	402.7	257.1	0				Average	
		point6	6	402.2	471.4	0					
SB 30th	3.7	point7	7	395.7	256.6	0				Average	
		point8	8	393.4	471.8	0					

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: Ave R Aparments
RUN: Highridge Costa

Roadway Name	Points Name	No.	Segment Autos V	S	MTrucks V	S	HTrucks V	S	Buses V	S	Motorcycles V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
WB Ave R	point1	1	1344	80	28	80	28	80	0	0	0	0
	point2	2										
EB Ave R	point3	3	1344	80	28	80	28	80	0	0	0	0
	point4	4										
NB 30th	point5	5	1344	80	28	80	28	80	0	0	0	0
	point6	6										
SB 30th	point7	7	1344	80	28	80	28	80	0	0	0	0
	point8	8										

INPUT: RECEIVERS

PROJECT/CONTRACT: Ave R Aparments
RUN: Highridge Costa

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			m	m	m	m	dBA	dBA	dB	dB	
Receiver1	1	1	469.8	291.1	0	1.5	0	66	10	8	Y
Receiver2	2	1	560.8	272.1	0	1.5	0	66	10	8	Y
Receiver3	3	1	589.5	272.4	0	1.5	0	66	10	8	Y
Receiver4	4	1	469.8	291.1	0	4.57	0	66	10	8	Y
Receiver5	5	1	560.8	272.1	0	4.57	0	66	10	8	Y
Receiver6	6	1	589.5	272.4	0	4.57	0	66	10	8	Y

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Ave R Aparments
RUN: Highridge Costa
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

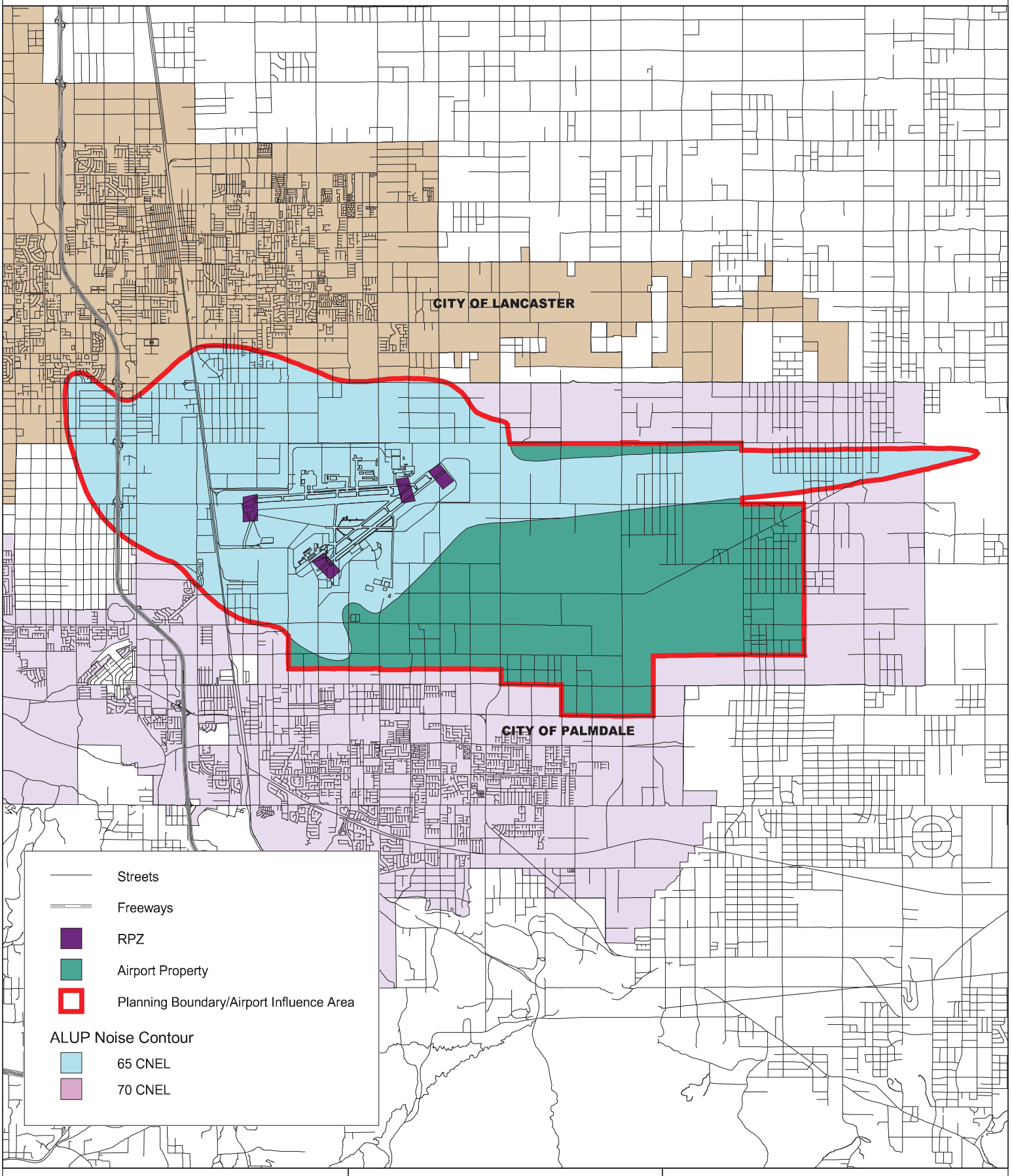
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0	64.2	66	64.2	10	----	64.2	0	8	-8
Receiver2	2	1	0	68.9	66	68.9	10	Snd Lvl	68.9	0	8	-8
Receiver3	3	1	0	68.9	66	68.9	10	Snd Lvl	68.9	0	8	-8
Receiver4	4	1	0	68.6	66	68.6	10	Snd Lvl	68.6	0	8	-8
Receiver5	5	1	0	71.2	66	71.2	10	Snd Lvl	71.2	0	8	-8
Receiver6	6	1	0	71.2	66	71.2	10	Snd Lvl	71.2	0	8	-8

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB

All Selected	6	0	0	0
All Impacted	5	0	0	0
All that meet NR Goal	0	0	0	0

PALMDALE AIRPORT / USAF PLANT 42



LOS ANGELES COUNTY
AIRPORT LAND USE COMMISSION
320 W. Temple Street
Los Angeles, CA 90012
(213) 974-6425

AIRPORT INFLUENCE AREA

0 4000 8000 12000 Feet

N

5/13/03

CadnaA Input Output
Project: Highridge Costa
Case: Community Noise

Receiver

Name	M.	ID	Level Lr Day (dBA)	Night (dBA)	Limit. Value Day (dBA)	Night (dBA)	Land Use Type	Auto	Height Noise Type	(m)		Coordinates X (m)	Y (m)	Z (m)
R1			12.7	-116.1	0	0	x		Total	1.5	r	530.19	704.44	1.5
R2			27.6	-112.2	0	0	x		Total	1.5	r	468.54	392.68	1.5
R3			27.6	-88.7	0	0	x		Total	1.5	r	612.47	310.74	1.5
R4			25.3	-99.8	0	0	x		Total	1.5	r	571.6	230.74	1.5
R5			25.9	-100.3	0	0	x		Total	1.5	r	384.51	310.05	1.5

Point Source

Name	M.	ID	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Evening dB(A)	Night dB(A)	Sound Reduction R	Area (m²)	Attenuatio	Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Height		Coordinates X (m)	Y (m)	Z (m)
CD1			91.7	91.7	91.7	Lw	CD		0	0	0				1	0	0	0		(none)	1.22	r	512.76	285.9	1.22
CD2			91.7	91.7	91.7	Lw	CD		0	0	0				1	0	0	0		(none)	1.22	r	502.31	286.33	1.22
CD3			91.7	91.7	91.7	Lw	CD		0	0	0				1	0	0	0		(none)	1.22	r	458.11	284.73	1.22
CD4			91.7	91.7	91.7	Lw	CD		0	0	0				1	0	0	0		(none)	1.22	r	458.06	297.77	1.22
CD5			91.7	91.7	91.7	Lw	CD		0	0	0				1	0	0	0		(none)	1.22	r	457.54	315.49	1.22
CD6			91.7	91.7	91.7	Lw	CD		0	0	0				1	0	0	0		(none)	1.22	r	457.84	328.63	1.22
CD7			91.7	91.7	91.7	Lw	CD		0	0	0				1	0	0	0		(none)	1.22	r	551.61	341.92	1.22
CD8			91.7	91.7	91.7	Lw	CD		0	0	0				1	0	0	0		(none)	1.22	r	577.63	341.25	1.22
CS1			86	86	86	Lw	CS		0	0	0				5	0	0	0		(none)	1.22	r	512.76	285.9	1.22
CS2			86	86	86	Lw	CS		0	0	0				5	0	0	0		(none)	1.22	r	502.31	286.33	1.22
CS3			86	86	86	Lw	CS		0	0	0				5	0	0	0		(none)	1.22	r	458.11	284.73	1.22
CS4			86	86	86	Lw	CS		0	0	0				5	0	0	0		(none)	1.22	r	458.06	297.77	1.22
CS5			86	86	86	Lw	CS		0	0	0				5	0	0	0		(none)	1.22	r	457.54	315.49	1.22
CS6			86	86	86	Lw	CS		0	0	0				5	0	0	0		(none)	1.22	r	457.84	328.63	1.22
CS7			86	86	86	Lw	CS		0	0	0				5	0	0	0		(none)	1.22	r	551.61	341.92	1.22
CS8			86	86	86	Lw	CS		0	0	0				5	0	0	0		(none)	1.22	r	577.63	341.25	1.22

Area Source

Name	M.	ID	Result. PWL Day (dBA)	Evening (dBA)	Night (dBA)	Result. PWL'' Day (dBA)	Evening (dBA)	Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Evening dB(A)	Night dB(A)	Sound Reduction R	Area (m²)	Attenuatio	Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Moving Pt. Src Number Day	Evening	Night
A1			58.9	-50.1	-50.1	46.1	-62.9	-62.9	PWL-Pt	P		0	0	0							0		(none)	8	0	0
A2			58.9	-50.1	-50.1	44.3	-64.7	-64.7	PWL-Pt	P		0	0	0							0		(none)	8	0	0
A3			58.9	-50.1	-50.1	44.3	-64.7	-64.7	PWL-Pt	P		0	0	0							0		(none)	8	0	0
A4			58.9	-50.1	-50.1	44.5	-64.5	-64.5	PWL-Pt	P		0	0	0							0		(none)	8	0	0
A5			58.9	-50.1	-50.1	44.5	-64.5	-64.5	PWL-Pt	P		0	0	0							0		(none)	8	0	0
A6			58.9	-50.1	-50.1	46.5	-62.5	-62.5	PWL-Pt	P		0	0	0							0		(none)	8	0	0
A7			58.9	-50.1	-50.1	44.6	-64.5	-64.5	PWL-Pt	P		0	0	0							0		(none)	8	0	0
A8			64.6	-50.1	-50.1	41.9	-72.8	-72.8	PWL-Pt	P		0	0	0							0		(none)	30	0	0
A9			64.6	-50.1	-50.1	44	-70.8	-70.8	PWL-Pt	P		0	0	0							0		(none)	30	0	0

Road

Name	M.	ID	Lme Day (dBA)	Evening (dBA)	Night (dBA)	Count Data DTV	Str.class.	exact Count Data M Day	Evening	Night	p (%) Day	Evening	Night	Speed Limit Auto (km/h)	Truck (km/h)	SCS Dist.	Surface Dstro (dB)	Type	Gradient (%)	Mult. Reflection Drefl (dB)	Hbuild (m)	Dist. (m)
Cars Exit/E			30.1	0	0			8	0	0	0	0	0	15		0	0	1	0	0		

Building

Name	M.	ID	RB	Residents	Absorption	Height Begin (m)	
B1			x	0		8.68	r
B2			x	0		8.68	r
B3			x	0		8.68	r
B5			x	0		8.68	r
B4			x	0		8.68	r
B6			x	0		8.68	r
B8			x	0		8.68	r
B7			x	0		8.68	r

Sound Levels

Name	ID	Type	Oktave Spectrum (dB) Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	Source lin

1 Person	P	Lw	47.2	48.3	50.9	47.5	47.5	45.3	42.1	34	28	49.9	56.1
Car Door S	CD	Lw	103.9	101.5	95.6	93.5	89.4	84.7	80	80.1	79.6	91.7	106.6
Car Start	CS	Lw	99.3	90.4	83.9	83.2	81.8	81.4	78.8	75.5	69.6	86	100.2

Result Table

Receiver		Land Use	Limiting Value		rel. Axis			Lr w/o Noise Control		dL req.		Lr w/ Noise Control		Exceeding		passive NC
Name	ID		Day	Night	Station	Distance	Height	Day	Night	Day	Night	Day	Night	Day	Night	
			dB(A)	dB(A)	m	m	m	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
R1			0	0	199	370.39	1.5	12.7	-116.1	12.7	-	0	0	-	-	-
R2			0	0	137	58.72	1.5	27.6	-112.2	27.6	-	0	0	-	-	-
R3			0	0	264	28.94	1.5	27.6	-88.7	27.6	-	0	0	-	-	-
R4			0	0	0	50.63	1.5	25.3	-99.8	25.3	-	0	0	-	-	-
R5			0	0	110	82.08	1.5	25.9	-100.3	25.9	-	0	0	-	-	-

CadnaA Input Output
Project: Highridge Costa
Case: Mechanical Noise

Receiver

Name	M.	ID	Level Lr Day (dBA)	Level Lr Night (dBA)	Limit. Value Day (dBA)	Limit. Value Night (dBA)	Land Use Type	Land Use Auto	Height Noise Type	Height (m)		Coordinates X (m)	Coordinates Y (m)	Coordinates Z (m)
R1			23.4	23.4	0	0	x		Total	1.5	r	530.19	704.44	1.5
R2			35.3	35.3	0	0	x		Total	1.5	r	468.54	392.68	1.5
R3			46.8	46.8	0	0	x		Total	1.5	r	612.47	310.74	1.5
R4			40.7	40.7	0	0	x		Total	1.5	r	571.6	230.74	1.5
R5			32.4	32.4	0	0	x		Total	1.5	r	384.51	310.05	1.5

Point Source

Name	M.	ID	Result. PWL Day (dBA)	Result. PWL Evening (dBA)	Result. PWL Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Correction Evening dB(A)	Correction Night dB(A)	Sound Reduction R	Sound Reduction Area (m^2)	Attenuatio Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Height		Coordinates X (m)	Coordinates Y (m)	Coordinates Z (m)
C1			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	473.23	317.05	1.22
C2			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	473.25	318.22	1.22
C3			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	478.37	325.06	1.22
C4			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	478.38	326.28	1.22
C5			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	492.11	326.23	1.22
C6			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	492.13	325	1.22
C7			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	497.19	318.24	1.22
C8			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	497.18	317.08	1.22
C9			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	547.15	309.1	1.22
C10			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	547.17	310.27	1.22
C11			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	552.29	317.11	1.22
C12			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	552.3	318.33	1.22
C13			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	566.03	318.28	1.22
C14			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	566.05	317.05	1.22
C15			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	571.11	310.29	1.22
C16			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	571.1	309.13	1.22
C17			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	575.32	309.1	1.22
C18			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	575.34	310.27	1.22
C19			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	580.46	317.11	1.22
C20			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	580.47	318.33	1.22
C21			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	594.2	318.28	1.22
C22			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	594.22	317.05	1.22
C23			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	599.28	310.29	1.22
C24			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	599.27	309.13	1.22
C25			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	599.25	284.76	1.22
C26			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	599.25	283.51	1.22
C27			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	594.13	276.71	1.22
C28			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	594.13	275.41	1.22
C29			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	580.42	275.41	1.22
C30			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	580.47	276.71	1.22
C31			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	575.27	283.51	1.22
C32			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	575.27	284.72	1.22
C33			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	571.06	284.66	1.22
C34			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	571.13	283.57	1.22
C35			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	565.95	276.79	1.22
C36			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	566.02	275.51	1.22
C37			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	552.32	275.44	1.22
C38			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	552.23	276.73	1.22
C39			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	547.09	283.48	1.22
C40			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	547.09	284.73	1.22
C41			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	497.16	296.49	1.22
C42			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	497.16	295.34	1.22
C43			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	492.02	288.44	1.22
C44			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	492.03	287.23	1.22
C45			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	478.3	287.23	1.22
C46			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	478.34	288.48	1.22
C47			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	473.31	295.24	1.22
C48			76.7	76.7	76.7	Lw	C77		0	0	0							0	(none)	1.22	r	473.17	296.37	1.22

Building Name	M.	ID	RB	Residents	Absorption	Height Begin (m)	
B1			x		0	8.68	r
B2			x		0	8.68	r
B3			x		0	8.68	r
B5			x		0	8.68	r
B4			x		0	8.68	r
B6			x		0	8.68	r
B8			x		0	8.68	r
B7			x		0	8.68	r

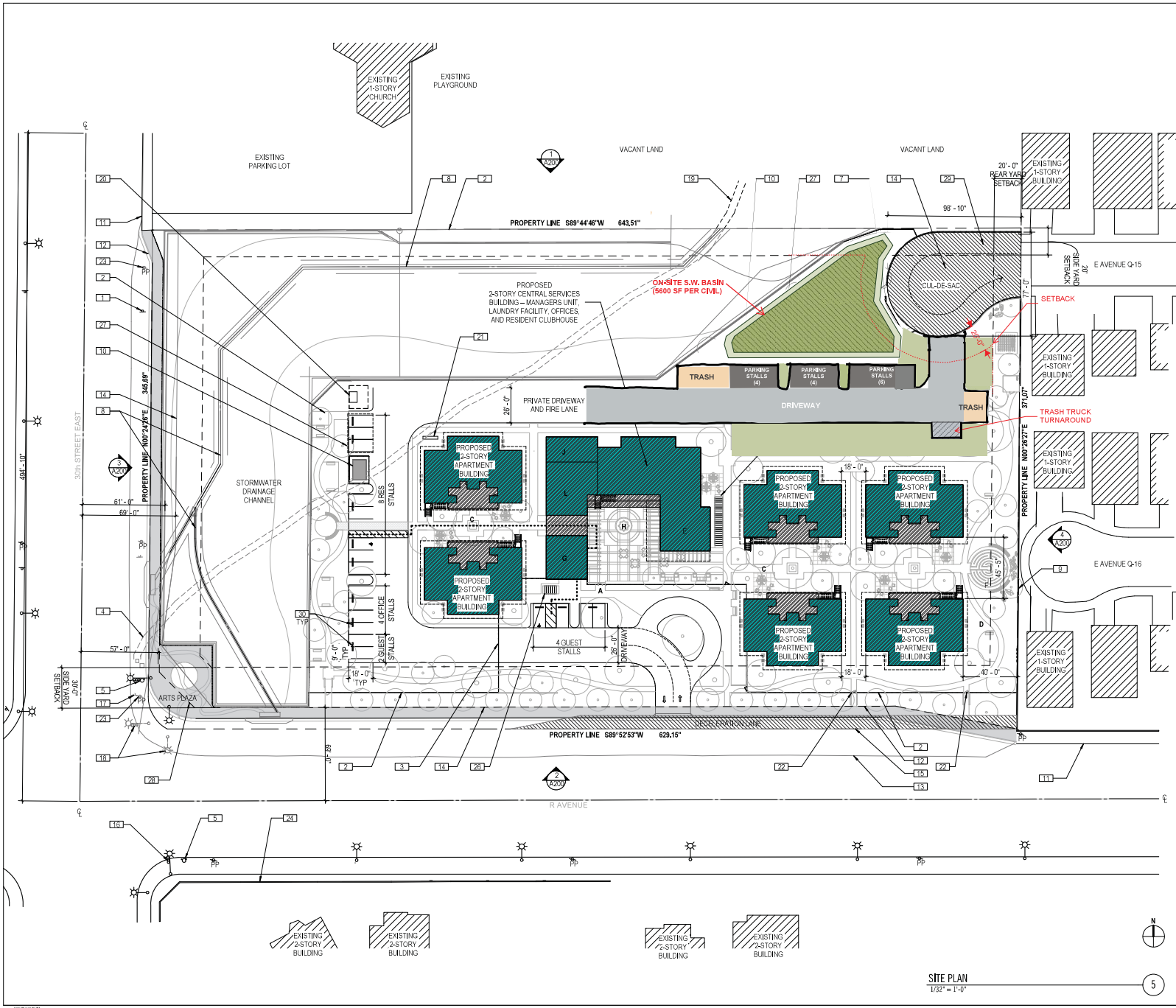
Sound Levels

Name	ID	Type	Oktave Spectrum (dB) Weight.	31.5	63	125	250	500	1000	2000	4000	8000	A	lin		Source
Carrier Cor	C77	Lw			87.5	82.5	76.1	73.6	71.3	67.1	64.1	60	76.7	89.2	Carrier 77	

Result Table

Receiver Name	ID	Land Use	Limiting Value Day dB(A)	Night dB(A)	rel. Axis Station m	Distance m	Height m	Lr w/o Noise Control Day dB(A)	Night dB(A)	dL req. Day dB(A)	Night dB(A)	Lr w/ Noise Control Day dB(A)	Night dB(A)	Exceeding Day dB(A)	Night dB(A)	passive NC dB(A)
R1			0	0	199	370.39	1.5	23.4	23.4	23.4	23.4	0	0	-	-	-
R2			0	0	137	58.72	1.5	35.3	35.3	35.3	35.3	0	0	-	-	-
R3			0	0	264	28.94	1.5	46.8	46.8	46.8	46.8	0	0	-	-	-
R4			0	0	0	50.63	1.5	40.7	40.7	40.7	40.7	0	0	-	-	-
R5			0	0	110	82.08	1.5	32.4	32.4	32.4	32.4	0	0	-	-	-

ARCHITECTURAL DRAWINGS



SITE PLAN
1/32" = 1'-0"

5

NOTES

1. (E) TRAFFIC SIGN POST
2. 6' H METAL FENCE
3. SLIDING DRIVEWAY GATE WITH KNOX BOX (RESIDENT AND FIRE ACCESS) - GATE DETAIL ON SHEET A910
4. (E) DRAINAGE CHANNEL TO BE RE-ROUTED PER CIVIL DWGS
5. (E) FIRE HYDRANT
7. SLIDING DRIVEWAY GATE WITH KNOX BOX (FIRE ACCESS ONLY) - GATE DETAIL ON SHEET A910
8. STORMDRAIN PIPE WITH 10' EASEMENT PER CIVIL DWGS
9. (E) 6' H CMU FENCE
10. TRASH AND RECYCLING STORAGE, SCREENED PER PMC REQUIREMENTS
11. (E) 8' SIDEWALK
12. PROPOSED 8' SIDEWALK
13. (E) EDGE OF ROADWAY PAVING
14. EASMENT - PUBLIC ROADWAY AND HIGHWAY PURPOSES (PER SURVEY)
15. EASMENT - SEWER, UTILITY, AND INCIDENTAL PURPOSES (PER SURVEY)
16. (E) TRAFFIC LIGHT
17. (E) TRAFFIC SIGN TO BE RELOCATED
18. (E) TRAFFIC LIGHT TO BE RELOCATED
19. (E) DRAINAGE CHANNEL ON ADJACENT SITE
20. PAD-MOUNTED TRANSFORMER
21. BACKFLOW PREVENTER
22. FENCE GATE WITH KNOX BOX
23. (E) POWER POLE TO BE RELOCATED; UTILITY LINES UNDER 50KV TO BE UNDERGROUNDED
24. (E) 10' H CMU FENCE
25. TURNAROUND FOR RESIDENTIAL VEHICLES AND GARBAGE DISPOSAL TRUCKS
26. BICYCLE PARKING
27. PARKING CANOPY
28. 27'X27' CUT OFF PER STREET IMPROVEMENT PLAN
29. REQUIRED LIGHTING AND LANDSCAPING TO BE PER PMC AND COORDINATED WITH THE CITY
30. 4" CONC WHEEL STOPS

LEGEND

- PROPOSED GROUND FLOOR FOOTPRINT
- PROPOSED UPPER FLOORS FOOTPRINT
- EXISTING NEIGHBORHOOD BUILDINGS (NOT A PART)
- ACCESSIBLE PATH OF TRAVEL
- STREET LAMP
- TRAFFIC LIGHT
- POWER POLE

A - PEDESTRIAN ACCESS

B - PICNIC AREA / COVERED SEATING

C - CONNECTING PATHWAYS

D - PERGOLAS / TRELLIS

E - CLUB HOUSE*
*Located below managers unit on first floor

F - LABYRINTH GARDEN

G - LEASING OFFICE

H - PLAZA

J - LAUNDRY FACILITY

L - RESIDENT SERVICE OFFICES

KFA
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AVE R APARTMENTS

AVENUE R & 30TH STREET EAST

AVENUE R & 30TH STREET EAST
PALMDALE, CA

Highridge Costa Development Company,
820 WEST VICTORIA STREET,
GARDENA, CALIFORNIA 90248

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SUBMITTAL
SITE PLAN REVIEW SUBMITTAL - DRAFT

JOB NUMBER
2019-008

DATE
08.07.20

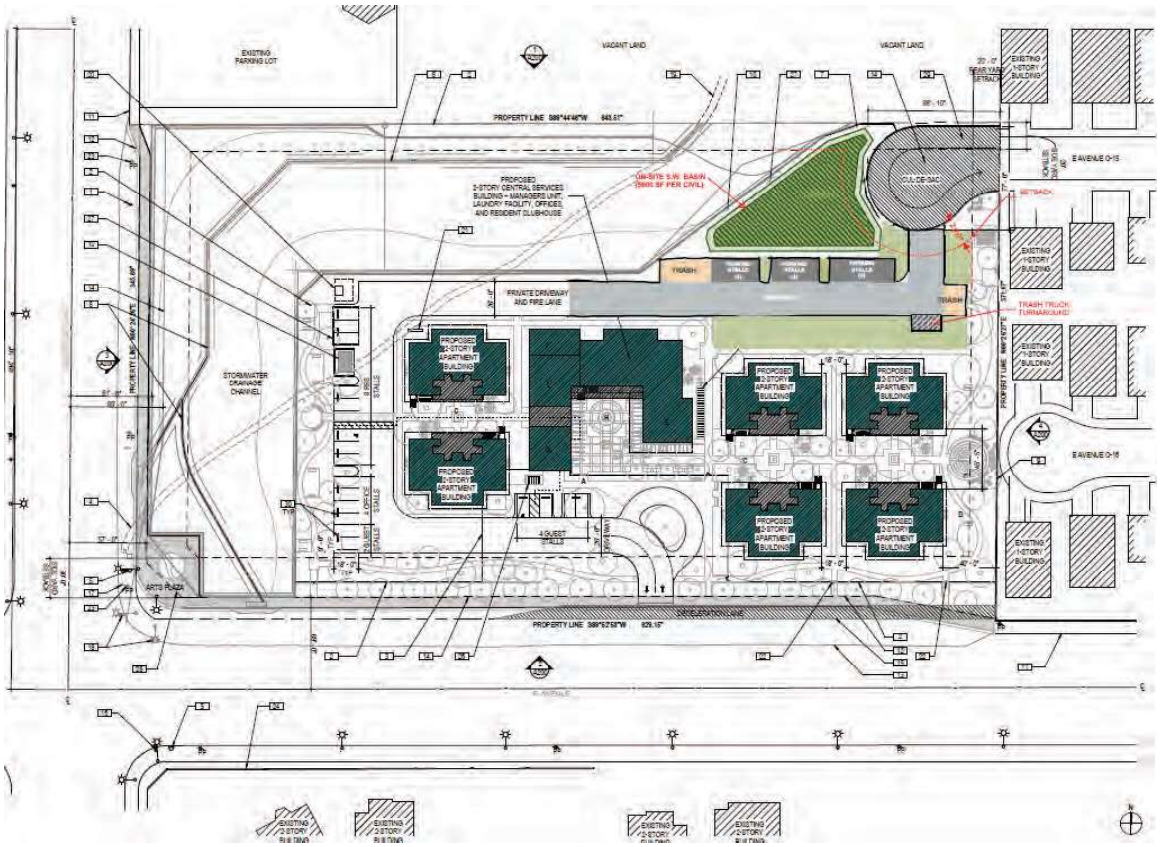
REVISIONS

SHEET TITLE
SITE PLAN

SHEET NUMBER
A000

APPENDIX I

EXTERIOR-TO-INTERIOR NOISE STUDY



AVE R APARTMENTS
EXTERIOR–TO–INTERIOR
NOISE STUDY

JULY 13, 2021

PREPARED FOR:
HIGHRIDGE COSTA DEVELOPMENT COMPANY

PREPARED BY:
ACOUSTICS GROUP, INC.
CONSULTANTS IN ACOUSTICS, NOISE & VIBRATION

Ave R Apartments
Exterior–to–Interior
Noise Study

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EXECUTIVE SUMMARY

Acoustics Group, Inc., (AGI) was retained to conduct an exterior-to-interior noise study of the Ave R Apartments Development located at 8722 Palmdale Boulevard in Palmdale, CA. AGI has reviewed the City of Palmdale Noise Standards, conducted noise measurements, analyzed the noise levels from future noise sources around the site, assessed the impact of the future noise and identified noise control measures.

The project space is affected by vehicular traffic from Palmdale Boulevard and Newland Street. AGI's transportation noise analysis indicates that future peak hour exterior traffic noise at the project site would be as high as 71.2 at the nearest building elevation facing Avenue R. The 24-hour CNEL will be as high as 72.2 dB at the same location, based on a worst case 1 dB calibration factor between future peak hour Leq and 24-hour CNEL. At the Outdoor Courtyard, Picnic, and Patio Areas, the future CNEL will be 61.5, 53.9, and 58.3 dBA.

The project site is located over 3 miles south of the Palmdale Regional Airport/US Air Force Plant 42 and outside of the Noise Contour Map (PMD). The site is situated significantly outside of the 65 dB noise contour and is not significantly affected by aircraft noise.

Exterior noise levels at Outdoor Recreational Areas will comply with the City of Palmdale noise standard of 65 dBA CNEL. Noise control measures have been recommended to reduce interior noise levels in habitable units to below 45 dBA CNEL. Additionally, noise control measures have been recommended to reduce interior noise levels in non-residential buildings to below 50 dBA. The recommended noise control measures should be incorporated into the project design and drawings. All acoustical test data and product literature should also be incorporated into the project drawings to satisfy the City of Palmdale and California Building Code Requirements. The project with implementation of the recommended noise control measures will reduce the future exterior and interior noise levels to fully comply with the City of Palmdale and California Building Noise Standards.

This report has been organized into multiple sections for ease of reference. Section 1 introduces the Project and provides a general discussion on the Project Components. Section 2 discusses Noise Fundamentals, and Section 3 presents the Noise Standards. Section 4 discusses the Existing Noise Environment; Section 5 discusses the Noise Analysis and Section 6 discusses the Impact Assessment. Section 7 presents the Noise Control Recommendations. Section 8 presents the Conclusion.

INTRODUCTION

The Project proposes an apartment community at the northeast corner of Avenue R & 30th Street in Palmdale, CA. Refer to Figure 1 for the general location of the Project Site and Vicinity Map. Land uses immediately surrounding the site are comprised of residential. The main noise concern is future traffic noise affecting the future exterior and interior spaces. Refer to the Appendix for the Project Drawings.

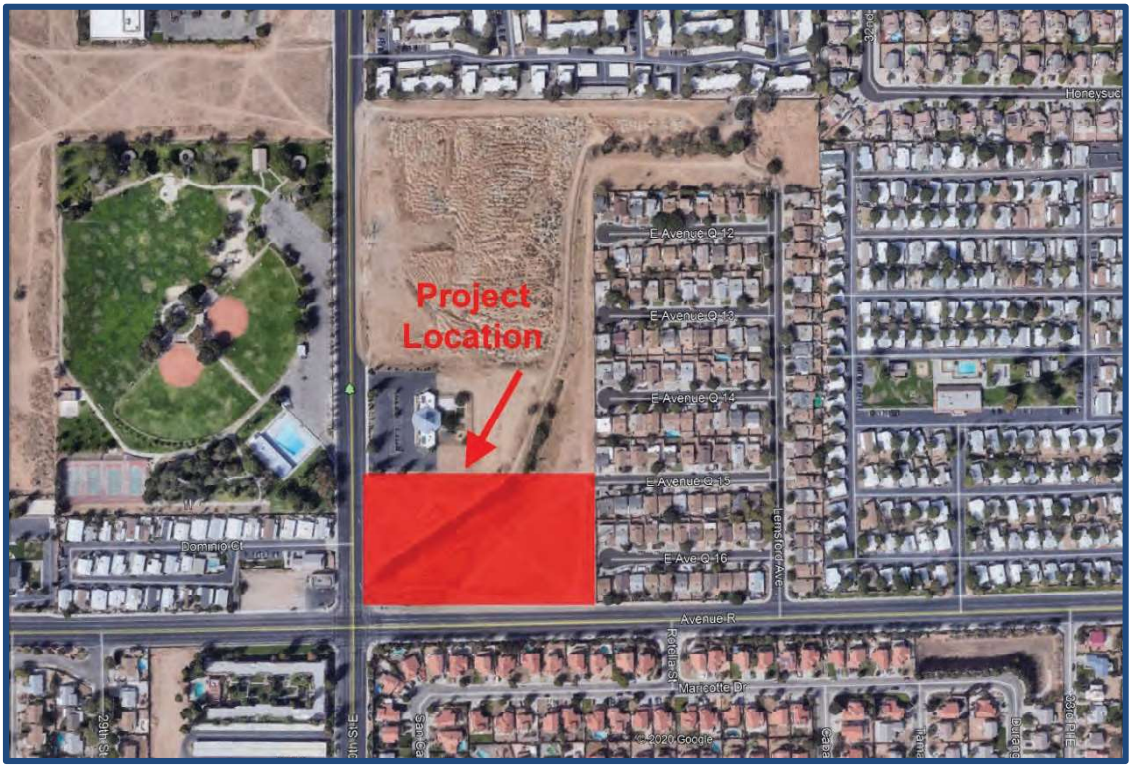


Figure 1. Location of the Project Site and Vicinity Map

NOISE

The magnitude by which noise affects its surrounding environment is measured on a logarithmic scale in decibels (dB). Because the human ear is limited to hearing a specific range of frequencies, the A-weighted filter system is used to form relevant results. A-weighted sound levels are represented as dBA. Figure 2 shows typical A-weighted exterior and interior noise levels that occur in human environments.

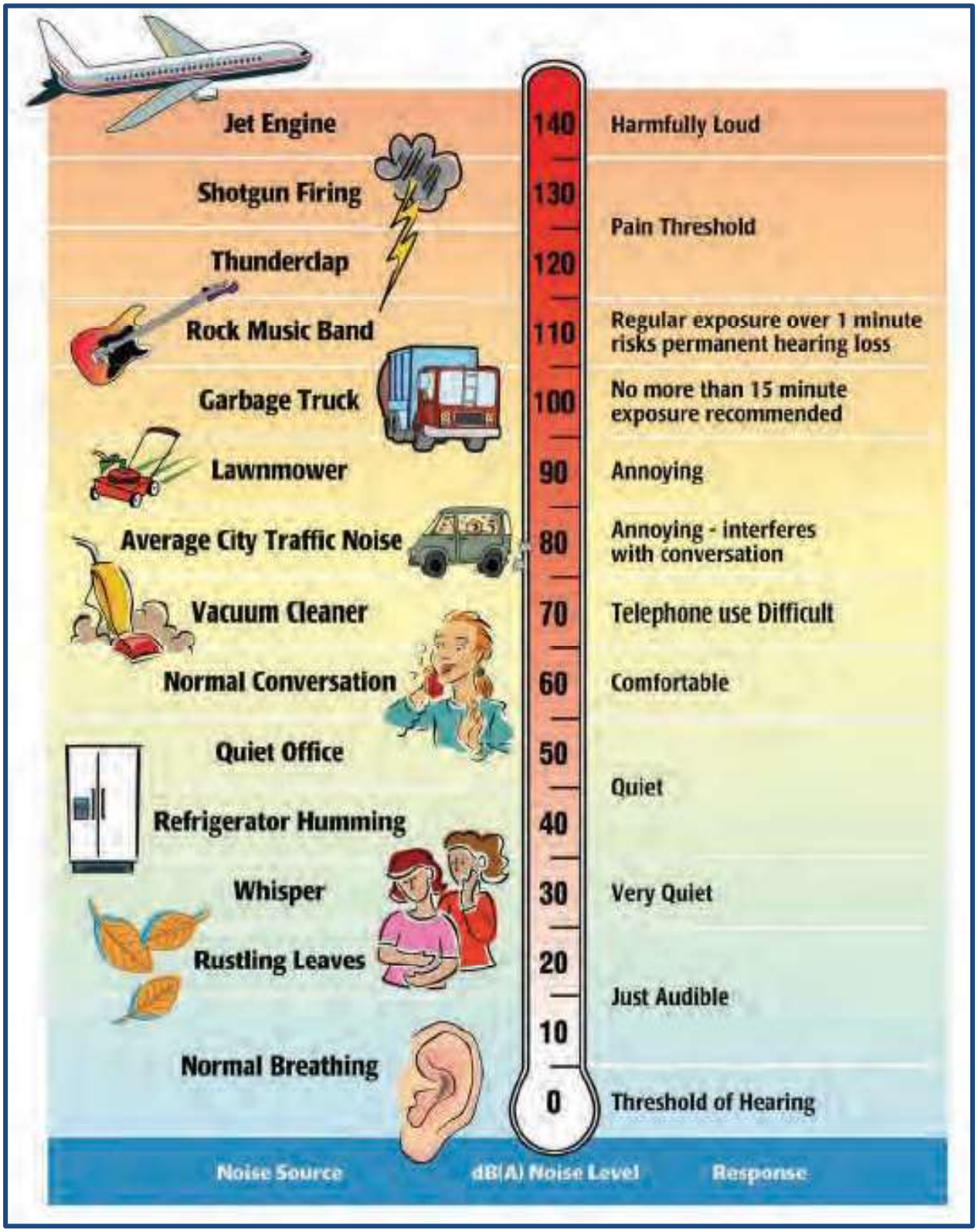
Several noise metrics have been developed to evaluate noise. L_{eq} is the energy average noise level and corresponds to a steady-state sound level that has the same acoustical energy as the sum of all the time varying noise events. L_{max} is the maximum noise level measured during a sampling period, and L_{xx} are the statistical noise levels that are exceeded xx-% of the time of the measurement. L_{50} is the average noise level that is exceeded 50% of the time, 30-minutes in a 60-minute period.

The Community Noise Equivalent Level (CNEL) is a 24-hour average, where noise levels during the evening hours of 7:00 PM to 10:00 PM have an added 5 dBA weighting, and sound levels during the nighttime hours of 10:00 PM to 7:00 AM have an added 10 dBA weighting. This is similar to the Day Night sound level (LDN), which is a 24-hour average with an added 10 dBA weighting on the same nighttime hours, but no added weighting on the evening hours. Sound levels expressed in CNEL are always based on dBA.

NOISE STANDARDS

The City of Palmdale General Plan adopts the California Building Code which requires that residential exterior areas (including balconies) shall not exceed 65 dB CNEL. Both the City of Palmdale and State of California require the interior noise levels in habitable rooms shall not exceed 45 dBA CNEL. Refer to the Appendix for the California Building noise requirements for exterior and interior noise.

In addition, the City of San Diego adopts the California Green Building Code that requires that if a building is exposed to a 1-hour Leq of 65 dB during any hour then the interior noise environment attributable to exterior sources cannot exceed a Leq of 50 dBA in non-residential occupied areas during any hour of operation (CALGreen 5.507.4.1). Refer to the Appendix for the California Green Code noise requirements.



Source: Melville Branch and R. Beland, 1970. EPA/ONAC 550/9-74-004, March 1974.

Figure 2. Typical A-weighted Noise Levels

EXISTING NOISE LEVELS

AGI conducted a site visit on September 1 to 2, 2020 to observe the project site and to conduct one (1) long term 24-hour ambient noise measurement. The long-term ambient noise measurement (NM1) was conducted at the project site to document baseline noise levels. Figure 3 shows the location of the noise measurement (NM1).

At location NM1, the measured hourly Leq ranged from 56.7 to 72.5 dBA with a CNEL of 71.4 dB. The noise sources contributing to the ambient measurement data were from vehicular traffic. Table 1 summarizes the noise measurement data from the survey. Refer to the Appendix for the measurement data sheets.

Table 1. Summary of Ambient Noise Measurements

Receiver	Location	Time	Lmin, dBA	Lmax, dBA	Leq, dBA	CNEL, dB	Contributing Noise Sources
NM1	Project Site	9/1/20 1PM – 9/2/20 1PM	37.9	102.6	56.7 – 72.5	71.4	vehicular traffic, aircraft

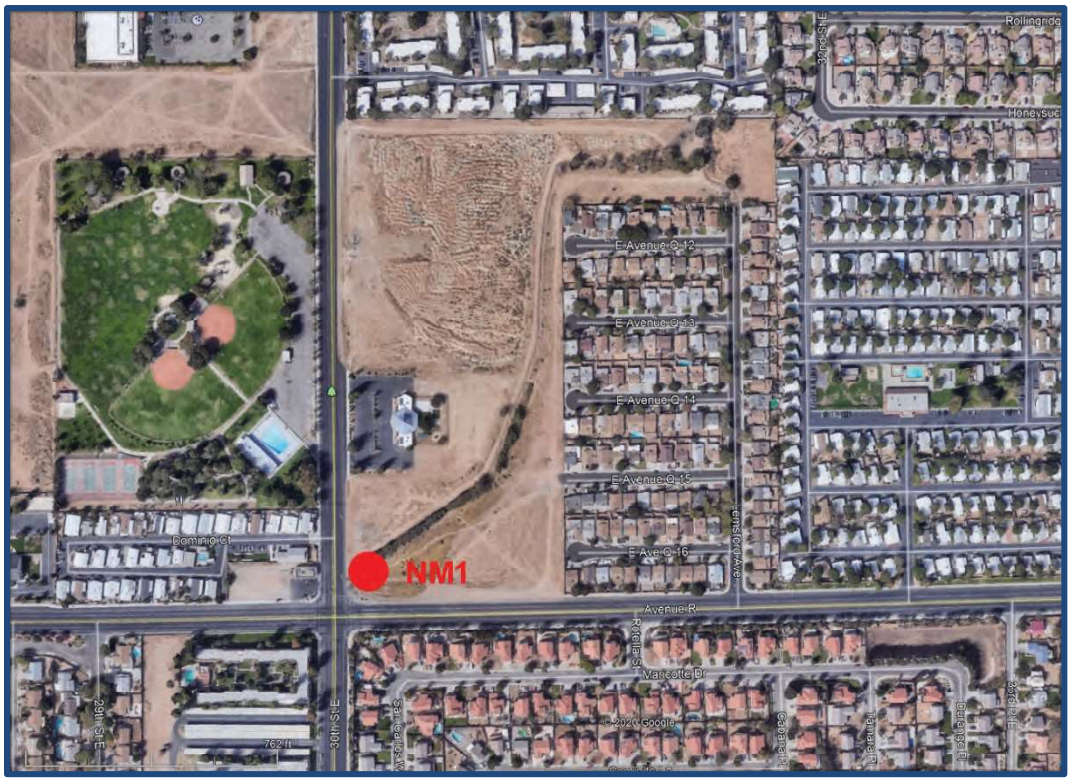


Figure 3. Noise Measurement Location

NOISE ANALYSIS

Traffic Noise

AGI performed a traffic noise analysis using the Federal Highway Administration's (FHWA) traffic noise model TNM to evaluate future traffic noise at the project site. The highest traffic noise level from a roadway is typically generated when traffic is heavy but still flowing freely. This situation is referred to as Level-of-Service (LOS) C by Transportation Engineers. Roadway traffic design capacity volumes and LOS ratios were obtained from the Federal Highway Capacity Manual.

The project space is affected by vehicular traffic from Avenue R and 30th Street. Avenue R and 30th Street are currently 4-lane arterials with a posted speed limit of 50 miles per hour. For the future peak hour traffic analysis, the truck mix distribution percentages for the analysis were assumed to be 2% for medium 2-axle trucks and 2% for heavy 3+-axle trucks. Table 2 lists the traffic data used in the future peak hour traffic noise analysis.

Table 2. Traffic Data Inputs for Future Peak Hour Traffic Analysis

Traffic Lane	Number of Lanes	Total Traffic Volumes /Hour	Travel Speed mph	Volumes by Vehicle Type					
				Cars/ Hour	% Cars	Medium Trucks/ Hour	% MT	Heavy Trucks/ Hour	% HT
WB Ave R	2	1,400	50	1,344	96.0	28	2.0	28	2.0
EB Ave R	2	1,400	50	1,344	96.0	28	2.0	28	2.0
NB 30th St	2	1,400	50	1,344	96.0	28	2.0	28	2.0
SB 30th St	2	1,400	50	1,344	96.0	28	2.0	28	2.0

Source: Federal Highway Capacity Manual

The TNM noise analysis indicates that the future peak hour traffic noise at the project site would be as high as 71.2 dBA at the nearest building elevation facing Avenue R. The 24-hour CNEL will be as high as 72.2 dB at the same location, based on a 1.0 dB calibration factor between future peak hour Leq and 24-hour CNEL. At the Outdoor Courtyard, Picnic, and Patio Areas, the future CNEL will be 61.5, 53.9, and 58.3 dBA, respectively. Refer to the Appendix for the TNM Input and Output files from the traffic noise analysis and for the calibration data.

Aircraft Noise

During the ambient noise survey, aircraft noise was observed to be faint and did not significantly contribute to the ambient noise environment. The project site is situated over 3 miles south of Palmdale Regional Airport/US Air Force Plant 42. The project site is located significantly outside the Airport's 65 dB CNEL noise contour. Refer to the Appendix for the project location relative to the PMD noise contour map.

IMPACT ASSESSMENT

The noise analysis indicates that the future CNEL from traffic noise at the project site would be as high as 71.2 dBA at the nearest building elevation facing Avenue R. The 24-hour CNEL will be as high as 72.2 dB at the same location, based on a 1.0 dB calibration factor between future peak hour Leq and 24-hour CNEL. At the Outdoor Courtyard, Picnic, and Patio Areas, the future CNEL will be 61.5, 53.9, and 58.3 dBA, respectively and will comply with the City of Palmdale exterior noise standards.

Noise control measures are required to reduce interior noise levels to below 45 dB CNEL. The following section summarizes the recommended noise control measures that will allow the project to satisfy the City of Palmdale Noise Standards and California Building Code noise requirements within the exterior and interior spaces. Refer to the Appendix for the Exterior-to-Interior Analysis of the window, exterior wall, and roof assemblies.

NOISE CONTROL RECOMMENDATIONS

The following noise control recommendations will reduce interior noise levels below the City's CNEL Noise Standards, and California Building Noise Criteria:

Interior:

1. Sound rated windows and glass door assemblies with a minimum sound transmission class (STC) rating as per Figure 4 and Table 3.

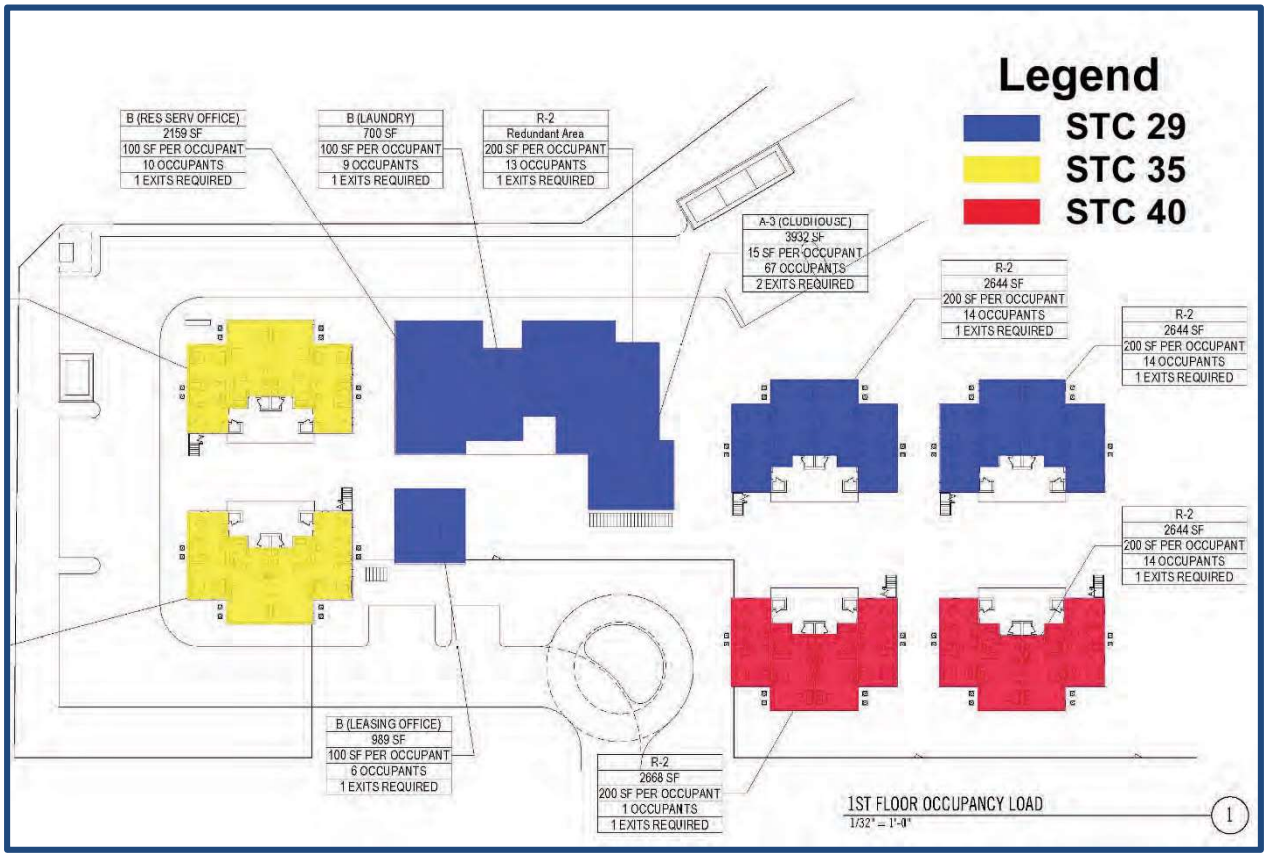


Figure 4. Minimum STC Ratings for Glass Windows and Doors

Table 3. Typical STC for Glass Windows and Doors Assemblies

Assembly	Minimum STC Rating
1/8" Glass, 1/4" Air Space, 1/8" Glass	29
1/4” Laminated Glass, 1/4” Air Space, 1/8” Glass	35
3/8” Laminated Glass, 1/2” Air Space, 1/4” Glass	40

2. STC is calculated per ASTM E336 and related standards.
3. The manufacturer’s sound transmission loss test data should be reviewed to ensure compliance with the noise standards and criteria.
4. Non-glass exterior doors should be solid core assemblies.
5. All doors should be fitted with drop down door thresholds and air-tight seals to minimize sound transmission.

6. Exterior wall detail:
    I. 2 layers of 5/8” gypsum board.
    II. 2x studs with two 2x top plates and one 2x bottom plate.
    III. R-13 fiber glass insulation, 3-1/2” thick snugly fitted in the wall cavities between studs, plates and cross bracing.
    IV. Portland cement or synthetic stucco system 7/8” thick, or
    V. Cement fiber/composite wood siding.
7. Roof detail:
    I. Minimum one layer of 5/8” thick tongue-in-groove plywood sheathing.
    II. Roof joist.
    III. 1 layer of 5/8” thick gypsum board.
    IV. R-38 fiber glass insulation, snuggly fitted in the roof cavities.
8. No exterior building openings that face the north and west directions other than windows and doors.
9. Air Conditioning which provides at least 2 exhaust changes per hour is required to maintain a habitable environment per the Mechanical Code. The air conditioning system should be a split system with fresh air intake ducted from rooftop vents facing away from the roadway.
10. Party walls separating non-common residential units shall meet or exceed the California Building Code Requirements of STC 50 for designated assemblies (CCR Title 24 Part 2).
11. Floor-Ceiling assemblies separating non-common residential units shall meet or exceed the California Building Code Requirements of STC 50 and IIC 50 for designated assemblies (CCR Title 24 Part 2) .
12. The final design of the project should be reviewed by a qualified Acoustical Consultant to ensure compliance with the Noise Standards.

Review of Acoustical Separation Assemblies, Mechanical, Electrical and Plumbing Design is not a part of this scope of work.

CONCLUSION

Acoustics Group, Inc., (AGI) was retained to conduct a noise study of the Ave R Apartments Development located at 8722 Palmdale Boulevard in Palmdale, CA. AGI has reviewed the City of Palmdale Noise Standards, conducted noise measurements, analyzed the noise levels from future noise sources around the site, assessed the impact of the future noise and identified noise control measures.

The project space is affected by vehicular traffic from Palmdale Boulevard and Newland Street. AGI's transportation noise analysis indicates that future peak hour exterior traffic noise at the project site would be as high as 71.2 at the nearest building elevation facing Avenue R. The 24-hour CNEL will be as high as 72.2 dB at the same location, based on a worst case 1 dB calibration factor between future peak hour Leq and 24-hour CNEL. At Outdoor Courtyard, Picnic, and Patio Areas, the future CNEL will be 61.5, 53.9, and 58.3 dBA.

Palmdale Regional Airport/US Air Force Plant 42 Noise Contour Map (PMD) is located over 3 miles north of the site. The site is situated significantly outside of the 65 dB noise contour and is not significantly affected by aircraft noise.

Exterior noise levels at Outdoor Recreational Areas will comply with the City of Palmdale noise standard of 65 dBA CNEL. Noise control measures have been recommended to reduce interior noise levels to below 45 dBA CNEL. Noise control measures have been recommended to reduce interior noise levels in habitable units to below 45 dBA CNEL. Additionally, noise control measures have been recommended to reduce interior noise levels in non-residential buildings to below 50 dBA. The recommended noise control measures should be incorporated into the project design and drawings. All acoustical test data and product literature should also be incorporated into the project drawings to satisfy the City of Palmdale and California Building Code Requirements. The project with implementation of the recommended noise control measures will reduce the future exterior and interior noise levels to fully comply with the City of Palmdale and California Building Noise Standards. The final design of the project should be reviewed by a qualified Acoustical Consultant to ensure compliance with the Noise Standards.

REFERENCES

1. Melville Branch and R. Beland, 1970. EPA/ONAC 550/9-74-004, March 1974.
2. Architectural Drawings, prepared by Killefer Flammang Architects KFA, dated July 17, 2020.
3. California Building Noise Requirement.
4. City of Palmdale General Plans.
5. Federal Highway Capacity Manual.

APPENDIX

FIELD DATA SHEETS & MEASUREMENT DATA

NOISE STANDARDS

MODELING INPUT & OUTPUT

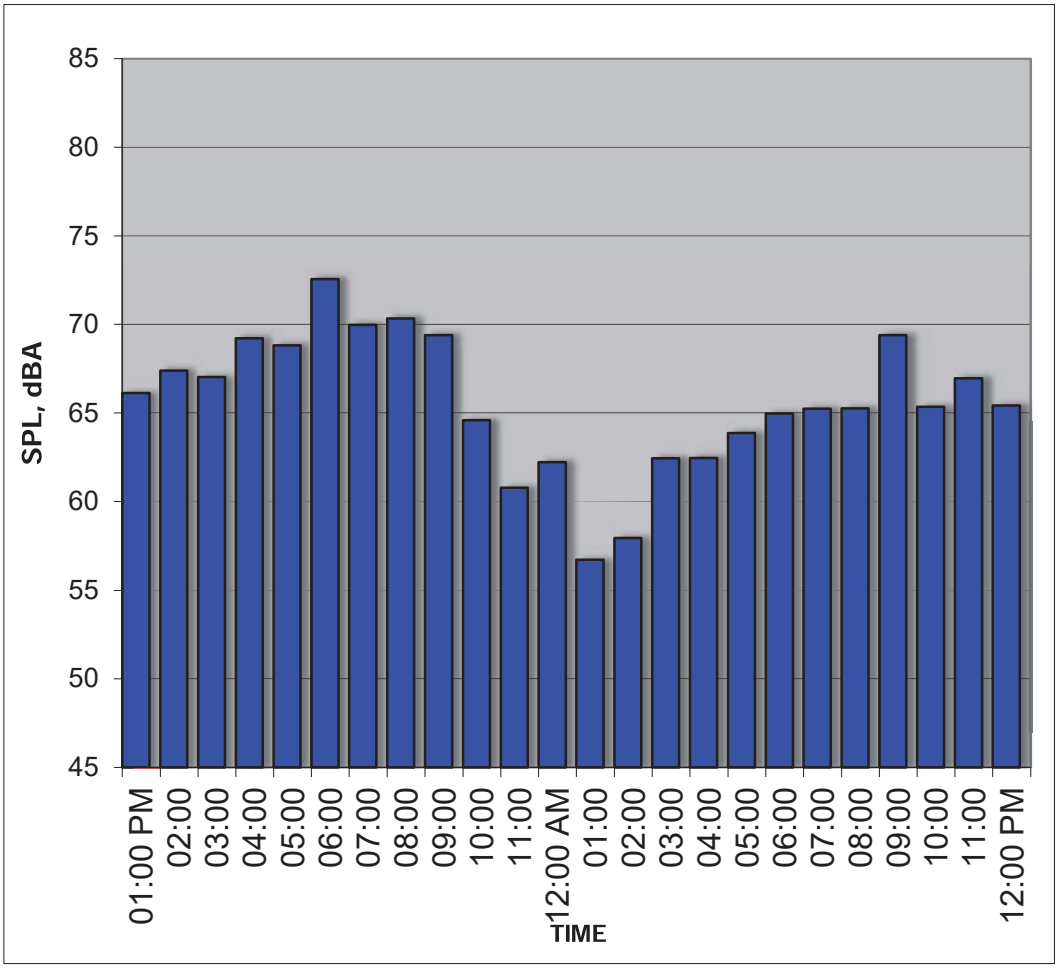
ARCHITECTURAL DRAWINGS

FIELD DATA SHEETS
&
MEASUREMENT DATA

MEASUREMENT DATA - HOURLY NOISE LEVELS

Project: Highridge Costa Development Company, LLC
Address: 30th St and Avenue R Palmdale, CA 93550
Location:
Noise Sources: Vehicular Traffic

Date: 9/1/2020 - 9/2/2020
Position: NM1



TIME	HNL, dB(A)
01:00 - 02:00 PM	66.1
02:00 - 03:00 PM	67.4
03:00 - 04:00 PM	67.0
04:00 - 05:00 PM	69.2
05:00 - 06:00 PM	68.8
06:00 - 07:00 PM	72.5
07:00 - 08:00 PM	70.0
08:00 - 09:00 PM	70.3
09:00 - 10:00 PM	69.4
10:00 - 11:00 PM	64.6
11:00 - 12:00 AM	60.8
12:00 - 01:00 AM	62.2
01:00 - 02:00 AM	56.7
02:00 - 03:00 AM	57.9
03:00 - 04:00 AM	62.4
04:00 - 05:00 AM	62.5
05:00 - 06:00 AM	63.9
06:00 - 07:00 AM	65.0
07:00 - 08:00 AM	65.3
08:00 - 09:00 AM	65.3
09:00 - 10:00 AM	69.4
10:00 - 11:00 AM	65.4
11:00 - 12:00 PM	67.0
12:00 - 01:00 PM	65.4
CNEL:	71.4
DNL:	70.4

Notes:

Source: Acoustics Group, Inc.

NOISE STANDARDS

SECTION 1: INTRODUCTION

Noise has become a key factor in our perception of the quality of our environment. Noise affects both the home and work environment, and the enjoyment of recreational activity. For these reasons, noise is an important issue in the community planning process.

The State of California has mandated that each county and city prepare a noise element as part of its general plan. California Government Code, Division 1, Planning and Zoning, Chapter 3, Local Planning, Article 5, Section 65302(f) requires a plan including:

"A noise element which shall identify and appraise noise problems in the community. The noise element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Service and shall analyze and quantify, to the extent practicable, current and projected noise levels for all of the following sources:

1. Highways and freeways.

2. Primary arterials and major local streets.

3. Passenger and freight on-line railroad operations and ground rapid transit systems.

4. Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.

5. Local industrial plants, including, but not limited to, railroad classification yards.

6. Other ground stationary noise sources identified by local agencies as contributing to the community noise environment.

The noise contours shall be used as a guide for establishing a pattern of land uses in the Land Use Element that minimizes the exposure of community residents to excessive noise. The Noise Element shall include implementation measures of possible solutions that address existing and foreseeable noise problems, if any. The adopted Noise Element shall serve as a guideline for compliance with the state's Noise Insulation Standards."

The purpose of this document is to comply with the state mandate, to provide an easily understood discussion of noise and its impacts, and to set guidelines to prevent noise and land use conflicts. A further discussion of the means by which this mandate is to be

met by the City of Palmdale, and a discussion of the goals and guidelines implemented to achieve the relevant planning goals and objectives is contained in the following sections.

SECTION 2: GOALS, OBJECTIVES, AND POLICIES

GOAL N1: Minimize the exposure of residents to excessive noise to the extent possible, through the land planning and the development review process.

Objective N1.1: Utilize appropriate land use planning as the primary method of achieving noise compatibility among adjacent land uses.

Policy N1.1.1: Locate noise compatible land uses near existing and future air, rail and highway transportation noise sources.

Policy N1.1.2: Restrict noise sensitive land uses near existing or future air, rail or highway transportation noise sources unless mitigation measures have been incorporated into the design of the project to reduce the noise levels at the noise sensitive land use to less than 65 dBA CNEL at all exterior living spaces including but not limited to, single-family yards and multi-family patios, balconies, pool areas, cook-out areas and related private recreation areas.

Policy N1.1.3: When proposed stationary noise sources could exceed an exterior noise level of 65 dBA CNEL at present, or could impact future noise sensitive land uses, require preparation of an acoustical analysis and mitigation measures to reduce noise levels to no more than 65 dBA CNEL exterior and 45 dBA CNEL interior; if the noise level cannot be reduced to these thresholds through mitigation, the new noise source should not be permitted.

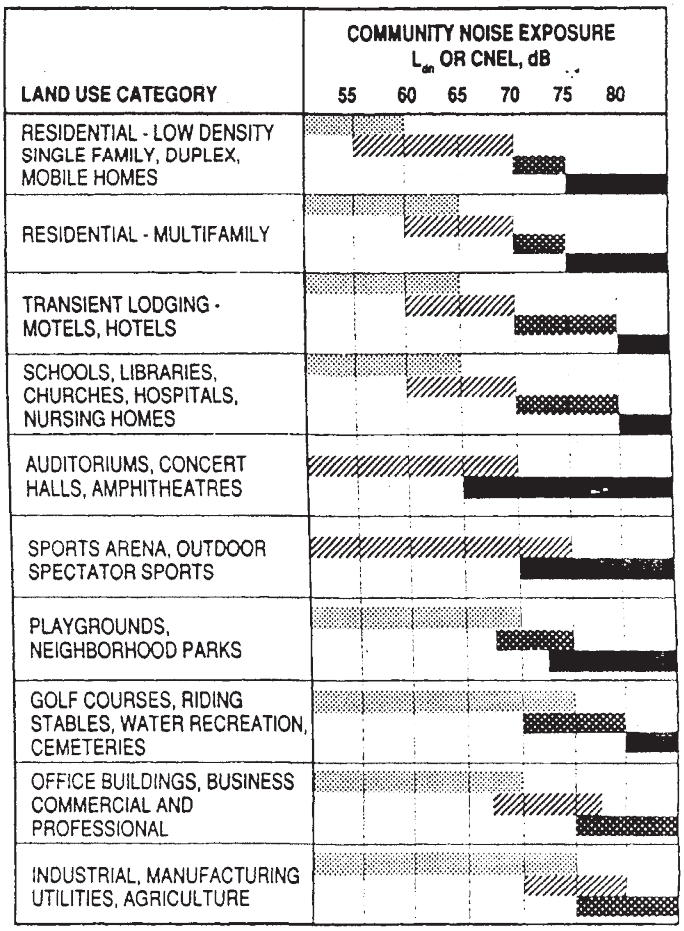
Policy N1.1.4: Consider the noise environment when making land use decisions with respect to the guidelines contained in Table N-1, and require noise standards consistent with the criteria listed on Table N-3. The State Recommended Acceptable Noise Guidelines, listed in Table N-1, are provided as guidelines only, and are not represented as standards.

Objective N1.2: Protect and maintain those areas having acceptable noise environments.

Policy N1.2.1: Locate new major noise sources in areas containing existing noise sources, and avoid their location adjacent to noise sensitive land uses unless a finding can be made, based on evidence in the record, that the placement of the new noise source will not result in adverse impacts to the existing noise sensitive land use.

TABLE N-1

State Recommended Noise Level Guidelines



LEGEND

NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

CONSIDERATIONS IN DETERMINATION OF NOISE-COMPATIBLE LAND USE

A. NORMALIZED NOISE EXPOSURE INFORMATION DESIRED

Where sufficient data exists, evaluate land use suitability with respect to a "normalized" value of CNEL or L_{dn}. Normalized values are obtained by adding or subtracting the constants described in Table 1 to the measured or calculated value of CNEL or L_{dn}.

B. NOISE SOURCE CHARACTERISTICS

The land use-noise compatibility recommendations should be viewed in relation to the specific source of the noise. For example, aircraft and railroad noise is normally made up of higher single noise events than auto traffic but occurs less frequently. Therefore, different sources yielding the same composite noise exposure do not necessarily create the same noise environment. The State Aeronautics Act uses 65 dB CNEL as the criterion which airports must eventually meet to protect existing residential communities from unacceptable exposure to aircraft noise. In order to facilitate the purposes of the Act, one of which is to encourage land uses compatible with the 65 dB CNEL criterion wherever possible, and in order to facilitate the ability of airports to comply with the Act, residential uses located in Community Noise Exposure Areas greater than 65 dB should be discouraged and considered located within normally unacceptable areas.

C. SUITABLE INTERIOR ENVIRONMENTS

One objective of locating residential units relative to a known noise source is to maintain a suitable interior noise environment at no greater than 45 dB CNEL of L_{dn}. This requirement, coupled with the measured or calculated noise reduction performance of the type of structure under consideration, should govern the minimum acceptable distance to a noise source.

D. ACCEPTABLE OUTDOOR ENVIRONMENTS

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered "normally acceptable" for that land use category, may be appropriate.

Source: California Department of Health, Guidelines for the Preparation and Content of Noise Elements of The General Plan, February, 1976

Policy N1.2.2: Restrict construction hours during the evening, early morning and Sundays.

Policy N1.2.3: Utilize any or all of the following measures in order to maintain acceptable noise environments throughout the City:

1. Control of noise at its source, including noise barriers and other muffling devices built into the noise source.

2. The provision of buffer areas and/or wide setbacks between the noise source and other development.

3. The reduction of densities, where practical, adjacent to the noise source (freeway, airport, railroad).

4. The use of sound insulation, blank walls, double paned windows and other design or architectural techniques to reduce interior noise levels.

5. Designation of appropriate land uses adjacent to known noise sources.

Policy N1.2.4: Where deemed appropriate based upon available information, acoustical analysis and appropriate mitigation for noise-sensitive land uses should be required in areas which may be adversely impacted by significant intermittent noise sources. Such noise sources may include but not be limited to railroads, racetracks, stadiums, aircraft overflights and similar uses.

GOAL N2: Promote noise compatible land uses within the 65 CNEL contour and the Frequent Overflight Area of Air Force Plant 42.

Objective N2.1: Ensure that land uses planned in the vicinity of Plant 42 will not be adversely affected by present and future noise levels expected to be generated by Plant 42.

Policy N2.1.1: Designate and permit land uses within the 65 CNEL contour and the Frequent Overflight Area which are primarily industrial, business park, commercial and recreational uses which are not noise sensitive; permit other uses only when it is found that no adverse noise impacts will result.

Policy N2.1.2: Restrict noise sensitive land uses (such as residential uses, churches, schools, rest homes, or similar uses) within areas designated as within both the 65 CNEL contour and the Frequent Overflight Area.

Policy N2.1.3: In areas which are outside of the 65 dBA CNEL contour but which are within the Frequent Overflight Area, encourage establishment of compatible uses to the extent feasible.

Policy N2.1.4: Through the development review process, require that all new projects within the Accident Potential Zone (APZ) of Air Force Plant 42 provide an avigation easement. A disclosure statement indicating that the property is subject to frequent overflight and aircraft noise should be required upon sale of property within the APZ.

Policy N2.1.5: Through conditions of approval, require that any owner of developed or undeveloped property within the 65 CNEL noise contour or the low altitude overflight area which is seeking a land use action from the City, provide an avigation easement to the Los Angeles Department of Airports, the U.S. Air Force, and the City.

Policy N2.1.6: Investigate various means of obtaining avigation easements from all properties within the 65 CNEL noise contour and the low altitude overflight area, and obtain those easements to the extent feasible.

SECTION 3: IMPLEMENTATION

Noise control programs involve federal, state, county and city agencies. Table N-2 highlights noise control responsibilities by agency. Other agencies are also involved with noise control; however, those identified in Table N-2 cover the major noise issues found in the City. Through these programs, the City will limit and regulate intrusive noises that accompany development and population growth.

A. Land Use Compatibility

Introduction

The City of Palmdale can achieve a noise compatible environment through comprehensive land use planning. Proposed developments are evaluated in terms of the projected impact from future noise sources and the application of the City's objectives and policies. The City's noise compatibility criteria by land use are summarized in Table N-4 and are consistent with both federal and state standards and guidelines. Proposed residential and other noise-sensitive projects impacted by a 65 dBA CNEL or greater would require additional acoustical analysis to achieve acceptable exterior noise levels. Acceptable interior noise levels of 45 dBA CNEL or less must also be achieved.

Noise-Sensitive Land Uses Defined

"Noise-sensitive land uses" include residential (single and multi-family dwellings, mobile home parks, dormitories, and similar uses); transient lodging (including hotels, motels, and similar uses); hospitals, nursing homes, convalescent hospitals, and other facilities for long-term medical care; public or private educational facilities, libraries, churches, and places of public assembly. Each of these land uses is particularly susceptible to noise intrusions because of the nature of the use being made of the land, the expectation of the occupants regarding an appropriate noise environment, and because of the fact that, in most cases, these uses involve long-term exposure to the noise environment affecting the property. In other words, residential uses (both single-family and multi-family) involve situations where the residents have an expectation that their daily lives will not be exposed to excessive noise levels which interfere with normal residential activities, such as family conversations, entertaining, telephone use, watching television, and the ability to sleep uninterrupted by outside noise sources. Residential uses also are affected by long-term exposure to a localized noise environment, which can cause a cumulative level of "annoyance" among the residents because their continued exposure to the noise source(s) interferes with their normal expectations regarding an appropriate residential environment. These considerations

also apply to such uses as nursing homes, convalescent hospitals or other long-term medical care facilities.

Similarly, schools (public and private) are typically categorized as "noise sensitive uses" both because the students at a noise affected facility are exposed to continuing noise environment and because the noise is particularly inconsistent with the expected activity of the school - study and instructional conversation.

Some "noise sensitive uses" do not necessarily involve long-term exposure to a noise environment but are sensitive uses nevertheless because of the intended use of the facility and the expectation (or need) of the users for a quiet environment. Libraries and churches, for example, do not involve long-term exposure, since they are typically used only on a periodic basis by any given individual. Still, people using both libraries and places of worship have a reasonable expectation that they will be able to engage in the contemplative activities normally associated with these facilities free from excessive interruptions by external noise sources.

Other Land Uses

Other land uses are not "noise sensitive," or are substantially less sensitive to noise events than residential or other similar uses. This designation does not mean that some protection against noise intrusions is unnecessary or inappropriate for these uses; but these land uses differ from sensitive uses in many respects, and consequently in how they are affected by noise impact. In large part, there are differences in public expectations regarding the urban noise environment. For example, in commercial settings where noise is a factor, the public is present only for limited periods of time, and they have a choice as to whether to patronize any particular establishment. In industrial settings, interior noise levels from industrial or manufacturing operations are often high enough that exterior noise sources are not intrusive. Certain types of recreational uses are also substantially less "noise sensitive" (e.g., golf courses) because of the relative infrequency of use and the voluntary nature of public use of such facilities.

TABLE N-2

NOISE CONTROL RESPONSIBILITY BY ACTIVITY AND AGENCY[a]

Agency	Highway Noise	Aviation Noise	Occupational Noise	Construction Noise	Land Use Compatibility	Building Siting	Complaints	Research	Product Noise
Federal									
Department of Housing and Urban Development						X			
Department of Labor			X	X	X				
Environmental Protection Agency	X	X	X			X			X
Federal Aviation Administration	X								
Federal Highway Administration	X								
State									
Department of Health	X		X	X		X			X
Department of Transportation	X	X				X			
County of Los Angeles	X								
City of Palmdale									
City Council	X	X		X	X				
Building Department			X	X	X	X	X	X	
Planning Department	X	X	X					X	
Police Department			X						

In certain cases, there are potential land uses which are directly supportive of the activities of the facility which is the principal source of noise affecting the property. For example, there are many potential industrial, commercial, service and direct aviation support uses which could support not only the continued mission of Air Force Plant 42, but which would support and enhance the further development of that facility as a scheduled commercial air carrier facility. By directing these uses toward areas most seriously affected by noise from Air Force Plant 42, the City can allow reasonable economic use of property in the vicinity of the facility while simultaneously providing a buffer against noise intrusions into more noise sensitive areas and land uses. Encouraging development of these types of land uses in areas affected by significant and continuing noise sources, such as major arterial roadways, Air Force Plant 42, and rail yards, therefore offers the City significant planning opportunities and advantages.

For the City to achieve noise and land use compatibility, mitigation measures and/or restrictions should be imposed on future noise sensitive developments proposed within 65 dBA CNEL contours from transportation sources. The 45 dBA CNEL or less interior criteria for noise sensitive land uses must also be achieved. In addition, noise sensitive developments, proposed near existing stationary noise sources generating noise levels exceeding 65 dBA CNEL, should be discouraged.

These goals are also served by encouraging the development of compatible land uses in areas subject to continuing noise exposure from stationary or transportation sources. It is not the goal of the City to render the development of any private property economically infeasible, but to ensure that land uses are located appropriately in terms of noise sensitivity and the surrounding noise environment. Therefore, appropriate levels of protection for normally compatible uses have been established in consideration of the health and well-being of employees and the general public, as well as the need for the City to promote development uses on noise-affected properties which support the economic health and infrastructure of the entire community.

B. Acoustical Analysis Reports

The City will require acoustical analysis reports for those projects located within existing or future 60 dBA CNEL impact areas, areas subject to single-event noise episodes or as deemed necessary by the City. All acoustical analysis reports shall consider existing and future ambient and project related noise levels and shall be prepared by a qualified acoustical engineer with experience in environmental noise assessment and noise control design. Specifically, acoustical analysis reports shall include:

- Existing ambient and roadway noise levels recorded by a calibrated noise monitor.
- Roadway traffic noise level analysis models determining existing and future noise levels anticipated from proposed projects and related cumulative noise sources.
- Noise contour maps.
- Surrounding land uses with identification of sensitive noise receptors and noise sources.
- Impacts of the project to the existing ambient noise environment.
- Noise control measures where needed.
- Cumulative impacts due to related projects.
- Unavoidable adverse impacts to the project area.
- Assessment of Impacts from Single-Event Noise Episodes.

Acoustical analysis reports shall evaluate the impacts of the existing noise levels on the proposed project as well as the impact of the project on the existing noise environment. The Planning Department will evaluate projects to ensure that noise sensitive land uses, such as schools, hospitals, and residential developments, will not be located adjacent to sources of noise, when exceeding acceptable levels.

Where appropriate, the City will require acoustical analysis reports to include acoustical design for residential development adjacent to freeways or major arterials to achieve the appropriate interior and exterior noise levels through sound insulation, or other means, as indicated in Table N-3.

TABLE N-3

Land Use	Maximum Acceptable Levels Exterior	Interior	Scale
Residential			
SFR	65	45	dBA CNEL
MFR	65	45	dBA CNEL
MHP	65	45	dBA CNEL
Commercial including, but not limited to:	A noise level which does not jeopardize health, safety, and welfare of visitors.		
Retail		55	Leq(h)
Services		55	Leq(h)
Office		55	Leq(h)
Institutional including, but not limited to:	A noise level which does not jeopardize health, safety, and welfare of visitors.		
Schools		45	Leq(h)
Hospitals		45	Leq(h)
Nursing Homes		45	Leq(h)
Industrial including, but not limited to:	A noise level which does not interfere with normal business activity.		
Industrial Park		65	Leq(h)
Business Park		65	Leq(h)
Quarry	Maximum 65 Leq(h) at the interface with residentially designated land.	N/A	

Leq(h) The A-weighted equivalent sound level averaged over a period of "h" hours. An example would be Leq(12) where the equivalent sound level is the average over a specified 12-hour period (such as 7 a.m. to 7 p.m.). Typically, time period "h" is defined to match the hours of operation of a given type of use.

The Planning Department may require developments which will generate large congregations of people or maintain late nighttime hours to provide special mitigation measures, as indicated by the acoustical analysis.

C. Noise Ordinance

The City Municipal Code, Chapter 8.28 Building Construction Hours and Operation and Noise Control contains provisions that restrict construction between the hours of 8:00 p.m. and 6:30 a.m. and regulates the impact of offensive noise from sources such as loud parties. The City may elect to adopt a noise ordinance if deemed necessary in order to reduce potential health hazards associated with other high noise levels. Any such ordinance would establish noise impact thresholds for noise abatement and attenuation and would be compatible with state and federal standards. Noise

ordinances are typically directed at controlling noise from stationary sources and its intrusion onto adjacent properties. Enforcement of the noise ordinance would be an effective tool in controlling non-transportation noise sources. Federal and state laws regulate noise from transportation sources. *(General Plan Amendment 04-04, adopted by City Council July 26, 2004.)*

The Department of Building and Safety, the Planning Department, and the Sheriff's Department will work cooperatively to enforce the noise ordinance. The noise ordinance may include policies addressing the following issues:

- Land use compatibility.

- Restriction of hours of operation for construction equipment, power mowers, garbage collection, street sweeping, truck deliveries, leaf blowers, and other noise activities within the hours of 6:30 a.m. and 8:00 p.m., unless the work is made in response to an emergency or special purpose.

- Periodic investigation of noise sources throughout the City, with citations issued for offender, in addition to investigations conducted due to such complaints.

The Noise Ordinance shall set standards and penalties for violating the provisions contained therein. Penalties may range from warnings and monetary penalties to revocation of operating licenses for businesses.

D. General Plan Elements

The City will review other General Plan Elements for policies and programs relating to noise. Other General Plan Elements may provide important policy guidance to assist in decisions to ensure noise and land use compatibility. While all of the elements of the General Plan are related and interdependent to some degree, the Noise Element is most closely related to the Land Use, Housing, Circulation, and Environmental Resources Elements as shown in Exhibit N-1.

The objective of the Noise Element is to provide guidelines to achieve compatible land uses. The Land Use and Noise Elements are, therefore, closely related. The Noise Element, by identifying noise-sensitive land uses and establishing compatibility guidelines for land use and noise, will influence the general distribution, location, and intensity of future land use. Effective land use planning can alleviate noise problems.

Residential areas are one of the most noise-sensitive land uses. Therefore, the Housing Element is directly affected by the Noise Element. Enforcement of land use and noise compatibility guidelines can reduce noise impacts in residential locations. In addition, effective noise insulation in housing construction can mitigate exterior to interior noise intrusion.

The circulation system within a city is one of the major sources of noise. Therefore, the existing and future circulation system identified in the Circulation Element will greatly influence the noise environment. The circulation routes such as the freeway, highways, truck routes and the railroad should be located to minimize noise impacts upon noise-sensitive land use. The location and design of new transportation facilities and mitigation of noise from existing and planned facilities should be assessed in order to minimize noise impacts to the extent feasible.

Since noise can adversely affect the enjoyment of quiet outdoor activities, the Noise Element is also closely related to the Environmental Resources Element. Conversely, open space, or appropriate recreational uses, can be used as a noise buffer between incompatible land uses. Generally, the identification of development which is compatible with the local noise environment, and which allows property owners to realize beneficial use of their properties, is a preferred solution in the development of noise buffers between noise sources and land uses which are incompatible with the noise source. These techniques can reduce community noise impacts and also provide usable open space for recreation, or otherwise provide useful economic infrastructure and development without the need to acquire the property from the private land owner.

E. Joint Land Use Committee Policy Review

The City will review all new development applications for conformance with the Joint Land Use Committee (JLUC) policies relating to noise, as adopted by the Palmdale City Council on March 6, 1991. The JLUC policies were developed through the joint efforts of the City of Palmdale, the City of Lancaster and the United States (U. S.) Air Force to address basic air installation land use compatibility issues. These policies relate to both noise and safety issues; the safety related policies appear in the Safety Element of the General Plan. The General Plan Overlay Map shall identify the location of the 65 CNEL Contour and the Frequent Overflight Area for U. S. Air Force Plant 42.

1. Policies to govern land use within the 65 CNEL contour are as follows:

a. Land which currently has an industrial or commercial general plan designation shall not be changed to a residential or other incompatible use.

b. Applications (zone change, General Plan Amendment, etc.) for land use changes which increase residential density shall not be approved.

c. Existing residential land use designations shall be examined for potential redesignation to airport compatible designations. It should also be noted that this policy does not require that we re-designate any area, only that we look at the potential.

d. Any developed or undeveloped property which is seeking a land use action from the City shall be conditioned to provide an avigation easement to the Los Angeles Department of Airports, the U. S. Air Force, and the City.

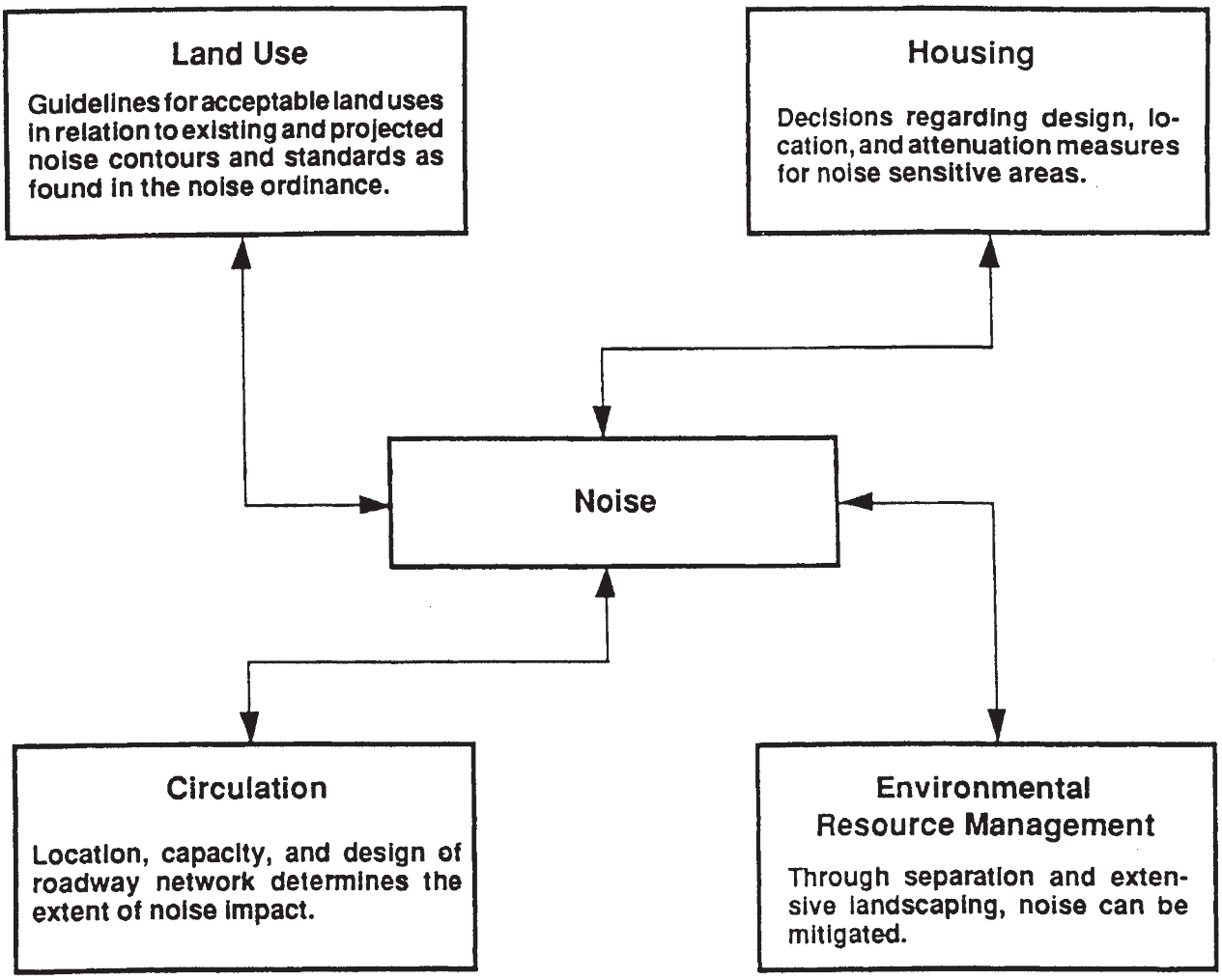
e. Research and develop a means of obtaining avigation easements from all properties.

f. A Joint Air Force Plant 42/City of Los Angeles Department of Airports/City of Palmdale/City of Lancaster Part 150 Study shall be conducted to determine the need for soundproofing of existing residential development, to make Plant 42 and the surrounding communities mutually more compatible through use of FAA funding.

g. Currently existing residential areas shall be examined to determine the potential of the redevelopment process to convert those land uses to airport compatible uses.

h. Noise sensitive receptors shall be excluded (examples of noise sensitive receptors are hospitals and schools).

i. The development and zoning of residentially designated property shall be at the minimum density of the General Plan designation.



Interrelationship of Noise Element with Other General Plan Elements
Palmdale General Plan

Exhibit N-1

2. **Policies to govern the land use for areas which are outside of the 65 CNEL contour but are frequently overflown by aircraft at low altitudes for take-off, landing, and closed pattern flight activity. Typically, this line would extend as far north as Avenue K-4 and as far south as Avenue Q-4. The easterly boundary of the area would extend to 85th Street East and westerly boundary would be Sierra Highway as shown on Exhibit S-17 of the Safety Element. These recommendations recognize that existing land uses within overflight areas may be inconsistent with the guidelines; however, the recommendations reflect long-range goals of the City and the Air Force for that area. The recommendations are as follows:** *(General Plan Amendment 04-04, adopted by City Council July 26, 2004.)*

   a. Higher density residential uses shall be discouraged and that - in order of priority - industrial, commercial, and low density residential land use designations (i.e., 1 du/ac or larger lots) shall be encouraged.

   b. Noise sensitive receptors shall be excluded (i.e. hospitals and schools).

   c. Currently existing areas which are occupied by incompatible uses shall be examined to determine the potential of the redevelopment process to convert those land uses to airport compatible uses.

   d. The General Plan shall designate this low altitude overflight area on the General Plan Overlay Map.

   e. Land which currently has an industrial or commercial general plan designation shall not be changed to a residential or other airport incompatible use.

   f. Any developed or undeveloped property which is seeking a land use action from the City shall be conditioned to provide an avigation easement to the Los Angeles City Department of Airports, the U.S. Air Force, and the City.

   g. Research and develop a means of obtaining avigation easements from all properties within this area.

JLUC Examples

Customer Intensive Uses - Customer intensive retail operations would include grocery stores, drug stores, convenience stores, theaters, shopping centers, department stores, and similar uses.

Low Customer Intensive Uses - Low customer intensive uses would include nurseries, lumber yards, contractor yards, warehousing, mini storage and similar uses.

F. Airport Land Use Commission

The City shall support the Airport Land Use Commission of Los Angeles County in planning for appropriate land uses around USAF Plant 42 through consistency of the City's General Plan with the County's Comprehensive Airport Land Use Plan. This implementation measure is further discussed in Section 3 of the Safety Element.

G. Noise Sensitive Land Uses

The City shall coordinate with appropriate agencies and developers to reduce unnecessary noise in the vicinity of noise-sensitive locations through the following actions:

- Maintain liaison with transportation agencies, such as Caltrans, regarding the reduction of noise from existing facilities and roadways. The design and location of facilities and roadways shall also be considered.

- Maintain liaison with Los Angeles County Health Department to update information on the effects and impacts of noise pollution on humans.

- Consider noise as a priority factor in evaluating residential or other noise-sensitive projects. Building orientation and configuration should be utilized to minimize or eliminate noise problems for a sites adjacent to the freeway, arterials, or rail lines. Additional effective noise reduction tools include the use of earthen berms, sound reducing walls, and generous setbacks.

- Maintain a liaison with the Southern Pacific rail line to reduce the level of noise produced by train movement within the City, through the regular maintenance of the tracks and trains. Monitor the existing operations on the rail line, as well as any plans for future development so as to predict future noise levels.

- Enforce regulations, such as the State Vehicle Code noise standards, for City owned and City operated vehicles.

H. Noise Sources and Receptors

The City will maintain a map of receptors and sources in the Planning Area for new development in order to anticipate and/or avoid incompatible land uses. Acoustical analysis reports will be required to incorporate the receptor and source map in the report on a smaller scale.

I. Acoustical Design

The City will require developments to implement noise control measures during construction. Acoustical design shall include measures to control noise at the source, along the transmission path or at the receptor.

SECTION 4: ISSUES AND OPPORTUNITIES

A. Noise Measurement

Community noise is generally not a steady state and varies with time. Under conditions of non-steady state noise, some type of statistical scale of measurement is necessary in order to quantify noise exposure over a long period of time. Several rating scales have been developed for describing the effects of noise on people. They are designed to account for the known effects of noise on people.

A variety of different noise measurement scales or "metrics" are used for measuring noise sources with differing characteristics. The metrics typically employed for measuring community stationary and mobile noise sources are the Equivalent Noise Level (LEQ), the Day/Night Noise Level (LDN) and the Community Noise Equivalent Level (CNEL). These metrics are defined as follows:

LEQ is the "energy" average noise level during the time period of the sample. It is a number that represents a decibel sound level. This constant sound level would contain an equal amount of energy as a fluctuating sound level over a given period of time. LEQ can be measured for any time period, but is typically measured for 15 minutes, 1 hour or 24 hours.

LDN is a 24 hour, time-weighted annual average noise level. Time-weighted refers to the fact that noise which occurs during certain sensitive time periods is penalized for occurring at these times. In the LDN scale, those events that take place during the night (10 pm to 7 am) are penalized by 10 dBA. This penalty was selected to attempt to account for increased human sensitivity to noise during the quieter period of a day, where sleep is the most probable activity.

CNEL is similar to the LDN scale except that it includes an additional 5 dBA penalty for events that occur during the evening (7 pm to 10 pm) time period. Either LDN or CNEL may be used to identify community noise impacts within the Noise Element.

Intermittent or occasional noise such as that associated with stationary noise sources is not of sufficient volume to exceed community noise standards that are based on a time averaged scale such as the CNEL scale. To account for intermittent noise, another method to characterize noise is the Percent Noise Level (L%). The Percent Noise Level is the level exceeded X% of the time during the measurement period. Percent Noise Levels are another method of characterizing ambient noise where, for example, L90 is the noise level exceeded 90 percent of the time, L50 is the level exceeded 50 percent of the time, and L10 is the level exceeded 10 percent of the time. L90 represents the

background or minimum noise level, L50 represents the average noise level, and L10 the peak or intrusive noise level.

B. Existing Noise Environment

The existing noise environment in the Planning Area was documented through both a community noise survey and computer generated noise contours. The noise survey identified existing noise levels at specific locations within the City while the computer analysis predicted existing and future roadway noise levels.

Community Noise Survey

A community noise survey was conducted on November 2, 1987 to document the existing noise environment within the City of Palmdale. Noise measurements were conducted at 12 sites between the hours of 7:30 a.m. and 4:10 p.m. The noise monitoring locations are identified in Exhibit N-2 and were selected with the assistance of the Planning Department. The locations were representative of residential, commercial, industrial, public use areas, and undeveloped property.

The noise measurements indicated that the City of Palmdale has noise levels typical of urban residential communities. However, unlike other urban communities, the City of Palmdale has two unique noise sources: military aircraft and major freight rail operations. Noise from military aircraft operations was recorded at 6 of the 12 measurement locations, with the maximum aircraft departure noise levels reaching 92 to 95 dBA at Site 4. Site 4 is located within the 70 dBA CNEL noise contour from USAF Plant 42. Approaching aircraft noise levels at Site 3, which is located approximately on the 65 dBA CNEL noise contour from USAF Plant 42, were somewhat lower at 85 to 92 dBA. Aircraft noise varied throughout flyovers, with high frequencies predominating while an aircraft approached and low frequencies predominating after the aircraft had passed overhead.

Freight rail movements were measured at Sites 2 and 9. Rail noise was characterized as being of extremely long duration (several minutes) with 100 rail cars plus freight movements. The maximum locomotive noise level recorded was 99 dBA with rail cars generating noise levels of 64 to 73 dBA.

The noise measurement results are summarized in Table N-4 and should be used as a guide or indication of noise levels throughout the community. Maximum noise levels ranged from 53.5 to 99.0 dBA with the highest level generated by a locomotive. The second and third highest noise levels were military aircraft operations at 95 and 92 dBA. Site 12 was at a new residential development on the western boundary of the City. This

site, because of its remote location and light traffic, had substantially lower noise levels than any other site.

Table N-4 also provides the sound level exceeded 10 percent (L10), 33 percent (L33), 50 percent (L50) and 90 percent (L90) of the measurement duration. While the Lmax provides the highest level measured, the L10 provides a better indication of peak noise levels that would typically be expected at the specific location. Disregarding the quiet environment, L10 of 53.0 dBA at Site 12 and the substantial number of aircraft approaches at Site 3 resulting in an L10 of 85.5 dBA, the L10 values only ranged from 63.0 to 75.5 dBA for the remaining 10 locations. The L50 values also were relatively consistent and only varied from 51.0 to 68.5 dBA. These values indicate a typical urban environment with a variety of noise sources, including roadway traffic, rail operations, aircraft and other non-transportation related activities.

L90 values are commonly termed the background noise level. Background noise levels throughout the City ranged from 45.5 dBA to 62.0 dBA. The background noise levels were less than 60 dBA for all locations except Sites 3 and 4 near Air Force Plant 42. The lowest background noise level was at Site 7, a quiet residential neighborhood. The L33 sound level is provided in Table N-5 since it is used by various federal agencies to evaluate transportation noise impacts.

The 12 sites fall into four general land use categories: residential, commercial, public use, and undeveloped property. Each of these categories is discussed below.

Residential: Sites 1, 5, 7, and 12 can all be considered residential locations. Measurements at all four residential locations included roadway traffic at slower speeds. Site 12 was a new residential development on the far west end of the City and away from major noise sources. It, therefore, had the lowest noise levels of any of the 12 sites. The four residential sites had L50 values ranging from 51.0 to 63.0 dBA. Both Sites 1 and 5 had higher noise values for two reasons: measurements included State Route 14 truck traffic noise and military aircraft flyover noise.

TABLE N-4

NOISE MEASUREMENT RESULTS BY SITE

Site No.	Land Use	Lmax[a]	L10[b]	L33[c]	L50[d]	L90[e]
1	Residential	72.0	64.5	62.0	58.5	55.5
2	Commercial	99.0	73.0	66.5	63.5	55.0
3	Undeveloped	92.0	85.5	73.5	68.0	61.5
4	Undeveloped	95.0	75.5	70.5	68.5	62.0
5	Residential	78.0	69.0	65.0	63.0	59.5
6	Park	72.0	63.0	59.0	57.5	53.5
7	Residential	74.5	64.5	58.5	55.5	45.5
8	School	75.5	66.5	63.5	61.5	57.5
9	Undeveloped	79.0	68.5	63.5	61.5	55.5
10	Commercial	79.5	66.0	61.5	59.5	55.0
11	Undeveloped	73.5	68.0	63.5	60.5	53.5
12	Residential	53.5	53.0	52.5	51.0	49.0
Range		53.5-99.0	53.0-85.5	52.2-73.5	51.0-68.5	45.5-62.0

a Lmax is the maximum sound level recorded during the noise measurement duration.
b Inferior L10 is the sound level exceeded 10 percent of the noise measurement duration.
c L33 is the sound level exceeded 33 percent of the noise measurement duration.
d L50 is the sound level exceeded 50 percent of the noise measurement duration.
e L90 is the sound level exceeded 90 percent of the noise measurement duration. It is also considered the background noise level.

Commercial: Noise measurements at commercial locations included Sites 2 and 10. Commercial locations generally have slightly higher noise levels than residential locations because of the greater volumes of traffic and higher percentage of truck traffic. The L50 for these two sites ranged from 59.5 to 63.5 dBA.

Public Use: Site 6, McAdam Park, and Site 8, Sage Intermediate School, are public use facilities. McAdam Park was a quiet location as demonstrated by an L50 of 57.5 dBA.

Noise levels were somewhat higher at Sage Intermediate School due to substantial traffic on Avenue R and 20th Street. The L50 at this site was 61.5 dBA.

Undeveloped Property: Sites 3, 4, 9 and 11 were representative of undeveloped locations within the City. The L50 values were as follows: Site 3, 68.0 dBA; Site 4, 68.5 dBA; Site 9, 61.5 dBA; and Site 11, 60.5 dBA. Sites 3 and 4 were on the arrival and departure ends of the primary runway at Air Force Plant 42. At Site 3, aircraft approach noise levels ranged from 68 to 92 dBA. Site 4 was approximately 4,000 feet from the primary runway at Air Force Plant 42 and aircraft departure noise ranged from 85 to 94 dBA. For comparison, traffic noise on Sierra Highway was 68 to 74 dBA at 150 feet. Sites 9 and 11 were at undeveloped locations to the southeast of the City. While Site 9 was near a residential community, a train pass-by during noise measurements resulted in higher noise levels. The L50 of 61.5 dBA was a combination of train (72 to 78 dBA) and truck (64 to 68 dBA) noise levels. Site 11, along Avenue T, had an L50 of 60.5 dBA with heavy trucks serving sand and gravel operations dominating the noise environment. Truck traffic noise levels at 150 feet ranged form 68 to 72 dBA.

Noise Contours

The Noise Element identifies both 60 and 65 dBA CNEL contours for transportation noise sources including the Antelope Valley Freeway (SR-14), Pearblossom Highway, two Southern Pacific Railroad lines (The Valley Mainline and the Colton/Palmdale Cutoff), U.S. Air Force Plant 42, and major roadways on Exhibits N-4 and N-5.

A 65 dBA CNEL level describes an area as having a time-average constant sound level of roughly 65 dBA even though the area would experience individual sound events higher and lower than 65 dBA. CNEL provides a common measure for a variety of differing noise environments. Thus, the same CNEL can describe both an area with very few high noise events and an area with many low level events.

CNEL values can be useful in comparing noise environments and indicating the potential degree of adverse noise impacts. However, the CNEL scale has limitations in its usefulness through averaging the sound event levels over a 24-hour period and possibly obscuring the periodic high noise levels of individual events and their possible adverse effects. In recognition of this limitation, the Environmental Protection Agency (EPA) has adopted maximum single event noise impacts levels for sources such as buses, garbage trucks, and railroad equipment.

Note that CNEL is not a measure but a computation of measured sound levels. People do not "hear" CNEL, but respond to the sound levels of individual events or noise sources. People may integrate their response to noise over long-term intervals (daily, weekly, etc.) and make subjective judgments about the "quality" of the noise

environment. This is one reason why CNEL may not be the most appropriate noise descriptor for land uses which do not involve continuous "long-term" exposure to the noise source occurring regularly over a 24 hour period.

The noise contours represent lines of equal noise exposure (see Exhibit N-3), just as the lines on a weather map indicate equal temperature or atmospheric pressure. The contours provide a visualization of estimates of sound level. Land forms and man-made structures have very complex effects on sound transmission and on noise contours. Generally, barriers between a source and receiver absorb and/or reflect noise resulting in a quieter environment. Where barriers or land forms do not interrupt the noise transmission path from source to receiver, the contours prove to be good estimates of the average noise level. In areas where barriers or land forms interrupt the sound transmission, the noise contours overestimate the extent to which a source intrudes into the community. Unfortunately, it is virtually impossible for the Noise Element to analyze each roadway segment of the City for barrier noise attenuation. Therefore, where specific projects are proposed within noise impacted areas, an acoustical analysis should be completed to evaluate the noise reduction provided by any barriers to the noise path.

CNEL values have been shown to be closely related to, and often within, 1dB of LDN values, a noise metric commonly used by federal agencies.

The noise contour analysis focused on transportation noise generators, which typically cause a constant increase in ambient noise levels. Specific findings of these studies are as follows:

Aircraft Noise: The U. S. Air Force Plant 42 is located in the City of Palmdale, east of the Sierra Highway and north of Avenue P. Aircraft noise contours (65, 70 and 80 dBA CNEL contours) for the U. S. Air Force Plant 42 were provided by the Department of the Air Force (AFSC Master Plan Air Installation Compatible Use Zone Map, August 1990). The noise contours reflect both aircraft operations and engine run-ups.

Railroad Noise: The Southern Pacific Railroad Company operates two rail lines through the City of Palmdale. The Valley Mainline runs north/south and operates adjacent to Sierra Highway. The Colton/Palmdale Cutoff branches from the Valley Mainland south of Avenue R and runs east. Railroad noise levels were calculated using the U. S. Department of Housing and Urban Development Noise Assessment guidelines. The following assumptions (based on information provided by S.P.R.R.) were made in the analysis of the Valley Mainline operations: 20 diesel trains per 24-hour period, 15 percent of the operations occurring at night; 4 diesel locomotives per train; 120 rail cars per train; average speed of 55 mph; welded tracks; and whistles required for grade crossings. The above assumptions also hold for the Colton/Palmdale Cutoff, with the

exception that 10 trains operate on the line in a 24-hour period. The 60 and 65 dBA CNEL contours for the two rail lines were generated from this analysis.

Roadway Noise: The City of Palmdale roadway noise contours were generated with the Federal Highway Administration's Highway (FHWA) Traffic Noise Prediction model, U.S. Department of Transportation (1978). This model was modified to generate CNEL values. Model input data included existing and projected average daily traffic volumes (provided by DKS Associates, 1989); day/evening/night percentages of autos, and medium and heavy trucks; vehicle speeds; ground attenuation factors (soft sight conditions were assumed); and roadway widths.

The results of the FHWA model analysis are summarized in Table N-5 which gives the distance from the roadway center line at the 60, 65 and 70 dBA CNEL contours, and the CNEL level at 50 feet away from the roadway centerline.

A graphic display of the noise contours for the existing major transportation noise sources is provided in Exhibit N-4. The 60, 65, 70 and 80 dBA CNEL contours are provided, showing the integrated effect from all transportation noise sources (aircraft, railway, and roadways where the CNEL contour is greater that 200 feet from the roadway centerline). The noise contours represent unmitigated conditions. Therefore, on roadways where walls, berms, or structures block the noise path, the contours overestimate the noise impact.

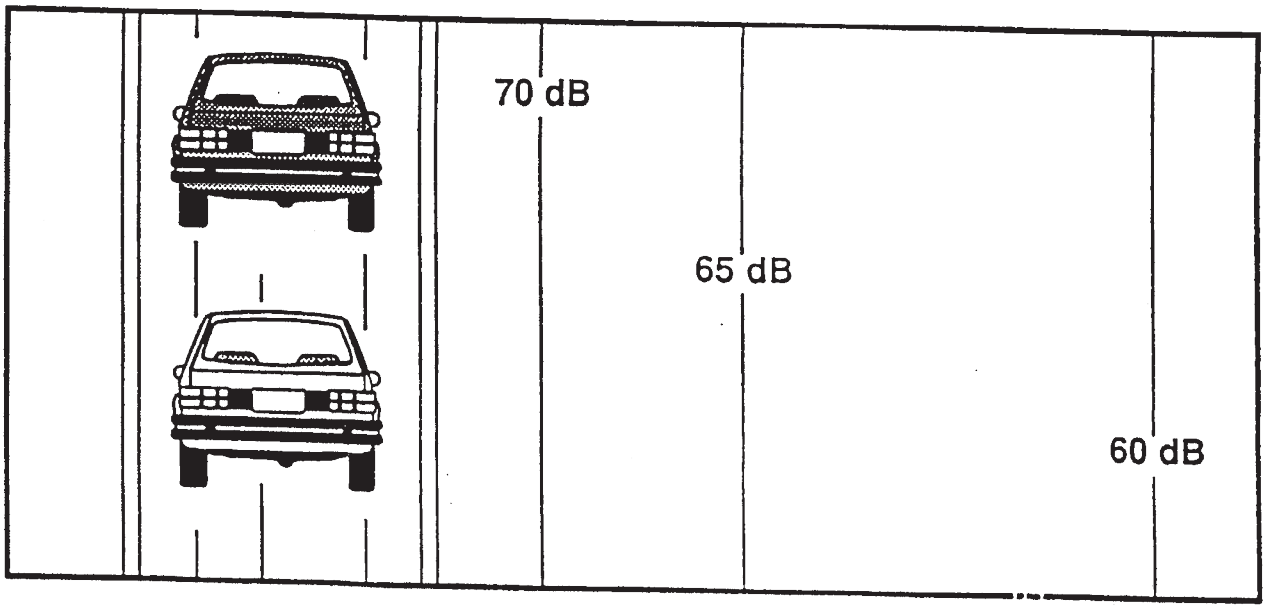
The population within each CNEL zone has been estimated in order to identify the number of persons that are impacted by transportation noise. There are approximately 10,000 residents within the City that are exposed to noise levels exceeding 65 dBA CNEL, and approximately 20,000 residents that are exposed to noise levels between 60 and 65 dBA CNEL.

Interpretation of Transportation Noise Contours

Exhibit N-4 displays the 80, 70, 65 and 60 dBA CNEL noise contours that were generated using the FHWA noise model for existing transportation noise sources in the City of Palmdale. The contours portray areas of equal noise level within that contour.

The dominant feature on this exhibit is the 65 dBA CNEL contour generated by the U. S. Air Force Plant 42. The contour is roughly oval in shape and covers an area from Avenue L-8 on the north to Avenue P on the south, and from 20th Street West to 130th Street East. The existing land uses in the area encompassed by the 65 dBA CNEL contour are the U.S. Air Force Plant 42, open space, industrial, and a few rural residential homes to the north of the plant.

EXHIBIT N-3



Example of Noise Contours
Palmdale General Plan

Table N-5

EXISTING ROADWAY NOISE LEVELS (CNEL)

Roadway	From/To	Distance (in feet) From Roadway Centerline to CNEL 70 CNEL	65 CNEL	60 CNEL	CNEL (dB) at 50 Feet
East/West Arterials					
Avenue L	50th St. W/40th St. W	<50	6	130	64.4
	40th St. W/25th St. W	<50	95	201	67.3
	25th St. W/Hwy 14	<50	109	231	68.2
	Hwy 14/Sierra Hwy	<50	75	159	65.7
Avenue M	50th St. W/30th St. W	<50	66	142	66.1
	30th St. W/10th St. W	<50	62	132	65.6
	10th St. W/10th St. E	<50	104	222	67.9
	10th St. E/30th St. E	<50	85	180	66.6
Avenue N	30th St. W/Hwy 14	<50	64	138	65.9
Avenue P	10th St. W/Sierra Hwy	73	153	328	70.5
	Sierra Hwy/30th St. E	69	145	311	70.1
	30th St. E/50th St. E	<50	79	170	67.3
	30th St. W/10th St. W[a]				
Avenue Q	20th St. W/Palmdale Blvd.	<50	56	120	65.0
	Sierra Hwy/10th St. E	<50	53	114	64.7
Elizabeth Lake	W of Bouquet Canyon Rd.	<50	<50	81	62.5
	Bouquet Cyn Rd/Grande Hill	<50	58	124	65.2
	Godde Hill/Foxholm Dr.	<50	<50	62	60.7
	Foxholm Dr./Palmdale Blvd.	<50	59	121	63.9
Palmdale Blvd. (Hwy 14)	10th St. W/Hwy 14	<50	95	200	66.8
	Hwy 14/20th St. E	291	626	1,347	79.3
	20th St. E/30th St. E	246	527	1,135	78.2
	30th St. E/40th St. E	216	464	998	77.3
	40th St. E/50th St. E	183	392	844	76.2
	50th St. E/90th St. E	0	97	205	67.4

[a] ADT less than 500, thus, not calculated.

TABLE N-5
(Continued)

Roadway	From/To	Distance (in feet) From Roadway Centerline to CNEL: 70 CNEL	65 CNEL	60 CNEL	CNEL (dB) at 50 Feet
Avenue R	Tierra Subida/Division St.	<50	<50	<50	58.9
	Division St./10th St. E	<50	67	143	66.2
	1<50th St. E/25th St. E	<50	76	161	65.8
	25th St. E/30th St. E	<50	96	206	68.0
	30th St. E/40th St. E	<50	79	169	67.2
	40th St. E/50th St. E	<50	58	125	65.3
Avenue R-8	12th St. E/25th St. E	<50	55	117	64.9
Avenue S	City Ranch Bypass/Tierra Subida	<50	<50	87	62.9
	Tierra Subida/Hwy 14	<50	<50	87	62.9
	Hwy 14/Sierra Hwy	<50	97	209	68.6
	Sierra Hwy/35th St. E	<50	99	211	68.1
	35th St. E/50th St. E	<50	67	144	66.2
Avenue T	Pearblossom Hwy/90th St. E	<50	100	216	68.8
	90th St. E/120th St. E	<50	102	219	68.9
Pearblossom Hwy (SR-138)	Sierra Hwy/Barrel Springs	152	327	703	75.5
	Barrel Springs/40th St. E	131	281	606	75.6
	40th St. E/Avenue T	131	281	606	75.6
	Avenue T/90th St. E	172	370	798	77.4
	90th St. E/120th St. E	172	370	798	77.4
Barrel Spgs.	Tierra Subida/Sierra Hwy.	<50	<50	<50	55.6
	Sierra Hwy/40th St. E	<50	<50	71	61.6
North/South Arterials					
Bouquet Canyon Rd.	South of Elizabeth Lake Rd.	<50	<50	<50	58.2
Godde Hill	60th St W./Elizabeth Lake Rd.	<50	<50	72	61.7
50th St. W	Avenue M/Avenue K	<50	<50	105	64.1
30th St. W	North of Avenue J	<50	<50	106	64.2
	Avenue J/Avenue K	<50	69	147	66.3
	Avenue K/Avenue L	<50	85	183	67.8
	Avenue L/Avenue N	<50	58	124	65.2
25th St. W	Avenue P/Avenue P-8	<50	<50	<50	55.6
	Avenue P-8/Elizabeth Lake	<50	<50	<50	56.9

TABLE N-5
(Continued)

Roadway	From/To	Distance (in feet) From Roadway Centerline to CNEL: 70 CNEL	65 CNEL	60 CNEL	CNEL (dB) at 50 Feet
20th St. W	North of Avenue K	<50	94	202	68.4
	Avenue K/Avenue L	<50	64	137	65.9
	Avenue L/Avenue M	<50	<50	106	64.2
10th St. W	North of Avenue K	72	155	334	71.7
	Avenue K/Avenue M	56	120	259	70.0
	Avenue M/Avenue N	51	108	233	69.3
	Avenue N/Avenue P	51	108	233	69.3
	Avenue P/Palmdale Blvd.	<50	89	191	68.0
Tierra Subida	Palmdale Blvd./S of Palmdale Blvd.	<50	<50	101	63.9
	S of Palmdale Blvd./Avenue R	<50	<50	101	63.9
	Avenue R/Avenue S	<50	<50	55	59.9
	Avenue S/Barrel Springs Rd.	<50	<50	<50	56.4
Sierra Hwy	Avenue M/Avenue P	85	179	383	71.5
	Avenue P/Avenue Q	69	145	310	70.1
	Avenue Q/Palmdale Blvd.	69	145	310	70.1
	Palmdale Blvd./Avenue R-8	<50	93	198	67.2
	Avenue R-8/Avenue S	<50	92	197	68.2
	Avenue S/1200' S of Avenue S	<50	<50	102	64.0
	1200' S of Avenue S/ 3000' N of Barrel Springs	<50	<50	104	62.9
	Soledad Cyn Rd./Pearblossom Highway	<50	86	183	66.6
	Pearblossom Hwy/Hwy 14	<50	103	220	67.9
10th St. E	North of Avenue J	<50	83	179	67.6
	Avenue J/Avenue K	<50	67	144	66.2
	Avenue K/Avenue M	<50	<50	104	64.0
20th St. E	Palmdale Blvd./Avenue S	<50	75	160	66.9
25th St. E	Avenue P/Palmdale Blvd.	<50	<50	92	63.3
	Palmdale Blvd./Avenue S	<50	73	156	66.7
	Avenue S/4200' S of Avenue S	<50	60	125	64.1
	4200' S of Avenue S/ Barrel Springs Rd.	<50	60	125	64.1
30th St. E	Avenue P/Avenue Q	<50	<50	75	61.9
	Avenue Q/Avenue S	<50	85	182	67.1

TABLE N-5
(Continued)

Roadway	From/To	Distance (in feet) From Roadway Centerline to CNEL: 70 CNEL	65 CNEL	60 CNEL	CNEL (dB) at 50 Feet
47th St. E	Palmdale Blvd./Avenue S	72	148	315	69.8
	Avenue S/Fort Tejon Rd.	72	148	315	69.8
50th St. E	Avenue M/Avenue P	<50	90	194	68.1
	Avenue P/Palmdale Blvd.	<50	90	194	68.1
	Palmdale Blvd./Avenue S	<50	104	225	69.1
Hwy 14	North of Avenue J	293	629	1,354	78.9
	Avenue J/Avenue K	325	699	1,505	79.6
	Avenue K/Avenue M	363	779	1,677	80.3
	Avenue M/L.A. Forest Hwy	373	801	1,734	80.5

State Route 14 transects the City from north to south and generates a 60 dBA CNEL contour that extends approximately 1,500 feet from the roadway centerline. A substantial number of both single- and multiple-family residential dwellings are located within this 60 dBA CNEL contour.

The Sierra Highway and the Valley Mainline Railroad run north/south and parallel to one another approximately 6,000 feet to the east of State Route 14. The combined noise levels of the Sierra Highway and the Valley Mainline generate a 60 dBA CNEL contour that extends approximately 1,800 feet from their centerpoints. The majority of the land uses in the area impacted by the 60 dBA CNEL contour are commercial and industrial. However, single and multiple-family residential dwellings are located within the 60 dBA CNEL contour, as well.

The Colton/Palmdale Cutoff railroad line, which branches off from the Valley Mainline Railroad at Avenue R and extends to the east, generates a 60 dBA CNEL contour that extends 1,000 feet from the railway centerline and affects single-family residential dwellings.

From 30th Street East to 60th Street East, Pearblossom Highway/Avenue T and the Colton Cutoff railroad line run parallel from east to west. Their noise levels combine to generate a 60 dBA CNEL that extends approximately 2,000 feet from their centerpoint. Rural residential dwellings lie within this 60 dBA CNEL contour.

The section of Palmdale Boulevard from the Antelope Valley Freeway to 47th Street East generates a 60 dBA CNEL contour that extends approximately 1,000 feet from the roadway centerline. Land use types within this contour are mostly commercial, but also impacted are single-family residential dwellings.

C. Future Noise Environment

Future average daily traffic volumes (provided by DKS Associates, 1989) were used in the FHWA Traffic Noise Prediction Model to generate future CNEL noise contours. The results of the analysis for future conditions are summarized in Table N-6, which gives the distance from the roadway centerline to the 60, 65 and 70 dBA CNEL contours, and the CNEL level at 50 feet from the roadway centerline. Airport noise contours taken from AFSC Master Plan, Air Installation Compatible Use Zones (AICUZ), August 1990, were incorporated into this report.

Future noise contours from the railroad and Plant 42 are depicted in Exhibit N-5 (Exhibit N-5 is provided as a separate large blue-line map). The 60, 65, 70 and 80 dBA CNEL contours are provided, showing the integrated effect from all transportation noise sources (railway, airport and roadways where the 60 dBA CNEL contour is greater than

200 feet from the roadway centerline). The roadway noise contours represent unmitigated conditions. Therefore, on roadways where walls, berms, or structures block the noise path, the contours overestimate the noise impacts. Exhibit N-5 shows the air installation compatible use zone noise contours developed by Force Plant 42 in 1990. The City of Los Angeles and the U. S. Air Force have reached a joint-use agreement allowing up to 400 commercial operations (take-offs or landings) per day on the northeast/southwest runway of the plant. Exhibit N-5 includes the addition of commercial flights which increased the size of the noise contours.

The population within each CNEL zone has been estimated in order to identify the number of persons that will be impacted by transportation noise. At the time of General Plan build-out, approximately 21,000 residents within the City will be exposed to noise levels exceeding 65 dBA CNEL, and approximately 28,000 residents will be exposed to noise levels between 60 and 65 dBA CNEL.

A comparison of Exhibit N-4 (existing noise contours) with Exhibit N-5 (future noise contours) shows that the transportation noise levels are expected to increase in the future. The discussion of land uses impacted within specified noise levels holds for the future also, with the exception that the noise contours are pushed outward from the roadways to encompass a larger area due to increased noise levels and, thus, will impact a greater area. A summary of noise impacts by source is provided in Table N-7.

Noise Impacts

The effects of 60 and 65 dBA CNEL on residents is summarized in Table N-8. The existing and future noise contours identify areas where outdoor speech interference can occur and a small percentage of the population will be highly annoyed. However, noise mitigation measures, such as berms and walls located between a noise source and receiver would reduce noise impacts.

TABLE N-6

FUTURE ROADWAY NOISE LEVELS (CNEL)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
East/West Arterials					
Ave L	10th St E/20th St E	158	327	698	73.7
	20th St E/40th St E	152	315	673	73.4
	40th St E/50th St E	140	287	611	72.8
	50th St E/90th St E	105	207	436	70.6
	90th St E/110th St E	113	226	478	71.2
Ave L-8	10TH St E/20th St E	< 50	104	220	67.4
	20th St E/50th St E	< 50	83	172	65.8
Ave M	90th St W/75th St W	< 50	59	119	63.3
	75th St W/60th St W	< 50	111	230	67.0
	60th St W/30th St W	106	218	465	71.6
	30th St W/15th St W	151	311	664	73.4
	15th St W/SR-14	161	335	715	73.8
	SR-14/Sierra Hwy	168	350	748	74.1
	Sierra Hwy/Division St	203	428	918	75.5
	Division St/10th St E	156	323	690	73.6
	10th St E/15th St E	158	327	698	73.7
	15th St E/50th St E	147	303	647	73.2
	50th St E/90th St E	74	145	304	68.8
	90th St E/120th St E	< 50	96	201	66.8
Ave M-8	70th St W/55th St W	< 50	96	201	66.8
	55th St W/45th St W	< 50	66	134	64.1
	45th St W/30th St W	< 50	63	128	63.8
Ave N	70th St W/60th St W	61	124	263	68.6
	60th St W/25th St W	110	226	481	71.8
	25th St W/SR-14	110	226	481	71.8
	SR-14/10th St W	106	218	465	71.6
	10th St W/Sierra Hwy	74	145	304	68.8
	2000' W of 40th St E /90th St E	80	158	334	69.4
	90th St E/120th St E	< 50	111	230	67.0
Ave N-8	Rancho Vista Blvd /30th St W	76	149	314	69.0
	10th St W/Sierra Hwy	< 50	63	128	63.8

TABLE N-6
(Continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Ave O	Rancho Vista Blvd /30th St W	76	149	314	69.0
	30th St W/10th St W	101	207	441	71.3
	10th St W/Sierra Hwy	84	167	353	69.8
	90th St E/120th St E	69	131	274	68.1
Ave O-8	Rancho Vista Blvd /10th St W	< 50	96	201	66.8
Rancho Vista Blvd					
	50th St W/Towncenter Dr	96	195	415	70.9
	Towncenter Dr/30th St W	110	226	481	71.8
Ave P	30th St W/15th St W	108	222	473	71.7
	15th St W/10th St W	116	240	513	72.2
	10th St W/Sierra Hwy	125	261	558	72.8
	Sierra Hwy/8th St E	103	211	449	71.4
	8th St E/20th St E	108	222	473	71.7
	20th St E/30th St E	105	215	457	71.5
	30th St E/50th St E	91	183	389	70.4
	90th St E/110th St E	98	199	424	71.0
Ave P-8	30th St W/25th St W	< 50	87	182	66.2
	25th St W/15th St W	60	120	255	68.4
	15th St W/SR-14	60	120	255	68.4
	SR-14/3RD St E	< 50	108	229	67.7
	3rd St E/Sierra Hwy	< 50	108	229	67.7
	Sierra Hwy/10th St E	< 50	92	192	66.5
	10th St E/40th St E	56	112	238	67.9
	40th St E/50th St E	< 50	< 50	104	62.4
	50th St E/90th St E	< 50	78	162	65.4
Ave Q	Palmdale Blvd /Division St	108	222	473	71.7
	Division St/6th St E	103	211	449	71.4
	6th St E/Sierra Hwy	106	218	465	71.6
	Sierra Hwy/20th St E	106	218	465	71.6
	20th St E/40th St E	110	226	481	71.8
	40th St E/60th St E	113	233	497	72.0
Santa Fe Hills Dr	Elizabeth Lake Rd /25th st W	< 50	100	211	67.1

TABLE N-6
(Continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Elizabeth Lake Rd					
	Godde Hill Rd/Bridge Rd	56	112	238	67.9
	Bridge Rd/25th St W	130	271	580	73.1
	25th St W/Foxholm Dr	149	307	655	73.3
	Foxholm Dr /Palmdale Blvd	158	327	698	73.7
Palmdale Blvd					
	Elizabeth Lake Rd/SR-14	147	303	647	73.2
	SR-14/Division St	165	342	732	74.0
	Division St/30th St E	122	254	543	72.6
	30th St E/47th St E	103	211	449	71.4
	47th St E/70th St E	93	187	398	70.6
	70th St E/90th St E	74	145	304	68.8
	90th St E/120th St E	86	171	362	70.0
City Ranch Rd					
	Ritter Ranch Rd /Ranch Center Dr	< 50	< 50	84	62.1
	Ranch Center Dr /Bridge Rd	68	139	295	69.4
	Bridge Rd /Tierra Subida Ave	< 50	83	172	65,8
Ave R	Tierra Subida Ave				
	/Division St	110	226	481	71.8
	Division St/6th St E	108	222	473	71.7
	6th St E/25th St E	106	218	465	71.6
	25th St E/30th St E	98	199	424	71.0
	30th St E/47th St E	106	218	465	71.6
	47th St E/60th St E	100	203	432	71.1
	60th St E/70th St E	< 50	84	168	64.8
	70th St E/90th St E	71	136	284	68.4
Ave R-8	Division St/6th St E	69	142	303	69.5
	6th St E/10th St E	69	142	303	69.5
	10th St E/25th St E	71	146	311	69.7
	25th St E /1200' W of 30th St E	65	132	279	69.9
	1200' W of 30th St E /1200' E of 35th St E	74	153	326	70.0
	1200' E of 35th St E /40th St E	69	142	303	69.5

TABLE N-6
(Continued)

Roadway	From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Ave R-8	40th St E /1800' E of 47th St E	65	132	279	69.0
	1800' E of 47th St E /70th St E	82	169	362	70.7
	70th St E/90th St E	58	116	246	68.2
Ritter Ranch Rd					
	Elizabeth Lake Rd /City Ranch Rd	< 50	96	201	66.8
	City Ranch Rd /Ranch Center Dr	< 50	96	201	66.8
	Ranch Center Dr /Bridge Rd	84	167	353	69.8
Ave S	Bridge Rd /Tierra Subida Ave	114	237	505	72.2
	Tierra Subida Ave/SR-14	93	187	398	70.6
	SR-14/Sierra Hwy	115	230	488	71.3
	Sierra Hwy/10th St E	147	303	647	73.2
	10th St E/20th St E	132	270	575	72.4
	20th St E/25th St E	113	226	478	71.2
	25th St E/35th St E	142	291	620	72.9
	35th St E/47th St E	123	249	527	71.8
	47th St E /3800' E of 47th St E	97	187	393	69.9
	3800' E of 47th St E /60th St E	78	154	324	69.2
	60th St E/70th St E	67	126	263	67.9
	70th St E/90th St E	71	136	284	68.4
	90th St E/110th St E	93	187	398	70.6
Ave S-8	45th St E/Ft Tejon Rd	< 50	62	125	63.6
Pearblossom Hwy					
	Sierra Hwy /Barrel Springs Rd	152	315	673	73.4
	Barrel Springs Rd /40th St E	156	323	690	73.6
	40th St E/47th St E	145	299	638	73.1
	47th St E/Ave T	117	235	498	71.5
Ave T	Pearblossom Hwy /90th St E	100	203	432	71.1
	90th St E/120th St E	67	126	263	67.9

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Barrel Springs Rd				
Tierra Subida Ave /Sierra Hwy	< 50	106	218	66.6
Sierra Hwy /W of 25th St E	73	140	294	68.6
W of 25th St E /25th St E	73	140	294	68.6
25th St E /Pearblossom Hwy	98	199	424	71.0
Pearblossom Hwy /40th St E	74	145	304	68.8
40th St E/Chesboro Rd	< 50	< 50	110	61.8
Old Herald Rd				
25th st E /Barrel Springs Rd	< 50	87	182	66.2
State Route 138 (SR-138)				
Ave T/90th St E	109	225	480	71.8
90th St E/120th St E	< 50	< 50	98	61.0
North/South Arterials				
70th St West				
Ave M/Ave M-8	< 50	108	229	67.7
Ave M-8/Ave N	60	120	255	68.4
65th St West				
Ave M/Ave N	< 50	< 50	< 50	55.4
60th St West				
Ave M/Ave N	< 50	104	220	67.4
Godde Hill Rd				
60th St W /Elizabeth Lake Rd	65	132	279	69.0
55th St West				
Ave M-8/Ave N	< 50	< 50	76	60.2

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
50th St West				
Ave L/Ave M	< 50	104	220	67.4
Ave M/Ave N	63	128	271	68.8
45th St West				
Ave N/Ave O	< 50	96	201	66.8
Ranch Center Dr				
Elizabeth Lake Rd /Ritter Ranch Rd	< 50	58	116	63.2
30th St West				
Ave M/Ave N	86	171	362	70.0
Ave N/Ave P	71	136	284	68.4
Ave P/Ave P-8	< 50	101	206	66.2
25th St West				
Ave O/Ave P	< 50	63	128	63.8
Ave P/Ave P-8	< 50	100	211	67.1
Ave P-8 /Elizabeth Lake Rd	86	171	362	70.0
20th St West				
Ave M/Ave N	56	112	238	67.9
Ave N/Ave P	< 50	108	228	67.7
Ave P/Elizabeth Lake Rd	60	120	255	68.4
15th St West				
Ave M/Ave N	61	124	263	68.6
Ave N/Ave P	< 50	87	182	66.2
Ave O-8/Ave P-8	< 50	73	151	64.9
10th St West				
Ave M/Ave N	145	299	638	73.1
Ave N/Ave P	158	327	698	73.7
Ave P/Palmdale Blvd	140	287	611	72.8
Tierra Subida Ave				
Palmdale Blvd/Ave R	82	163	343	69.6
Ave R/Ave S	108	222	473	71.7
Ave S/Barrel Springs Rd	< 50	83	172	65.8
5th St West				
Ave P-8/Palmdale Blvd	131	275	587	73.1
Palmdale Blvd /Tierra Subida Ave	63	128	271	68.8

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Division St				
Ave M/Ave O	113	233	497	72.0
Ave O/Ave P	91	183	389	70.4
Ave P/1500' N of Ave Q	103	210	449	71.4
1500' N of Ave Q/Ave R	101	207	441	71.3
Ave R/Ave R-8	65	121	252	67.6
5th St East				
Ave Q/Palmdale Blvd	< 50	< 50	104	62.4
Palmdale Blvd/Ave R-8	< 50	63	128	63.8
Ave R-8/Ave S	< 50	58	116	63.2
6th St East				
Sierra Hwy /Palmdale Blvd	< 50	58	116	63.2
Palmdale Blvd/Ave R	< 50	58	116	63.2
Sierra Hwy				
Ave M/Ave P	152	315	673	73.4
Ave P/Ave Q	119	247	528	72.4
Ave Q/Palmdale Blvd	84	167	353	69.8
Palmdale Blvd/Ave R-8	84	167	353	69.8
Ave R-8/Ave S	82	163	343	69.6
Ave S/1200' S of Ave S	82	163	343	69.6
1200' S of Ave S /3000' N of Barrel Springs Rd	82	163	343	69.6
3000' N of Barrel Springs Rd /Pearblossom Hwy	82	163	343	69.6
Pearblossom Hwy/SR-14	173	361	772	74.3
10th St East				
Ave L/Ave M	94	191	407	70.7
Ave O-8/Ave P	100	203	432	71.1
Ave P/Palmdale Blvd	110	226	481	71.8
Palmdale Blvd/Ave R-8	60	120	255	68.4
Ave R-8/Ave S	61	124	263	68.6
15th St East				
Ave L/Ave L-8	< 50	78	162	65.4
Ave L-8/Ave M	< 50	77	160	65.3
Ave P/Palmdale Blvd	< 50	96	201	66.8
Palmdale Blvd/Ave R	< 50	73	151	64.9

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
20th St East				
Ave L/Ave M	73	140	294	68.6
Ave P/Palmdale Blvd	< 50	96	201	66.8
Palmdale Blvd/Ave S	63	128	271	68.8
25th St East				
Ave L/Ave M	< 50	< 50	90	61.4
Ave P/Palmdale Blvd	94	191	407	70.7
Palmdale Blvd/Ave R-8	91	183	389	70.4
Ave R-8/Ave S	93	187	398	70.6
Ave S/4200' S of Ave S	131	275	587	73.1
4200' S of Ave S /Barrel Springs Rd	93	187	398	70.6
30th St East				
Ave L/Ave M	67	126	263	67.9
Ave P/Ave Q	80	158	334	69.4
Ave Q/Palmdale Blvd	93	187	398	70.6
Palmdale Blvd /1300' S of Palmdale Blvd	84	167	353	70.0
1300' S of Palmdale Blvd/Ave R	84	167	353	70.0
Ave R/1000' S of Ave R	89	179	380	70.3
1000' S of Ave R /600' N of Ave R-8	89	179	380	70.3
600' N of Ave R-8 /Ave R-8	89	179	380	70.3
Ave R-8/Ave S	< 50	84	168	64.8
Ave S/1600' S of Ave S	–	–	–	---
35th St East				
Ave L/Ave M	< 50	< 50	104	62.4
Ave P/Ave Q	< 50	58	116	63.2
Ave Q/Palmdale Blvd	65	132	279	69.0
Palmdale Blvd /1200' N of Ave R	65	132	279	69.0
1200' N Ave R/Ave R	66	132	279	69.0
Ave R/Ave S	< 50	73	151	64.9
Ave S/1600' S of Ave S	< 50	78	162	65.4

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
40th St East				
Ave L/Ave M	< 50	100	211	67.1
Ave N/Ave P	< 50	109	229	67.7
Ave P/Palmdale Blvd	96	195	415	70.9
Palmdale Blvd/Ave S	91	183	389	70.4
Ave S/Pearblossom Hwy	103	211	449	71.4
Pearblossom Hwy /Barrel Springs Rd	< 50	108	229	67.7
45th St East				
Ave L/Ave M	< 50	< 50	90	61.4
47th St East				
Palmdale Blvd/Ave S	149	307	655	73.3
Ave S/Fort Tejon Rd	121	244	518	71.7
Fort Tejon Rd /Pearblossom Hwy	78	154	324	69.2
Pearblossom Hwy /Barrel Springs Rd	< 50	< 50	60	58.4
Fort Tejon Rd				
47th St E /Pearblossom Hwy	75	133	271	67.4
50th St East				
Ave L/Ave M	163	338	723	73.9
Ave M/Ave P	180	376	804	74.6
Ave P/Crosstown Fwy	156	323	690	73.6
Crosstown Fwy /Palmdale Blvd	168	350	748	74.1
55th St East				
Ave O/Ave S	< 50	87	182	66.2
60th St East				
Ave L/Ave N	< 50	111	230	67.0
Ave O/Ave R	114	237	505	72.2
Ave R/Ave S	80	158	334	69.4
60th St East				
Ave S/Ave T	67	126	263	67.9
Ave T/Mt Emma Rd	< 50	< 50	90	61.4

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
70th St East				
Ave L/Ave N	< 50	83	172	65.8
Ave P-8/Ave R	< 50	100	211	67.1
Ave R/Ave S-8	60	120	255	68.4
80th St East				
Ave L/Ave N	< 50	87	182	66.2
90th St East				
Ave L/Ave N	94	191	407	70.7
Ave N/Palmdale Blvd	113	233	497	72.0
Palmdale Blvd/Ave S	94	191	407	70.7
Ave S/Ave T	< 50	104	220	67.4
Ave T/SR-138	< 50	< 50	104	62.4
SR-138/Fort Tejon Rd	< 50	< 50	< 50	55.4
110th St East				
Ave L/Ave N	< 50	63	128	63.8
Ave N/Ave P	< 50	96	201	66.8
Ave P/Ave S	< 50	92	192	66.5
Ave S/SR-138	< 50	< 50	76	60.2
SR-138/Fort tejon Rd	< 50	< 50	60	58.4
State Route 14 (SR-14)				
Ave L/Ave N	355	756	1625	78.7
Ave N/Ave P	379	809	1738	79.1
Ave P/Palmdale Blvd	391	834	1793	79.3
Palmdale Blvd/Ave S	272	578	1241	77.4
Ave S /L. A. Forest Hwy	260	551	1184	77.1
L. A. Forest Hwy /Crown Valley Rd	319	682	1466	78.5
Bypass Fwy				
Ave L/Ave M	222	472	1015	76.7
Ave M/Ave O	235	501	1077	77.1
Ave O/Palmdale Blvd	157	331	710	74.4
Crosstown Fwy				
SR-14/10th St E	233	496	1066	77.0
10th St E/25th St E	235	501	1077	77.1
25th St E/40th St E	228	487	1046	76.9
40th St E/50th St E	241	515	1107	77.3
50th St E/Bypass Fwy	157	331	710	74.4

TABLE N-6
(Continued)

Roadway From/To	Distance from Roadway Centerline to CNEL (in feet)[a] 70 CNEL	65 CNEL	60 CNEL	CNEL 50 feet from Centerline of the Near Travel Lane
Airport Fwy				
Crosstown Fwy/70th St E	280	381	818	75.3
70th St E/Bypass Fwy	160	337	723	74.5

Source: Michael Brandman Associates, 1992.

TABLE N-7

NOISE IMPACTS BY SOURCE

U.S. Air Force Plant 42	CNEL noise contours extend substantial distances into the community. The 70 dBA CNEL extends beyond SR-14 on the west.
Antelope Valley Freeway	CNEL noise levels are significant and the 60 dBA CNEL demonstrates that freeway noise extends a substantial distance off the right-of-way.
Sierra Highway/Southern Pacific Railroad Line	These transportation noise sources have overlapping noise contours resulting in substantial noise impacts. Major rail freight movements result in single events of long duration.
Pearblossom Highway	The 60 and 65 dBA CNEL contours extend substantial distances into the community.
Major Roadways	Noise-sensitive land uses along major roadways are impacted by traffic noise.
Commercial/Industrial	In general, commercial/industrial operations and activities are not considered a City-wide noise problem. Isolated noise problems occur where commercial/industrial uses are located near a noise-sensitive land use. Sand and gravel operations are presently far removed from noise sensitive land uses. However, sensitive residential uses are being developed closer to those operations and traffic along Avenue T will impact more residential uses as development spreads outward from the existing developed areas.
Construction	Construction noise can be annoying to adjacent noise-sensitive land uses.

TABLE N-8

EFFECTS OF NOISE ON PEOPLE (RESIDENTIAL LAND USES)

Effects[a]	dBA CNEL 60	dBA CNEL 65
Hearing Loss	Will not occur	Will not occur
Speech Interference Outdoor (distance for 95% sentence intelligibility)	2.0 meters (6.6 ft.)	1.5 meters (4.9 ft.)
Indoor (sentence intelligibility)	100%	100%
Highly Annoyed[b]	9%	15%
Average Community Recreation[c]	Moderate	Significant
General Community Attitude Towards Area	No more important than various other environmental factors	Adverse aspect on the community environment

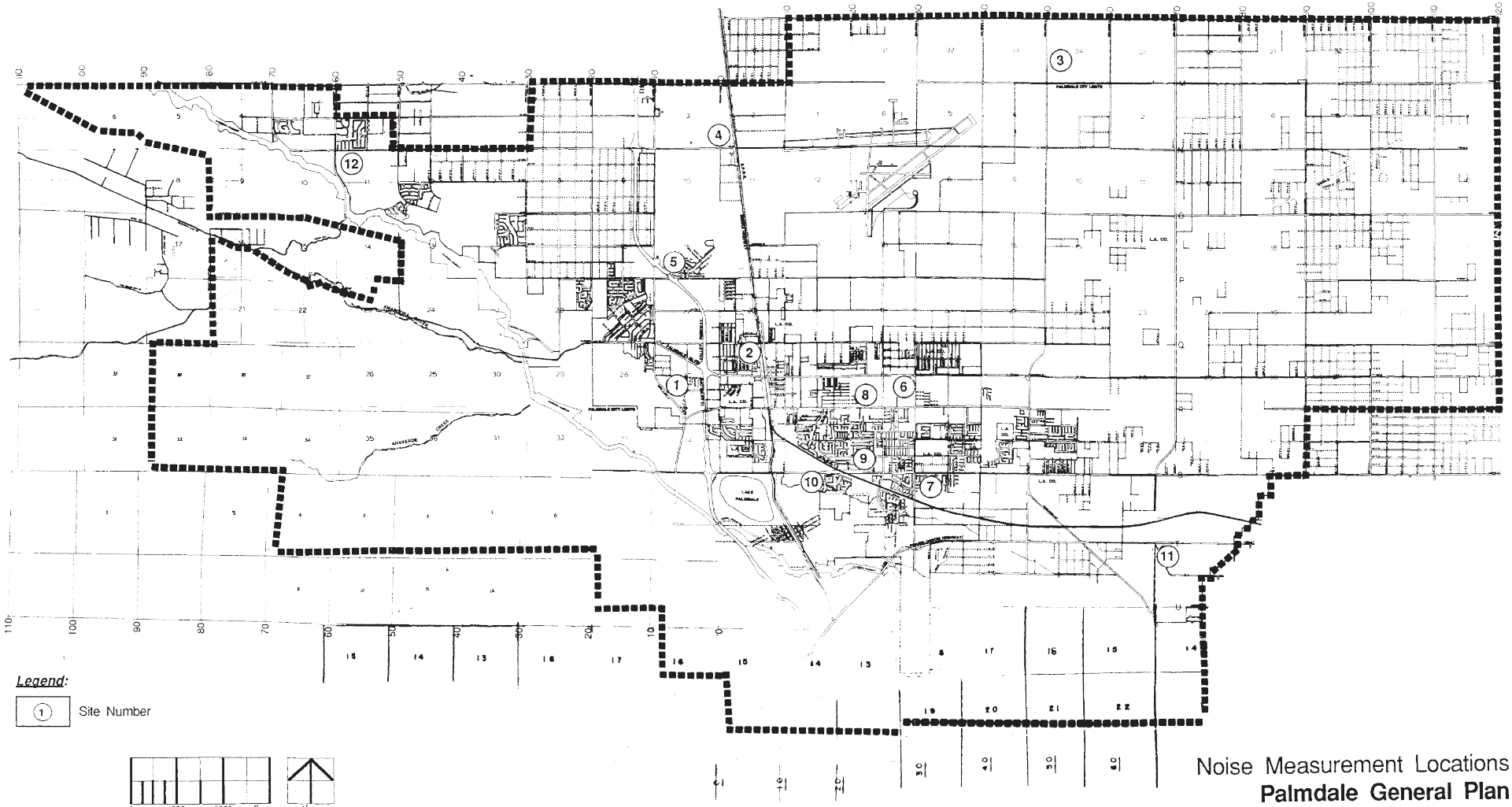
a "Speech Interference" data are drawn from the following tables in EPA's "Levels Document": Table 3, Fig. D-1, Fig. D-2, Fig. D-3. All other data from National Academy of Science 1977 report "Guidelines for Preparing Environmental Impact Statements on Noise, Report of Working Group 69 on Evaluation of Environmental Impact of Noise."

b Depends on attitudes and other factors. An unknown small percentage of people will report being "highly annoyed" even in the quietest surroundings. One reason is the difficulty all people have in integrating annoyance over a very long time.

c Attitudes or other non-acoustic factors can modify this. Noise at low levels can still be an important problem, particularly when it intrudes into a quiet environment.

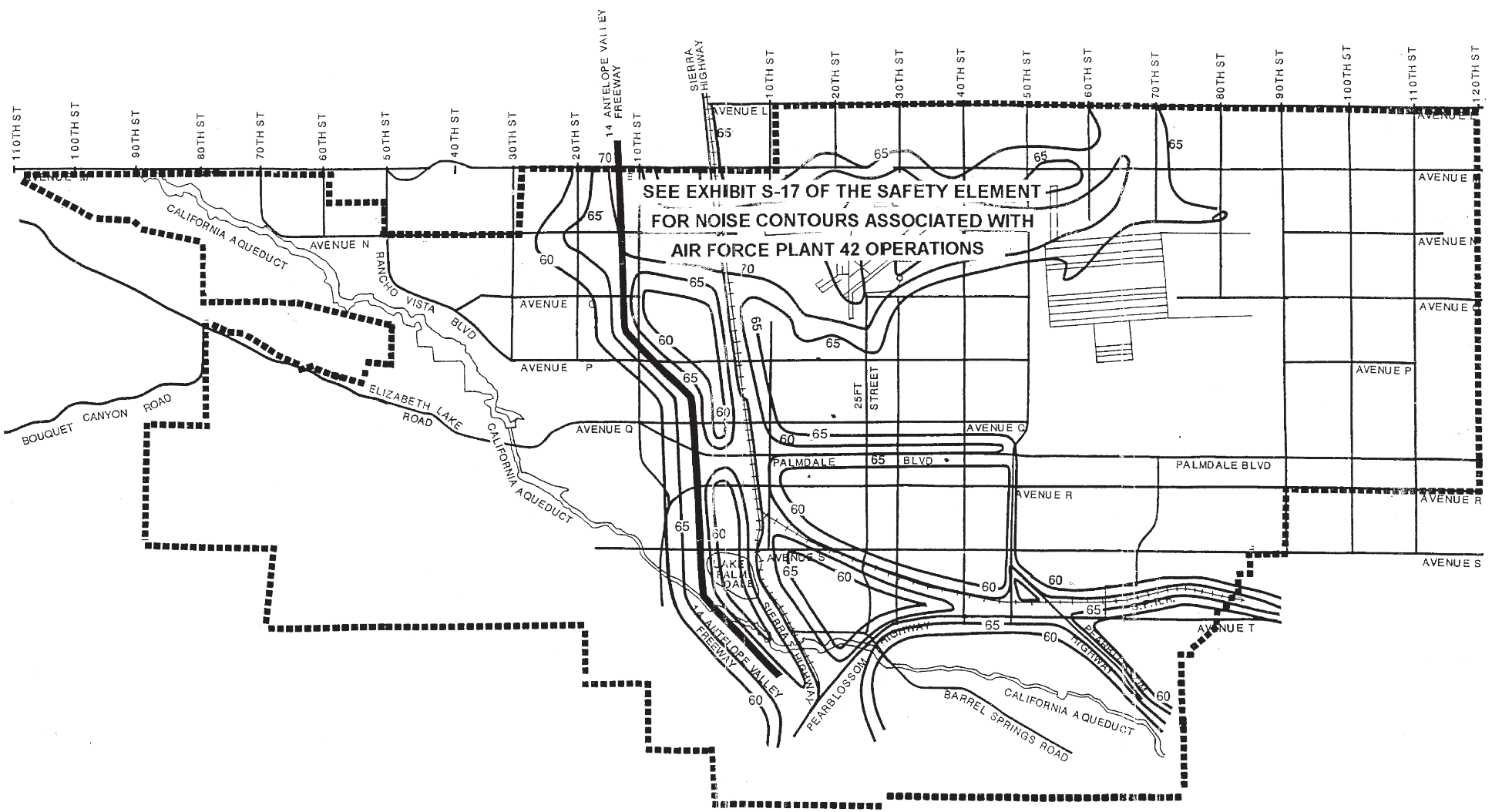
Note: Research implicates noise as a factor producing stress-related health effects such as heart disease, high-blood pressure and stroke, and ulcers and other digestive disorders. The relationships between noise and these effects, however, have not as yet been quantified.

Source: U. S. Department of Transportation, Federal Interagency Committee on Urban Noise, Guidelines for Considering Noise in Land Use Planning Control, page D-2, June 1980.



Noise Measurement Locations
Palmdale General Plan

Adopted by City Council 1/25/93 **EXHIBIT N-2**



Existing Transportation Noise Contours
Palmdale General Plan

Adopted by City Council
1/25/93

EXHIBIT N-4

MODELING INPUT & OUTPUT

Highridge Costa 14-Jul-21
AGI TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Ave R Aparments
RUN: Highridge Costa

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	m			m	m	m		km/h	%		
WB Ave R	3.7	point1	1	256.4	246.3	0				Average	
		point2	2	770.8	255.7	0					
EB Ave R	3.7	point3	3	260.1	233.8	0				Average	
		point4	4	770.8	244.9	0					
NB 30th	3.7	point5	5	402.7	257.1	0				Average	
		point6	6	402.2	471.4	0					
SB 30th	3.7	point7	7	395.7	256.6	0				Average	
		point8	8	393.4	471.8	0					

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: Ave R Aparments
RUN: Highridge Costa

Roadway Name	Points Name	No.	Segment Autos V	S	MTrucks V	S	HTrucks V	S	Buses V	S	Motorcycles V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
WB Ave R	point1	1	1344	80	28	80	28	80	0	0	0	0
	point2	2										
EB Ave R	point3	3	1344	80	28	80	28	80	0	0	0	0
	point4	4										
NB 30th	point5	5	1344	80	28	80	28	80	0	0	0	0
	point6	6										
SB 30th	point7	7	1344	80	28	80	28	80	0	0	0	0
	point8	8										

INPUT: RECEIVERS
PROJECT/CONTRACT: Ave R Aparments
RUN: Highridge Costa

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			m	m	m	m	dBA	dBA	dB	dB	
R1.1	1	1	469.8	291.1	0	1.5	0	66	10	8	Y
R2.1	2	1	560.8	272.1	0	1.5	0	66	10	8	Y
R3.1	3	1	589.5	272.4	0	1.5	0	66	10	8	Y
R4.1	4	1	471.3	317.4	0	1.5	0	66	10	8	Y
R5.1	5	1	498.2	328.3	0	1.5	0	66	10	8	Y
R6.1	6	1	553.9	322.1	0	1.5	0	66	10	8	Y
R7.1	8	1	599.1	303.1	0	1.5	0	66	10	8	Y
R1.2	9	1	469.8	291.1	0	4.57	0	66	10	8	Y

R2.2	10	1	560.8	272.1	0	4.57	0	66	10	8	Y
R3.2	11	1	589.5	272.4	0	4.57	0	66	10	8	Y
R4.2	12	1	471.3	317.4	0	4.57	0	66	10	8	Y
R5.2	13	1	498.2	328.3	0	4.57	0	66	10	8	Y
R6.2	14	1	553.9	322.1	0	4.57	0	66	10	8	Y
R7.2	15	1	599.1	303.1	0	4.57	0	66	10	8	Y
Courtyard	17	1	525.1	295.4	0	1.5	0	66	10	8	Y
Outdoor Area	18	1	594.2	330	0	1.5	0	66	10	8	Y
Patio	19	1	549	292.3	0	1.5	0	66	10	8	Y

INPUT: BARRIERS
PROJECT/CONTRACT: Ave R Aparments
RUN: Highridge Costa

Barrier Name	Type	Height Min	Height Max	If Wall $ per Unit Area	If Berm $ per Unit Vol.	Top Width	Run:Rise	Add'tnl $ per Unit Length	Points Name	No.	Coordinates (bottom) X	Y	Z	Height at Point	Segment Seg Ht Increment	Perturbs #Up	#Dn	On Struct?	Important Reflec-tions?
		m	m	$/sq m	$/cu m	m	m:m	$/m			m	m	m	m	m				
Barrier1	W	0	30.48	0				0	point1	1	576.5	289.9	0	6.1		0	0	0	
									point2	2	599.2	289.9	0	6.1		0	0	0	
									point3	3	599.2	277.7	0	6.1		0	0	0	
									point4	4	593.8	277.7	0	6.1		0	0	0	
									point5	5	593.8	274.5	0	6.1		0	0	0	
									point6	6	581.9	274.5	0	6.1		0	0	0	
									point7	7	581.9	277.7	0	6.1		0	0	0	
									point49	49	576.5	277.7	0	6.1		0	0	0	
									point8	8	576.5	289.8	0	6.1					
Barrier2	W	0	30.48	0				0	point9	9	548.1	289.8	0	6.1		0	0	0	
									point10	10	570.7	289.8	0	6.1		0	0	0	
									point11	11	570.7	277.6	0	6.1		0	0	0	
									point12	12	565.3	277.6	0	6.1		0	0	0	
									point13	13	565.3	274.4	0	6.1		0	0	0	
									point14	14	553.4	274.4	0	6.1		0	0	0	
									point15	15	553.4	277.6	0	6.1		0	0	0	
									point50	50	548	277.6	0	6.1		0	0	0	
									point16	16	548.1	289.7	0	6.1					
Barrier3	W	0	30.48	0				0	point17	17	474	301.6	0	6.1		0	0	0	
									point18	18	496.6	301.6	0	6.1		0	0	0	
									point19	19	496.6	289.4	0	6.1		0	0	0	
									point20	20	491.2	289.4	0	6.1		0	0	0	
									point21	21	491.2	286.2	0	6.1		0	0	0	
									point22	22	479.3	286.2	0	6.1		0	0	0	
									point23	23	479.3	289.4	0	6.1		0	0	0	
									point51	51	473.9	289.4	0	6.1		0	0	0	
									point24	24	474	301.5	0	6.1					
Barrier4	W	0	30.48	0				0	point25	25	473.8	324.1	0	6.1		0	0	0	
									point26	26	479.3	324.1	0	6.1		0	0	0	
									point27	27	479.3	327.4	0	6.1		0	0	0	
									point28	28	491.1	327.4	0	6.1		0	0	0	
									point29	29	491.1	324.1	0	6.1		0	0	0	
									point30	30	496.6	324.1	0	6.1		0	0	0	
									point31	31	496.6	311.9	0	6.1		0	0	0	
									point52	52	473.9	312	0	6.1		0	0	0	
									point32	32	473.8	324	0	6.1					
Barrier5	W	0	30.48	0				0	point33	33	547.7	316.2	0	6.1		0	0	0	
									point34	34	553.2	316.2	0	6.1		0	0	0	
									point35	35	553.2	319.5	0	6.1		0	0	0	
									point36	36	565	319.5	0	6.1		0	0	0	

							point37	37	565	316.2	0	6.1	0	0	0
							point38	38	570.4	316.2	0	6.1	0	0	0
							point39	39	570.4	304	0	6.1	0	0	0
							point53	53	547.8	304.1	0	6.1	0	0	0
							point40	40	547.7	316.1	0	6.1			
Barrier6	W	0	30.48	0		0	point41	41	575.8	316.4	0	6.1	0	0	0
							point42	42	581.3	316.4	0	6.1	0	0	0
							point43	43	581.3	319.7	0	6.1	0	0	0
							point44	44	593.1	319.7	0	6.1	0	0	0
							point45	45	593.1	316.4	0	6.1	0	0	0
							point46	46	598.5	316.4	0	6.1	0	0	0
							point47	47	598.5	304.2	0	6.1	0	0	0
							point54	54	575.9	304.3	0	6.1	0	0	0
							point48	48	575.8	316.3	0	6.1			
Barrier7	W	0	30.48	0		0	point55	55	502.2	327.3	0	6.1	0	0	0
							point56	56	514	327.3	0	6.1	0	0	0
							point57	57	514	324.8	0	6.1	0	0	0
							point58	58	519.5	324.7	0	6.1	0	0	0
							point59	59	519.6	327.3	0	6.1	0	0	0
							point60	60	532.3	327.2	0	6.1	0	0	0
							point61	61	532.3	324.9	0	6.1	0	0	0
							point62	62	537.9	324.9	0	6.1	0	0	0
							point63	63	537.9	311.1	0	6.1	0	0	0
							point64	64	528.5	311.1	0	6.1	0	0	0
							point65	65	528.5	313.8	0	6.1	0	0	0
							point66	66	511.7	313.9	0	6.1	0	0	0
							point67	67	511.7	309.1	0	6.1	0	0	0
							point68	68	502	309.1	0	6.1	0	0	0
							point69	69	502.2	327.2	0	6.1			
Barrier8	W	0	30.48	0		0	point70	70	502.1	304.5	0	6.1	0	0	0
							point71	71	511.6	304.4	0	6.1	0	0	0
							point72	72	511.8	294.3	0	6.1	0	0	0
							point73	73	502.1	294.2	0	6.1	0	0	0
							point74	74	502.1	304.4	0	6.1			

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: Ave R Aparments
RUN: Highridge Costa
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
R1.1	1	1	0	63.9	66	63.9	10	----	63.9	0	8	-8
R2.1	2	1	0	68.9	66	68.9	10	Snd Lvl	68.9	0	8	-8
R3.1	3	1	0	68.9	66	68.9	10	Snd Lvl	68.9	0	8	-8
R4.1	4	1	0	60.7	66	60.7	10	----	60.7	0	8	-8
R5.1	5	1	0	54.3	66	54.3	10	----	54.3	0	8	-8
R6.1	6	1	0	49.3	66	49.3	10	----	49.3	0	8	-8
R7.1	8	1	0	58	66	58	10	----	58	0	8	-8
R1.2	9	1	0	68.3	66	68.3	10	Snd Lvl	68.3	0	8	-8
R2.2	10	1	0	71.2	66	71.2	10	Snd Lvl	71.2	0	8	-8
R3.2	11	1	0	71.2	66	71.2	10	Snd Lvl	71.2	0	8	-8
R4.2	12	1	0	64.2	66	64.2	10	----	64.2	0	8	-8

R5.2	13	1	0	57.7	66	57.7	10	----	57.7	0	8	-8
R6.2	14	1	0	53.8	66	53.8	10	----	53.8	0	8	-8
R7.2	15	1	0	62.9	66	62.9	10	----	62.9	0	8	-8
Courtyard	17	1	0	61.5	66	61.5	10	----	61.5	0	8	-8
Outdoor Area	18	1	0	53.9	66	53.9	10	----	53.9	0	8	-8
Patio	19	1	0	58.2	66	58.2	10	----	58.2	0	8	-8

Dwelling Units	# DUs	Noise Reduction		
		Min dB	Avg dB	Max dB
All Selected	17	0	0	0
All Impacted	5	0	0	0
All that meet NR Goal	0	0	0	0

Table 1. Calculation of Exterior and Interior Noise Levels

Client: Ave R Apartments
Case: Future Exterior Noise to Interior Spaces
Studio

Project No.
Date: 07/13/21

ABSORPTION:

Type	Area	Material
14	250	Wood Parquet in Asphalt on Concrete Floor
17	250	1/2" Gypsum Board, Painted
17	568	1/2" Gypsum Board, Painted
15	72	1/4" Glass, Sealed, Large Panes
15	0	1/4" Glass, Sealed, Large Panes
33	0	Opened Window
34	0	1/2" Gypsum Board, Painted (Measured)
35	50	Padded Furniture

PARTITION ELEMENTS:

Element	Type	Area
Wall	1	200
Open Window	72	72
Fixed Window	1	0
Glass Door	6	0

ANGLE OF INCIDENCE: 0

NOISE SOURCE:

EXTERIOR LEVEL: 72.2

Source #	Source Name
4	Arterial Noise, 4% Trucks

INTERIOR LEVEL: 42.9

Freq.	Exterior Noise Level dB(A)	Absorption, Sabins	Trans. Loss, dB(A)	Room Correction, dB(A)*	Interior Noise Level dB(A)
100 Hz	49	102	26	8	31
125 Hz	52.8	102	21	8	39
160 Hz	55.1	100	29	8	33
200 Hz	57.7	98	34	8	31
250 Hz	59.7	95	37	8	30
315 Hz	60.7	93	39	8	30
400 Hz	61.2	90	41	8	28
500 Hz	61.8	87	43	8	27
630 Hz	62	84	43	8	27
800 Hz	62.7	80	44	9	27
1000 Hz	62.8	77	44	9	28
1250 Hz	62.4	77	44	9	27
1600 Hz	61.1	77	45	9	25
2000 Hz	60	77	45	9	24
2500 Hz	57.4	76	47	9	19
3150 Hz	54.3	76	50	9	13
4000 Hz	51.5	76	55	9	6
5000 Hz	47.6	76	58	9	0

Wall Elements are:

	STC	Manu.	Description
Wall	46		Ext stucco wall with wood studs, 5/8" gyp int, 3" insul batt
Open Wdw	40	OLD CASTLE	3/8" LAM, 1/2" AS, 1/4" GLS RAL-TL85-192
Fixed Wdw	36	BUCHMIN	1/4" LAMINATED GLASS
Glass Door	31	A.B.C.	1/4" LAMINATED GLASS, SERIES 350

* Room absorption calculated from absorption data includes 3 dB reduction for window to room center correction.

Table 1. Calculation of Exterior and Interior Noise Levels

Client: Ave R Apartments
Case: Future Exterior Noise to Interior Spaces
Studio

Project No.
Date: 07/13/21

ABSORPTION:

Type	Area	Material
14	250	Wood Parquet in Asphalt on Concrete Floor
17	250	1/2" Gypsum Board, Painted
17	568	1/2" Gypsum Board, Painted
15	72	1/4" Glass, Sealed, Large Panes
15	0	1/4" Glass, Sealed, Large Panes
33	0	Opened Window
34	0	1/2" Gypsum Board, Painted (Measured)
35	50	Padded Furniture

PARTITION ELEMENTS:

Element	Type	Area
Wall	1	200
Open Window	68	72
Fixed Window	1	0
Glass Door	6	0

ANGLE OF INCIDENCE: 0

NOISE SOURCE:

EXTERIOR LEVEL: 69.4

Source #	Source Name
4	Arterial Noise, 4% Trucks

INTERIOR LEVEL: 42.8

Freq.	Exterior Noise Level dB(A)	Absorption, Sabins	Trans. Loss, dB(A)	Room Correction, dB(A)*	Interior Noise Level dB(A)
100 Hz	46.2	102	26	8	28
125 Hz	50	102	26	8	32
160 Hz	52.3	100	30	8	30
200 Hz	54.9	98	33	8	29
250 Hz	56.9	95	32	8	33
315 Hz	57.9	93	30	8	36
400 Hz	58.4	90	32	8	35
500 Hz	59	87	34	8	34
630 Hz	59.2	84	36	8	31
800 Hz	59.9	80	39	9	29
1000 Hz	60	77	41	9	28
1250 Hz	59.6	77	43	9	26
1600 Hz	58.3	77	45	9	22
2000 Hz	57.2	77	47	9	19
2500 Hz	54.6	76	50	9	14
3150 Hz	51.5	76	50	9	10
4000 Hz	48.7	76	54	9	4
5000 Hz	44.8	76	58	9	0

Wall Elements are:

	STC	Manu.	Description
Wall	46		Ext stucco wall with wood studs, 5/8" gyp int, 3" insul batt
Open Wdw	35	OLD CASTLE	1/4" LAM, 1/4" AS, 1/8" RAL TL95-296
Fixed Wdw	36	BUCHMIN	1/4" LAMINATED GLASS
Glass Door	31	A.B.C.	1/4" LAMINATED GLASS, SERIES 350

* Room absorption calculated from absorption data includes 3 dB reduction for window to room center correction.

Table 1. Calculation of Exterior and Interior Noise Levels

Client: Ave R Apartments
Case: Future Exterior Noise to Interior Spaces
Studio

Project No.
Date: 07/13/21

ABSORPTION:

Type	Area	Material
14	250	Wood Parquet in Asphalt on Concrete Floor
17	250	1/2" Gypsum Board, Painted
17	568	1/2" Gypsum Board, Painted
15	72	1/4" Glass, Sealed, Large Panes
15	0	1/4" Glass, Sealed, Large Panes
33	0	Opened Window
34	0	1/2" Gypsum Board, Painted (Measured)
35	50	Padded Furniture

PARTITION ELEMENTS:

Element	Type	Area
Wall	1	200
Open Window	4	72
Fixed Window	1	0
Glass Door	6	0

ANGLE OF INCIDENCE: 0

NOISE SOURCE:

EXTERIOR LEVEL: 65

Source #	Source Name
4	Arterial Noise, 4% Trucks

INTERIOR LEVEL: 41.1

Freq.	Exterior Noise Level dB(A)	Absorption, Sabins	Trans. Loss, dB(A)	Room Correction, dB(A)*	Interior Noise Level dB(A)
100 Hz	41.8	102	25	8	24
125 Hz	45.6	102	25	8	28
160 Hz	47.9	100	27	8	28
200 Hz	50.5	98	31	8	28
250 Hz	52.5	95	30	8	31
315 Hz	53.5	93	32	8	30
400 Hz	54	90	30	8	33
500 Hz	54.6	87	31	8	32
630 Hz	54.8	84	33	8	31
800 Hz	55.5	80	34	9	31
1000 Hz	55.6	77	34	9	30
1250 Hz	55.2	77	35	9	29
1600 Hz	53.9	77	36	9	27
2000 Hz	52.8	77	38	9	24
2500 Hz	50.2	76	39	9	20
3150 Hz	47.1	76	39	9	17
4000 Hz	44.3	76	37	9	16
5000 Hz	40.4	76	40	9	10

Wall Elements are:

	STC	Manu.	Description
Wall	46		Ext stucco wall with wood studs, 5/8" gyp int, 3" insul batt
Open Wdw	29	A.B.C.	1/8" GLASS, 1/4" AIRSPACE, 1/8" GLASS, MODEL 670
Fixed Wdw	36	BUCHMIN	1/4" LAMINATED GLASS
Glass Door	31	A.B.C.	1/4" LAMINATED GLASS, SERIES 350

* Room absorption calculated from absorption data includes 3 dB reduction for window to room center correction.

Table 1. Calculation of Exterior and Interior Noise Levels

Client: Ave R Apartments
Case: Future Exterior Noise to Interior Spaces
Non-Residential

Project No.
Date: 07/13/21

ABSORPTION:

Type	Area	Material
14	500	Wood Parquet in Asphalt on Concrete Floor
17	500	1/2" Gypsum Board, Painted
17	660	1/2" Gypsum Board, Painted
15	140	1/4" Glass, Sealed, Large Panes
15	0	1/4" Glass, Sealed, Large Panes
33	0	Opened Window
34	0	1/2" Gypsum Board, Painted (Measured)
35	50	Padded Furniture

PARTITION ELEMENTS:

Element	Type	Area
Wall	1	400
Open Window	4	140
Fixed Window	1	0
Glass Door	6	0

ANGLE OF INCIDENCE: 0

NOISE SOURCE:

EXTERIOR LEVEL: 65

Source #	Source Name
4	Arterial Noise, 4% Trucks

INTERIOR LEVEL: 42.5

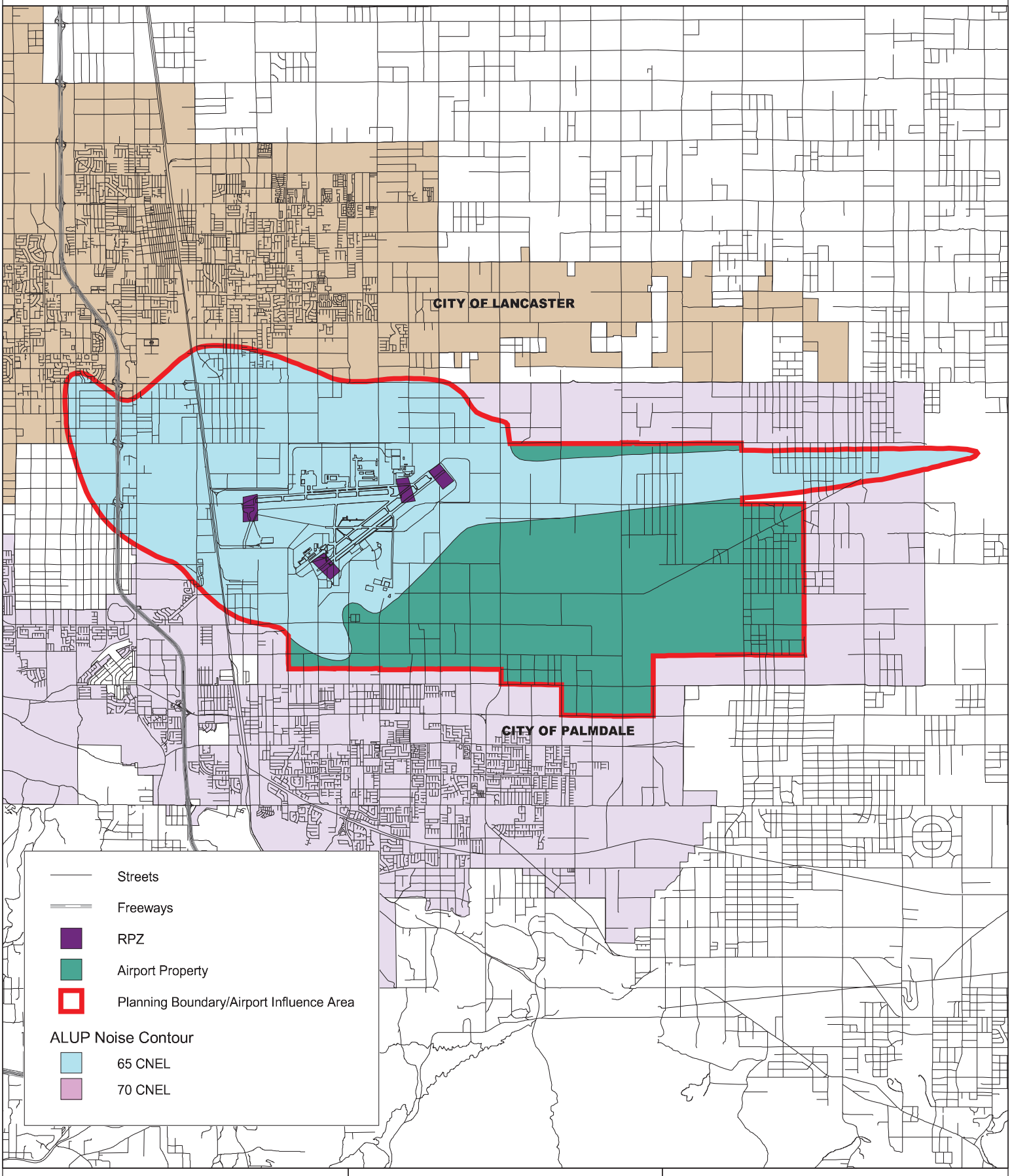
Freq.	Exterior Noise Level dB(A)	Absorption, Sabins	Trans. Loss, dB(A)	Room Correction, dB(A)*	Interior Noise Level dB(A)
100 Hz	41.8	150	25	9	26
125 Hz	45.6	150	25	9	29
160 Hz	47.9	145	28	9	29
200 Hz	50.5	140	31	9	29
250 Hz	52.5	135	30	9	32
315 Hz	53.5	131	32	9	31
400 Hz	54	127	30	10	34
500 Hz	54.6	123	31	10	34
630 Hz	54.8	117	33	10	32
800 Hz	55.5	110	34	10	32
1000 Hz	55.6	104	35	10	31
1250 Hz	55.2	104	35	10	31
1600 Hz	53.9	104	36	10	29
2000 Hz	52.8	104	38	10	25
2500 Hz	50.2	104	39	10	22
3150 Hz	47.1	105	39	10	19
4000 Hz	44.3	105	37	10	18
5000 Hz	40.4	105	40	10	11

Wall Elements are:

	STC	Manu.	Description
Wall	46		Ext stucco wall with wood studs, 5/8" gyp int, 3" insul batt
Open Wdw	29	A.B.C.	1/8" GLASS, 1/4" AIRSPACE, 1/8" GLASS, MODEL 670
Fixed Wdw	36	BUCHMIN	1/4" LAMINATED GLASS
Glass Door	31	A.B.C.	1/4" LAMINATED GLASS, SERIES 350

* Room absorption calculated from absorption data includes 3 dB reduction for window to room center correction.

PALMDALE AIRPORT / USAF PLANT 42



LOS ANGELES COUNTY
AIRPORT LAND USE COMMISSION
320 W. Temple Street
Los Angeles, CA 90012
(213) 974-6425

AIRPORT INFLUENCE AREA

0 4000 8000 12000 Feet

N

5/13/03

ARCHITECTURAL DRAWINGS

APPENDIX J

PUBLIC COMMENT LETTERS RECEIVED ON THE INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

PALMDALE WATER DISTRICT
A CENTURY OF SERVICE

BOARD OF DIRECTORS
AMBERROSE MERINO
Division 1
DON WILSON
Division 2
GLORIA DIZMANG
Division 3
KATHY MAC LAREN-GOMEZ
Division 4
VINCENT DINO
Division 5

DENNIS D. LaMOREAUX
General Manager
ALESHIRE & WYNDER LLP
Attorneys

July 8, 2021

RECEIVED
JUL 14 2021
PLANNING DIVISION

Mr. Justin Sauder, Associate Planner
City of Palmdale
38250 Sierra Highway
Palmdale, CA 93550

RE: NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION: SITE PLAN REVIEW 21-012 AND DENSITY BONUS AGREEMENT 21-001

Dear Mr. Fiss:

Palmdale Water District (PWD, District) has reviewed the Notice of Intent to Adopt a Mitigated Negative Declaration for the project located on the northeast corner of East Avenue R and 30th Street East (APN 3020-005-031). The District received the document July 6, 2021, and has reviewed it internally. The comments have been listed below regarding *Section XIX Utilities and Service Systems* as it pertains to Palmdale Water District.

PWD comments:

1. **Section XIX (b) Page 107**:
   The applicant references "Palmdale Water District 2015 UWMP." The District has since updated and published the 2020 UWMP. Additionally, there is no reference or analysis of the impact as it relates to the District's 2016 Water Master Plan. Please update this section with the updated information found in that document. The link to this document is listed below:

   https://www.palmdalewater.org/about/reportsstudies/planning-reports/

2. **Section XIX (b) Page 107**:
   The Palmdale Regional Groundwater Recharge and Recovery Project is a lower priority and District has shifted its priorities to the Palmdale Regional Groundwater Augmentation Project. Please update this section with information provided in the 2020 UWMP.

If there are any questions, please contact me by calling 661-456-1022.

Very truly yours,

Jaron Hollida

JARON HOLLIDA,
Assistant Engineer
JH/jv

LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

Robert C. Ferrante
Chief Engineer and General Manager
1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

July 30, 2021

Ref. DOC 6240733

Mr. Justin Sauder, Associate Planner
City of Palmdale
Economic and Community Development Department
38250 Sierra Highway
Palmdale, CA 93550

Dear Mr. Sauder:

NOI Response for Avenue R Apartments Project

The Los Angeles County Sanitation Districts (Districts) received a Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) for the subject project on July 6, 2021. The proposed project is located within the jurisdictional boundaries of District 20. We offer the following comment:

1. **VII. GEOLOGY AND SOILS**, *page 53*, item e; **XIX. UTILITIES AND SERVICE SYSTEMS**, *page 106*, item a; and **XIX. UTILITIES AND SERVICE SYSTEMS**, *page 109*, item c: The developer is proposing to construct a 57-unit housing development, which will increase the quantity of wastewater discharged from the project site. The Districts are empowered by the California Health and Safety Code to charge a fee to connect facilities (directly or indirectly) to the Districts' Sewerage System or to increase the strength or quantity of wastewater discharged from connected facilities. This connection fee is a capital facilities fee that is used by the Districts to upgrade or expand the Sewerage System. Payment of a connection fee may be required before this project is permitted to discharge to the Districts' Sewerage System.

All other information concerning Districts' facilities and sewerage service contained in the document is current. If you have any questions, please contact the undersigned at (562) 908-4288, extension 2743 or at mandyng@lacsd.org.

Very truly yours,

Mandy Ng

Mandy Ng
Environmental Planner
Facilities Planning Department

MMN:mmn

DOC 6261509.D20

COUNTY OF LOS ANGELES
FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294
(323) 881-2401
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RECEIVED
AUG 02 2021
PLANNING DEPT.

July 27, 2021

Justin Sauder, Associate Planner
City of Palmdale
Economic and Community Development Department
38250 Sierra Highway
Palmdale, CA 93550

Dear Mr. Sauder:

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION, "SITE PLAN REVIEW 20-012 AND DENSITY BONUS AGREEMENT 20-001," A PROPOSAL TO CONSTRUCT A 57-UNIT PERMANENT SUPPORTIVE HOUSING DEVELOPMENT, PALMDALE, FFER 2021007138

The Notice of Intent to Adopt a Mitigated Negative Declaration has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department.

The following are their comments:

PLANNING DIVISION:

We have no comments.

For any questions regarding this response, please contact Kien Chin, Planning Analyst at (323) 881-2404 or Kien.Chin@fire.lacounty.gov.

LAND DEVELOPMENT UNIT:

1. The development of this project must comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows, and fire hydrants.

2. Every building constructed shall be accessible to Fire Department apparatus by way of access roadways with an all-weather surface of not less than 26 feet. The roadway shall be extended to within 150 feet of all portions of the exterior walls when measured by an unobstructed route around the exterior of the building. The roadway shall provide approved signs and/or stripping stating, "NO PARKING - FIRE LANE" and shall be maintained in accordance with the County of Los Angeles Fire Code. Specific access requirements have been addressed by the Land Development Unit in the review of the site plan.

3. Each building proposed shall have an adequate water supply for fire protection purposes. The specific fire flow and fire hydrant locations for the public and on-site fire hydrants are addressed on the site plan reviewed by the Land Development Unit.

4. Specific fire and life safety requirements for the construction phase will be addressed at the Fire Department building plan check review. There may be additional fire and life safety requirements during this time.

The Land Development Unit appreciates the opportunity to comment on this project. Should any questions arise regarding the Land Development Unit response, please contact Wally Collins at (323) 890-4243 or Wally.Collins@fire.lacounty.gov.

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

The statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones, archeological and cultural resources, and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed.

Under the Los Angeles County Oak tree Ordinance, a permit is required to cut, destroy, remove, relocate, inflict damage or encroach into the protected zone of any tree of the Oak genus which is 25 inches or more in circumference (eight inches in diameter), as measured 4 1/2 feet above mean natural grade.

If Oak trees are known to exist in the proposed project area further field studies should be conducted to determine the presence of this species on the project site.

The County of Los Angeles Fire Department's Forestry Division has no further comments regarding this project.

For any questions regarding this response, please contact Forestry Assistant, Nicholas Alegria at (818) 890-5719.

HEALTH HAZARDOUS MATERIALS DIVISION:

The Health Hazardous Materials Division of the Los Angeles County Fire Department has no comments or requirements for the project at this time.

Please contact HHMD senior typist-clerk, Perla Garcia at (323) 890-4035 or Perla.garcia@fire.lacounty.gov if you have any questions.

If you have any additional questions, please contact this office at (323) 890-4330

Very truly yours,

RONALD M. DURBIN, CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

RMD:ac

APPENDIX K

MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Project Name: Avenue R Apartments Project
Project No.: SPR 20-012 and DBA 20-001
Date: August 2021

MITIGATION MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
BIOLOGICAL RESOURCES							
BIO-1	Economic and Community Development	Ground-disturbing activities and vegetation removal associated with the proposed project shall occur, to the extent feasible, outside of the combined breeding season February 1 through September 15 (as early as January 1 for some raptors and March 1 through September 30 for plant species). The applicant shall retain a qualified biologist(s) to conduct a pre-construction survey to determine the presence or absence of nesting birds, reptiles, raptors and their foraging habitat on and within 300 feet of the construction area; the survey radius shall be extended to 500 feet for nesting raptors. The biologist(s) shall be trained to identify nesting birds, burrowing owl, reptiles, raptors and their foraging habitat. Survey protocol for breeding season owl surveys states to conduct 4 survey visits: 1) at least one site visit between 15 February and 15 April, and 2) a minimum of three survey visits, at least three weeks apart, between 15 April and 15 July, with at least one visit after 15 June. The results of the survey shall be submitted to the City for review and approval prior to initiating any construction activities. If nesting birds are	Within 10 calendar days prior to the start of ground-disturbing activities or vegetation removal during the breeding season (between January 1 to September 30)				

MITIGATION MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
		detected by the biologist, a bio-monitor shall be present on-site during construction to minimize construction impacts and ensure that nests are not removed or disturbed until all young have fledged. Based on local conditions, the nesting bird surveys shall be conducted at appropriate nesting times and concentrate on potential roosting or perch sites. Surveys shall be conducted no more than 7 days prior to the start of any construction. If Project activities are delayed or suspended for more than 7 days during the breeding seasons, surveys shall be repeated prior to the start of construction, the results of which must be submitted to the City for review and approval prior to reinitiating construction activities. In addition, a qualified biologist shall prepare a species-specific list of proper handling and relocation protocols and a map of suitable habitat and safe relocation areas for species of special concern. If other State-listed species are found during project surveys or otherwise encountered during construction activities, the project applicant shall avoid take of state-listed species to demonstrate compliance with California Endangered Species Act, and all work shall stop until the site is properly analyzed by a qualified biologist. If implementation of the project as proposed may result in take of a state-listed					

MITIGATION MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
		species, the project applicant shall consult with CDFW and shall seek related take authorization as provided by the Fish and Game Code.					
BIO-2	Economic and Community Development	Prior to initiation of construction activities, the project applicant shall obtain Waste Discharge Requirements for Projects Involving Discharge of Dredged and/or Fill Material to Waters of the State from the Lahontan Regional Water Quality Control Board. Proof of the adopted Waste Discharge Requirements shall be submitted to the City of Palmdale Economic and Community Development Department.	Prior to initiation of construction activities				
BIO-3	Economic and Community Development	Prior to initiating construction activities, the project applicant shall obtain a Streambed Alteration Agreement and implement all necessary actions required by the CDFW. Proof of compliance shall be submitted to the City of Palmdale. CDFW recommends an LSA Notification include the following: 1) an analysis to demonstrate whether concrete-lined or soft-bottom channels would be impaired (e.g., aggraded, incised, increased suspended sediment), 2) a hydrological evaluation of the 100, 50, 25, 10, 5, and 2-year frequency storm event for existing and proposed conditions, 3) whether dewatering/diversion of water may be necessary, and (if applicable)	Prior to initiating construction activities				

MITIGATION MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
		4), an analysis of whether Project development would impact stormwater and water flow on-site and downstream, and the extent of those impacts, during the wet season (November through March), dry season (April through October), and both above-average and below-average water year. To compensate for any on- and off-site impacts to riparian resources, additional mitigation conditioned in any LSA Agreement may include the following: erosion and pollution control measures, avoidance of resources, protective measures for downstream resources, on- and/or off-site habitat creation, enhancement or restoration, and/or protection, and management of mitigation lands in perpetuity.					
CULTURAL RESOURCES							
CUL-1	Economic and Community Development	In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) and Fernandeño Tataviam Band of Mission Indians (FTBMI) shall be contacted, as detailed within TCR-1, regarding any pre-contact and/or post-contact finds and be	During project activities, if cultural resources are discovered				

MITIGATION MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
		provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.					
CUL-2	Economic and Community Development	If significant pre-contact and/or post-contact cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to SMBMI and FTBMI for review and comment, as detailed within TCR-1. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly.	During project activities, if cultural resources are discovered and cannot be avoided				
CUL-3	Economic and Community Development	In the event that any human remains are discovered within the project area, ground disturbing activities shall be suspended 100 feet around the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. The on-site lead/foreman shall then immediately notify SMBMI, FTBMI, the applicant/developer, and the Lead Agency. The Lead Agency and the applicant/developer shall then immediately contact the County Coroner regarding the discovery. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner	During project activities, if human remains are discovered				

MITIGATION MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
		shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code § 7050.5 (c). The NAHC-identified Most Likely Descendant (MLD), shall be allowed, under California Public Resources Code § 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The MLD, Lead Agency, and landowner agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes. The MLD shall complete its inspection and make recommendations within forty-eight (48) hours of the site visit, as required by California Public Resources Code § 5097.98. Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The MLD, in consultation with the landowner, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties are aware that the MLD may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area					

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		that shall not be subject to future subsurface disturbances. The applicant/developer/landowner should accommodate on-site reburial in a location mutually agreed upon by the Parties. It is understood by all Parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code § 6254 (r).					
GEOLOGY AND SOILS							
GEO-1	Public Works	All Improvement Plans for the development shall be designed by a Civil and Structural Engineer and reviewed and approved by the City Engineer, or other authorized City of Palmdale staff, prior to issuance of grading permits to ensure that all geotechnical recommendations specified in the Geotechnical Engineering Investigation prepared for the proposed project are properly incorporated into the project design, including recommendations related to seismic settlement, collapsible soils, and soil corrosion.	Prior to issuance of grading permits				

MITIGATION MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
GEO-2	Public Works	Prior to issuance of grading permits, the project applicant shall retain a qualified corrosion engineer to evaluate the corrosive effects of on-site soils on underground utilities and provide recommendations to avoid adverse corrosion effects. The project applicant shall ensure that such recommendations are incorporated into the Improvement Plans for the proposed project to the satisfaction of the City Engineer.	Prior to issuance of grading permits				
GEO-3	Economic and Community Development	Prior to initiation of ground-disturbing activities, a consultant and construction worker paleontological resources training program shall be provided for all personnel involved in project implementation, to be administered by a qualified paleontologist. The training program shall include relevant information regarding sensitive paleontological resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The training program shall also describe appropriate avoidance and minimization measures for resources that have the potential to be located on the project site, and shall outline what to do and whom to contact if any potential paleontological resources are encountered. The program shall also underscore the requirement for confidentiality for any find of significance. Proof of the construction crew awareness training shall	Prior to initiation of ground-disturbing activities				

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		be recorded through a sign-in sheet distributed to all participants of the training program and submitted to the City's Economic and Community Development Department in the form of a copy of training materials and the completed training attendance roster.					
GEO-4	Economic and Community Development	Should any vertebrate fossils (e.g., teeth, bones), an unusually large or dense accumulation of intact invertebrates, or well-preserved plant material (e.g., leaves) be unearthed by the construction crew, then ground-disturbing activity shall be diverted to another part of the project site and a qualified paleontologist shall be contacted and called on-site to assess the find and, if significant, recover the find in a timely matter. Finds determined significant by the paleontologist shall then be conserved and deposited with a recognized repository, such as the University of California Museum of Paleontology. The alternative mitigation would be to leave the significant finds in place, determine the extent of significant deposit, and avoid further disturbance of the significant deposit. A report documenting any encountered paleontological resources shall be submitted to the City.	During project activities, if paleontological resources are discovered				
GREENHOUSE GAS EMISSIONS							
GHG-1	Economic and Community Development	Prior to issuance of a grading permit, the project applicant shall depict on the grading plans via notation that the contractor will	Prior to issuance of a grading permit				

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		comply with the following requirements, to the maximum extent feasible determined by the City: • Idling shall be limited to five minutes or less for all on-road related and/or delivery trucks in accordance with CARB standards, with clear signage regarding idling restrictions placed at the entrances to the construction site; • To the maximum extent feasible, off-road heavy-duty diesel-powered equipment (e.g., rubber-tired dozers, excavators, graders, scrapers, pavers, paving equipment, and cranes) to be used for each phase of construction of the project (i.e., owned, leased, and subcontractor vehicles) shall meet CARB Tier 4 emissions standards or cleaner; • To the maximum extent feasible, temporary power necessary for construction activities shall be supplied by the existing power grid, as opposed to portable generators; and, • Alternatively-fueled construction equipment and renewable diesel shall be used for on-site construction, if such equipment is commercially available.					
NOISE							

MITIGATION MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
NOI-1	Economic and Community Development	Prior to the issuance of a building permit, the project applicant shall ensure the following noise control recommendations provided in the site-specific Exterior-to-Interior Noise Study prepared for the proposed project by Acoustics Group, Inc. (July 13, 2021) have been incorporated into the project building plans to ensure compliance with City noise standards: 1. Sound-rated windows and glass door assemblies shall have a minimum Sound Transmission Class (STC) rating as specified in Figure 4 and Table 3 of the Exterior-to-Interior Noise Study (see Appendix I); 2. STC shall be calculated per ASTM E336 and related standards; 3. The manufacturer's sound transmission loss test data shall be reviewed to ensure compliance with the applicable noise standards and criteria; 4. Non-glass exterior doors shall be solid core assemblies; 5. All doors shall be fitted with drop-down door thresholds and air-tight seals to minimize sound transmission; 6. Exterior wall detail: a. Two layers of 5/8-inch gypsum board; b. 2x studs with two, 2x top plates and one 2x bottom plate;	Prior to the issuance of a building permit				

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		c. R-13 fiberglass insulation, 3.5-inch thick, snugly fitted in the wall cavities between studs, plates, and cross bracing; and d. Portland cement or synthetic stucco system 7/8-inch thick or cement fiber/composite wood siding. 7. Roof detail: a. Minimum one layer of 5/8-inch thick tongue-in-groove plywood sheathing; b. Roof joist; c. One layer of 5/8-inch thick gypsum board; and d. R-38 fiberglass insulation, snuggly fitted in the roof cavities. 8. Exterior building openings shall not face the north or west directions, other than windows and doors; 9. Air conditioning which provides at least two exhaust changes per hour shall be required to maintain a habitable environment per the California Mechanical Code. The air conditioning system shall be a split system with fresh air intake ducted from rooftop vents facing away from the roadway; 10. Party walls separating non-common residential units shall meet or exceed the CBSC requirements of STC 50 for					

MITIGATION MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
		designated assemblies (CCR Title 24, Part 2); 11. Floor-ceiling assemblies separating non-common residential units shall meet or exceed the CBSC requirements of STC 50 and Impact Isolation Class (IIC) 50 for designated assemblies (CCR Title 24, Part 2); and 12. The final design of the project shall be reviewed by a qualified Acoustical Consultant to ensure compliance with all applicable noise standards.					
TRIBAL CULTURAL RESOURCES							
TCR-1	Economic and Community Development	The SMBMI Cultural Resources Department and FTBMI shall be contacted, as detailed in CUL-1, of any pre-contact and/or post-contact cultural resources discovered during project implementation, and shall be provided information regarding the nature of the find so as to provide tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a Cultural Resources Monitoring and Treatment Plan shall be created by the archaeologist in coordination with SMBMI and FTBMI, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents SMBMI or FTBMI for the	During project activities, if cultural resources are discovered				

MITIGATION MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
TCR-2	Economic and Community Development	remainder of the project, should SMBMI or FTBMI elect to place a monitor on-site. Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency for dissemination to SMBMI and FTBMI. The Lead Agency and/or applicant shall, in good faith, consult with SMBMI and FTBMI throughout the life of the project.	During project activities				

AVOIDANCE MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
BIOLOGICAL RESOURCES							
AVOID BIO-1	Economic and Community Development	If foraging habitat is found during the pre-construction surveys identified within BIO-1, then permanent impacts to foraging habitat for Swainson's hawk shall be offset by setting aside replacement acreage to be protected in perpetuity under a conservation easement dedicated to a local land conservancy or other appropriate entity. This shall include an appropriate non-wasting endowment to provide for the long-term management of mitigation lands.	Prior to ground disturbing activities				
AVOID BIO-2	Economic and Community Development	If burrowing owls are found during the pre-construction surveys identified within BIO-1, the Project shall adhere to CDFW's March 7,	Prior to ground disturbing activities				

AVOIDANCE MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
		2012, Staff Report on Burrowing Owl Mitigation as referenced in the MND.					
AVOID BIO-3	Economic and Community Development	If burrowing owls or their foraging habitat are found during the pre-construction surveys identified within BIO-1, any permanent impacts to identified occupied owl burrows and adjacent foraging habitat shall be offset by setting aside replacement habitat to be protected in perpetuity under a conservation easement dedicated to a local land conservancy or other appropriate entity, which shall include an appropriate nonwasting endowment to provide for the long-term management of mitigation lands.	Prior to ground disturbing activities				
AVOID BIO -4	Economic and Community Development	Rodenticides and second-generation anticoagulant rodenticides shall be prohibited both during and over the life of the Project. Additional information on rodenticides can be found on CDFW's Rodenticides webpage (CDFW 2021a).	During the life of the project				
AVOID BIO-5	Economic and Community Development	If impacts are unavoidable, wildlife shall be protected, allowed to move away on its own (noninvasive, passive relocation), or relocated to adjacent appropriate habitat on site or to suitable habitat adjacent to the project area.	During the life of the project				
AVOID BIO-6	Economic and Community Development	If special status species are found outside of the area included within the LSA during the pre-construction surveys required by BIO-1,	Prior to ground disturbing activities				

AVOIDANCE MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
		then handling and relocation of wildlife, including SSC, may be required. If so, Pursuant to the California Code of Regulations, title 14, section 650, the lead agency/qualified biologist shall obtain appropriate handling permits to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with Project construction and activities. Please visit CDFW's Scientific Collection Permits webpage for information (CDFW 2021b). An LSA Agreement may provide similar take or possession of species as described in the conditions of the Agreement. CDFW has the authority to issue permits for the take or possession of wildlife, including mammals; birds, nests, and eggs; reptiles, amphibians, fish, plants; and invertebrates (Fish & G. Code, §§ 1002, 1002.5, 1003). Effective October 1, 2018, a Scientific Collecting Permit is required to monitor project impacts on wildlife resources, as required by environmental documents, permits, or other legal authorizations; and, to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with otherwise lawful activities (Cal. Code Regs., tit. 14, § 650).					
AVOID BIO- 7	Economic and Community Development	If special status species are found outside of the area included within the LSA during the pre-construction surveys required by BIO-1, then compensatory mitigation shall be	Prior to ground disturbing activities				

AVOIDANCE MEASURE	DEPARTMENT	ACTION(S) REQUIRED	REQUIRED TIME OF COMPLIANCE	ACTION TAKEN	VERIFIED BY/DEPT.	DATE	FURTHER ACTION NEEDED
AVOID BIO-8	Economic and Community Development	provided for temporary and/or permanent loss of any habitat supporting SSC. There shall be no net loss of habitat supporting SSC. Compensatory mitigation shall be provided at no less than 2:1. Mitigation shall provide upland and/or aquatic habitat (depending on the species), refugia, and habitat structures that supports that species (e.g., woody material, rocks, brush piles, pools, burrows). Any proposed mitigation area/plan shall include a discussion on the territory size; nesting, breeding, foraging, and refuge, locations, invasive, non-native plant and wildlife species present, food availability, and how all life cycle functions will be mitigated. Mitigation for impacts to an SSC shall adhere to CDFW and/or USFWS established protocol/guidelines if available. Any updated wildlife studies such as those related to pre-construction, shall be provided to CDFW.	At completion of study				