West Dunne – Robertson Residential Project

Class 32 Categorical Exemption Report

prepared by

City of Morgan Hill
Development Services Center
17575 Peak Avenue
Morgan Hill, California 95037
Contact: Joey Dinh, Associate Planner

prepared with the assistance of

Rincon Consultants, Inc.
449 15th Street, Suite 303
Oakland, California 94612

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1 Introduction

This report serves as the technical documentation of an environmental analysis performed by Rincon Consultants, Inc. for the West Dunne – Robertson Residential Project in Morgan Hill, California. The intent of the analysis is to document whether the project is eligible for a Class 32 Categorical Exemption (CE) pursuant to *CEQA Guidelines* Section 15332. The report provides an introduction, project description, and evaluation of the project's consistency with the requirements for a Class 32 exemption. This includes an analysis of the project's potential impacts in the areas of biological resources, traffic, air quality, noise, water quality, and historic resources. The report concludes that the project is eligible for a Class 32 CE.

The City of Morgan Hill proposes to adopt a Class 32 CE for a proposed project at 270 West Dunne Avenue (APN 767-12-060). The *CEQA Guidelines* in Section 15332 states that a CE is allowed when:

a. The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.
b. The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.
c. The project site has no value as habitat for endangered, rare, or threatened species.
d. Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.
e. The site can be adequately served by all required utilities and public services.

Additionally, *CEQA Guidelines* Section 15300.2 outlines exceptions to the applicability of a CE, including cumulative impacts, significant effects due to unusual circumstances, scenic highways, hazardous waste sites, and historical resources. A full listing of these exceptions and an assessment of their applicability to the proposed project is provided in this report.

Rincon Consultants, Inc. evaluated the project's consistency with the above requirements, including its potential impacts in the areas of biological resources, traffic, noise, air quality, and water quality as well as the applicability of the exceptions to use of a Class 32 CE to confirm the project's eligibility for the Class 32 CE.

2 Project Location and Description

2.1 Project Location and Existing Conditions

The project site encompasses one rectangular-shaped 1.03-acre parcel (Assessor Parcel Number APN 767-12-060) located at 270 West Dunne Avenue in Morgan Hill. The project site is currently developed with a single-family dwelling and accessory dwelling unit, a detached garage, two small storage sheds, and a covered bocce ball court. The project site is bounded to the north by West Dunne Avenue, beyond which is undeveloped land and a single-family residence; to the east by Viewcrest Lane, beyond which is residential development; to the west by single family residences; and to the south by the Hidden Meadows Apartment condominium community. The project site slopes at an approximately seven percent grade towards the southeast, with an undeveloped portion to the south of the existing structures. While most of the vegetation on site is comprised of non-native ruderal species, mature trees and native vegetation are also present throughout the project site. A small drainage area runs along the southern border of the project site, and a small, shallow concrete drainage swale in Viewcrest Lane adjacent and parallel to the eastern boundary of the project site conveys runoff southward.

The site has a General Plan land use designation of Residential Attached Low Density (6-16 dwelling units per acre [du/ac]) (Morgan Hill 2021) and is zoned Residential Attached Low Density (RAL-3,500).

Figure 1 shows the project site in a regional context and Figure 2 shows the project site at a local scale.

2.2 Project Description

The project would involve demolition of the existing residence, removal of existing trees, and the subsequent construction of 10 townhouse single-family attached units with two-car garages, and internal roadways. The project would require approval of a vesting tentative subdivision map and design permit for the development of the 10 units.

Table 1 shows the characteristics of the proposed project.

Table 1 Project Characteristics

Characteristic	Project Details
Address	270 West Dunne Avenue
Assessor's Parcel Numbers	767-12-060
Gross Parcel Area	44,735 SF
Lot Coverage	35.24%
Height	Maximum: 23 feet and 2 inches 2 stories above grade
Lots	12
Residential Units	10 townhouse single-family attached units with two-car garages
Vehicle Parking	2 Electric Vehicle stalls

SF = square feet

Site Access, Parking, and Circulation

Vehicular and emergency vehicle access to the site would be via a newly-constructed private driveway from West Dunne Avenue. The project would include two new internal roadways in a T-configuration that would allow for emergency vehicle turn-around, and the units would each include two-car garages. Pedestrian access and circulation would be via sidewalks and a proposed off-street bicycle and pedestrian path adjacent to proposed Lot 1 with connectivity to the public sidewalk. Figure 3 shows the proposed lot and roadway configuration.

Landscaping and Open Space

The project would involve removal of the existing trees on the project site. Landscaping would include new trees and shrubs adjacent to the project site along West Dunne Avenue, Viewcrest Lane, and the proposed new private street entering the project site from West Dunne Avenue. Private open space for each unit would also include one to two trees.

Each unit would include 322 to 1,634 square feet of private open space. The project would include 11,635 square feet of common area across two additional lots (proposed lots 11 and 12).

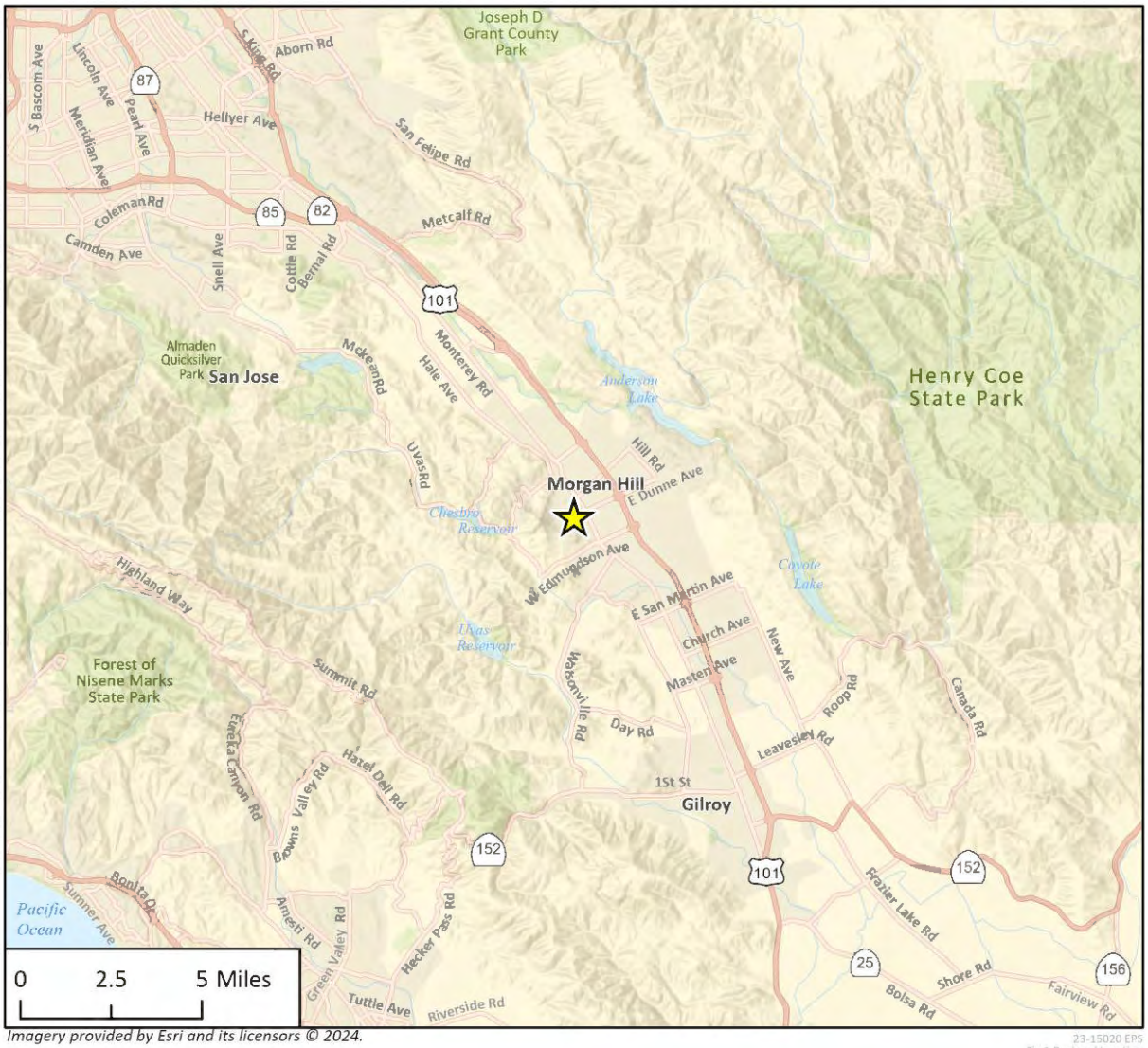
Utilities and Stormwater Management

The City of Morgan Hill provides water services within the city. Silicon Valley Clean Energy provides electricity services to the city via Pacific Gas and Electric (PG&E) infrastructure. PG&E provides natural gas services to the city. Recology South Valley collects garbage and recycling within Morgan Hill (Morgan Hill 2024). The project would treat runoff through a storm filter and would employ permanent stormwater control measures including an underground pipe manifold infiltration system.

Construction

Project construction would occur over approximately 10 months. The project would involve demolition of the existing structures on the project site, the removal of trees, site grading and preparation, and the construction of new residential units. The proposed project would require excavation of approximately 5,429 cubic yards of soil which would be used as fill onsite, in addition to 2,519 cubic yards of soil imported from off-site sources. Construction staging and parking would occur onsite. All construction equipment would use EPA Tier 4 rated engines.

Figure 1 Regional Project Location



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23-15020 EPS
Fig 1 Regional Location

Figure 2 Project Site Location

Imagery provided by Microsoft Bing and its licensors © 2024.

23-15020 EPS
Fig 2 Project Location

Figure 3 Proposed Lot Configuration

Source: MH Engineering Co., 01/2024.

3 Consistency Analysis

3.1 Criterion (a)

The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

According to the City of Morgan Hill 2035 General Plan, the project site is designated for Residential Attached Low land uses (6-16 du/ac). Pursuant to the Morgan Hill 2035 General Plan, the Residential Attached Low designation permits attached homes including duplexes/duets, courtyard homes, townhomes, and garden apartments. The proposed density of 10 units on the approximately one-acre site would be within the General Plan's residential density range of six to 16 units per acre. The 10 proposed single-family attached units would thus be consistent with the allowable uses of and density for the project site, according to its General Plan land use designation.

The project site is zoned Residential Attached Low Density (RAL-3,500). Pursuant to the Morgan Hill Municipal Code (MHMC), the RAL-3,500 zone permits duets and duplexes and single-family attached dwellings. The proposed 10 single-family attached units would thus be consistent with the allowable uses of the project site, according to its zoning designation. The proposed buildings would be approximately 23 feet tall and would therefore not exceed the RAL-3,500 maximum allowed building height of 30 feet. The City's Alternative Medium Density Residential Development Standards require front setbacks of 10 feet or greater, interior side setbacks of three feet or greater, street side setbacks of six feet or greater, and rear setbacks of 10 feet or greater. The proposed project includes front setbacks of at least 19 feet, interior side setbacks of at least four feet, street side setbacks of at least five feet, and rear setbacks of at least 20 feet. Therefore, the proposed project setbacks meet Alternative Medium Density Residential Development Standards pursuant to MHMC 18.40.

3.2 Criterion (b)

The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

The project site is located on a 1.03-acre parcel within the limits of the city of Morgan Hill. It is surrounded by urban uses, including to the east by Viewcrest Lane, beyond which is residential development; to the west by single family residences; to the south by a condominium community; to the north by West Dunne Avenue, beyond which is a single-family residence and undeveloped land. While some undeveloped land exists across West Dunne Avenue to the north of the project site, more than 75 percent of the project site is surrounded by qualified urban uses.

3.3 Criterion (c)

The project site has no value as habitat for endangered, rare, or threatened species.

Listed species are defined as species categorized as endangered, rare, or threatened (or as candidates for such designations) under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA). A project site has no value as habitat for listed species if the site

lacks suitable habitat and/or appropriate habitat and micro-habitat constituents for listed species, or if suitable habitat within the project site is outside of the listed species known range.

To identify listed species with potential to occur within the project site, a variety of technical information was reviewed, including queries of the United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System: Information, Planning and Conservation System (USFWS 2024), USFWS Critical Habitat Portal (USFWS 2023b), USFWS National Wetland Inventory (USFWS 2024c), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2024a), CDFW Biogeographic Information and Observation System (CDFW 2024b) and California Native Plant Society (CNPS) Online Inventory of Rare Threatened and Endangered Plants of California (CNPS 2023). The review of the resource agency databases for known listed species occurrences within the nine USGS quadrangles containing and surrounding the project site identified 19 listed animal species and 11 listed plant species. Additionally, a Rincon Consultants biologist conducted a site visit on February 21, 2024 to determine if suitable habitat is present for listed species.

Approximately 0.75-acre of the site is formerly exposed soil vegetated with mostly non-native ruderal species including black mustard (*Brassica nigra*), plantain (*Plantago lanceolata*), burclover (*Medicago polymorpha*), and milk thistle (*Silybum marianum*). Mature trees, including two large pines (*Pinus sp.*), a redwood (*Sequoia sempervirens*), fruit trees, and ornamental landscaped trees are present throughout the project site. Native vegetation present includes willowherb (*Epilobium sp.*), California poppy (*Eschscholzia californica*), California hedgenettle (*Stachys bullata*), and miner's lettuce (*Claytonia perfoliata*). The southern half of the undeveloped, vegetated portion of the site appeared to be annually cleared with mechanical tools. A small drainage area runs along the southern border of the project site. The drainage area appears to collect runoff from the project site and is not connected to discernable drainage courses or streams. Additionally, a small street drainage runs parallel to the eastern boundary of the project site. Thirteen (13) common bird species, including oak titmouse (*Baeolophus inornatus*), yellow-rumped warbler (*Setophaga coronate*), black phoebe (*Sayornis nigricans*), white-crowned sparrow (*Zonotrichia leucophrys*), and bushtit (*Psaltriparus minimus*), were observed foraging on the project site or collecting nesting materials.

No suitable habitats or natural vegetation communities are present on the project site that would support the majority of listed species evaluated during the background review. Of the 30 listed species known to occur in the region, the following two species are known to occur in vegetation types with characteristics similar to the project site: Swainson's hawk (*Buteo swainson*i) and Crotch's bumblebee (*Bombus crotchii*).

Swainson's hawk, a raptor, is a CESA threatened species that may briefly move through the site, but the species is typically associated with more open habitats such as grasslands or agricultural fields for foraging. Due to the urbanized nature of the site, it is not expected that Swainson's Hawk would use vegetation present on the site as nesting habitat.

While Crotch's bumblebee, a candidate species for listing under the CESA, has two known population occurrences approximately 1.5 miles from the project site (CDFW 2024a), and the project site includes formerly landscaped areas that may provide marginal habitat for the species, there is low potential for this species to occur. Potential habitat on the project site is of low quality due to the small percentage of preferred plant resources as compared to dominating ruderals, low number (less than 10) of small mammal burrows present, and proximity to paved roadways. Due to surrounding development, disturbance from annual vegetation clearing, the small size of available

habitat on the site, and limited floral resources, this species is not expected to occur on the project site.

Due to the developed and disturbed nature of the project site, tall fencing surrounding the property, small size of the project site, human activity at the site, and absence of natural vegetation communities, the project site is not expected to support listed species. Thus, the project site has no value as habitat for endangered, rare, or threatened species.

3.4 Criterion (d)

Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.

The following discussion provides an analysis of the project's potential effects with respect to traffic, noise, air quality, and water quality.

A. *Traffic*

Trip Generation

Rincon prepared a desktop analysis for proposed project estimated trip generation rates. Project operational vehicle trip generation rates were based on estimates from Trip Generation Manual, 11th Edition (Institute of Transportation Engineers [ITE] 2021), which are based on a compilation of empirical trip generation surveys at locations throughout the country to forecast the number of trips that would be generated by the project. The average trip rate for "Single-Family Attached Housing" (Land Use 215) were applied to the proposed project. This land use describes the proposed single-family residences. As shown in Table 2, the project is expected to generate a gross total of 72 daily trips, including 6 morning (AM) peak hour trips and 7 afternoon (PM) peak hour trips.

Table 2 Trip Generation

Land Use	Units	Daily Trip Rate Per Unit	AM Trip Rate Per Unit	PM Trip Rate Per Unit	Daily Trips	AM Peak Hour Trips	PM Peak Hour Trips
Single-Family Attached Housing	10	7.20	0.55	0.61	72	6	7

Source: Institute of Transportation Engineers [ITE], Trip Generation, 11th Edition, 2021

Vehicle Miles Traveled

Pursuant to Senate Bill 743, transportation and traffic impacts should be measured using vehicle miles travelled (VMT) instead of the previously used Level of Service (LOS) (California Office of Planning and Research [OPR] 2013). Reducing VMT is an effective climate strategy and is intended to decrease greenhouse gas emissions associated with the transportation sector while increasing benefits to human health.

The City of Morgan Hill has not yet adopted VMT screening thresholds; therefore, OPR screening thresholds are used to determine if a project may be assumed to result in a less-than significant transportation impact. Under OPR's VMT Screening Criteria, a residential project is presumed to result in less than significant VMT impacts if it generates fewer than 110 average daily trips (OPR

2018). The proposed project would result in approximately 72 daily trips and would therefore have a less than significant VMT impact.

Site Access

Vehicular and emergency vehicle access to the site would be via a newly-constructed private roadway from West Dunne Avenue. Pedestrian access and circulation would be via sidewalks and a proposed off-street bicycle and pedestrian route adjacent to proposed Lot 1 with connectivity to the public sidewalk. Newly-constructed private streets would be required to conform to applicable City street design standards, which are developed in coordination with the Fire Marshall pursuant to Morgan Hill Code of Ordinances Chapter 17.34. Obstructions to visibility would be prohibited pursuant to Morgan Hill Code of Ordinances Chapter 10.36; a clear vision triangle is shown on the project plans for ingress and egress to and from the project site at West Dunne Avenue. A truck turnaround area would be incorporated into the street design pursuant to City Standard 11-E. Email correspondence with Joey Dinh, City Planner, on May 9, 2024, confirmed that the City's engineers had reviewed and approved the turnaround plan on the condition that it met Fire Prevention standards, and the Fire Prevention Division confirmed that the turnaround plan is adequate. Furthermore, new development would be subject to development impact mitigation fees described in Chapter 3.56 of the Morgan Hill Code of Ordinances to fund the design, upgrading or improvement of the traffic network.

Construction Traffic

Construction traffic impacts could be significant if the project would create a prolonged impact due to lane closure; impede emergency vehicle access; create traffic hazards to bicycles and/or pedestrians; or result in similar substantial impediments to circulation or safety. Based on the following assumptions, project construction would not cause significant traffic impacts.

Construction hours would be limited to 7:00 a.m. through 8:00 p.m. Monday through Friday, and 9:00 a.m. through 6:00 p.m. on Saturday pursuant to MHMC Chapter 8.28. Project construction activity specified by the applicant (scheduled for Mondays through Fridays between 7:00 a.m. and 5:00 p.m. and Saturdays between 9:00 a.m. and 3:00 p.m.), would occur within the allowable construction day and time limits defined in the MHMC. Construction of the proposed project would not involve road closures that would impede or delay emergency vehicle access or create significant hazards to bicycles and pedestrians.

Construction vehicles, haul trucks, and construction workers are assumed to travel primarily along West Dunne Avenue with some site access provided from Viewcrest Lane. Construction staging and parking would occur onsite. Construction of the project would involve approximately two one-way hauling trips a day during the demolition phase, and 16 one-way hauling trips a day during the site preparation phase (Appendix A). Assuming the trips are generally spread out over a 10-hour construction day (7:00 a.m. to 5:00 p.m.), fewer than two trips would occur per hour on average; construction trucks would not significantly disrupt the flow of traffic on West Dunne Avenue. Construction trips would generally be staggered throughout the day, with most trips occurring during off-peak hours. Impacts would be less than significant. In addition, the project would be subject to the following City of Morgan Hill Condition of Approval:

Transportation

Prior to initiation of construction activities, the project applicant shall prepare a Construction Traffic Management Plan for review and approval by the City of Morgan Hill. The plan shall include the following:

- A project staging plan to maximize on-site storage of materials and equipment
- A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak hours; lane closure proceedings; signs, cones and other warning devices for drivers; and designation of construction access routes.
- Provisions for maintaining adequate emergency access to the project site.
- Permitted construction hours
- Designated locations for construction staging areas
- Identification of parking areas for construction employees, site visitors, and inspectors, including on-site locations; and
- Provisions for street sweeping to remove construction-related debris on public streets.

Finally, it should be noted that construction traffic impacts are temporary by their nature and would have no effect on traffic and circulation beyond the construction period.

Conclusion

Compliance with City requirements such as street design standards would ensure operational impacts related to circulation would be less than significant. Daily trips from the project would be below the City's significance threshold. The project would be required to develop a Construction Traffic Management Plan for review and approval by the City to ensure there would be no substantial issues regarding site access along West Dunne Avenue, and on-site circulation or emergency access. The City's engineers and Fire Prevention Division have reviewed the project's emergency access and turnaround plan and confirmed it meets requirements. Compliance with the City's requirements including construction hour limitations and the City's standard conditions of approval would ensure that impacts related to construction traffic remain less than significant. Furthermore, the proposed project would not have an adverse effect on the existing transit, pedestrian, or bicycle facilities in the area. Therefore, the project would meet the requirements for Traffic under *criterion (d)*.

B. Noise

Existing Ambient Noise Levels

The project site is located in an existing residential area adjacent to West Dunne Avenue. Noise sources in the project area include traffic on West Dunne Avenue and residential sources such as speech and property maintenance. Based on the environmental noise assessment prepared for the project by Salter, the existing ambient noise level near the northeastern corner of the property (adjacent to West Dunne Avenue) is 69 dBA DNL[1], while the existing ambient noise level at the southeastern corner of the property (adjacent to Viewcrest Lane) is 53 dBA DNL (Salter 2023).

[1] The Day-Night Average Level (DNL), a noise level descriptor used to evaluate community noise exposure, is the 24-hour average noise level with an added 10 dBA "penalty" for noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.).

Construction Noise

Construction of the project would generate temporary noise that would be audible at nearby single-family residences to the east, south, and west of the project site. Noise associated with construction is a function of the type of construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of the construction activities. Based on construction details provided by the applicant, it is estimated that the construction period would involve approximately 27 days for demolition, 18 days for site preparation, 51 days for grading, seven months for building construction, 28 days for paving, and 51 days for architectural coating.

While all phases of construction would generate noise, the site preparation and grading phases would represent the loudest periods of noise-generating activity. The greatest anticipated sources of construction noise would be generated by large earthmoving equipment such as excavators and compactors. Because the City does not specify quantitative noise level criteria for assessing construction noise impact, construction noise was evaluated according to guidelines published by the Federal Transit Administration (FTA), which specify a daytime noise limit of 80 dBA L_{eq} (8-hour) at residential land uses. Construction equipment is typically dispersed in various areas of the site, with only a limited amount of equipment operating near a given location at a particular time. The FTA *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) recommends evaluating construction noise impacts from the center of the construction site, stating that the distance variable in its recommended construction noise calculation "assumes that all equipment operates at the center of the project." In accordance with FTA recommendations, construction noise for all phases was analyzed from the center of the site.

Construction noise was estimated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) (FHWA 2006). Expected noise levels generated during the site preparation and grading phases of construction at the nearest single-family residences located approximately 95 feet to the west of the center of the project site would be up to 77 dBA L_{eq} (8-hour), which is below the FTA's threshold of 80 dBA L_{eq} (8-hour).

Additionally, project construction activity specified by the applicant (scheduled for Mondays through Fridays between 7:00 a.m. and 5:00 p.m. and Saturdays between 9:00 a.m. and 3:00 p.m.), would occur within the allowable construction day and time limits defined in the City of Morgan Hill Code of Ordinances: between 7:00 a.m. and 8:00 p.m. Monday through Friday and between 9:00 a.m. and 6:00 p.m. on Saturday. Therefore, noise impacts related to temporary construction noise would be less than significant.

Operational Noise

Onsite Stationary Sources

The primary source of operational noise generated by the project would be heating, ventilation, and air-conditioning (HVAC) units located at the exterior of each proposed residence, assumed to be located at the side of each residence. Based on the site plans, HVAC units may be located as close as five feet from the project's western property line and a six-foot-tall perimeter fence is proposed along the entire property.

Section 18.76.090 of the City of Morgan Hill Code of Ordinances states that no noise level may be produced so as to exceed the noise level limits shown in Table 3 below.

Table 3 City of Morgan Hill Code of Ordinances Maximum Noise Levels

Receiving Land Use	Maximum Noise Level at Lot Line of Receiving Use[1]
Industrial and Wholesale	70 dBA
Commercial	65 dBA
Residential or Public/Quasi Public	60 dbA

[1] The planning commission may allow an additional 5 dBA noise level at the lot line if the maximum noise level shown in [Table 3] cannot be achieved with reasonable and feasible mitigation.

Source: City of Morgan Hill 2024.

As shown in Table 3, a significant impact would occur if noise levels generated by the Project's HVAC equipment exceed 60 dBA at any nearby residential property lines.

Typical HVAC equipment produces a noise level of 72 dBA at a distance of three feet away. Accounting for the distance between the proposed HVAC units along the western project boundary relative to the adjacent properties and the proposed six-foot-tall fence along the project boundary (which would provide an estimated noise reduction of 12 dBA), noise generated by the project's HVAC equipment would attenuate to approximately 57 dBA at the adjacent residential property line to the west. Therefore, noise generated by the project's HVAC equipment would not exceed the City's noise limit of 60 dBA at a receiving residential property line, and impacts would be less than significant.

In addition to mechanical equipment, the project would generate noise from people gathering and conversing in private open spaces and rear yards. The main source of noise associated with the use of these outdoor spaces would be human speech, with a typical conversation between two people using normal voices (not raised) producing 60 dBA at three feet away (Engineering ToolBox 2005). Speech from conversations would quickly dissipate and would not interfere with surrounding outdoor activities and noise-sensitive uses. Additionally, this type of noise generated by the project would be similar to the existing residential noise environment of the immediate area. Furthermore, per Assembly Bill 1307 (2023), the effect of noise generated by residential project occupants and their guests is not a significant effect on the environment. Therefore, this impact would be less than significant.

Offsite Traffic Noise

The project would result in an increase in vehicle trips due to residents traveling to and from the site, primarily on West Dunne Avenue. A significant impact would occur if the project would increase traffic noise levels by 3 dBA or more on nearby roadways, which is considered a barely perceptible change in noise. As discussed in the Traffic section above, the project would generate approximately 72 daily vehicle trips, assumed to primarily occur on West Dunne Avenue. Per the City's Transportation Master Plan Update, traffic counts collected on West Dunne Avenue show that this roadway carries an average daily traffic (ADT) volume of 6,705 vehicles (City of Morgan Hill 2023). This increase in traffic volumes would result in a noise increase of approximately 0.05 dBA on this roadway. Therefore, the project would not result in offsite traffic noise increases of 3 dBA or more, and impacts would be considered less than significant.

Vibration

To determine potential impacts from construction vibration, this analysis is based on vibration limits contained in the 2018 Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment Manual*, which are shown in Table 4.

Table 4 Groundborne Vibration Architectural Damage Criteria

Building Category	PPV (in/sec)
I. Reinforced concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

in/sec = inches per second; PPV = peak particle velocity

Source: FTA 2018

Based on FTA recommendations, limiting vibration levels to below 0.2 inches per second peak particle velocity (in/sec PPV) at residential structures would prevent structural damage regardless of building construction type (FTA 2018).

Project construction would not involve activities typically associated with excessive groundborne vibration, such as pile driving or blasting. The greatest anticipated sources of vibration during general project construction activities would be a static roller during the paving phase and an excavator during the site preparation and grading phases.

The static roller may be used as close as 20 feet from the nearest residential structure during construction, while the excavator may be used as close as 15 feet from the nearest residential structure. Table 5 presents the estimated vibration levels produced by construction equipment at respective distances to the nearest sensitive receivers.

Table 5 Groundborne Vibration Levels During Construction

Equipment	Vibration Level at Reference Distance of 25 feet (in/sec PPV)	Distance to Nearest Sensitive Receiver (feet)	Approximate Vibration Level (in/sec PPV)	Vibration Threshold of 0.2 in/sec PPV exceeded?
Static Roller	0.05	20	0.07	No
Excavator	0.089	15	0.191	No

Source: FTA 2018 and McIver 2012

As shown in Table 5, use of the static roller would generate a vibration level of approximately 0.07 in/sec PPV at the nearest offsite residential structure located 20 feet away, which would not exceed the FTA threshold of 0.2 in/sec PPV. Similarly, use of an excavator would generate a vibration level of approximately 0.191 in/sec PPV at the nearest residential structure located 15 feet away, which is also below the FTA threshold of 0.2 in/sec PPV.

Therefore, temporary vibration impacts associated with construction would be less than significant. In addition, the project does not include any substantial vibration sources associated with operation, such as railroad or subway lines. Thus, operational vibration impacts would also be less than significant.

Airport Noise

The closest airport or air strip to the project site is the San Martin Airport, located approximately 4.3 miles southeast of the project site. Based on Figure 5 of the Comprehensive Land Use Plan for San Martin Airport, the project site is not located within the 55 dBA CNEL noise contour for this airport (Santa Clara County 2020). Therefore, implementation of the Project would not expose people in the project area to excessive airport noise levels and no significant airport-related noise impacts would occur.

Conclusion

Construction noise generated during the site preparation and grading phases would generate noise levels of up to 77 dBA L_{eq} at the nearest residential property line, which would not exceed the FTA's threshold of 80 dBA L_{eq} at nearby sensitive receptors. In addition, construction would be limited to hours allowed by the City's Code of Ordinances, which are between 7:00 a.m. and 5:00 p.m. Mondays through Fridays and between 9:00 a.m. and 3:00 p.m. on Saturdays. Therefore, construction noise impacts would be less than significant. Similarly, vibration from construction equipment would not exceed the FTA threshold of 0.2 in/sec PPV at the nearest off-site residential structures, and vibration impacts would be less than significant.

The project would introduce sources of operational noise to the site, primarily outdoor HVAC equipment. However, the project's HVAC equipment would not generate noise levels that exceed the noise limits stated in the City's Code of Ordinances at nearby residential property lines, and operational noise impacts would be less than significant. Similarly, project-generated traffic would not increase traffic noise on nearby roadways above 3 dBA, therefore the project's traffic noise impacts would be less than significant.

Lastly, implementation of the project would not expose workers or residents in the project area to excessive airport noise levels; therefore, airport noise impacts would be less than significant.

C. *Air Quality*

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for criteria pollutants and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),[2] nitrogen oxides (NO_X), particulate matter with diameters of ten microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROG and NO_X. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog).

A significant adverse air quality impact may occur when a project conflicts with or obstructs implementation of the applicable air quality plan; results in a cumulatively considerable net increase

[2] CARB defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this report.

of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard; exposes sensitive receptors to substantial pollutant concentrations; or results in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Thresholds of Significance and Screening Criteria

The project site is located within the San Francisco Bay Area Basin and falls under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). This air quality analysis conforms to the methodologies recommended by *BAAQMD's 2022 CEQA Guidelines* (BAAQMD 2022). Table 6 shows the significance thresholds that have been recommended by BAAQMD for project operations and construction in the San Francisco Bay Area Air Basin.

Table 6 Air Quality Thresholds of Significance

	Construction-Related Thresholds	Operation-Related Thresholds	
Pollutant/ Precursor	**Average Daily Emissions (pounds per day)**	**Maximum Annual Emissions (tpy)**	**Average Daily Emissions (lbs/day)**
ROG	54	10	54
NO_X	54	10	54
PM_{10}	82 (exhaust)	15	82
$PM_{2.5}$	54 (exhaust)	10	54

Notes: tpy = tons per year; lbs/day = pounds per day; NOX = oxides of nitrogen; PM2.5 = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM10 = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; tpy = tons per year.
Source: BAAQMD 2022, Table 3-1

According to Chapter 4 of *BAAQMD's 2022 CEQA Guidelines,* which includes BAAQMD's screening criteria, construction of a project would result in less than significant impacts related to criteria air pollutants if:

- The project size is at or below the applicable screening level size shown in Table 4-1.
- All best management practices (see Table 5-2 in Chapter 5, "Project-Level Air Quality Impacts" of the guidelines) are included in the project design and implemented during construction.
- Construction-related activities would not overlap with operational activities.
- Construction-related activities would not include:
  - Demolition,
  - Simultaneous occurrence of two or more construction phases (e.g., paving and building construction would occur simultaneously),
  - Extensive site preparation (e.g., grading, cut and fill, or earth movement),
  - Extensive material transport (e.g., soil import and export requiring a considerable amount of haul truck activity), or
  - Stationary sources (e.g., backup generators) subject to Air District rules and regulations.

If a project includes any of the screening criteria above, then the lead agency would need to perform a detailed assessment of the project's criteria air pollutant and precursor emissions.

Additionally, operation of a project would result in less than significant impacts related to criteria air pollutants if:

- The project size is at or below the applicable operational screening level size shown in Table 4-1.
- Operational activities would not include stationary engines (e.g., backup generators) and industrial sources subject to Air District rules and regulations.
- Operational activities would not overlap with construction-related activities.

Consistency with Applicable Air Quality Plan

The California Clean Air Act requires that air districts create a Clean Air Plan that describes how the jurisdiction will meet air quality standards. The most recently adopted air quality plan is the 2017 Bay Area Clean Air Plan (2017 Plan) (BAAQMD 2017a). The 2017 Plan focuses on two paramount goals, both consistent with the mission of BAAQMD:

- Protect air quality and health at the regional and local scale by attaining all national and state air quality standards and eliminating disparities among Bay Area communities in cancer health risk from TACs
- Protect the climate by reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050

Under BAAQMD's methodology, a determination of consistency with the 2017 Plan should demonstrate that a project:

- Supports the primary goals of the air quality plan
- Includes applicable control measures from the air quality plan
- Does not disrupt or hinder implementation of any air quality plan control measures

A project that would not support the 2017 Plan's goals would not be considered consistent with the 2017 Plan. On an individual project basis, consistency with BAAQMD quantitative thresholds is interpreted as demonstrating support with the 2017 Plan's goals. The project would not result in exceedances of BAAQMD thresholds for criteria air pollutants and thus would not conflict with the 2017 Plan's goal to attain air quality standards.

The 2017 Plan includes goals and measures to promote building decarbonization, conservation of water, use of on-site renewable energy, and energy efficiency. The project would be supplied electricity by PG&E, which is required to procure 100 percent of its energy supply from renewable sources by 2045. The project would comply with applicable California Green Building Standards, including installation of energy-efficient equipment and lighting. The project would also include an all-electric design and would not utilize natural gas. Therefore, the project would not conflict with or obstruct the implementation of an applicable air quality plan, and impacts would be less than significant impact.

Criteria Pollutant Emissions

The following subsections discuss emissions associated with construction and operation of the proposed project. Air pollutant emissions generated by project construction and operation were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1 based on project-specific information.

CONSTRUCTION EMISSIONS

The proposed project would involve the construction of 10 duet single-family attached units, which would be below the BAAQMD's construction screening criteria of 254 units. However, the project would involve the demolition of an existing residence on site and therefore the project would not meet BAAQMD screening criteria. Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod) Version 2022.1. Data input into the model was sourced from the client and defaults were used for unknown information. Construction emissions for the proposed project are shown in Table 7 below.

Table 7 Construction Emissions

	Average Daily Emissions (pounds per day)					
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_X**
2024	<1	3	8	<1	<1	<1
2025	8	9	18	<1	<1	<1
Average Daily Construction Emissions	**1**	**1**	**3**	**<1**	**<1**	**<1**
BAAQMD Thresholds	54	54	N/A	82	54	N/A
Threshold Exceeded?	**No**	**No**	**N/A**	**No**	**No**	**N/A**

See Appendix A for CalEEMod worksheets; emission data presented is the highest of winter or summer outputs.
N/A = not applicable; lbs/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; CO = Carbon Monoxide; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; SO_X = oxides of sulfur
No BAAQMD threshold for CO or SO_X

As indicated in Table 7, the proposed project would not exceed BAAQMD thresholds for construction emissions.

OPERATIONAL EMISSIONS

The proposed project would involve the construction of 10 duet single-family attached units, which is well below the BAAQMD's operational screening criteria of 421 units. Operational activities would not include stationary engines or industrial sources and would not overlap with construction-related activities. Therefore, the proposed project would satisfy BAAQMD's operational screening criteria and operational-related impacts would be less than significant.

Exposure of Sensitive Receptors

Certain population groups, such as children, the elderly, and people with health problems, are particularly sensitive to air pollution. Therefore, the majority of sensitive receptor locations are schools, hospitals, and residences. Sensitive receptors in the project vicinity include duet single-family residences immediately adjacent to the west of the project site, single family residence across West Dunne Avenue to the north of the project site, and duet single-family residences across Barnell Avenue to the east of the project site. Localized air quality impacts to sensitive receptors typically result from CO hotspots and TACs, which are discussed in the following subsections.

CARBON MONOXIDE HOTSPOTS

According to BAAQMD Chapter 4, *Screening for Criteria Air Pollutants and Precursors*, a project would have less than significant CO impacts if:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

The project is presumed to be consistent with applicable congestion management programs. There are no intersections in the project vicinity with volumes of more than 44,000 vehicles per hour; for example, a previous City traffic count for West Dunne Avenue in 2015 showed 7,603 average daily trips near the project site, which would be much lower than the 44,000 vehicle per hour threshold (City of Morgan Hill 2015). Additionally, the San Francisco Bay Area Air Basin has been designated attainment for both federal and State standards for CO since 1998 (BAAQMD 2017b). Therefore, impacts related to CO emissions would be less than significant.

TOXIC AIR CONTAMINANTS

Certain population groups such as children, the elderly, and people with health issues are particularly sensitive to air pollution. The majority of sensitive receptor locations are schools, residences and hospitals. The closest sensitive receptors to the project site are the duet single-family residences immediately adjacent to the west of the project site, single family residence across West Dunne Avenue to the north of the project site, and duet single-family residences across Barnell Avenue to the east of the project site. The following subsections discuss the project's potential to result in impacts related to TAC emissions during construction and operation.

Construction

Construction-related activities would result in temporary project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, building construction, and other construction activities. DPM was identified as a TAC by CARB in 1998 (CARB 2024).

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed project would occur over approximately 10 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of proposed construction activities (i.e., 10 months) is approximately three percent of the total exposure period used for 30-year health risk calculations. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of 9, 30, and

70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk (BAAQMD 2023).

The maximum PM_{10} and $PM_{2.5}$ emissions would occur during demolition, site preparation and grading activities. These activities would last for approximately four months. PM emissions would decrease for the remaining construction period because construction activities such as building construction and paving would require less intensive construction equipment. While the maximum DPM emissions associated with site preparation and grading activities would only occur for a portion of the overall construction period, these activities represent the worst-case condition for the total construction period. This would represent less than one percent of the total 30-year exposure period for health risk calculation. In addition, the construction equipment used would have US EPA Tier 4 engines, which greatly reduces DPM emissions compared to older engines. Given the aforementioned discussion, DPM generated by project construction would not create conditions where the probability is greater than one in one million of contracting cancer for the Maximally Exposed Individual or to generate ground-level concentrations of non-carcinogenic TACs that exceed a Hazard Index greater than one for the Maximally Exposed Individual. Therefore, project construction would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

Operation

Sources of operational TACs include, but are not limited to, land uses such as freeways and high-volume roadways, truck distribution centers, ports, rail yards, refineries, chrome plating facilities, dry cleaners using perchloroethylene, and gasoline dispensing facilities. The project does not include construction of new gas stations, dry cleaners, highways, roadways, or other sources that could be considered new permitted or non-permitted sources of TAC or $PM_{2.5}$ in proximity to sensitive receptors. In addition, mobile emissions generated from the project would be minimal and spread over a broad geographical area. Therefore, project operation would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

Odors

BAAQMD's 2022 CEQA Air Quality Guidelines identifies land uses that have the potential to generate substantial odor complaints. The uses in the table include wastewater treatment plants, landfills or transfer stations, refineries, composting facilities, confined animal facilities, food manufacturing, smelting plants, and chemical plants (BAAQMD 2023). Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills.

The project does not involve, nor would locate, new sensitive receptors in proximity to odor-emitting uses as identified in BAAQMD's 2022 CEQA Air Quality Guidelines. The proposed uses would not generate objectionable odors that would affect a substantial number of people. Furthermore, the project would be subject to BAAQMD Regulation 7, Odorous Substances, which requires abatement of any nuisance generating an odor complaint. Therefore, the project would not substantially cause new sources of odors and would not significantly expose sensitive receptors to existing or new odors, and impacts would be less than significant.

Conclusion

The proposed project would not result in significant air quality impacts.

D. Water Quality

The project site is currently developed with existing structures and there are no wetlands on or near the project site (USFWS 2024). The project site is within the Dewitt Creek watershed, which is tributary to West Little Llagas Creek. As described above under *Criterion (c)*, a small drainage area runs along the southern border of the project site. The drainage area appears to collect runoff from the project site and does not appear to be connected to any discernable drainage courses or streams.

The project would employ permanent stormwater control measures including an interconnected underground pipe manifold infiltration system. Runoff would be pre-treated through a stormwater filter before being conveyed into the underground manifold system and infiltrated into native soil. The collection system would be oversized to eliminate any street overland release, and any potential overflow would be captured into a PCC ditch and bubble up drain along the historic release path onto Viewcrest Lane (Appendix B). According to the preliminary stormwater report, the pre-project 100-year storm runoff is 0.65 cubic feet per second (cfs) and the post-project 100-year storm runoff would be reduced to 0.59 cfs; therefore, the project includes a sufficient storm drainage collection system to serve the project and would be designed to be capable of handling a 100-year storm without local flooding. The project site is connected to an existing stormwater drainage system managed and maintained by the City of Morgan Hill. Construction of the proposed project would not alter the course of a pond or creek or other stream or river.

Currently the project site is partially covered in impervious paving and structures. The project would replace impervious and pervious surfaces with new imperious paving, landscaping, and buildings. The current impervious surface area of the project site is approximately 9,608 square feet. The project would result in a total impervious surface area after buildout of 28,314 square feet (Appendix B).

The project would be subject to compliance with the California Regional Water Quality Control Board Central Coast Region (Region 3) Resolution No. R3-2013-0032, and the City's NPDES Permit. Additionally, the proposed project would be required to comply with Chapter 18.140 of the MHMC which sets requirements for stormwater management including the requirement to implement Best Management Practices (BMPs) and the requirement to create a stormwater runoff management plan to reduce stormwater runoff.

Impervious surface that would result from the construction of the proposed project would not create or contribute runoff that would exceed the capacity of the existing stormwater conveyance infrastructure or otherwise result in flooding on or near the project site.

Conclusion

Because the project would not substantially increase stormwater runoff and would be required to comply with City requirements to control and filter runoff, development of the proposed project would not degrade the quality of stormwater runoff from the site. With the proposed stormwater control measures, post-project 100-year outflow rates would be reduced compared with pre-project outflow rates. The proposed project would not substantially increase runoff volumes, result in substantial erosion or siltation, or result in flooding on- or off-site. Additionally, the project would not substantially alter the existing drainage pattern of the site such that flooding or water quality violations would occur. Therefore, the project would meet the requirements for water quality under *criterion (d)*.

3.5 Criterion (e)

The site can be adequately served by all required utilities and public services.

The project would be located in an urban area served by existing public utilities and services. The proposed project is relatively small with only 10 units and would not result in a substantial increase in demand for services or utilities. Valley Water supplies water to the city, and the City of Morgan Hill provides water services to the project site. Silicon Valley Clean Energy provides electricity services to the city via Pacific Gas and Electric (PG&E) infrastructure. Natural gas infrastructure is not proposed as part of this project. Recology South Valley collects garbage and recycling within Morgan Hill (Morgan Hill 2024a). Wastewater is transported to a water treatment plant located in Gilroy that is owned and operated by the South County Regional Wastewater Authority (SCRWA), under a Joint Powers Agreement with the Cities of Morgan Hill and Gilroy. Utility lines for the proposed project would be connected to existing infrastructure on the project site. As described under *Criterion (d)*, stormwater from the project would be pre-treated through a stormwater filter and reduced to by proposed onsite stormwater control measures before being conveyed into the existing storm drain system under West Dunne Avenue.

Conclusion

The proposed project involves infill development on a project site in an urban area that is already served by existing utilities and public services. As discussed under criterion (a), the project is within the allowed density for the site and is consistent with the General Plan land use designation for the site. The project would not increase the intensity of use such that existing utility and public service providers would not be able to serve the project site. Therefore, the project would meet the requirements for Utilities and Service Systems under *criterion (e)*.

4 Exceptions to the Exemption

CEQA Guidelines Section 15300.2 outlines exceptions to the applicability of a Categorical Exemption, including cumulative impacts, significant effects due to unusual circumstances, scenic highways, hazardous waste sites, and historical resources. These exceptions are discussed below. As shown, none of the exceptions would apply.

4.1 Cumulative Impacts

CEQA Guidelines Section 15300.2 states that "all exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant." Table 8 includes a list of relevant projects within 0.5 miles of the project site.

Table 8 Cumulative Projects List

Project Location	Land Use	Description	Status	Distance to Project Site (miles)
Spring-Giancola Multiple Permits	Residential	Subdivision Map for 23 lots	Approved	0.25
17090 Peak Avenue	Residential	48-unit care facility	Entitlements Approved	0.2
16720 Monterey Road	Commercial	Reconstruction of existing gas station	Entitlements Approved	0.5
East side of Depot Street, north of East Dunne Avenue	Residential	49 Multi-family units and office space	Under Construction	0.5
Monterey Road, San Pedro Avenue, and Church Street	Residential	82 Age-restricted rental units	Under Construction	0.5

Source: City of Morgan Hill 2024b

As discussed in Section 3.3, Criterion (c) above, the project would not affect sensitive biological resources and therefore would not result in a cumulative impact related to biological resources. As discussed in Sections 3.4, Criterion (d), subsections A and C above, VMT and air quality analyses already take into account cumulative impacts and these impacts were found to be less than significant. As discussed in Section 3.4, Criterion (d), subsection D and Section 3.5, Criterion (e), the proposed project would not contribute pollutants such that water quality would be impacted and would be served by available utilities and public services. Therefore, impacts related to these issue areas were found to be less than significant and the project would not result in a cumulatively considerable contribution to potential cumulative impacts.

The project would involve temporary noise and vibration during construction; however, these effects are localized and would cease upon cessation of construction activities. Therefore, the project would not result in a cumulatively considerable contribution to a cumulative noise increase. Construction noise impacts may overlap for the proposed project and the projects listed above. However, due to the distance between the proposed project site and the project included in the cumulative projects list and because construction noise impacts are temporary, the project would not result in significant cumulative noise impacts. Overall, the project would not result in a significant contribution to potential cumulative impacts. Therefore, this exception does not apply to the proposed project.

4.2 Significant Effect due to Unusual Circumstances

CEQA Guidelines Section 15300.2 states that "a categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances."

As discussed under Section 2.1, *Project Location and Setting*, the project site is currently developed with existing structures and non-native landscaping. Neither the site, its surroundings, or the proposed project itself (a residential project in a residential neighborhood) are unusual in terms of existing conditions, land uses or proposed features. The project site does not possess characteristics which would qualify as unusual circumstances under *CEQA Guidelines* Section 15300.2. There are no known unusual circumstances at the project site or related to project operations that would result in a reasonable possibility of significant effects to the environment. Therefore, this exception to a CE does not apply to the proposed project.

4.3 Scenic Highways

CEQA Guidelines Section 15300.2 states that a CE "shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway."

CEQA Guidelines Section 15300.2 states that a categorical exemption "shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway." There are no designated State Scenic Highways in the vicinity of the project site. The closest scenic highway is Highway 1, which has been recognized as eligible for designation as a State Scenic Highway, located approximately 8 miles southwest of the project site (Caltrans 2019). Due to distance and intervening topography, structures and trees, the project site is not visible from Highway 1. The project would not damage scenic resources within a highway officially designated as a state scenic highway. This exception would not apply to the project.

4.4 Hazardous Waste Sites

CEQA Guidelines Section 15300.2 states that a categorical exemption "shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code."

A search of the EnviroStor environmental database, the California Department of Toxic Substances Control Hazardous Waste and Substances Sites (Cortese) List (CalEPA 2024), and the Geotracker Database (SWRCB 2024) was conducted in March 2024 (DTSC 2024). The records review indicated that the project site is not listed on any of these lists. Therefore, this exception does not apply to the project.

4.5 Historical Resources

CEQA Guidelines Section 15300.2(f) states that a categorical exemption "shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource."

In support of the analysis presented below, Rincon Consultants completed a peer review of the *Historic Evaluation of the Residence at 270 West Dunne Avenue in the City of Morgan Hill* (270 West Dunne Avenue HRE) in March 2024; Rincon additionally conducted a Cultural Resources Desktop Analysis in April 2024. The 270 West Dunne Avenue HRE, in addition to the peer review and Cultural Resources Desktop Analysis are included in Appendix C and D, respectively.

Based on the 270 West Dunne HRE, the proposed project site contains no built environment historical resources. The desktop analysis was based on the results of a cultural resources records search of the California Historical Resources Information System, a Sacred Lands File (SLF) search conducted by the Native American Heritage Commission (NAHC), a review of historical maps and aerial imagery, and a review of the geotechnical report prepared for the project. Review of these materials indicated that there are no known archaeological resources that may qualify as historical resources within the project site. While no known archaeological resources that may qualify as historical resources under CEQA are present within the project site, previous and modern disturbances may have disturbed shallowly buried resources, if any once existed onsite. Proposed project-related ground disturbance will extend below disturbed soils or fill materials and into underlying native soils, and it is possible that subsurface archaeological materials may be encountered. The City's Standard Condition of Approval for development projects, which includes procedures to follow in the event of an unanticipated discovery, cultural resources sensitivity training for construction personnel, full-time Native American monitoring of all ground-disturbing activities by a member of the Tamien Nation, and retention of an archaeologist to respond to discoveries as needed, would apply and address unanticipated discovery of subsurface archaeological materials. Compliance with existing state regulations would also be required in the event of an unanticipated discovery of human remains.

5 Summary

Based on this analysis, the proposed West Dunne Residential Project meets the criteria for a Class 32 Categorical Exemption pursuant to Section 15332 of the State CEQA Guidelines and is exempt from CEQA pursuant to CEQA Guidelines Article 19.

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Appendix A

Air Quality and Greenhouse Gas Emissions Calculations

270 W Dunne Avenue Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	270 W Dunne Avenue
Construction Start Date	12/2/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.80
Precipitation (days)	32.8
Location	270 W Dunne Ave, Morgan Hill, CA 95037, USA
County	Santa Clara
City	Morgan Hill
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1933
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Condo/Townhouse	10.0	Dwelling Unit	1.03	33,729	0.00	0.00	29.0	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.10	7.60	0.39	5.14	0.01	0.01	0.09	0.10	0.01	0.02	0.03	—	786	786	0.03	0.01	0.40	791
Mit.	0.10	7.60	0.39	5.14	0.01	0.01	0.09	0.10	0.01	0.02	0.03	—	786	786	0.03	0.01	0.40	791
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.55	0.45	8.68	18.4	0.03	0.07	0.75	0.82	0.06	0.17	0.23	—	3,945	3,945	0.21	0.24	0.10	4,016
Mit.	0.55	0.45	8.68	18.4	0.03	0.07	0.75	0.81	0.06	0.17	0.23	—	3,945	3,945	0.21	0.24	0.10	4,016
% Reduced	—	—	—	—	—	—	< 0.5%	< 0.5%	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	1.23	0.95	3.44	< 0.005	0.01	0.08	0.09	0.01	0.02	0.03	—	600	600	0.03	0.02	0.19	606

Mit.	0.08	1.23	0.95	3.44	< 0.005	0.01	0.08	0.09	0.01	0.02	0.03	—	600	600	0.03	0.02	0.19	606
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.23	0.17	0.63	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	99.3	99.3	< 0.005	< 0.005	0.03	100
Mit.	0.02	0.23	0.17	0.63	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	99.3	99.3	< 0.005	< 0.005	0.03	100
% Reduced	—	—	—	—	—	—	< 0.5%	< 0.5%	—	< 0.5%	< 0.5%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.10	7.60	0.39	5.14	0.01	0.01	0.09	0.10	0.01	0.02	0.03	—	786	786	0.03	0.01	0.40	791
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.19	0.17	3.08	7.69	0.01	0.02	0.29	0.32	0.02	0.06	0.08	—	1,261	1,261	0.06	0.04	0.02	1,273
2025	0.55	0.45	8.68	18.4	0.03	0.07	0.75	0.82	0.06	0.17	0.23	—	3,945	3,945	0.21	0.24	0.10	4,016
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.01	0.01	0.22	0.54	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	88.9	88.9	< 0.005	< 0.005	0.02	89.8
2025	0.08	1.23	0.95	3.44	< 0.005	0.01	0.08	0.09	0.01	0.02	0.03	—	600	600	0.03	0.02	0.19	606
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	< 0.005	< 0.005	0.04	0.10	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	< 0.005	14.9
2025	0.02	0.23	0.17	0.63	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	99.3	99.3	< 0.005	< 0.005	0.03	100

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.10	7.60	0.39	5.14	0.01	0.01	0.09	0.10	0.01	0.02	0.03	—	786	786	0.03	0.01	0.40	791
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.19	0.17	3.08	7.69	0.01	0.02	0.29	0.32	0.02	0.06	0.08	—	1,261	1,261	0.06	0.04	0.02	1,273
2025	0.55	0.45	8.68	18.4	0.03	0.07	0.75	0.81	0.06	0.17	0.23	—	3,945	3,945	0.21	0.24	0.10	4,016
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.01	0.01	0.22	0.54	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	88.9	88.9	< 0.005	< 0.005	0.02	89.8
2025	0.08	1.23	0.95	3.44	< 0.005	0.01	0.08	0.09	0.01	0.02	0.03	—	600	600	0.03	0.02	0.19	606
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	< 0.005	< 0.005	0.04	0.10	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	< 0.005	14.9
2025	0.02	0.23	0.17	0.63	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	99.3	99.3	< 0.005	< 0.005	0.03	100

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.35	1.16	0.21	2.83	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	4.64	612	617	0.42	0.02	2.34	637
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.29	1.10	0.24	2.12	< 0.005	< 0.005	0.49	0.49	< 0.005	0.12	0.13	4.64	578	583	0.43	0.03	0.30	602
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.28	1.09	0.20	2.12	< 0.005	< 0.005	0.43	0.43	< 0.005	0.11	0.11	4.64	530	535	0.42	0.02	1.05	553
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.20	0.04	0.39	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	0.77	87.8	88.6	0.07	< 0.005	0.17	91.6

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.30	0.28	0.20	2.26	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	538	538	0.02	0.02	2.10	547
Area	0.05	0.89	0.01	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.52	1.52	< 0.005	< 0.005	—	1.52
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	71.8	71.8	0.01	< 0.005	—	72.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67
Waste	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	0.35	1.16	0.21	2.83	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	4.64	612	617	0.42	0.02	2.34	637
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.29	0.26	0.24	2.12	< 0.005	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	505	505	0.03	0.02	0.05	513
Area	0.00	0.84	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
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	71.8	71.8	0.01	< 0.005	—	72.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67
Waste	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	0.29	1.10	0.24	2.12	< 0.005	< 0.005	0.49	0.49	< 0.005	0.12	0.13	4.64	578	583	0.43	0.03	0.30	602
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.25	0.23	0.20	1.84	< 0.005	< 0.005	0.43	0.43	< 0.005	0.11	0.11	—	456	456	0.02	0.02	0.81	464
Area	0.03	0.86	< 0.005	0.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.75	0.75	< 0.005	< 0.005	—	0.75
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	71.8	71.8	0.01	< 0.005	—	72.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67
Waste	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	0.28	1.09	0.20	2.12	< 0.005	< 0.005	0.43	0.43	< 0.005	0.11	0.11	4.64	530	535	0.42	0.02	1.05	553
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.05	0.04	0.04	0.34	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	—	75.6	75.6	< 0.005	< 0.005	0.13	76.8
Area	< 0.005	0.16	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.12	0.12	< 0.005	< 0.005	—	0.12
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	11.9	11.9	< 0.005	< 0.005	—	12.0
Water	—	—	—	—	—	—	—	—	—	—	—	0.13	0.22	0.35	< 0.005	< 0.005	—	0.44
Waste	—	—	—	—	—	—	—	—	—	—	—	0.64	0.00	0.64	0.06	0.00	—	2.24
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	0.05	0.20	0.04	0.39	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	0.77	87.8	88.6	0.07	< 0.005	0.17	91.6

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.30	0.28	0.20	2.26	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	538	538	0.02	0.02	2.10	547
Area	0.05	0.89	0.01	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.52	1.52	< 0.005	< 0.005	—	1.52

Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	71.8	71.8	0.01	< 0.005	—	72.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67
Waste	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	0.35	1.16	0.21	2.83	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	4.64	612	617	0.42	0.02	2.34	637
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.29	0.26	0.24	2.12	< 0.005	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	505	505	0.03	0.02	0.05	513
Area	0.00	0.84	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
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	71.8	71.8	0.01	< 0.005	—	72.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67
Waste	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	0.29	1.10	0.24	2.12	< 0.005	< 0.005	0.49	0.49	< 0.005	0.12	0.13	4.64	578	583	0.43	0.03	0.30	602
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.25	0.23	0.20	1.84	< 0.005	< 0.005	0.43	0.43	< 0.005	0.11	0.11	—	456	456	0.02	0.02	0.81	464
Area	0.03	0.86	< 0.005	0.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.75	0.75	< 0.005	< 0.005	—	0.75
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	71.8	71.8	0.01	< 0.005	—	72.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67
Waste	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	0.28	1.09	0.20	2.12	< 0.005	< 0.005	0.43	0.43	< 0.005	0.11	0.11	4.64	530	535	0.42	0.02	1.05	553
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.05	0.04	0.04	0.34	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	—	75.6	75.6	< 0.005	< 0.005	0.13	76.8
Area	< 0.005	0.16	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.12	0.12	< 0.005	< 0.005	—	0.12
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	11.9	11.9	< 0.005	< 0.005	—	12.0
Water	—	—	—	—	—	—	—	—	—	—	—	0.13	0.22	0.35	< 0.005	< 0.005	—	0.44

Waste	—	—	—	—	—	—	—	—	—	—	—	0.64	0.00	0.64	0.06	0.00	—	2.24
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	0.05	0.20	0.04	0.39	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	0.77	87.8	88.6	0.07	< 0.005	0.17	91.6

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.13	2.84	7.22	0.01	0.02	—	0.02	0.02	—	0.02	—	1,029	1,029	0.04	0.01	—	1,033
Demolition	—	—	—	—	—	—	0.17	0.17	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.20	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	72.5	72.5	< 0.005	< 0.005	—	72.8
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.04	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.0	12.0	< 0.005	< 0.005	—	12.0
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.38	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.0	81.0	< 0.005	< 0.005	0.01	82.1
Vendor	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	0.00
Hauling	0.02	< 0.005	0.20	0.09	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	151	151	0.01	0.02	0.01	158
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.77	5.77	< 0.005	< 0.005	0.01	5.85
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	0.01	11.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.97
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.76	1.76	< 0.005	< 0.005	< 0.005	1.85

3.2. Demolition (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.13	2.84	7.22	0.01	0.02	—	0.02	0.02	—	0.02	—	1,029	1,029	0.04	0.01	—	1,033
Demolition	—	—	—	—	—	—	0.17	0.17	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.20	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	72.5	72.5	< 0.005	< 0.005	—	72.8
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.0	12.0	< 0.005	< 0.005	—	12.0
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.04	0.03	0.03	0.38	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.0	81.0	< 0.005	< 0.005	0.01	82.1
Vendor	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	0.00
Hauling	0.02	< 0.005	0.20	0.09	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	151	151	0.01	0.02	0.01	158
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.77	5.77	< 0.005	< 0.005	0.01	5.85
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.6	10.6	< 0.005	< 0.005	0.01	11.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.97
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.76	1.76	< 0.005	< 0.005	< 0.005	1.85

3.3. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.13	2.84	7.22	0.01	0.02	—	0.02	0.02	—	0.02	—	1,029	1,029	0.04	0.01	—	1,033
Demolition	—	—	—	—	—	—	0.17	0.17	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.5	14.5	< 0.005	< 0.005	—	14.6
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.40	2.40	< 0.005	< 0.005	—	2.41
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.35	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	79.4	79.4	< 0.005	< 0.005	0.01	80.5
Vendor	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	0.00
Hauling	0.02	< 0.005	0.19	0.09	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	148	148	0.01	0.02	0.01	155
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.15
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.08	2.08	< 0.005	< 0.005	< 0.005	2.19
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19

Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.34	0.34	< 0.005	< 0.005	< 0.005	0.36

3.4. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.13	2.84	7.22	0.01	0.02	—	0.02	0.02	—	0.02	—	1,029	1,029	0.04	0.01	—	1,033
Demolition	—	—	—	—	—	—	0.17	0.17	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.5	14.5	< 0.005	< 0.005	—	14.6
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.40	2.40	< 0.005	< 0.005	—	2.41
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.35	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	79.4	79.4	< 0.005	< 0.005	0.01	80.5
Vendor	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	0.00
Hauling	0.02	< 0.005	0.19	0.09	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	148	148	0.01	0.02	0.01	155
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.15
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.08	2.08	< 0.005	< 0.005	< 0.005	2.19
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.34	0.34	< 0.005	< 0.005	< 0.005	0.36

3.5. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.15	3.51	8.21	0.01	0.02	—	0.02	0.02	—	0.02	—	1,240	1,240	0.05	0.01	—	1,244
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.18	0.43	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	64.5	64.5	< 0.005	< 0.005	—	64.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	139	139	< 0.005	0.01	0.02	141
Vendor	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	0.00
Hauling	0.12	0.02	1.56	0.73	0.01	0.02	0.31	0.33	0.01	0.08	0.10	—	1,188	1,188	0.10	0.19	0.07	1,246
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.31	7.31	< 0.005	< 0.005	0.01	7.42
Vendor	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	0.00
Hauling	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.8	61.8	0.01	0.01	0.06	64.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.21	1.21	< 0.005	< 0.005	< 0.005	1.23
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.01	10.7

3.6. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.15	3.51	8.21	0.01	0.02	—	0.02	0.02	—	0.02	—	1,240	1,240	0.05	0.01	—	1,244

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.18	0.43	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	64.5	64.5	< 0.005	< 0.005	—	64.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	139	139	< 0.005	0.01	0.02	141
Vendor	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	0.00
Hauling	0.12	0.02	1.56	0.73	0.01	0.02	0.31	0.33	0.01	0.08	0.10	—	1,188	1,188	0.10	0.19	0.07	1,246

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.31	7.31	< 0.005	< 0.005	0.01	7.42
Vendor	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	0.00
Hauling	0.01	< 0.005	0.08	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	61.8	61.8	0.01	0.01	0.06	64.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.21	1.21	< 0.005	< 0.005	< 0.005	1.23
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.01	10.7

3.7. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.15	3.51	8.21	0.01	0.02	—	0.02	0.02	—	0.02	—	1,240	1,240	0.05	0.01	—	1,244
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.51	1.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	180	180	0.01	< 0.005	—	181

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.09	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.8	29.8	< 0.005	< 0.005	—	29.9
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	139	139	< 0.005	0.01	0.02	141
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.4	20.4	< 0.005	< 0.005	0.04	20.7
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.38	3.38	< 0.005	< 0.005	0.01	3.42
Vendor	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	0.00

Hauling	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	0.00

3.8. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.15	3.51	8.21	0.01	0.02	—	0.02	0.02	—	0.02	—	1,240	1,240	0.05	0.01	—	1,244
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.51	1.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	180	180	0.01	< 0.005	—	181
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.09	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.8	29.8	< 0.005	< 0.005	—	29.9

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	139	139	< 0.005	0.01	0.02	141
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.4	20.4	< 0.005	< 0.005	0.04	20.7
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.38	3.38	< 0.005	< 0.005	0.01	3.42
Vendor	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	0.00
Hauling	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	0.00

3.9. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.18	2.51	< 0.005	0.01	—	0.01	0.01	—	0.01	—	358	358	0.01	< 0.005	—	359
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.18	2.51	< 0.005	0.01	—	0.01	0.01	—	0.01	—	358	358	0.01	< 0.005	—	359
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.09	1.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	177	177	0.01	< 0.005	—	177
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.2	29.2	< 0.005	< 0.005	—	29.3
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.7	61.7	< 0.005	< 0.005	0.24	62.7
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.8	28.8	< 0.005	< 0.005	0.08	30.2
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.25	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	57.2	57.2	< 0.005	< 0.005	0.01	57.9
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.9	28.9	< 0.005	< 0.005	< 0.005	30.1
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.5	28.5	< 0.005	< 0.005	0.05	28.9
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.2	14.2	< 0.005	< 0.005	0.02	14.9
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.72	4.72	< 0.005	< 0.005	0.01	4.79
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.36	2.36	< 0.005	< 0.005	< 0.005	2.46
Hauling	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	0.00

3.10. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.18	2.51	< 0.005	0.01	—	0.01	0.01	—	0.01	—	358	358	0.01	< 0.005	—	359
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.18	2.51	< 0.005	0.01	—	0.01	0.01	—	0.01	—	358	358	0.01	< 0.005	—	359
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.09	1.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	177	177	0.01	< 0.005	—	177
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.2	29.2	< 0.005	< 0.005	—	29.3
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.7	61.7	< 0.005	< 0.005	0.24	62.7
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.8	28.8	< 0.005	< 0.005	0.08	30.2
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.25	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	57.2	57.2	< 0.005	< 0.005	0.01	57.9
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.9	28.9	< 0.005	< 0.005	< 0.005	30.1
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.5	28.5	< 0.005	< 0.005	0.05	28.9
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.2	14.2	< 0.005	< 0.005	0.02	14.9

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.72	4.72	< 0.005	< 0.005	0.01	4.79
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.36	2.36	< 0.005	< 0.005	< 0.005	2.46
Hauling	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	0.00

3.11. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.16	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	316	316	0.01	< 0.005	—	317
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.1	25.1	< 0.005	< 0.005	—	25.2
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.16	4.16	< 0.005	< 0.005	—	4.17

Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.4	21.4	< 0.005	< 0.005	0.08	21.8
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.59	1.59	< 0.005	< 0.005	< 0.005	1.62
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Vendor	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	0.00
Hauling	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	0.00

3.12. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.16	2.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	316	316	0.01	< 0.005	—	317
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.1	25.1	< 0.005	< 0.005	—	25.2
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.16	4.16	< 0.005	< 0.005	—	4.17
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.4	21.4	< 0.005	< 0.005	0.08	21.8
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.59	1.59	< 0.005	< 0.005	< 0.005	1.62
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Vendor	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	0.00
Hauling	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	0.00

3.13. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	7.54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	1.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	—	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.05	12.5
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.77	1.77	< 0.005	< 0.005	< 0.005	1.80
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	< 0.005	0.30
Vendor	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	0.00
Hauling	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	0.00

3.14. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	7.54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	1.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.05	12.5
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.77	1.77	< 0.005	< 0.005	< 0.005	1.80
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.29	0.29	< 0.005	< 0.005	< 0.005	0.30
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.30	0.28	0.20	2.26	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	538	538	0.02	0.02	2.10	547
Total	0.30	0.28	0.20	2.26	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	538	538	0.02	0.02	2.10	547
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.29	0.26	0.24	2.12	< 0.005	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	505	505	0.03	0.02	0.05	513

Total	0.29	0.26	0.24	2.12	< 0.005	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	505	505	0.03	0.02	0.05	513
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.05	0.04	0.04	0.34	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	—	75.6	75.6	< 0.005	< 0.005	0.13	76.8
Total	0.05	0.04	0.04	0.34	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	—	75.6	75.6	< 0.005	< 0.005	0.13	76.8

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.30	0.28	0.20	2.26	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	538	538	0.02	0.02	2.10	547
Total	0.30	0.28	0.20	2.26	0.01	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	538	538	0.02	0.02	2.10	547
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.29	0.26	0.24	2.12	< 0.005	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	505	505	0.03	0.02	0.05	513
Total	0.29	0.26	0.24	2.12	< 0.005	< 0.005	0.49	0.49	< 0.005	0.12	0.13	—	505	505	0.03	0.02	0.05	513
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.05	0.04	0.04	0.34	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	—	75.6	75.6	< 0.005	< 0.005	0.13	76.8
Total	0.05	0.04	0.04	0.34	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02	—	75.6	75.6	< 0.005	< 0.005	0.13	76.8

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	71.8	71.8	0.01	< 0.005	—	72.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	71.8	71.8	0.01	< 0.005	—	72.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	71.8	71.8	0.01	< 0.005	—	72.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	71.8	71.8	0.01	< 0.005	—	72.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	11.9	11.9	< 0.005	< 0.005	—	12.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	11.9	11.9	< 0.005	< 0.005	—	12.0

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhous	—	—	—	—	—	—	—	—	—	—	—	—	71.8	71.8	0.01	< 0.005	—	72.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	71.8	71.8	0.01	< 0.005	—	72.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	71.8	71.8	0.01	< 0.005	—	72.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	71.8	71.8	0.01	< 0.005	—	72.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	11.9	11.9	< 0.005	< 0.005	—	12.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	11.9	11.9	< 0.005	< 0.005	—	12.0

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	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

Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	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
Total	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

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	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
Total	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

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	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
Consumer Products	—	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	0.05	0.01	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.52	1.52	< 0.005	< 0.005	—	1.52
Total	0.05	0.89	0.01	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.52	1.52	< 0.005	< 0.005	—	1.52
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	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
Consumer Products	—	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	0.84	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	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

Consumer Products	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.12	0.12	< 0.005	< 0.005	—	0.12
Total	< 0.005	0.16	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.12	0.12	< 0.005	< 0.005	—	0.12

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	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
Consumer Products	—	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	0.05	0.01	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.52	1.52	< 0.005	< 0.005	—	1.52
Total	0.05	0.89	0.01	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.52	1.52	< 0.005	< 0.005	—	1.52
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	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

Consum Products	—	0.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	0.84	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	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
Consumer Products	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.12	0.12	< 0.005	< 0.005	—	0.12
Total	< 0.005	0.16	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.12	0.12	< 0.005	< 0.005	—	0.12

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67
Total	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67
Total	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.13	0.22	0.35	< 0.005	< 0.005	—	0.44
Total	—	—	—	—	—	—	—	—	—	—	—	0.13	0.22	0.35	< 0.005	< 0.005	—	0.44

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67
Total	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67
Total	—	—	—	—	—	—	—	—	—	—	—	0.78	1.31	2.09	< 0.005	< 0.005	—	2.67
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhous	—	—	—	—	—	—	—	—	—	—	—	0.13	0.22	0.35	< 0.005	< 0.005	—	0.44
Total	—	—	—	—	—	—	—	—	—	—	—	0.13	0.22	0.35	< 0.005	< 0.005	—	0.44

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5
Total	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5
Total	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.64	0.00	0.64	0.06	0.00	—	2.24
Total	—	—	—	—	—	—	—	—	—	—	—	0.64	0.00	0.64	0.06	0.00	—	2.24

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5
Total	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5
Total	—	—	—	—	—	—	—	—	—	—	—	3.87	0.00	3.87	0.39	0.00	—	13.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.64	0.00	0.64	0.06	0.00	—	2.24
Total	—	—	—	—	—	—	—	—	—	—	—	0.64	0.00	0.64	0.06	0.00	—	2.24

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.24	0.24
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	12/2/2024	1/6/2025	6.00	31.0	—
Site Preparation	Site Preparation	1/6/2025	1/27/2025	6.00	19.0	—
Grading	Grading	1/27/2025	3/28/2025	6.00	53.0	—
Building Construction	Building Construction	3/31/2025	10/26/2025	6.00	180	—
Paving	Paving	6/16/2025	7/18/2025	6.00	29.0	—
Architectural Coating	Architectural Coating	7/21/2025	9/23/2025	6.00	56.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Demolition	Rubber Tired Loaders	Diesel	Tier 4 Final	1.00	8.00	150	0.36
Demolition	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Site Preparation	Plate Compactors	Diesel	Tier 4 Final	2.00	8.00	8.00	0.43
Site Preparation	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Loaders	Diesel	Tier 4 Final	1.00	8.00	150	0.36
Site Preparation	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38

Site Preparation	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading	Plate Compactors	Diesel	Tier 4 Final	2.00	8.00	8.00	0.43
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Tier 4 Final	1.00	8.00	150	0.36
Grading	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Building Construction	Rough Terrain Forklifts	Diesel	Tier 4 Final	1.00	8.00	96.0	0.40
Paving	Pavers	Diesel	Tier 4 Final	1.00	8.00	81.0	0.42

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Demolition	Rubber Tired Loaders	Diesel	Tier 4 Final	1.00	8.00	150	0.36
Demolition	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Site Preparation	Plate Compactors	Diesel	Tier 4 Final	2.00	8.00	8.00	0.43
Site Preparation	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Loaders	Diesel	Tier 4 Final	1.00	8.00	150	0.36
Site Preparation	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Site Preparation	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Grading	Plate Compactors	Diesel	Tier 4 Final	2.00	8.00	8.00	0.43
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Tier 4 Final	1.00	8.00	150	0.36
Grading	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading	Skid Steer Loaders	Diesel	Tier 4 Final	1.00	8.00	71.0	0.37
Building Construction	Rough Terrain Forklifts	Diesel	Tier 4 Final	1.00	8.00	96.0	0.40
Paving	Pavers	Diesel	Tier 4 Final	1.00	8.00	81.0	0.42

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	2.06	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	16.6	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	7.20	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	1.07	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	2.50	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT

Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	1.44	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	2.06	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	16.6	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	7.20	11.7	LDA,LDT1,LDT2

Building Construction	Vendor	1.07	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	2.50	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	1.44	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	68,301	22,767	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)

Demolition	0.00	0.00	0.00	5,500	—
Site Preparation	2,519	—	0.00	0.00	—
Grading	—	—	0.00	0.00	—
Paving	0.00	0.00	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Condo/Townhouse	—	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	73.2	81.4	62.8	26,603	622	692	534	226,038

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	73.2	81.4	62.8	26,603	622	692	534	226,038

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0

Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
68301.22499999999	22,767	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	128,394	204	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	128,394	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	362,664	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	362,664	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	7.17	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	7.17	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	13.3	annual days of extreme heat
Extreme Precipitation	7.30	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	26.3	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score

Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	35.2
AQ-PM	6.30
AQ-DPM	44.5
Drinking Water	43.9
Lead Risk Housing	41.2
Pesticides	18.6
Toxic Releases	13.8
Traffic	59.9
Effect Indicators	—
CleanUp Sites	29.1
Groundwater	59.9
Haz Waste Facilities/Generators	55.4
Impaired Water Bodies	58.7
Solid Waste	2.52
Sensitive Population	—
Asthma	38.0
Cardio-vascular	62.9
Low Birth Weights	9.08
Socioeconomic Factor Indicators	—

Education	55.5
Housing	48.5
Linguistic	66.9
Poverty	32.8
Unemployment	1.15

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	44.8222764
Employed	91.91582189
Median HI	71.32041576
Education	—
Bachelor's or higher	57.08969588
High school enrollment	19.24804312
Preschool enrollment	46.33645579
Transportation	—
Auto Access	63.41588605
Active commuting	64.1986398
Social	—
2-parent households	29.44950597
Voting	80.67496471
Neighborhood	—
Alcohol availability	35.1340947
Park access	81.35506224
Retail density	44.88643655

Supermarket access	75.36250481
Tree canopy	71.96201719
Housing	—
Homeownership	31.77210317
Housing habitability	55.84498909
Low-inc homeowner severe housing cost burden	92.19812652
Low-inc renter severe housing cost burden	54.92108302
Uncrowded housing	26.88310022
Health Outcomes	—
Insured adults	46.18247145
Arthritis	0.0
Asthma ER Admissions	57.8
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	34.5
Cognitively Disabled	72.6
Physically Disabled	73.0
Heart Attack ER Admissions	34.5
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	57.9
Physical Health Not Good	0.0

Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	53.9
SLR Inundation Area	0.0
Children	13.5
Elderly	70.8
English Speaking	42.8
Foreign-born	43.8
Outdoor Workers	24.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	60.9
Traffic Density	14.9
Traffic Access	64.2
Other Indices	—
Hardship	58.6
Other Decision Support	—
2016 Voting	70.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	32.0
Healthy Places Index Score for Project Location (b)	65.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Based on applicant provided data and pph of 2.90
Construction: Construction Phases	Based on applicant provided construction schedule, six day work week
Construction: Off-Road Equipment	Based on applicant provided equipment list
Construction: Architectural Coatings	BAAQMD Regulation 8 Rule 3
Operations: Hearths	No woodburning stoves or fireplaces
Operations: Architectural Coatings	BAAQMD Regulation 8 Rule 3
Operations: Water and Waste Water	WTP 100% aerobic
Operations: Energy Use	Project would include all-electric design

Appendix B

Preliminary Stormwater Report

MH engineering Co.

16075 Vineyard Blvd.
Morgan Hill, CA 95037
(408) 779-7381
(408) 226-5712 Fax

Storm Water Control Plan

APN 767-12-060

DRP Builders

270 W. Dunne Ave

MHE 221089

Revised Jan 10, 2024

Sections	Description
Section-1	LID Storm Water Compliance
Section-2	Pipe Sizing Analysis for 100 Year Event
Section-3	Hydrology (Peak Management)
Section-4	Documentation of Drainage Design
Section-5	Post Construction Stormwater Facilities & Maintenance

Attachments:

LID PR checklists
Pipe Sizing Analysis
Infiltration Rates by the Soils Engineer
SCM Volume, Details & Detention routing Analysis
Soils Study
Preliminary Grading Plan, Grading Cross Sections and Strom Water Management Plan (3 pages-24x36)

1.1 Project Description:

This 1.03 acre parcel in its current state has a large single family home. Site terrain lays in the southeasterly direction with average slopes under 7%. There is approximately 16 feet of elevation drop from the top of northwesterly public sidewalk on W. Dunne Avenue to the southeasterly corner of the property.

With current RAL-3,000, zoning, property owner has proposed 10 duet units with 2 car garages and private access off W. Dunne Avenue.

Section-1 LID Storm Water Compliance

Project lies within the California Regional Water Quality Control Board Central Coast. Project shall comply with the California Regional Water Quality Control Board Central Coast Region Resolution No. R3-2013-0032 for the Resources Control Board Post Construction Requirements (PCRs):

a) Project shall provide Stormwater Control Plan Checklist and applicable calculations per the Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements.

b) Project shall meet the applicable requirements of the Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements:

i) Performance Requirement 1: Site Design and Runoff Reduction
ii) Performance Requirement 2: Water Quality Treatment
iii) Performance Requirement 3: Prevent offsite discharge from events up to the 95th percentile rainfall using SCMs (SCMs).
iv) Performance Requirement 4: Control post-project peak flows to not exceed pre-project peak flows for the 2 through 10 year storm events.

Compliance:

1.1 Low Impact Development Design Strategies

1.1.a (PR-1) direct roof runoff onto vegetated areas

1.1.b (PR-1) direct runoff from sidewalks, walkways, and other private hardscape onto vegetated areas
1.1.c (PR-2) Water Quality Treatment:

1.1.c.1 (PR-2) Runoff from impervious areas have been computed at 85th percentile rate and *a 60" Ø Storm Filter has been sized to pre-treat the lots & street capture of 2yr post peak runoff (larger than the required 95th percentile storm). Treated water shall convey into 42"Ø underground pipe manifold for retention and infiltration.*

1.1.c.2 (PR-2) storm water control measures SCMs (SCMs):
Development projects that create and/or replace at least 5,000 square feet (15,000 square feet for Single-Family Detached Homes) Net Impervious Area are subject to PR-2 in addition to PR-1.

Projects subject to the requirements of PR-2 are responsible for treating any contaminants that are created by the development. Table 2 below corresponds to Table 4 in *Stormwater Management Guidance Manual for Low Impact*

Development & Post Construction Requirements, June 2015, City of Gilroy, City of Morgan Hill, and County of Santa Clara and is listed in order of preference according to said manual.

Table 1: Water Quality Treatment Measures Design Criteria (Guidance Manual Table 4)

Water Quality Treatment Measure*	**Design Criteria**
LID Treatment System – *Harvesting and use, infiltration, evapotranspiration, and bioretention* ***(without an underdrain)*** *SCMs*	Retain stormwater from the 85th Percentile 24-hour single storm event routing method
Biofiltration Treatment System – *Bioretention with raised underdrain, or other facilities at least as effective as a system with the specified design criteria.*	Design of rain event of 0.2 in/hr intensity or 2 x 85th percentile hourly rainfall intensity or other specified design criteria include: • Maximum surface loading rate of 5 in/hr • Minimum surface reservoir depth (6") • Minimum planting minimum depth (24") • Proper plant selection • Subsurface gravel layer (minimum depth of 12") • Underdrain placement near the top of the gravel layer • No compaction of soils beneath the facility • No liners preventing infiltration
Non-Retention Based Treatment Systems – *Lined bioretention, flow-through planters, and high rate tree well filters and media filters*	Volume Hydraulic Design Basis: 85th Percentile 24-hour storm event Flow Hydraulic Design Basis: 0.2 in/hr intensity OR 2 x 85th Percentile hourly rainfall intensity
*Multiple SCMs may be used to collectively achieve the design criteria.	

As highlighted in yellow above, PR2 with the use of pre-treatment through SCM-1 Contech StromFilter and full retention of 85th percentile storm and infiltration in less than 48 hours at SCM-2.

1.1.d (PR-3) runoff retention:

This development is tributary to East Little Llagas Creek in the Monterey Bay, Region 3. Site falls in zone WMZ-1. SCM-2 (42"Ø Perforated Pipe Manifold) is sized and designed for retention of 95th percentile volume. Soils Engineer has determined 6.23in/hr to be the average infiltration rate at this site, which when reduced by factor of safety 2.0 equals 3.11in/hr. **However, we have taken even more conservative approach to discard the high rate of 10.96in/hr and only use half of the reported lower rate of 1.50in/hr for the drawdown (exfiltration) purposes.** Additionally, we have setup a new 24-hour SCS method hydrology routing model in HydroCAD to include the 95th percentile storm routing with the use of exfiltration. Based on the infiltration rate of 0.75in/hr, 95th percentile volumes (1.8") will infiltrate into the native soil well under the required 48 hour duration. *Full routing results are presented in the Hydrology Section.*

1.1.d.1 (PR-3) Lid site design measures:

Following design measures are incorporated into the site layout:

a) created open spaces where native vegetation and significant trees are clustered
b) limit impervious areas with the approved zoning
c) minimized hardscape within the scope of project
d) conformed site layout along natural landforms
e) optimized grading

1.1.f Performance Requirement Certifications

See attached Certifications.

1.2 Storm Water Control Measures (SCMs) for 85th & 95th percentile storm water management

SCM-1: 60" Ø Storm Filter shall pre-treat capture from the entire development.

SCM-2: Project has proposed an 42"Ø HDPE underground pipe manifold system under the private street with north-south and east-west wings with a total footprint of 93'x60'x12' (5.67'high) heigh. Total volume provided 5,280cf.

Pre-treated 95th percentile volume coming off the roofs and private lot hardscape, street and parking is all routed Storm Filter before conveying into the underground pipe manifold for infiltration into the native soil to meet PR-3 compliance and hydromodification for PR-4 compliance and peak mitigation for all storm events including 100 year event.

Both SCMs and related capture & conveyance systems shall be owned and maintained by the HOA.

Section-2 Pipe Sizing Analysis for 100 Year Event

Since this parcel is tributary to Dewitt Creek, Valley Water with their October 11, 2023, comments to Ms. Lynette Kong of the City has directed that the development should not be allowed to take any flow to W. Dunne Avenue public storm drain, which conveys into W. Little Llagas.

As no recorded drainage release easement and/or pipe connection to the south through existing development is available, Valley Water has also recommended that if the project can mimic existing drainage release at the project boundary in the southeasterly direction, then under the purview of California Drainage Law, no easement should be required by the City to allow this project to move forward.

The development being so small in area (gross 1.03 ac) and scope, collection system has been oversized to eliminate any street overland release at the terminus of Private Street 'B'. Drainage for the descending lots has been reconfigured and the interconnected rear drain oversized to handle 0.04cfs (Q100). Lots 5-10 will only convey minor sheet flow from the sloping pad & open space to the rear. Developed portion of these lots including entire roof will drain to the front with the use of roof leader tightlines and bubble up behind the fronting street walkway.

Any potential Street 'B' overflow will be captured with the inclusion of PCC channel and 18" drain inlet at the easterly terminus of this street and conveyed via oversized 12" Ø pipe (Q100 capacity 1.06cfs) designed to the overflow PCC ditch just inside the easterly boundary for sheet flow to the gutter pan of paved Viewcrest Lane. 100-year Pipe sizing calculations are enclosed in the study.

Section-3 Hydrology (Peak Management)

2.1 Site Hydrology:

This parcel is tributary to W. Little Llagas Creek. It seems that historic drainage path has been blocked by the adjoining development to the south. Project will install a gravity collection system with conveyance into the 42"Ø HDPE underground pipe manifold.

Mitigated flows out of the underground pipe manifold shall release with a 4"Ø orifice control at pre-project rates into the adjoining private street with a bubble up drain.

Routing Methodology:

Routing model has been setup using modified rational method. Hydrographs for post-project events are routed through the SCM storage. Model includes a storage structure and outflow structures. Outflow structure is setup with a fixed diameter outlet at a fixed elevation. Storage volumes are entered into the file at incremental elevations. A stage/storage rating curve for the SCM and the rating curve for stage/discharge are included in the routing report.

During the routing, a post project hydrograph of certain rainfall event flows through the SCM, stores the difference of post versus pre project volume and releases at controlled discharge. Orifice size is fine-tuned to keep the release peak discharges at or below pre-project levels.

A typical routing hydrograph graph indicates time increment along the x-axis and inflow runoff along the y-axis. Blue hatched area on the graph between two superimposed curves shows the total volume stored during the full routing. Peak of the outflow hydrograph in red color indicates peak discharge from the SCM with time to peak hour information.

Detention routing analysis through underground pipe manifold is presented in the hydrology section.

Routing summary:

42"Ø Underground pipe manifold	Pre Q (cfs)/Post Q/Routed Q thru 4"Ø Outlet Pipe/Exfiltration/Elev.
95th	0.07/0.15/0.00/0.03/358.14
2YR	0.16/0.26/0.00/0.03/359.98
10YR	0.35/0.46/0.34/0.03/360.81
25YR	0.48/0.60/0.46/0.03/361.34
100YR	0.65/0.76/0.56/0.03/361.95

Section-4 Documentation of Drainage Design
See attached storm water management (LID) calculations, pipe sizing analysis and hydrology.

Section-5 Post Construction Storm water Facilities & Maintenance
See Strom Water Runoff Management -O&M

The developer shall retain services of a licensed civil Engineer qualified to design and prepare storm water runoff management plans to inspect and certify the as-built Storm Water Control Measures (SCMs/SCMs) to ensure compliance with the City approved plan for their size, scope, and storage capacity. Such certification shall be submitted to the City in the form of a letter for review prior to final signoff on the SCMs by the City Engineer.

MH engineering Co.

16075 Vineyard Blvd.
Morgan Hill, CA 95037
(408) 779-7381
(408) 226-5712 Fax

APN 767-12-060
270 W. Dunne Ave
PR Certifications

22089

Updated June 2023

Post Construction Stormwater Management Requirements
Project Requirements Determination

PROJECT INFORMATION

Project Name: DRP Multiple Duplex Development APN#: 767-12-060

Project Address: 270 W. Dunne Avenue

Cross Streets: Viewcrest Lane

Applicant/Developer Name: David Robertson, DRP Builders

Project Phase(s): ____ of ____ Engineer: MH Engineering

Project Type (Check all that apply): ☐ New Development ☐ Redevelopment
☑ Residential ☐ Commercial ☐ Industrial ☐ Mixed Use ☐ Public ☐ Institutional
☐ Restaurant ☐ Uncovered Parking ☐ Retail Gas Outlet ☐ Auto Service (SIC code)____
☐ Other ____

Project Description: 10 unit duplex development with private access off W. Dunne Avenue. Each unit will have two car garage and 2 parking spaces onsite in the driveway.

Project Watershed/Receiving Water (creek, river): W. Little Llagas Creek

1. Total Project Area	44,735 ft²
2. Pre-Project	
(a) Impervious Area	9,608 ft²
(b) Pervious Area	35,127 ft²
3. Post-Project	
(a) Replaced Impervious Area (Dunne Ave. sidewalk & driveway Approach)	1,087 ft²
(b) New Impervious Area	27,227 ft²
(c) Total Post-Project Impervious Area (*sum of Line 3a and Line 3b*)	28,314 ft²
(d) Post-Project Pervious Area	16,421 ft²
Net Impervious Area	
4. Reduced Impervious Area Credit *(Line 2a minus Line 3c)*	0 ft²
5. Net Impervious Area *(Line 3c minus Line 4)*	28,314 ft²

PERFORMANCE REQUIREMENT NO. 1
SITE DESIGN AND RUNOFF REDUCTION

CERTIFICATION

	DESIGN STRATEGY	INCORPORATED?
1.	Limit disturbance of creeks and natural drainage features.	
2.	Minimize compaction of highly permeable soils.	✓
3.	Limit clearing and grading of native vegetation at the site to the minimum area needed to build the project, allow access, and provide fire protection.	✓
4.	Minimize impervious surfaces by concentrating improvements on the least sensitive areas of the site, while leaving the remaining land in a natural undisturbed state.	✓
5.	Minimize stormwater runoff by implementing one or more of the following design measures:	
	a) Direct roof runoff into cisterns or rain barrels for reuse.	
	b) Direct roof runoff onto vegetated areas safely away from building foundations and footings.	✓
	c) Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas safely away from building foundations and footings.	✓
	d) Direct runoff from driveways and/or uncovered parking lots onto vegetated areas safely away from building foundations and footings.	✓
	e) Construct bike lanes, driveways, uncovered parking lots, sidewalks, walkways, and patios with permeable surfaces.	

I, Harry Singla, acting as the Project Engineer for DRP Builders project, located at 270 W. Dunne Ave., hereby state that the Site Design and Runoff Reduction design strategies indicated above have been incorporated into the design of the project.

H Singla

Signature

4-19-22

Date

SOURCE CONTROL CHECKLIST	
ON-SITE SOURCE CONTROL MEASURES	**INCORPORATED?**
Wash area/racks, drain to sanitary sewer[1]	☐
Covered dumpster area, drain to sanitary sewer[1]	☐
Sanitary sewer connection or accessible cleanout for swimming pool/spa/fountain[1]	☐
Parking garage floor drains plumbed to sanitary sewer[1]	☒
Fire sprinkler test water/condensate drain lines drain to landscape/sanitary sewer[1]	☒
Interior floor drains/boiler drain lines plumbed to sanitary sewer	☒
Beneficial landscaping/IPM (minimize irrigation, runoff, pesticides and fertilizers; promotes treatment)	☒
Outdoor material storage protection	☐
Covers, drains for loading docks, maintenance bays, fueling areas	☐
Maintenance (pavement sweeping, catch basin cleaning, good housekeeping)	☒
Storm drain labeling	☒
Other[2] _____	☐

Notes:

[1] Subject to sanitary sewer authority requirements.

[2] See CASQA Stormwater BMP Handbook for New Development and Redevelopment for additional BMPs for vehicle service repair facilities, fuel dispensing areas, industrial processes, rooftop equipment and other pollutant generating activities and sources: https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook

PERFORMANCE REQUIREMENT NO. 2: WATER QUALITY TREATMENT

CERTIFICATION

	ON-SITE WATER QUALITY TREATMENT MEASURES (IN ORDER OF PRIORITY)	INCORPORATED?
1.	Low Impact Development (LID) Treatment Systems designed to retain stormwater runoff generated by the 85th percentile 24-hour storm. Stormwater Control Measures implemented (circle all that apply, design documentation is required): • Harvesting and Use, • Infiltration, • Evapotranspiration	✓
2.	Biofiltration Treatment Systems – with the following design parameters: a) Maximum surface loading rate appropriate to prevent erosion, scour and channeling within the biofiltration treatment system itself and equal to 5 inches per hour, based on the flow of runoff produced from a rain event equal to or at least: i. 0.2 inches per hour intensity; or ii. Two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depth b) Minimum surface reservoir volume equal to the biofiltration treatment system surface area times a depth of 6 inches c) Minimum planting medium depth of 24 inches. The planting medium must sustain a minimum infiltration rate of 5 inches per hour throughout the life of the project and must maximize runoff retention and pollutant removal. A mixture of sand (60%-70%) meeting the specifications of American Society for Testing and Materials (ASTM) C33 and compost (30%-40%) may be used. A Regulated Project may utilize an alternative planting medium if it demonstrates its planting medium is equal to or more effective at attenuating pollutants than the specified planting medium mixture. d) Proper plant selection[13] e) Subsurface drainage/storage (gravel) layer with an area equal to the biofiltration treatment system surface area and having a minimum depth of 12 inches f) Underdrain with discharge elevation at top of gravel layer g) No compaction of soils beneath the biofiltration facility (ripping/loosening of soils required if compacted) h) No liners or other barriers interfering with infiltration, except for situations where lateral infiltration is not technically feasible	

[13] Technical guidance for designing bioretention facilities is available from the Central Coast LID Initiative. The guidance includes design specifications and plant lists appropriate for the Central Coast climate: http://www.centralcoastlidi.org/Central_Coast_LIDI/LID_Structural_BMPs.html

3.	Non-Retention Based Treatment Systems – designed to meet at least one of the following hydraulic sizing criteria:	
	(a) Volume Hydraulic Design Basis – Treatment systems whose primary mode of action depends on volume capacity shall be designed to treat stormwater runoff equal to the volume of runoff generated by the 85th percentile 24-hour storm event, based on local rainfall data.	
	(b) Flow Hydraulic Design Basis – Treatment systems whose primary mode of action depends on flow capacity shall be sized to treat: (i) The flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths; or (ii) The flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity.	

I, Harry Singla, acting as the Project Engineer for DRP Builders project, located at 270 W. Dunne Ave., hereby state that the On-Site Water Quality Treatment Measures indicated above have been incorporated into the design of the project.

H Singla

Signature

4-19-22

Date

PERFORMANCE REQUIREMENT NO. 3: RUNOFF RETENTION

Design Rainfall Events & Treatment Requirements for WMZs

WMZ[1]	Treatment Options & Design Rainfall	Check Applicable WMZs
WMZ 1	Via optimized infiltration[2], prevent offsite discharge from events up to the 95th percentile 24-hour rainfall event as determined from local rainfall data.	✓
WMZ 2	Via storage, rainwater harvesting, infiltration, and/or evapotranspiration, prevent offsite discharge from events up to the 95th percentile 24-hour rainfall event as determined from local rainfall data.	
WM 4 *	Via optimized infiltration[2], prevent offsite discharge from events up to the 95th percentile 24-hour rainfall event as determined from local rainfall data.	
WMZ 5	Via optimized infiltration[2] prevent offsite discharge from events up to the 85th percentile 24-hour rainfall event as determined from local rainfall data.	
WMZ 6	Via storage, rainwater harvesting, infiltration, and/or evapotranspiration, prevent offsite discharge from events up to the 85th percentile 24-hour rainfall event as determined from local rainfall data.	
WMZ 9	Via storage, rainwater harvesting, infiltration, and/or evapotranspiration, prevent offsite discharge from events up to the 85th percentile 24-hour rainfall event as determined from local rainfall data.	
WMZ 10 *	Via optimized infiltration[2], prevent offsite discharge from events up to the 95th percentile 24-hour rainfall event as determined from local rainfall data	

Notes:

* Applicable only to those areas that overlay designated Groundwater Basins

1. Includes only those WMZs contained in Santa Clara County.
2. Storage, rainwater harvesting, and/or evapotranspiration may be used when infiltration is optimized.

PERFORMANCE REQUIREMENT NO. 3: RUNOFF RETENTION

LID Site Assessment Checklist

ITEMS TO DOCUMENT:	INCLUDED?
1. Site topography	☑
2. Hydrologic features including contiguous natural areas, wetlands, watercourses, seeps, or springs	☐
3. Depth to seasonal high groundwater	☑
4. Locations of groundwater wells used for drinking water	☐
5. Depth to an impervious layer such as bedrock	☑
6. Presence of unique geology (e.g., karst)	☑
7. Geotechnical hazards	☑
8. Documented soil and/or groundwater contamination	☑
9. Soil types and hydrologic soil groups	☑
10. Vegetative cover/trees	☑
11. Run-on characteristics (source and estimated runoff from offsite which discharges to the project area)	☐
12. Existing drainage infrastructure for the site and nearby areas including the location of municipal storm drains	☑
13. Structures including retaining walls	☑
14. Utilities	☑
15. Easements	☑
16. Covenants	☑
17. Zoning/Land Use	☑
18. Setbacks	☑
19. Open space requirements	☐
20. Other pertinent overlay(s)	☐

PERFORMANCE REQUIREMENT NO. 3: RUNOFF RETENTION

LID Site Design Measures

	DESIGN MEASURE	INCORPORATED?
1.	Defining the development envelope, identifying the protected areas, and identifying areas that are most suitable for development and areas to be left undisturbed	
2.	Identifying conserved natural areas, including existing trees, other vegetation, and soils (shown on the plans)	
3.	Limit the overall impervious footprint of the project	✓
4.	Design of streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided that public safety or mobility uses are not compromised	✓
5.	Set back development from creeks, wetlands, and riparian habitats	
6.	Design conforms the site layout along natural landforms	✓
7.	Design avoids excessive grading and disturbance of vegetation and soils	✓

I, Harry Singla, acting as the Project Engineer for DRP Builders project, located at 270 W. Dunne Ave, hereby state that LID Site Design Measures indicated above have been incorporated into the design of the project.

H Singla
Signature

4-22-22
Date

PERFORMANCE REQUIREMENT NO. 3: RUNOFF RETENTION Technical Infeasibility Checklist		
	Site Conditions	**Check If Applicable**
1.	Depth to seasonal high groundwater limits infiltration and/or prevents construction of subgrade stormwater control measures[14]	☐
2.	Depth to an impervious layer such as bedrock limits infiltration	☐
3.	Sites where soil types significantly limit infiltration	☐
4.	Sites where pollutant mobilization in the soil or groundwater is a documented concern	☐
5.	Space constraints (e.g., infill projects, some redevelopment projects, high density development)	☐
6.	Geotechnical hazards	☐
7.	Stormwater Control Measures located within 100 feet of a groundwater well used for drinking water	☐
8.	Incompatibility with surrounding drainage system (e.g., project drains to an existing stormwater collection system whose elevation or location precludes connection to a properly functioning treatment or flow control facility)	☐

[14] See Santa Clara Valley Water District guidelines for minimum groundwater separation from stormwater infiltration devices (Section 7, Table 6, of this Manual).

APPENDIX B

Stormwater Control Plan Checklist

Stormwater Control Plan Required Contents	PR Level	Done?
1. Project Information	All	
• Project name		✓
• Application number		
• Address and assessor's parcel number		✓
• Name of Applicant		✓
• Project Phase number (if project is being constructed in phases)		
• Project Type (e.g., commercial, industrial, multi-unit residential, mixed-use, public), and description		
2. Project Areas	All	
• Total project site area		
• Total new impervious surface area		
• Total replaced impervious surface area		
• Total new pervious area		
• Calculation of Net Impervious Area		
3. Statement of Performance Requirements that apply to the project:	All	
• Performance Requirement No.1 – Site Design and Runoff Reduction		
• Performance Requirement No.2 – Water Quality Treatment		
• Performance Requirement No. 3 – Runoff Retention		
• Performance Requirement No. 4 – Peak Management		
4. Delineation of Drainage Management Areas (DMAs)	All	
5. Summary of Site Design and Runoff Reduction Performance Requirement measures selected for the project (see PR-1 checklist)	PR-1	
6. Description of Runoff Reduction Measures and Structural Stormwater Control Measures, by Drainage Management Area and for entire site	PR-2, 3, and 4	
7. Water quality treatment calculations used to comply with the Water Quality Treatment Performance Requirement and any analysis to support infeasibility determination	PR-2	✓
8. Documentation certifying that the selection, sizing, and design of the Stormwater Control Measures meet the full or partial Water Quality Treatment Performance Requirements (see PR-2 checklist)	PR-2	✓

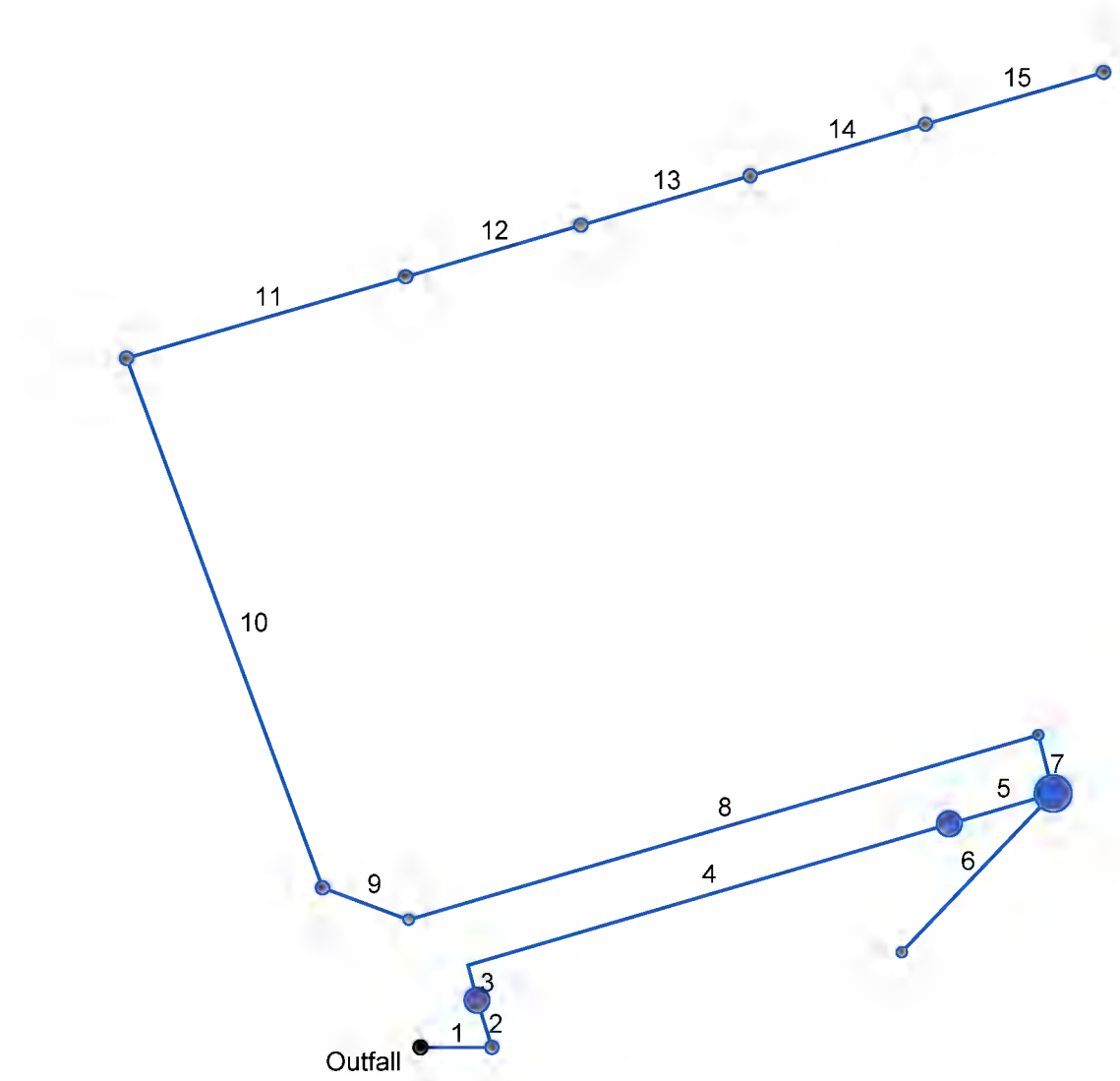
Stormwater Control Plan Required Contents	PR Level	Done?
9. Statement that Water Quality Treatment Performance Requirement has been met on-site, or, if not achievable: • Documentation of the volume of runoff for which compliance cannot be achieved on-site and the associated off-site compliance requirements • Statement of intent to comply with Water Quality Treatment Performance Requirement through Alternative Compliance	PR-2	✓
10. LID Site Assessment Summary (see PR-3 checklist)	PR-3	✓
11. LID Site Design Measures Used (see PR-3 checklist)	PR-3	✓
12. Supporting calculations used to comply with the applicable Runoff Retention Performance Requirements	PR-3	✓
13. Documentation demonstrating infeasibility where Site Design and Runoff Reduction measures and retention-based Stormwater Control Measures cannot retain required runoff volume	PR-3	
14. Documentation demonstrating percentage of the project's Equivalent Impervious Surface Area dedicated to retention-based Stormwater Control Measures	PR-3	✓
15. Statement that Runoff Reduction Performance Requirement has been met on-site, or, if not achievable: • Documentation of the volume of runoff for which compliance cannot be achieved on-site and the associated off-site compliance requirements • Statement of intent to comply with Runoff Retention Performance Requirements through an Alternative Compliance agreement	PR-3	✓
16. Supporting calculations used to comply with the applicable Peak Management Performance Requirements	PR-4	✓
17. Documentation demonstrating infeasibility where on-site compliance with Peak Management Performance Requirements cannot be achieved	PR-4	
18. Statement that Peak Management Performance Requirement has been met on-site, or, if not achievable: • Documentation of the volume of runoff for which compliance cannot be achieved on-site and the associated off-site compliance requirements • Statement of intent to comply with Peak Management Requirements through an Alternative Compliance agreement		✓
19. O&M Plan for all structural SCMs to ensure long-term performance	PR-2, 3, and 4	✓
20. Owner of facilities and responsible party for conducting O&M	PR-2, 3, and 4	✓

MH engineering Co.

16075 Vineyard Blvd.
Morgan Hill, CA 95037
(408) 779-7381
(408) 226-5712 Fax

APN 767-12-060
270 W. Dunne Ave
Pipe Sizing Analysis for 100 Year Event

DPR Construction-270 W. Dunne



Project File: 221089 SD Pipe Sizing Analysis.stm	Number of lines: 15	Date: 1/10/2024

Line	To Line	Line Length	Incr. Area	Total Area	Runoff Coeff.	Incr C x A	Total C x A	Inlet Time	Time Conc	Rnfal Int	Total Runoff	Adnl Flow	Total Flow	Capac Full	Veloc	Pipe Size	Pipe Slope	Inv Elev Dn	Inv Elev Up
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/ hr)	(cfs)	(cfs)	(cfs)	(cfs)	(ft/ s)	(in)	(%)	(ft)	(ft)
1	Outfall	12.000	0.00	0.93	0.00	0.00	0.69	0.0	62.9	1.3	0.87	0.00	0.87	6.50	1.10	12	3.33	357.10	357.50
2	1	8.000	0.00	0.93	0.00	0.00	0.69	0.0	62.8	1.3	0.87	0.00	0.87	6.10	2.24	12	2.50	359.80	360.00
3	2	6.000	0.00	0.93	0.00	0.00	0.69	0.0	62.0	1.3	0.87	0.00	0.87	44.52	0.10	42	0.17	357.37	357.38
4	3	84.295	0.00	0.93	0.00	0.00	0.69	0.0	51.5	1.4	0.93	0.00	0.93	11.88	0.11	42	0.01	357.38	357.39
5	4	18.323	0.00	0.93	0.00	0.00	0.69	0.0	51.3	1.4	0.94	0.00	0.94	4.94	1.19	12	1.64	358.30	358.60
6	5	36.640	0.23	0.23	0.79	0.18	0.18	14.0	14.0	2.0	0.37	0.00	0.37	0.92	2.48	8	0.49	361.62	361.80
7	5	9.996	0.42	0.70	0.79	0.33	0.51	16.0	51.2	1.4	0.69	0.00	0.69	6.90	0.88	12	3.20	358.60	358.92
8	7	110.113	0.14	0.28	0.79	0.11	0.17	18.0	46.8	1.4	0.24	0.00	0.24	2.27	0.31	12	0.35	358.92	359.30
9	8	15.528	0.00	0.14	0.00	0.00	0.06	0.0	45.6	1.4	0.09	0.00	0.09	2.89	0.16	10	1.48	359.30	359.53
10	9	93.079	0.08	0.14	0.45	0.04	0.06	18.0	38.5	1.5	0.10	0.00	0.10	1.69	0.25	10	0.50	359.53	360.00
11	10	48.668	0.00	0.06	0.00	0.00	0.03	0.0	30.2	1.6	0.04	0.00	0.04	1.67	0.28	10	0.49	360.00	360.24
12	11	30.715	0.00	0.06	0.00	0.00	0.03	0.0	24.9	1.7	0.05	0.00	0.05	1.71	0.87	10	0.52	360.24	360.40
13	12	29.528	0.00	0.06	0.00	0.00	0.03	0.0	21.7	1.8	0.05	0.00	0.05	0.90	1.37	8	0.47	360.40	360.54
14	13	30.962	0.00	0.06	0.00	0.00	0.03	0.0	18.4	1.9	0.05	0.00	0.05	0.94	1.42	8	0.52	360.54	360.70
15	14	30.919	0.06	0.06	0.45	0.03	0.03	15.0	15.0	2.0	0.05	0.00	0.05	0.91	1.43	8	0.49	360.70	360.85

Line	HGL Dn	HGL Up	Grnd/ Rim Dn	Grnd/ Rim Up	Line ID
	(ft)	(ft)	(ft)	(ft)	
1	360.50	360.51	366.43	360.04	L1
2	360.53	360.39	360.04	366.52	L2
3	360.39	360.39	366.52	361.17	L3
4	360.39	360.39	361.17	366.95	L4
5	360.39	360.40	366.95	367.06	L5
6	361.91	362.09	367.06	367.00	L6
7	360.42	360.43	367.06	366.78	L7
8	360.44	360.44	366.78	366.06	L8
9	360.44	360.44	366.06	363.80	L9
10	360.44	360.44	363.80	362.33	L10
11	360.45	360.45	362.33	362.60	L11
12	360.45	360.50	362.60	362.60	L12
13	360.51	360.65	362.60	363.10	L13
14	360.65	360.80	363.10	363.63	L14
15	360.81	360.96	363.63	363.68	L15

Class 2 aggregate base should have an R-Value of at least 78 and conform to the requirements of Section 26-1.02A in the State of California, CALTRANS Standard Specifications, latest edition. The aggregate base material should be placed in thin lifts in a manner to prevent segregation.

Concrete curbs should be embedded at least two inches below the soil subgrade (below the bottom of the aggregate base section) in any areas where irrigated landscape areas are planned adjacent to AC pavements.

The asphaltic concrete should conform to and be placed in accordance with the requirements of Section 39 in the State of California CALTRANS Standard Specifications, latest edition.

H. Infiltration Testing Results

Two infiltration tests, PERC-1 and PERC-2, were performed in the vicinity of proposed rain tanks at the locations shown on Drawing 5. The approximately six-inch diameter infiltration test holes were drilled to depths of approximately 16 and 10 feet below the adjacent grade, respectively, and the sides and bottom of the hole were scraped and cleared of loose soil. The bottom of the hole was then filled with approximately two inches of pea gravel, a four-inch diameter perforated pipe was placed in the hole, and the annular space around the pipe was backfilled with additional pea gravel. The hole was then "pre-soaked" by filling with water and left over-night. Water level infiltration rates in the hole were subsequently measured the next day to establish the field infiltration rate. The results of our analysis of the field data indicated corrected infiltration rates[(1)] as shown in the table below.

Table 2 - Corrected Infiltration Test Results at the 270 West Dunne Avenue, Five New Residences Project Site in Morgan Hill, California

Percolation Test Hole	Surface Elevation[2]	Bottom of Test Hole Elevation[2]	Percolation Rate (in/hr)[1]
PERC-1	371' MSL	355' MSL	10.96
PERC-2	361' MSL	351' MSL	1.50

[1]Results corrected for pipe thickness, pipe diameter, hole diameter and pea gravel void ratio.
[2]Elevations based on Preliminary Grading and Drainage Plan prepared by MH Engineering Co., Dated January 2022.

I. Soil Corrosivity

Laboratory resistivity, pH, chloride and sulfate testing was performed on a composite soil sample obtained from the upper three feet of the borings (see Drawing 15, Corrosivity Tests Summary). The testing was performed by Cooper Testing Laboratory for the purpose of evaluating the soils' corrosion potential for use in the design of underground utilities and embedded concrete on this project.

In summary, the test results indicated a minimum resistivity of 2,211 Ohm-Cm, pH of 7.1, chloride content of 8 ppm and water-soluble sulfate content of 18 ppm. Soils with chloride contents of less than 500 ppm and sulfate contents of less than 1500 ppm are considered to be of "low" corrosivity. However, based on the resistivity testing, the soils are considered "mildly corrosive."

Table 3 below shows the general correlation between resistivity and corrosion potential.

MH engineering Co.

16075 Vineyard Blvd.
Morgan Hill, CA 95037
(408) 779-7381
(408) 226-5712 Fax

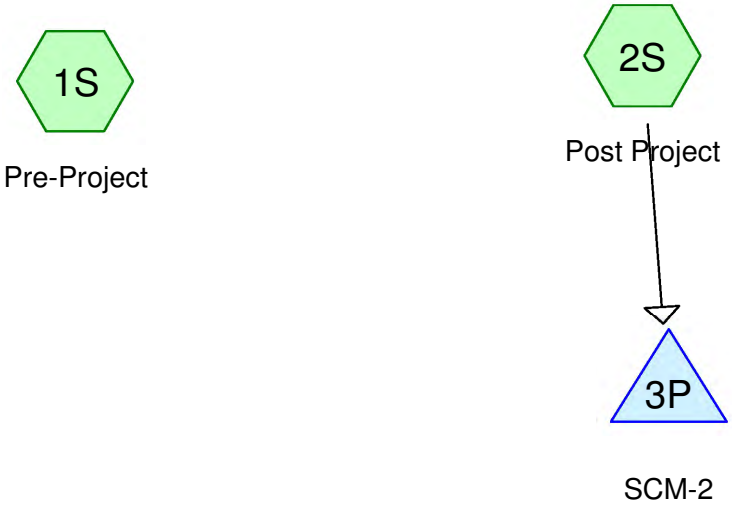
APN 767-12-060
270 W. Dunne Ave
Detention Routing Analysis

MH engineering Co.

16075 Vineyard Blvd.
Morgan Hill, CA 95037
(408) 779-7381
(408) 226-5712 Fax

Hydrology Routing Analysis

270 W. Dunne Ave.
Feb 2023



Pre-Project: Summary

Events for Subcatchment 1S: Pre-Project

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
95th	1.80	0.07	1,176	0.32
2-yr	2.65	0.16	2,934	0.79
10-yr	4.17	0.35	6,970	1.87
25-yr	5.24	0.48	10,194	2.73
100-yr	**6.50**	**0.65**	**14,223**	**3.82**

95th Storm:

Details

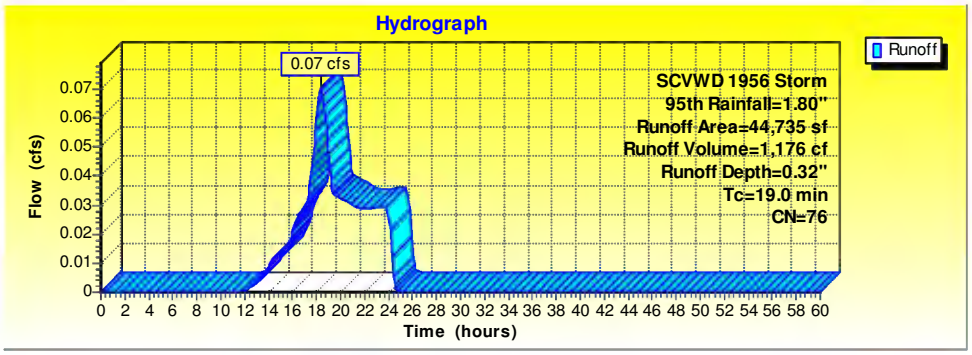
Summary for Subcatchment 1S: Pre-Project

Runoff = 0.07 cfs @ 18.31 hrs, Volume= 1,176 cf, Depth= 0.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.10 hrs
SCWD 1956 Storm 95th Rainfall=1.80"

	Area (sf)	CN	Description
*	44,735	76	
	44,735		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.0					Direct Entry,



2year

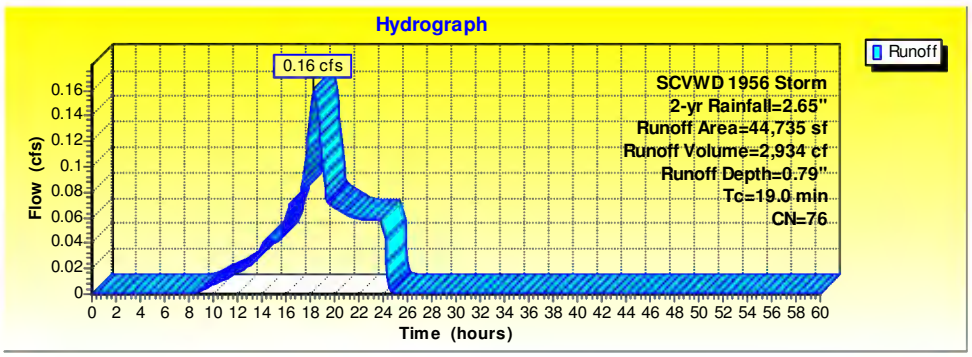
Summary for Subcatchment 1S: Pre-Project

Runoff = 0.16 cfs @ 18.29 hrs, Volume= 2,934 cf, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.10 hrs
SCWD 1956 Storm 2-yr Rainfall=2.65"

	Area (sf)	CN	Description
*	44,735	76	
	44,735		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.0					Direct Entry,



10year

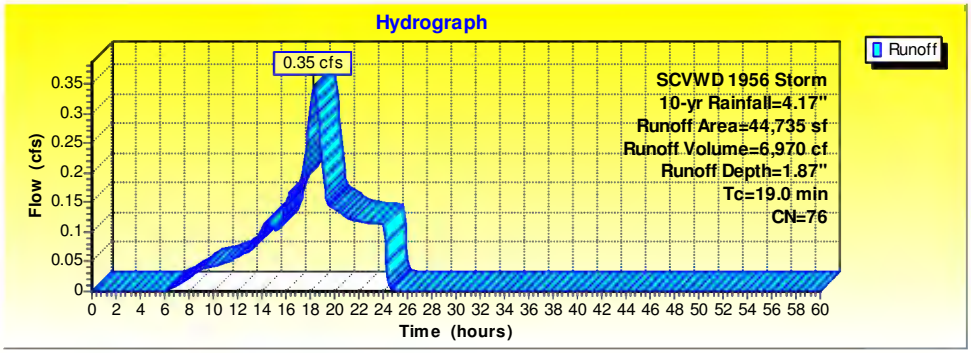
Summary for Subcatchment 1S: Pre-Project

Runoff = 0.35 cfs @ 18.27 hrs, Volume= 6,970 cf, Depth= 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.10 hrs
SCWD 1956 Storm 10-yr Rainfall=4.17"

	Area (sf)	CN	Description
*	44,735	76	
	44,735		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.0					Direct Entry,



25year

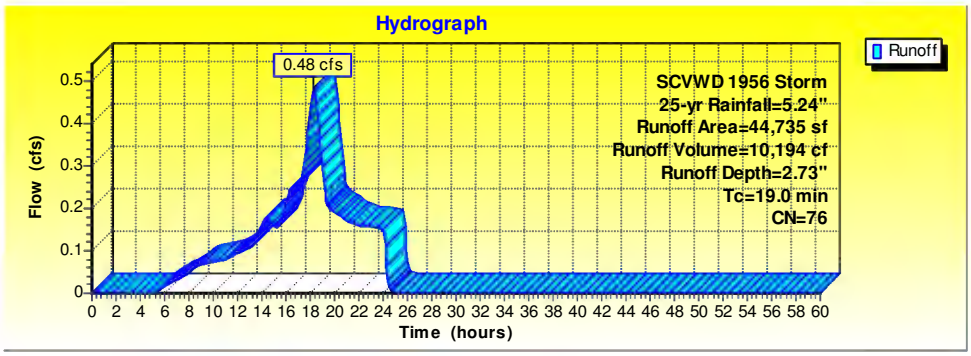
Summary for Subcatchment 1S: Pre-Project

Runoff = 0.48 cfs @ 18.27 hrs, Volume= 10,194 cf, Depth= 2.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.10 hrs
SCWD 1956 Storm 25-yr Rainfall=5.24"

	Area (sf)	CN	Description
*	44,735	76	
	44,735		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.0					Direct Entry,



100 Year

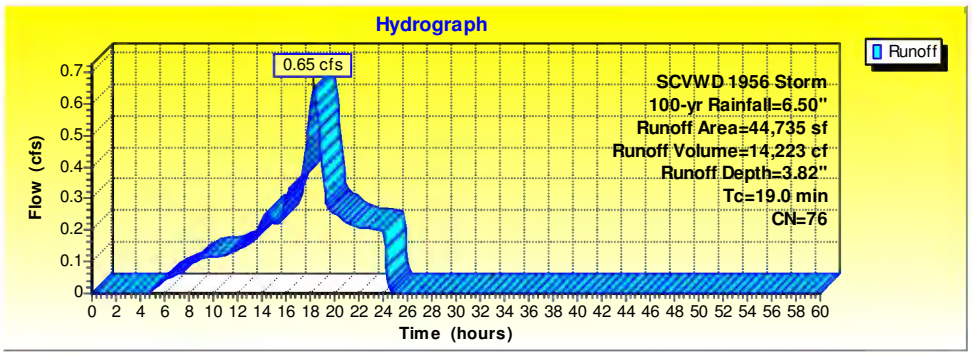
Summary for Subcatchment 1S: Pre-Project

Runoff = 0.65 cfs @ 18.26 hrs, Volume= 14,223 cf, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.10 hrs
SCVWD 1956 Storm 100-yr Rainfall=6.50"

	Area (sf)	CN	Description
*	44,735	76	
	44,735		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.0					Direct Entry,



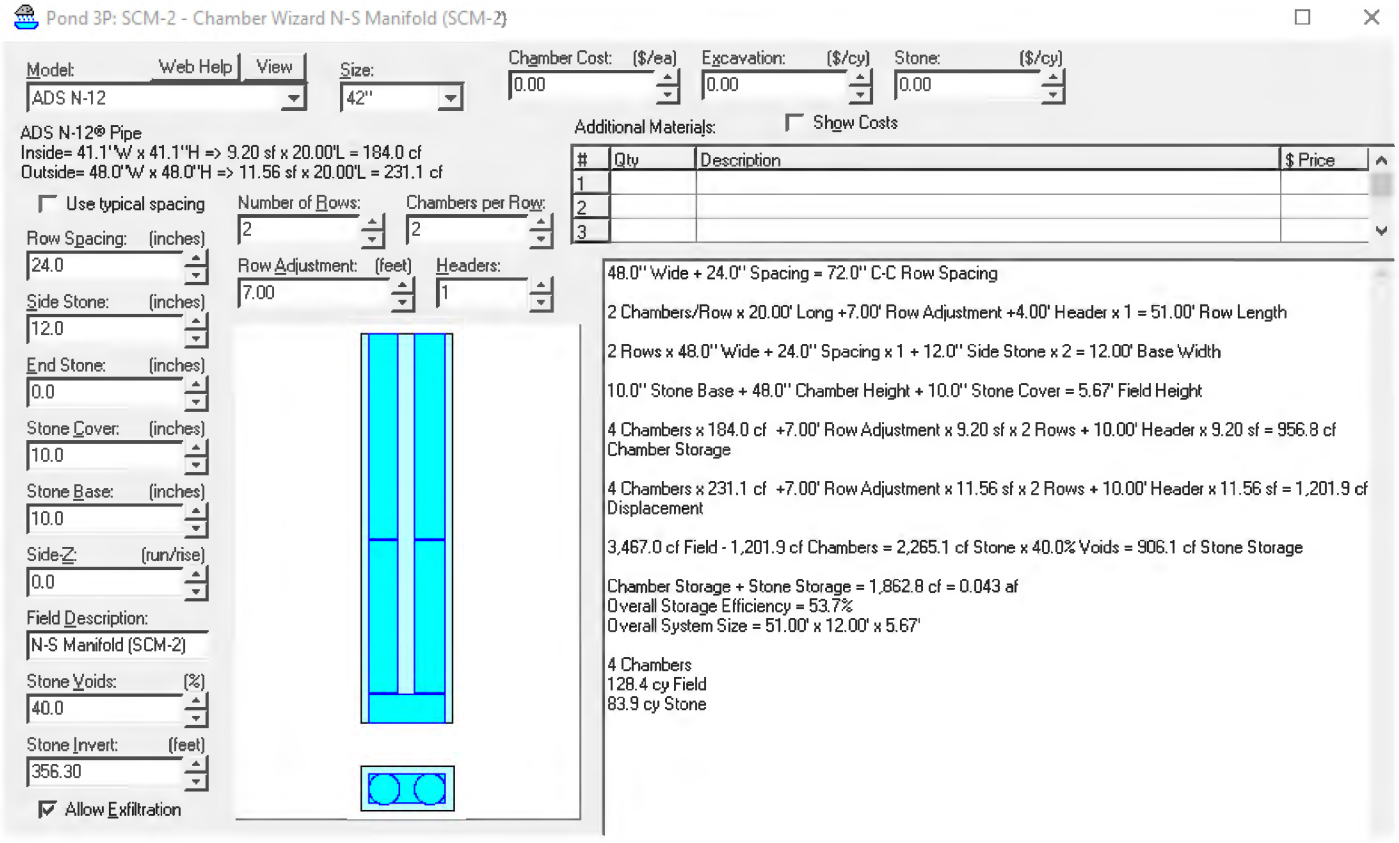
Post-Project: Summary

Events for Pond 3P: SCM-2

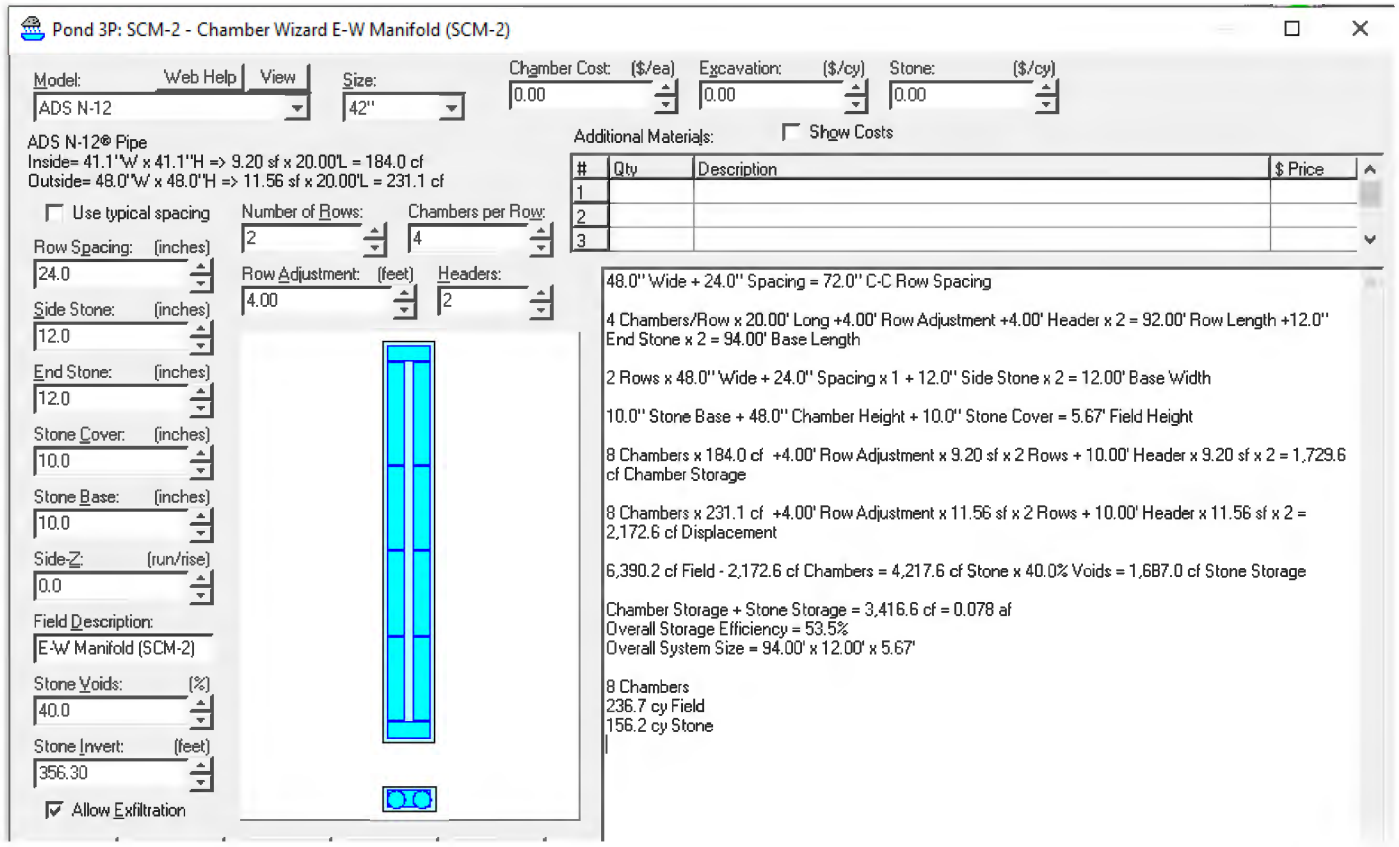
Event	Inflow (cfs)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Storage (cubic-feet)
95th	0.15	0.03	**0.03**	0.00	358.14	1,420
2-yr	0.26	0.03	0.03	0.00	359.98	3,691
10-yr	0.46	0.37	0.03	0.34	360.81	4,519
25-yr	0.60	0.49	0.03	0.46	361.34	4,844
100-yr	**0.76**	**0.59**	0.03	**0.56**	**361.95**	**5,268**

42” Ø Pipe Manifold Volume Calculations & Details:

N-S Manifold



E-W Manifold


Pond 3P: SCM-2 - Chamber Wizard E-W Manifold (SCM-2)
Model: Web Help View
ADS N-12
Size:
42"
Chamber Cost: ($/ea)
0.00
Excavation: ($/cy)
0.00
Stone: ($/cy)
0.00
ADS N-12® Pipe
Inside= 41.1"W x 41.1"H => 9.20 sf x 20.00'L = 184.0 cf
Outside= 48.0"W x 48.0"H => 11.56 sf x 20.00'L = 231.1 cf
Additional Materials:
Show Costs
Qty Description $ Price
1
2
3
Use typical spacing
Number of Rows:
2
Chambers per Row:
4
Row Spacing: (inches)
24.0
Row Adjustment: (feet)
4.00
Headers:
2
Side Stone: (inches)
12.0
End Stone: (inches)
12.0
Stone Cover: (inches)
10.0
Stone Base: (inches)
10.0
Side-Z: (run/rise)
0.0
Field Description:
E-W Manifold (SCM-2)
Stone Voids: (%)
40.0
Stone Invert: (feet)
356.30
Allow Exfiltration
48.0" Wide + 24.0" Spacing = 72.0" C-C Row Spacing
4 Chambers/Row x 20.00' Long +4.00' Row Adjustment +4.00' Header x 2 = 92.00' Row Length +12.0" End Stone x 2 = 94.00' Base Length
2 Rows x 48.0" Wide + 24.0" Spacing x 1 + 12.0" Side Stone x 2 = 12.00' Base Width
10.0" Stone Base + 48.0" Chamber Height + 10.0" Stone Cover = 5.67' Field Height
8 Chambers x 184.0 cf +4.00' Row Adjustment x 9.20 sf x 2 Rows + 10.00' Header x 9.20 sf x 2 = 1,729.6 cf Chamber Storage
8 Chambers x 231.1 cf +4.00' Row Adjustment x 11.56 sf x 2 Rows + 10.00' Header x 11.56 sf x 2 = 2,172.6 cf Displacement
6,390.2 cf Field - 2,172.6 cf Chambers = 4,217.6 cf Stone x 40.0% Voids = 1,687.0 cf Stone Storage
Chamber Storage + Stone Storage = 3,416.6 cf = 0.078 af
Overall Storage Efficiency = 53.5%
Overall System Size = 94.00' x 12.00' x 5.67'
8 Chambers
236.7 cy Field
156.2 cy Stone

Details:
95th

Summary for Pond 3P: SCM-2

Inflow Area = 44,735 sf, 0.00% Impervious, Inflow Depth = 0.81" for 95th event
Inflow = 0.15 cfs @ 18.26 hrs, Volume= 3,008 cf
Outflow = 0.03 cfs @ 13.40 hrs, Volume= 3,008 cf, Atten= 80%, Lag= 0.0 min
Discarded = 0.03 cfs @ 13.40 hrs, Volume= 3,008 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to nonexistent node 5P

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.10 hrs
Peak Elev= 358.14' @ 24.22 hrs Surf.Area= 1,740 sf Storage= 1,420 cf

Plug-Flow detention time= 355.3 min calculated for 3,003 cf (100% of inflow)
Center-of-Mass det. time= 356.1 min (1,410.7 - 1,054.6)

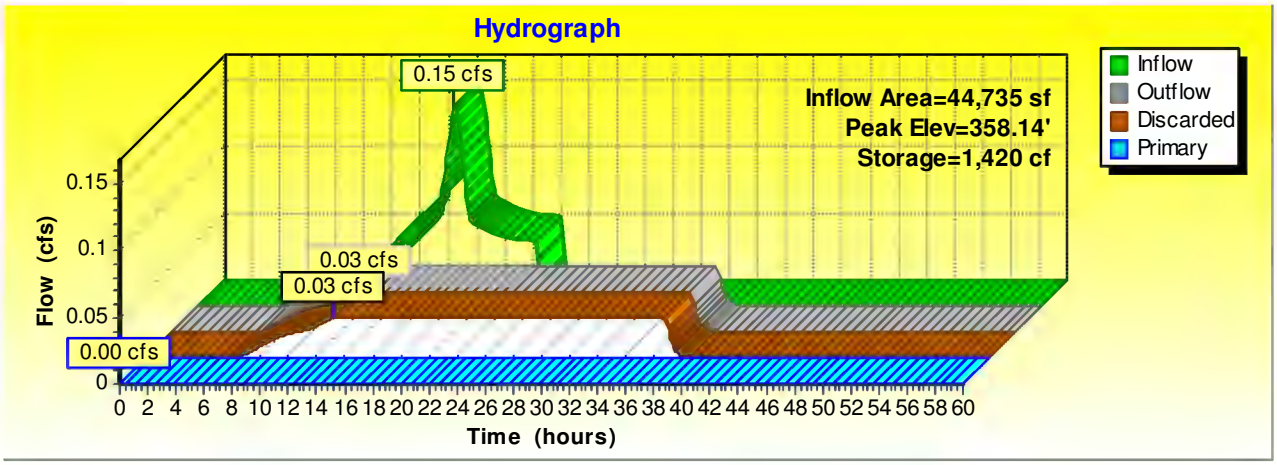
Volume	Invert	Avail.Storage	Storage Description
#1A	356.30'	1,687 cf	**12.00'W x 94.00'L x 5.67'H E-W Manifold (SCM-2)** 6,390 cf Overall - 2,173 cf Embedded = 4,218 cf x 40.0% Voids
#2A	357.13'	1,730 cf	**ADS N-12 42"** x 8 Inside #1 Inside= 41.1"W x 41.1"H => 9.20 sf x 20.00'L = 184.0 cf Outside= 48.0"W x 48.0"H => 11.56 sf x 20.00'L = 231.1 cf Row Length Adjustment= +4.00' x 9.20 sf x 2 rows 10.00' Header x 9.20 sf x 2 = 184.0 cf Inside
#3B	356.30'	906 cf	**12.00'W x 51.00'L x 5.67'H N-S Manifold (SCM-2)** 3,467 cf Overall - 1,202 cf Embedded = 2,265 cf x 40.0% Voids
#4B	357.13'	957 cf	**ADS N-12 42"** x 4 Inside #3 Inside= 41.1"W x 41.1"H => 9.20 sf x 20.00'L = 184.0 cf Outside= 48.0"W x 48.0"H => 11.56 sf x 20.00'L = 231.1 cf Row Length Adjustment= +7.00' x 9.20 sf x 2 rows 10.00' Header x 9.20 sf x 1 = 92.0 cf Inside
		5,279 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	356.30'	**0.750 in/hr Exfiltration over Surface area**
#2	Primary	360.00'	**4.0" Vert. 4"Ø Orifice on 12"Outlet** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.03 cfs @ 13.40 hrs HW=356.36' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=356.30' (Free Discharge)
2=4"Ø Orifice on 12"Outlet (Controls 0.00 cfs)



2Yr:

Summary for Pond 3P: SCM-2

Inflow Area = 44,735 sf, 0.00% Impervious, Inflow Depth = 1.51" for 2-yr event
Inflow = 0.26 cfs @ 18.25 hrs, Volume= 5,632 cf
Outflow = 0.03 cfs @ 8.20 hrs, Volume= 5,632 cf, Atten= 88%, Lag= 0.0 min
Discarded = 0.03 cfs @ 8.20 hrs, Volume= 5,632 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to nonexistent node 5P

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.10 hrs
Peak Elev= 359.98' @ 24.31 hrs Surf.Area= 1,740 sf Storage= 3,691 cf

Plug-Flow detention time= 932.8 min calculated for 5,632 cf (100% of inflow)
Center-of-Mass det. time= 932.8 min (1,947.8 - 1,015.0)

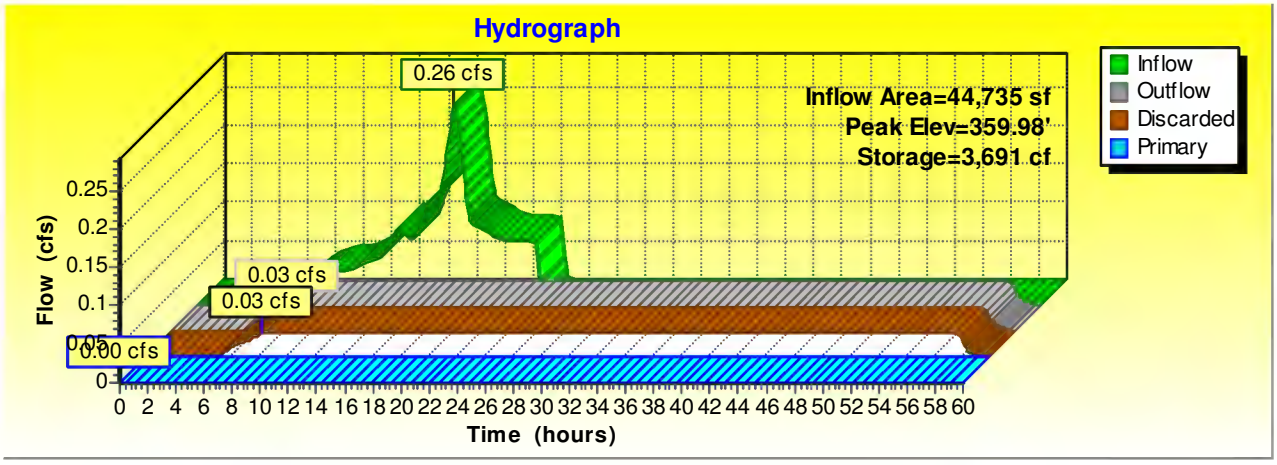
Volume	Invert	Avail.Storage	Storage Description
#1A	356.30'	1,687 cf	**12.00'W x 94.00'L x 5.67'H E-W Manifold (SCM-2)** 6,390 cf Overall - 2,173 cf Embedded = 4,218 cf x 40.0% Voids
#2A	357.13'	1,730 cf	**ADS N-12 42"** x 8 Inside #1 Inside= 41.1"W x 41.1"H => 9.20 sf x 20.00'L = 184.0 cf Outside= 48.0"W x 48.0"H => 11.56 sf x 20.00'L = 231.1 cf Row Length Adjustment= +4.00' x 9.20 sf x 2 rows 10.00' Header x 9.20 sf x 2 = 184.0 cf Inside
#3B	356.30'	906 cf	**12.00'W x 51.00'L x 5.67'H N-S Manifold (SCM-2)** 3,467 cf Overall - 1,202 cf Embedded = 2,265 cf x 40.0% Voids
#4B	357.13'	957 cf	**ADS N-12 42"** x 4 Inside #3 Inside= 41.1"W x 41.1"H => 9.20 sf x 20.00'L = 184.0 cf Outside= 48.0"W x 48.0"H => 11.56 sf x 20.00'L = 231.1 cf Row Length Adjustment= +7.00' x 9.20 sf x 2 rows 10.00' Header x 9.20 sf x 1 = 92.0 cf Inside
		5,279 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	356.30'	**0.750 in/hr Exfiltration over Surface area**
#2	Primary	360.00'	**4.0" Vert. 4"Ø Orifice on 12"Outlet** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.03 cfs @ 8.20 hrs HW=356.36' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=356.30' (Free Discharge)
↑**2=4"Ø Orifice on 12"Outlet** (Controls 0.00 cfs)



10yr

Summary for Pond 3P: SCM-2

Inflow Area = 44,735 sf, 0.00% Impervious, Inflow Depth = 2.89" for 10-yr event
Inflow = 0.46 cfs @ 18.24 hrs, Volume= 10,763 cf
Outflow = 0.37 cfs @ 18.68 hrs, Volume= 10,756 cf, Atten= 20%, Lag= 26.3 min
Discarded = 0.03 cfs @ 5.30 hrs, Volume= 5,980 cf
Primary = 0.34 cfs @ 18.68 hrs, Volume= 4,776 cf
Routed to nonexistent node 5P

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.10 hrs
Peak Elev= 360.81' @ 18.68 hrs Surf.Area= 1,740 sf Storage= 4,519 cf

Plug-Flow detention time= 636.4 min calculated for 10,756 cf (100% of inflow)
Center-of-Mass det. time= 636.2 min (1,610.9 - 974.8)

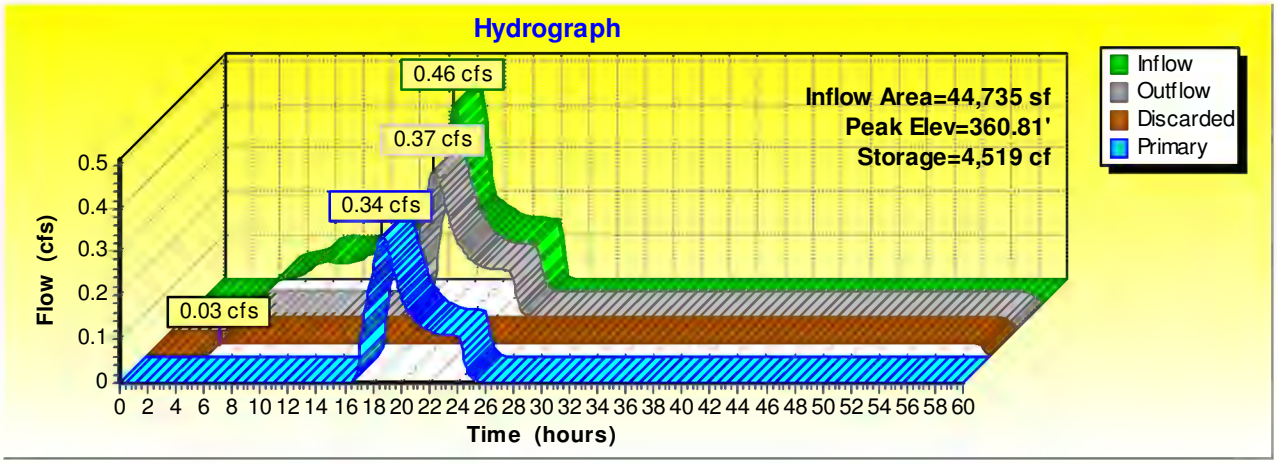
Volume	Invert	Avail.Storage	Storage Description
#1A	356.30'	1,687 cf	**12.00'W x 94.00'L x 5.67'H E-W Manifold (SCM-2)** 6,390 cf Overall - 2,173 cf Embedded = 4,218 cf x 40.0% Voids
#2A	357.13'	1,730 cf	**ADS N-12 42"** x 8 Inside #1 Inside= 41.1"W x 41.1"H => 9.20 sf x 20.00'L = 184.0 cf Outside= 48.0"W x 48.0"H => 11.56 sf x 20.00'L = 231.1 cf Row Length Adjustment= +4.00' x 9.20 sf x 2 rows 10.00' Header x 9.20 sf x 2 = 184.0 cf Inside
#3B	356.30'	906 cf	**12.00'W x 51.00'L x 5.67'H N-S Manifold (SCM-2)** 3,467 cf Overall - 1,202 cf Embedded = 2,265 cf x 40.0% Voids
#4B	357.13'	957 cf	**ADS N-12 42"** x 4 Inside #3 Inside= 41.1"W x 41.1"H => 9.20 sf x 20.00'L = 184.0 cf Outside= 48.0"W x 48.0"H => 11.56 sf x 20.00'L = 231.1 cf Row Length Adjustment= +7.00' x 9.20 sf x 2 rows 10.00' Header x 9.20 sf x 1 = 92.0 cf Inside
		5,279 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	356.30'	**0.750 in/hr Exfiltration over Surface area**
#2	Primary	360.00'	**4.0" Vert. 4"Ø Orifice on 12"Outlet** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.03 cfs @ 5.30 hrs HW=356.36' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.34 cfs @ 18.68 hrs HW=360.80' (Free Discharge)
↑**2=4"Ø Orifice on 12"Outlet** (Orifice Controls 0.34 cfs @ 3.85 fps)



25yr

Summary for Pond 3P: SCM-2

Inflow Area = 44,735 sf, 0.00% Impervious, Inflow Depth = 3.90" for 25-yr event
Inflow = 0.60 cfs @ 18.24 hrs, Volume= 14,529 cf
Outflow = 0.49 cfs @ 18.65 hrs, Volume= 14,520 cf, Atten= 19%, Lag= 24.8 min
Discarded = 0.03 cfs @ 4.70 hrs, Volume= 6,053 cf
Primary = 0.46 cfs @ 18.65 hrs, Volume= 8,467 cf
Routed to nonexistent node 5P

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.10 hrs
Peak Elev= 361.34' @ 18.65 hrs Surf.Area= 1,740 sf Storage= 4,844 cf

Plug-Flow detention time= 514.3 min calculated for 14,496 cf (100% of inflow)
Center-of-Mass det. time= 516.6 min (1,473.5 - 956.9)

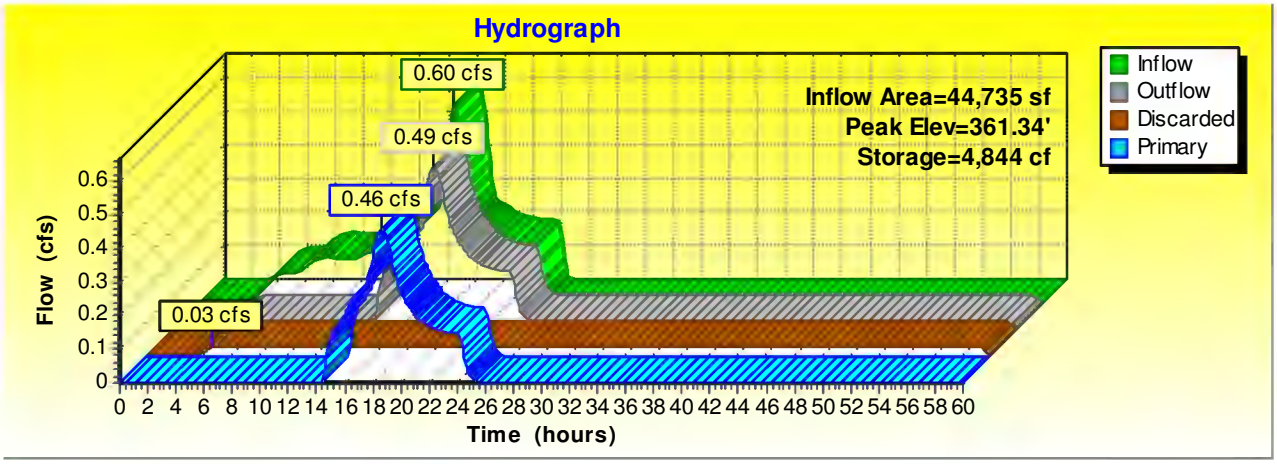
Volume	Invert	Avail.Storage	Storage Description
#1A	356.30'	1,687 cf	**12.00'W x 94.00'L x 5.67'H E-W Manifold (SCM-2)** 6,390 cf Overall - 2,173 cf Embedded = 4,218 cf x 40.0% Voids
#2A	357.13'	1,730 cf	**ADS N-12 42"** x 8 Inside #1 Inside= 41.1"W x 41.1"H => 9.20 sf x 20.00'L = 184.0 cf Outside= 48.0"W x 48.0"H => 11.56 sf x 20.00'L = 231.1 cf Row Length Adjustment= +4.00' x 9.20 sf x 2 rows 10.00' Header x 9.20 sf x 2 = 184.0 cf Inside
#3B	356.30'	906 cf	**12.00'W x 51.00'L x 5.67'H N-S Manifold (SCM-2)** 3,467 cf Overall - 1,202 cf Embedded = 2,265 cf x 40.0% Voids
#4B	357.13'	957 cf	**ADS N-12 42"** x 4 Inside #3 Inside= 41.1"W x 41.1"H => 9.20 sf x 20.00'L = 184.0 cf Outside= 48.0"W x 48.0"H => 11.56 sf x 20.00'L = 231.1 cf Row Length Adjustment= +7.00' x 9.20 sf x 2 rows 10.00' Header x 9.20 sf x 1 = 92.0 cf Inside
		5,279 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	356.30'	**0.750 in/hr Exfiltration over Surface area**
#2	Primary	360.00'	**4.0" Vert. 4"Ø Orifice on 12"Outlet** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.03 cfs @ 4.70 hrs HW=356.37' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.45 cfs @ 18.65 hrs HW=361.34' (Free Discharge)
↑**2=4"Ø Orifice on 12"Outlet** (Orifice Controls 0.45 cfs @ 5.21 fps)



100yr

Summary for Pond 3P: SCM-2

Inflow Area = 44,735 sf, 0.00% Impervious, Inflow Depth = 5.11" for 100-yr event
Inflow = 0.76 cfs @ 18.24 hrs, Volume= 19,044 cf
Outflow = 0.59 cfs @ 18.71 hrs, Volume= 19,032 cf, Atten= 22%, Lag= 28.0 min
Discarded = 0.03 cfs @ 4.10 hrs, Volume= 6,119 cf
Primary = 0.56 cfs @ 18.71 hrs, Volume= 12,913 cf
Routed to nonexistent node 5P

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.10 hrs
Peak Elev= 361.95' @ 18.71 hrs Surf.Area= 1,740 sf Storage= 5,268 cf

Plug-Flow detention time= 427.0 min calculated for 19,032 cf (100% of inflow)
Center-of-Mass det. time= 426.6 min (1,368.2 - 941.5)

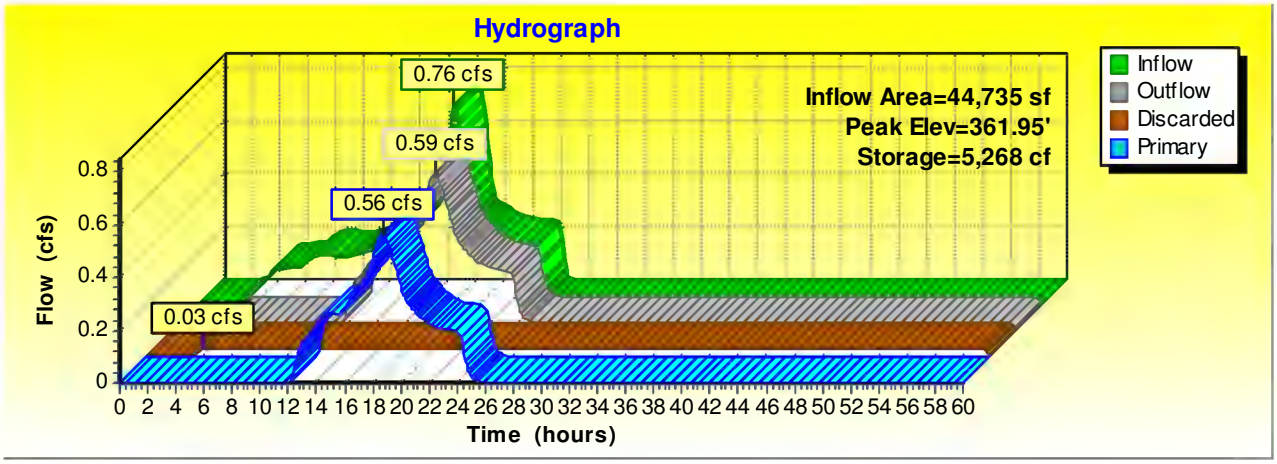
Volume	Invert	Avail.Storage	Storage Description
#1A	356.30'	1,687 cf	**12.00'W x 94.00'L x 5.67'H E-W Manifold (SCM-2)** 6,390 cf Overall - 2,173 cf Embedded = 4,218 cf x 40.0% Voids
#2A	357.13'	1,730 cf	**ADS N-12 42"** x 8 Inside #1 Inside= 41.1"W x 41.1"H => 9.20 sf x 20.00'L = 184.0 cf Outside= 48.0"W x 48.0"H => 11.56 sf x 20.00'L = 231.1 cf Row Length Adjustment= +4.00' x 9.20 sf x 2 rows 10.00' Header x 9.20 sf x 2 = 184.0 cf Inside
#3B	356.30'	906 cf	**12.00'W x 51.00'L x 5.67'H N-S Manifold (SCM-2)** 3,467 cf Overall - 1,202 cf Embedded = 2,265 cf x 40.0% Voids
#4B	357.13'	957 cf	**ADS N-12 42"** x 4 Inside #3 Inside= 41.1"W x 41.1"H => 9.20 sf x 20.00'L = 184.0 cf Outside= 48.0"W x 48.0"H => 11.56 sf x 20.00'L = 231.1 cf Row Length Adjustment= +7.00' x 9.20 sf x 2 rows 10.00' Header x 9.20 sf x 1 = 92.0 cf Inside
		5,279 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	356.30'	**0.750 in/hr Exfiltration over Surface area**
#2	Primary	360.00'	**4.0" Vert. 4"Ø Orifice on 12"Outlet** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.03 cfs @ 4.10 hrs HW=356.36' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.56 cfs @ 18.71 hrs HW=361.95' (Free Discharge)
2=4"Ø Orifice on 12"Outlet (Orifice Controls 0.56 cfs @ 6.43 fps)



GEOTECHNICAL INVESTIGATION
FIVE NEW RESIDENCE BUILDINGS PROJECT
270 WEST DUNNE AVENUE
MORGAN HILL, CALIFORNIA

for

DRP Construction
Mr. Dave Robertson, Project Manager
P.O. Box 727299
Morgan Hill, California 95038

by

Cleary Consultants, Inc.
560 Division Street
Campbell, California 95008

May 2022

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

Christophe A. Ciechanowski, President, GE
Grant F. Foster, Vice-President, GE
J. Michael Cleary, Principal, CEG, GE

May 10, 2022
Project No. 1425.1
Ser. 7085

Mr. Dave Robertson
DRP Construction
P.O. Box 727299
Morgan Hill, California 95038

RE: GEOTECHNICAL INVESTIGATION
FIVE NEW RESIDENCE BUILDINGS PROJECT
270 WEST DUNNE AVENUE
MORGAN HILL, CALIFORNIA

Dear Mr. Robertson:

As requested, we have performed a geotechnical investigation for the planned Five New Residence Buildings project at 270 West Dunne Avenue in Morgan Hill, California. The accompanying report presents the results of our field investigation, laboratory testing and engineering analyses. The site and subsurface conditions are discussed and recommendations for the soil and foundation engineering aspects of the project design are presented. The recommendations presented in this report are contingent upon our review of the grading and foundation plans for the proposed new construction and observation/testing of the earthwork and foundation installation phases of the project.

We refer you to the text of the report for detailed findings and recommendations. If you have any questions concerning our findings or the report, please call.

Yours very truly,
CLEARY CONSULTANTS, INC.

Dustin Lettenberger
Civil Engineer 93429

Grant Foster
Geotechnical Engineer 2662

Chris Ciechanowski
Geotechnical Engineer 2584

DL/GF/CC:dl
Copies: Addressee (email)
WM Architects (email) Attn: Charles Weston
MH Engineering Co. (email) Attn: Harinder Singla

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DRAWINGS

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INTRODUCTION

This report presents the results of our geotechnical investigation for the planned Five New Residence Buildings project at 270 West Dunne Avenue in Morgan Hill, California (see Drawing 1, Site Vicinity Map for location). The purpose of this investigation was to explore the soil and foundation conditions in the general locations of the planned new buildings and other site improvements, and to develop recommendations for the geotechnical engineering aspects of the project design. Geologic hazard study and analysis was not within the scope of this investigation.

Based on our review of the project site plan (See Drawing 3, Site Plan) prepared by Weston Miles Architects, dated July 12, 2021, and the preliminary grading plan prepared by MH Engineering Co., dated January 2022, we understand that the project will include the construction of five new two-story, 2,813 square foot homes of wood frame construction with attached garages. Two new residences (Units A and B) situated on the north side of the property, within the area planned to be cut down from the existing grade, will be constructed on level building pads with concrete slab-on-grade floors. Three new residences (Units C through E) situated on the south side of the property, in areas that will receive approximately two to seven feet of fill within building footprints, will be constructed on building pads sloping approximately six percent to the southeast with raised wood floors. The attached garages for all five of the residences will be constructed on level building pads, with finished floor elevations shown to be one foot below the respective finished floor elevations for main residences. Structural loads are expected to be typical for these types of construction.

The project will also include the installation of retaining walls, vehicular asphalt pavement, exterior concrete flatwork and associated underground utilities.

A site geologic hazards investigation and analysis, including but not limited to slope stability analysis, landslide hazard, flooding hazard, liquefaction/seismic settlement, and fault rupture risks was not within our scope of work for this project.

Preliminary geotechnical recommendations for the project were provided in our January 28, 2022 transmittal summary.

SCOPE

As outlined in our proposal agreement dated August 12, 2021, the scope of our services for this investigation has included:

1. A review of relevant published and unpublished geologic literature, maps and geotechnical information for the area.

2. Several reconnaissance visits to the site by our staff.

3. A field subsurface investigation consisting of five (5) exploratory borings.

4. Drilling and testing of two (2) infiltration test holes at the project site.

5. Laboratory testing of samples obtained from the borings.

6. Engineering analysis of the field and laboratory data.

7. Preparation of this geotechnical investigation report using the field and laboratory data. The report includes findings and recommendations for the following:

a. Geologic and seismic setting of the site and surrounding area, including research and review of available geologic/seismic reports and maps.

b. 2019 CBC seismic design criteria.

c. Site preparation, fill placement and grading.

d. New building foundation type and associated geotechnical engineering design parameters.

e. Retaining wall foundation engineering and lateral earth pressure design parameters.

f. Estimated foundation settlements.

g. Subgrade preparation and aggregate base sections for interior and exterior concrete slabs-on-grade.

h. Subgrade preparation and aggregate base and asphalt sections for vehicular asphalt pavements.

i. Treatment of expansive soils (as required).

j. Backfilling and compaction of utility trenches.

k. Surface and subsurface drainage.

l. Infiltration test results.

m. Any other unusual design or construction conditions encountered in the investigation.

This report has been prepared for the specific use of DRP Construction and its consultants in accordance with generally accepted geotechnical engineering principles and practices. No other warranty, either expressed or implied, is made. In the event that any substantial changes in the nature of the project are planned, the conclusions and recommendations of this report shall not be considered valid unless such changes are reviewed and the conclusions of this report modified or verified in writing. Any use or reliance of this report or the information herein by a third party shall be at such party's sole risk.

It should also be recognized that changes in the site conditions may occur with the passage of time due to environmental processes and/or acts of man, and that changes in building codes, the state of the practice or new information may require modifications in the recommendations presented herein. Accordingly, neither the client, nor any other party should rely on the information or conclusions contained in this report after three years from its date of issuance without the express written consent of Cleary Consultants, Inc.

METHOD OF INVESTIGATION

A. Subsurface Exploration

The subsurface investigation was performed on September 1, 2021, under the guidance of our Staff Geotechnical Engineer, Mr. Dustin Lettenberger. Five (5) borings were drilled using truck-mounted solid flight auger drilling equipment to a maximum depth of 14 feet (due to practical drilling refusal) at the locations shown on Drawing 3, Site Plan.

A key describing the soil classification system and soil consistency terms used in this report is presented on Drawing 4 and the soil sampling procedures are described in Drawing 5. The logs of the borings are presented on Drawings 7 through 11.

The borings were located in the field by surveyor's wheel measurements and interpolation of the features shown on available satellite imagery and the site plan provided to us. These locations should be considered accurate only to the degree implied by the methods used.

B. Laboratory Testing

Samples of the soil materials from the borings were returned to our laboratory for classification and testing. The results of moisture content, percent finer than No. 4 and No. 200 sieves, plasticity index, and free swell testing are shown on the boring logs. The laboratory test procedures followed during this investigation are summarized on Drawing 6. Drawing 12 summarizes the results of the plasticity index testing. The results of R-Value testing performed on untreated and chemically-treated samples of the upper soils are presented on Drawings 13 and 14, respectively. The results of soil corrosivity testing performed on a composite sample of the surficial soils collected from the borings are presented on Drawing 15.

A list of references consulted during the investigation is included at the end of the text.

SITE CONDITIONS

A. Surface

The subject property is an approximately 44,000 square foot terraced lot bordering West Dunne Avenue to the north, Viewcrest Lane to the east, and residential housing to the south and west. The gently southeasterly sloping upper (north) terrace is occupied by a detached garage on the

north side, an irregular shaped single-story residence in the middle, and a two-story residence with an attached garage on the southwest side. We understand that the existing structures will be demolished and removed. A courtyard comprised of an irrigated grass lawn and wood decking is situated in the middle of the existing buildings, and another irrigated grass lawn is situated on the southeast side. Asphalt and concrete driveways are situated on the northeast and northwest sides, respectively, fronting West Dunne Avenue. A gravel-surfaced access road along the east side of the property slopes downward from the northeast driveway to the lower (south) terrace at an approximate gradient of 10 percent.

The southeast side of the upper terrace borders an approximately nine-foot-high 3:1 (Horizontal:Vertical) southeasterly facing, heavily vegetated slope and the southwest side borders an approximately eight-foot-high 5:1 south-southeasterly facing, heavily vegetated slope. Situated between the two slopes are two relatively low CMU retaining walls and stairs leading down to a canopy-covered level bocce ball court. We understand that these structures and improvements will also be demolished and removed. Evidence of slope instability was not observed during our site reconnaissance; however, detailed slope stability analysis was not within our scope of work.

The lower terrace is a gently southeasterly sloping open field sparsely covered with dry grass. A CMU retaining wall, up to approximately six feet in height, is situated along the property line on the west side of the lower terrace. Wooden fencing is mounted on top of the wall, which borders residential properties to the west.

The existing concrete flatwork and asphalt pavements at the property were observed to be in generally good to fair condition at the time our investigation, with occasional longitudinal cracking.

The average elevations of the upper and lower terraces at the project site are approximately 372 feet and 361 feet above Mean Sea Level, respectively, and the overall regional topographic gradient is approximately two percent to the east.

B. Subsurface

Exploratory Boring 1 (EB-1) encountered very dense clayey to silty sand to the maximum depth explored due to practical drilling refusal, nine feet.

EB-2 encountered medium dense to dense silty sand in the upper three and one-half (3½) feet, underlain by very dense clayey sand to the maximum depth explored due to practical drilling refusal, 14 feet.

EB-3 encountered very stiff to hard sandy clay to the maximum depth explored due to practical drilling refusal, nine feet.

EB-4 encountered very stiff to hard sandy clay in the upper seven and one-half (7½) feet, underlain by very dense silty sand to the maximum depth explored due to practical drilling refusal, 14 feet.

EB-5 encountered hard sandy clay to the maximum depth explored due to practical drilling refusal, 14 feet.

The upper soils encountered in the borings are considered to have a moderate to high expansion potential based on their plasticity characteristics (Plasticity Indices of 14 to 26 percent) and the free swell test data (Free Swells of 50 to 100 percent).

The attached boring logs and related information depict subsurface conditions only at the specific locations shown on Drawing 3 and on the particular date designated on the logs. Soil conditions at other locations may differ from conditions occurring at these locations. Also, the passage of time may result in a change of soil conditions at these locations due to environmental changes.

C. Groundwater

Free groundwater was not encountered in the exploratory borings during drilling for this investigation within the maximum depth explored, 14 feet. It should be noted that the borings were only open for a period of a few hours and this may not have been sufficiently long to establish the stabilized water table conditions. It should be noted that fluctuations of localized perched groundwater and the regional groundwater level can occur due to such factors as variations in rainfall, temperature, runoff, irrigation, and other factors not evident at the time our measurements were made and reported herein.

Groundwater elevation data provided by the Santa Clara Valley Water District's Historical Groundwater Elevation Data GIS website indicates that the project site lies within an area where the generalized depth to first groundwater is zero to 10 feet.

The State of California had not as of the date of this report prepared a seismic hazard zone report for the Mount Madonna Quadrangle and information typically provided in such a report on the historically high ground water table was therefore not available.

The California State Water Resources Control Board GeoTracker website, which performs a search for groundwater well records based on the site address and search radius input, provided data from a monitoring well located approximately 1,600 feet northeast of the project site which indicated a high groundwater table of 19.3 feet below the ground surface.

GEOLOGY AND SEISMICITY

The Santa Clara Valley, a broad, sediment-filled basin bordered on the east by the Diablo Range and on the west by the Santa Cruz Mountain Range, is about five miles wide in the vicinity of the subject property, which is situated between the central and southerly portions of the Santa

Clara Valley. Structurally, the Santa Clara Valley has formed as a result of tectonic downwarping controlled by three northwest trending active fault zones: The San Andreas fault on the southwest and the Hayward and Calaveras faults on the northeast. Published geologic mapping by Dibblee (2005) indicates that the site vicinity is underlain by Holocene-age alluvial gravel, sand and clay (Qa). Wentworth, et al (1999) and McLaughlin, et al (2001) map the project site as being underlain by Pleistocene-age alluvial fan deposits (Qpf). The findings of our investigation are consistent with the regional geologic mapping discussed above. We have excerpted portions of two Diblee (2005) maps to serve as our Local Geologic Map, shown on Drawing 2.

The San Francisco Bay Area is recognized by geologists and seismologists as one of the most active seismic regions in the United States. The three major fault zones that pass through the Bay Area in a northwest direction have produced approximately a dozen earthquakes per century strong enough to cause structural damage. The faults causing these earthquakes are all part of the San Andreas fault system, a major rift in the earth's crust that extends for at least 450 miles along the California Coast and includes the San Andreas, Hayward and Calaveras faults. The project site is located approximately 4.6 miles southwest of the Calaveras fault, 9.6 miles northeast of the San Andreas fault and 25 miles southeast of the Hayward fault. In addition to the above active faults, potentially active faults in the site vicinity include the Coyote Creek, Silver Creek, Calero, Berrocal, Monte Vista-Shannon, Sargent, and Zayante-Vergeles faults, located 2.7 miles northeast, 3.6 miles northeast, 5.5 miles northwest, 5.8 miles southwest, 6.9 miles northwest, 7.0 miles southwest, and 13.0 miles southwest of the project site, respectively (U.S. Geological Survey, 2006; Jennings and Bryant, 2010).

Modeling of earthquake occurrence probabilities over the 30-year period of 2014 to 2043 on both a statewide and regional basis was performed by the 2014 Working Group on California Earthquake Probabilities. The results of the study are presented in the Long-Term Time-Dependent Probabilities for the Third Uniform California Earthquake Forecast (Field, E.H., et. al., 2015). The report indicates a 72 percent probability that one or more earthquakes of magnitude 6.7 or greater will occur in the San Francisco Bay region between 2014 and 2043.

Additionally, the probability of one or more regional earthquakes of magnitude 6.0 or greater over the same time period is indicated to be 98 percent. Likewise, the occurrence of at least one regional earthquake of magnitude 5.0 or greater over this time period is evaluated as being a near certainty.

Therefore, similar to most of the San Francisco Bay Area, it is reasonable to assume that the proposed new residential buildings and associated improvements will be subjected to a moderate to large earthquake from one of the above-mentioned faults during their lifetime. During such an earthquake, strong ground shaking is likely to occur at the site.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our investigation, we judge that there are no geotechnical constraints which would preclude the construction of the planned Five New Residences project at 270 West Dunne Avenue, and conclude from a soil engineering standpoint that the improvements can be constructed as planned provided the recommendations of this report are incorporated into the design and construction of the project.

The upper soils encountered at the project site generally consist of dense to very dense native clayey sand and silty sand, and very stiff to hard sandy clay soils which are considered relatively strong and incompressible under the range of building loads anticipated for this project. Accordingly, the two-story residential buildings in areas of planned cut (Units A and B) can be supported on conventional spread footing foundations obtaining support in undisturbed native soils, as described in Section B, Unit A and B Residential Building Spread Footing Foundations.

The Unit C through E buildings will be underlain by sloping fill ranging from approximately two to seven feet thick within building footprints, overlying the native soils encountered during our investigation. Accordingly, in order to provide suitable support for building loads and minimize differential settlement due to variable fill thicknesses beneath the buildings on the sloped portion

of the site, Units C through E should be supported on drilled pier and grade beam foundation systems obtaining skin friction support in the undisturbed native soils below the planned fill underlying the buildings, as described in Section C, Unit C through E Residential Building Drilled Pier Foundations.

A nominal cushion of Class 2 aggregate baserock should be provided under building slabs and exterior pavements to mitigate expansive soil movements, as described below (see Section F, Slabs-on-Grade and Section G, Flexible Pavements).

The recommendations presented in the remainder of this report are contingent on our review of the earthwork and foundation plans for the project and our observation of the grading, foundation installation, asphalt pavement installation, and concrete slab installation phases of the construction.

A. Earthwork

1. Stripping and Site Preparation

Existing foundations, underground utilities, tree root bulbs, as well as any other site improvements which are to be removed should be cleared from the construction area. Below grade obstructions, such as buried tanks and existing foundations, should then be removed to their full depth and extent and hauled from the site. The building sites and other improvement areas should then be stripped to a sufficient depth to remove any remaining organic laden topsoil. Any areas of loose materials or undocumented fill that are exposed during the grading should also be removed or recompacted, as determined by our representative.

Holes resulting from the removal of underground obstructions (such as abandoned utilities, tree root bulbs or foundation demolition excavations) that extend below the

planned finished grade should be cleared of loose soil and debris, then backfilled with suitable material compacted to the requirements discussed below for engineered fill (see Section A-3, Fill Placement and Compaction).

2. Moisture Conditioning and Recompaction of Surface Soils

After the new construction areas have been cleared, stripped and excavated to the required grade, the exposed soil should be moisture conditioned and recompacted. The upper 12 inches of the exposed subgrade should be processed such that the moisture reaches the approximate laboratory established optimum moisture content, and then compacted to at least 90 percent relative compaction as determined by ASTM Test Designation D1557. The moisture conditioning process should be observed by our representative. Field testing of the moisture content and relative compaction in the upper 12 inches should be performed just prior to placing fill or aggregate base on the recompacted subgrade.

Any loose soil or undocumented fills should be removed and replaced as properly engineered fill.

Compaction should be performed using heavy compaction equipment, such as a self-propelled sheepsfoot roller or segmented wheeled compactor. After the exposed subgrade soils are compacted, any required fill and the required aggregate base material can be placed in lifts not exceeding eight inches in uncompacted thickness, and compacted to the requirements given below for engineered fill.

The subgrade should not be allowed to dry below optimum moisture content prior to placing additional fill or Class 2 aggregate base. This is likely to require periodic sprinkling during the dry season. Should drying of the soils occur, they should again be scarified, moisture conditioned to the proper moisture content and recompacted.

Based on the moisture content of samples obtained from the borings, we anticipate that it may be necessary to adjust the soil moisture content at the time of construction in order to achieve satisfactory compaction in the subgrade and fill soils. This may require that water be added and thoroughly mixed into any soils which are too dry or that repeated scarification and "turning over" of the soils during periods of dry weather be performed in order to aerate and reduce the moisture content of any soils which are too wet.

3. Fill Placement and Compaction

Existing soils having an organic content of less than three percent by volume, and which are free of construction debris, can be used as engineered fill. Fill material should not, however, contain rocks or lumps greater than six inches in greatest dimension with not more than 15 percent larger than 2.5 inches. Imported fill and aggregate baserock placed within the building footprints should be virgin/non-recycled and free of ground-up asphalt.

Engineered fill should be compacted to at least 90 percent relative compaction, as determined by ASTM Test Designation D1557. Fill material should be spread and compacted in lifts not exceeding eight inches in uncompacted thickness. In order to achieve satisfactory compaction in the subgrade and fill soils, it is likely that it will be necessary to adjust the soil moisture content at the time of soil compaction. This may require that water be added and thoroughly mixed into any soils which are too dry, or that repeated scarification and "turning over" of the soils during periods of dry weather will be necessary in order to aerate and reduce the moisture content of any soils which are too wet.

4. Slope Gradients and Fill Placement Over Existing Slopes

New permanent cut slopes, and any fill slopes, should be no steeper than 2:1 (horizontal to vertical). Fill placed on slopes steeper than 6:1 (horizontal to vertical) should be

benched a minimum of two feet horizontally for every two vertical feet of new fill. Any undocumented fill material encountered in new slope construction should be removed and replaced as properly engineered fill. Cut and fill slopes should be planted to minimize erosion and surface runoff should be diverted away from the top of slopes and carried to a suitable drainage collection system.

5. Temporary Cutslopes and Shoring

New retaining walls are expected to be up to six feet high. Temporary slope excavations for the walls in the soils encountered during the site investigation are anticipated to be reasonably stable at an inclination of 1.5:1 (horizontal to vertical), and should be benched every five feet vertical.

There are a number of factors which can influence the stability of temporary excavations, some of which the contractor can control. The contractor, therefore, should be solely responsible for designing and constructing stable temporary excavations and should shore, slope or bench the excavations as required to maintain their stability and comply with all applicable safety standards, including CAL-OSHA requirements. The temporary shoring system design and performance should be the responsibility of the contractor.

6. Utility Trenches

The presently available subsurface information indicates that utility trenches can be excavated with conventional backhoe equipment. Trenches deeper than five feet should be properly braced or sloped in accordance with the current requirements of CAL-OSHA or the local governmental agency, whichever is more stringent.

Utility trenches should be backfilled with engineered fill placed in lifts not exceeding eight inches in uncompacted thickness, except thicker lifts may be used with the approval of our representative provided satisfactory compaction is achieved. If on-site soil is

used, the material should be compacted to at least 90 percent relative compaction by mechanical means only. Imported sand can also be used for backfilling trenches provided it is compacted to at least 90 percent relative compaction. In building, slab, and pavement areas, the upper three feet of trench backfill should be compacted to at least 90 percent relative compaction for on-site soils, and 95 percent where imported clean sand backfill is used.

Water jetting to achieve the required level of backfill compaction should not be permitted.

7. Surface Drainage

Positive surface gradients of at least two percent on porous surfaces and one percent on paved surfaces should be maintained adjacent to the planned buildings so that water does not collect in the vicinity of the foundations. Water from roof downspouts should be collected into closed pipes or discharged onto impermeable surfaces, which carry the runoff away from the structures and discharge into approved drainage facilities.

8. Construction Observation

Grading and earthwork operations should be observed and tested by our representative for conformance with the project plans/specifications and our recommendations. This work includes site preparation, selection of satisfactory fill materials, and placement and compaction of the subgrades and fills. Sufficient notification prior to commencement of earthwork is essential to make certain that the work will be properly observed.

B. Unit A and B Residential Building Spread Footing Foundations

After the building pads have been properly prepared and graded, the planned Unit A and B two-story residences can be supported on conventional continuous and isolated spread footings bearing in undisturbed native soil encountered in exploratory borings. Footings should be founded at least 24 inches below lowest adjacent finished grade and be embedded at least 18 inches into the supporting subgrade. Continuous footings should have a minimum width of 18 inches and isolated footings should be at least 24 inches square. Footings located adjacent to utility trenches should have their bearing surfaces below an imaginary 1.5:1 (horizontal to vertical) plane projected upward from the edge of the bottom of the trench. Care should be taken to keep the footings moist by spraying lightly prior to the concrete pour.

At the above depths, footings can be designed for an allowable bearing pressure of 2000 psf due to dead loads with a one-third increase for dead plus live loads (2667 psf) and a 50 percent increase for total design loads (3000 psf) including wind and seismic. All continuous footings should be provided with adequate top and bottom reinforcement (as specified by the structural engineer) to provide structural continuity and to permit spanning of local irregularities. The steel reinforcement requirements should be determined by the structural engineer.

Lateral loads can be resisted by friction between the foundation bottoms and the supporting subgrade. A friction coefficient of 0.30 is considered applicable. As an alternative, an equivalent fluid pressure of 300 pcf starting one-half foot below the ground surface can be taken against the sides of footings poured neat.

Soil conditions in the foundation excavations should be checked by our representative prior to placing reinforcing steel or concrete. The excavation of footing trenches should be performed so that the trenches are left open for the minimum practical length of time prior to the placement of concrete. Footing trenches should be kept moist so that any drying-shrinkage cracks are closed prior to placement of concrete. Moisture should be added in a light mist spray.

Post-construction settlements of the spread footing foundations under proposed loads are expected to be within tolerable limits.

C. Unit C through E Residential Building Drilled Pier Foundations

We recommend that the Unit C through E two-story residences be supported on cast-in-place, straight shaft friction piers tied together with continuous grade beams in order to provide suitable support for building loads and minimize differential settlement of variable fill thicknesses beneath the buildings. The grade beams should have a minimum width of 12 inches and be embedded a minimum of 12 inches below the lowest adjacent grade. The drilled piers should have a minimum diameter of 18 inches and extend through any fill (two to seven feet of fill expected) to a minimum depth of eight feet into the underlying native soils. The piers should be spaced no closer than approximately three pier diameters center to center and no further than approximately 10 to 12 feet. The actual pier dimensions and spacing should be based on the structural engineer's design requirements.

The drilled piers can be designed on the basis of 350 psf skin friction for vertical loads with a 50 percent increase for wind and seismic conditions. The skin friction may be assumed to start two feet below the original ground surface and below a 2:1 influence zone plane projecting up from any adjacent excavations (such as utility trenches). Point bearing resistance should be neglected. For resistance to lateral loads, an equivalent fluid pressure of 350 pcf up to a maximum of 3500 psf can be assumed to act over 1.5 times the projected area of the individual pier shaft. The passive pressure can be assumed to start two feet below the ground surface. An allowable negative skin friction value of 265 psf within native soil can be used on the pier sidewall to resist uplift forces.

Groundwater was not encountered in the borings during our investigation; however, pockets of loose sandy soils, if encountered, may be susceptible to sloughing. Therefore, it is recommended that reinforcing steel and concrete be placed as soon as practical after drilling to minimize fall-in

of the sidewall soils and possible caving. Any loose soil or accumulated water in the pier holes should be removed prior to concrete placement. Casing of the piers may be required where zones of loose soil are encountered during drilling.

Since the actual lengths of the piers may vary depending on the subsurface conditions encountered in the field, the excavation of piers should be performed under the observation of our soil engineer. Heavy duty drilling equipment in good working condition should be used to drill the pier holes.

Reinforcement of the piers should be provided for their full length. Minimum pier reinforcement should consist of four No. 5 bars tied in a cage. Greater reinforcement may be required as determined by the structural engineer's analysis.

Post-construction settlements of the pier foundations under anticipated building loads are expected to be within tolerable limits for the proposed construction.

D. Site Retaining Walls

Site retaining walls up to six feet in height at the south and east sides of the property are planned as part of the project. The retaining walls can be supported on conventional spread footing foundations bearing in undisturbed native soil encountered in exploratory borings, or a minimum of 18 inches of virgin (non-recycled) Class 2 aggregate baserock compacted to at least 95 percent relative compaction if the footing bottoms are located within a fill area.

The footings can be designed for an allowable bearing pressure of 1000 psf due to dead loads, with a 50 percent increase for total design loads, including wind and seismic. Lateral loads may be resisted by friction between the foundation bottoms and the supporting subgrade. A friction coefficient of 0.30 is considered applicable. As an alternative, a passive resistance equal to an equivalent fluid weighing 300 pounds per cubic foot may be used against the sides of footings

poured neat. Spread footings should be founded at least 24 inches below lowest adjacent finished grade and have a minimum width of 18 inches. Footings located adjacent to utility trenches should have their bearing surfaces below an imaginary 2:1 (horizontal to vertical) plane projected upward from the edge of the bottom of the trench. Footings located adjacent to any cut/fill slope face should bear at a level which provides at least five feet of horizontal confinement.

Permanent retaining walls required for the project must be designed to resist lateral earth pressures and any additional lateral loads caused by surcharge loading.

We recommend that unrestrained walls with level or gently sloping backfill conditions be designed to resist an equivalent fluid pressure of 45 pcf and that restrained walls be designed to resist an equivalent fluid pressure of 45 pcf plus an additional uniform lateral pressure of eight H psf where H = height of backfill above wall foundation in feet. Where backfill slope gradients exceed 3:1, an additional one and one-half pcf per degree of slope gradient exceeding 18 degrees should be added to the above active pressure distribution. Wherever walls will be subjected to surcharge loads, they should be designed for an additional lateral pressure equal to one-third or one-half the anticipated surcharge load depending on whether the wall is unrestrained or restrained, respectively. A seismic component of lateral earth pressure of 10 H^2 pounds per lineal foot of wall acting 0.6 H up from the bottom of the wall can be used for retaining wall design, if required.

The preceding pressures assume that sufficient drainage is provided behind the retaining walls to prevent the build-up of hydrostatic pressures from surface or subsurface water infiltration. Adequate drainage may be provided by means of clean, 3/4 inch drain rock material enclosed in a filter fabric, such as Mirafi 140, and a four-inch diameter perforated pipe (Schedule 40 or stronger) placed at the base of the wall. The perforated pipe should be tied into a closed pipe and carried to a suitable drainage system.

Backfill material placed behind retaining walls should be non-expansive and compacted to at least 90 percent relative compaction using lightweight compaction equipment. If heavy compaction equipment is used, the walls should be appropriately braced during the backfilling. An 18-inch cap of impervious native clayey soil should be placed over the top of exterior retaining wall backfill to minimize surface water infiltration.

E. Seismic Design Parameters

The OSHPD U.S. Seismic Design Maps online application was used to determine ASCE 7-16 seismic design values. The application analyzed the project site using the site latitude and longitude (37.1230° N, -121.6558° W) and the site classification, which was determined using subsurface information obtained from the exploratory borings.

Based on the results of our investigation, CBC 2019 (Section 1613A), ASCE 7-16 (Chapter 11), and the OSHPD U.S. Seismic Design Maps online application, the following seismic design parameters can be used in lateral force analyses at this site:

Site Class C – Very Dense Soil and Soft Rock Profile (SPT Values of >50 blows/foot)

ASCE 7-16 Values (OSHPD U.S. Seismic Design Maps):

Site Coefficient F_a = 1.2
Site Coefficient F_v = 1.4
Mapped Spectral Acceleration Values; S_S = 1.514, S_1 = 0.600
Spectral Response Accelerations; SM_S = 1.816, SM_1 = 0.840
Design Spectral Response Accelerations; SD_S = 1.211, SD_1 = 0.560

F. Slabs-on-Grade

Slab-on-grade construction will be used for new Unit A and B residence building slabs, garage slabs and exterior pedestrian flatwork.

Interior slabs should be underlain by a minimum 15 mil vapor retarder of permeance less than or equal to 0.01 perms (as tested by ASTM F1249) placed over six inches of 3/4-inch clean, free draining crushed rock. Care should be taken to prevent wear, punctures and/or tearing of the membrane during the construction phase (such as could result from the placement of rebar) subsequent to its installation; any tears or punctures should be tightly sealed. The drain rock layer should be underlain by an additional six inches (minimum) of virgin Class 2 aggregate baserock placed on the prepared subgrade soil and compacted to at least 90 percent relative compaction.

Exterior concrete flatwork, sidewalks and curb and gutters should be underlain by at least eight inches of Class 2 aggregate baserock placed on the prepared subgrade.

Reinforcement of slabs should be provided in accordance with their anticipated use and loading, but as a minimum, slabs should be reinforced with No. 3 bars at 18 inches on center, both ways, or No. 4 bars at 24 inches on center, both ways. Concrete slabs should be articulated with a maximum joint spacing of ten feet in both directions.

The baserock and upper 12 inches of underlying subgrade should be compacted to at least 90 percent relative compaction, or 95 percent in areas of vehicular traffic.

The moisture content of the compacted subgrade should be maintained at, or slightly above, optimum moisture prior to placing non-expansive fill materials.

Prior to final construction of slabs, the baserock and subgrade surface should be proof rolled to provide a smooth, firm non-yielding surface. The moisture content of the compacted baserock and subgrade should be maintained at, or slightly above, optimum moisture prior to placing non-expansive fill materials.

G. Flexible Pavements

The new vehicular pavements for the project should be designed for the anticipated traffic loadings. The near-surface soils at the site have an untreated R-Value of 10 and a chemically treated R-Value of 53 based on the laboratory test results. The required thickness of the pavement section can be reduced by chemically-treating the pavement subgrade to a depth of 18 inches with a five percent by weight mixture of 50% Hi-Cal Quicklime and 50% Portland cement. Chemical treatment will also mitigate pumping subgrade conditions typically encountered during wet season construction. Utilizing the estimated Traffic Indices presented below, and Design Procedure 301-F of the California Department of Transportation, we have prepared the following minimum alternative flexible pavement sections using an assumed Traffic Index of 6.0 for the planned driveway accessing West Dunne Avenue:

TABLE 1 - Recommended Flexible Pavement Sections

Traffic Condition	Asphaltic Concrete (inches)	Class 2 Aggregate Base (inches)	Chemically-Treated Subgrade Treatment (inches)	Total Thickness (inches)
Fire Lane, Driveways (T.I. = 6.0)	**4.0** **3.0**	**12.0** **6.0**	**- -** **18.0**	**16.0** **27.0**

The baserock and upper 12 inches of underlying subgrade should be compacted to at least 95 percent relative compaction.

The subgrade should be statically rolled with a heavy, smooth drum roller to provide a smooth firm surface. Any unstable or pumping subgrade areas should be subexcavated and plugged with baserock or overlain with a stabilizing fabric such as Mirafi 600X. Fabric installation should be performed in accordance with the manufacturer's recommendations. The method and extent of any required stabilization work should be approved by our representative.

Class 2 aggregate base should have an R-Value of at least 78 and conform to the requirements of Section 26-1.02A in the State of California, CALTRANS Standard Specifications, latest edition. The aggregate base material should be placed in thin lifts in a manner to prevent segregation.

Concrete curbs should be embedded at least two inches below the soil subgrade (below the bottom of the aggregate base section) in any areas where irrigated landscape areas are planned adjacent to AC pavements.

The asphaltic concrete should conform to and be placed in accordance with the requirements of Section 39 in the State of California CALTRANS Standard Specifications, latest edition.

H. Infiltration Testing Results

Two infiltration tests, PERC-1 and PERC-2, were performed in the vicinity of proposed rain tanks at the locations shown on Drawing 5. The approximately six-inch diameter infiltration test holes were drilled to depths of approximately 16 and 10 feet below the adjacent grade, respectively, and the sides and bottom of the hole were scraped and cleared of loose soil. The bottom of the hole was then filled with approximately two inches of pea gravel, a four-inch diameter perforated pipe was placed in the hole, and the annular space around the pipe was backfilled with additional pea gravel. The hole was then "pre-soaked" by filling with water and left over-night. Water level infiltration rates in the hole were subsequently measured the next day to establish the field infiltration rate. The results of our analysis of the field data indicated corrected infiltration rates[(1)] as shown in the table below.

Table 2 - Corrected Infiltration Test Results at the 270 West Dunne Avenue, Five New Residences Project Site in Morgan Hill, California

Percolation Test Hole	Surface Elevation[2]	Bottom of Test Hole Elevation[2]	Percolation Rate (in/hr)[1]
PERC-1	371' MSL	355' MSL	10.96
PERC-2	361' MSL	351' MSL	1.50

[1]Results corrected for pipe thickness, pipe diameter, hole diameter and pea gravel void ratio.
[2]Elevations based on Preliminary Grading and Drainage Plan prepared by MH Engineering Co., Dated January 2022.

I. Soil Corrosivity

Laboratory resistivity, pH, chloride and sulfate testing was performed on a composite soil sample obtained from the upper three feet of the borings (see Drawing 15, Corrosivity Tests Summary). The testing was performed by Cooper Testing Laboratory for the purpose of evaluating the soils' corrosion potential for use in the design of underground utilities and embedded concrete on this project.

In summary, the test results indicated a minimum resistivity of 2,211 Ohm-Cm, pH of 7.1, chloride content of 8 ppm and water-soluble sulfate content of 18 ppm. Soils with chloride contents of less than 500 ppm and sulfate contents of less than 1500 ppm are considered to be of "low" corrosivity. However, based on the resistivity testing, the soils are considered "mildly corrosive."

Table 3 below shows the general correlation between resistivity and corrosion potential.

Table 3 - Correlation Between Resistivity and Corrosion Potential

Soil Resistivity (ohm-cm)	Soil Classification
Below 500	Very Corrosive
500 to 1,000	Corrosive
1,000 to 2,000	Moderately Corrosive
2,000 to 10,000	Mildly Corrosive
Above 10,000	Progressively Less Corrosive

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This condition combined with the slightly basic soil condition encountered at the site could result in reduced life span of buried steel piping and culverts for this project. Thicker gauge pipelines would have greater life spans. For example, the life spans for 18, 16 and 14-gauge steel culverts with a soil resistivity of 2,211 ohm-cm and a pH of 7.1 are estimated to be roughly 24, 31 and 38 years, respectively (California Department of Transportation, 2019).

Based on the resistivity and sulfate testing, for the purposes of design of concrete in contact with the soil against acid and sulfate exposure conditions, there are no cementitious material or water content restrictions (Portland Cement Association, 2002).

PLAN REVIEW AND CONSTRUCTION OBSERVATION

We should be provided the opportunity to review the foundation and grading plans and the specifications for the project when they are available. We should also be retained to provide soil engineering observation and testing services during the grading and foundation installation phases of the project. This will provide the opportunity for correlation of the soil conditions found in our investigation with those actually encountered in the field, and thus permit any necessary modifications in our recommendations resulting from changes in anticipated conditions.

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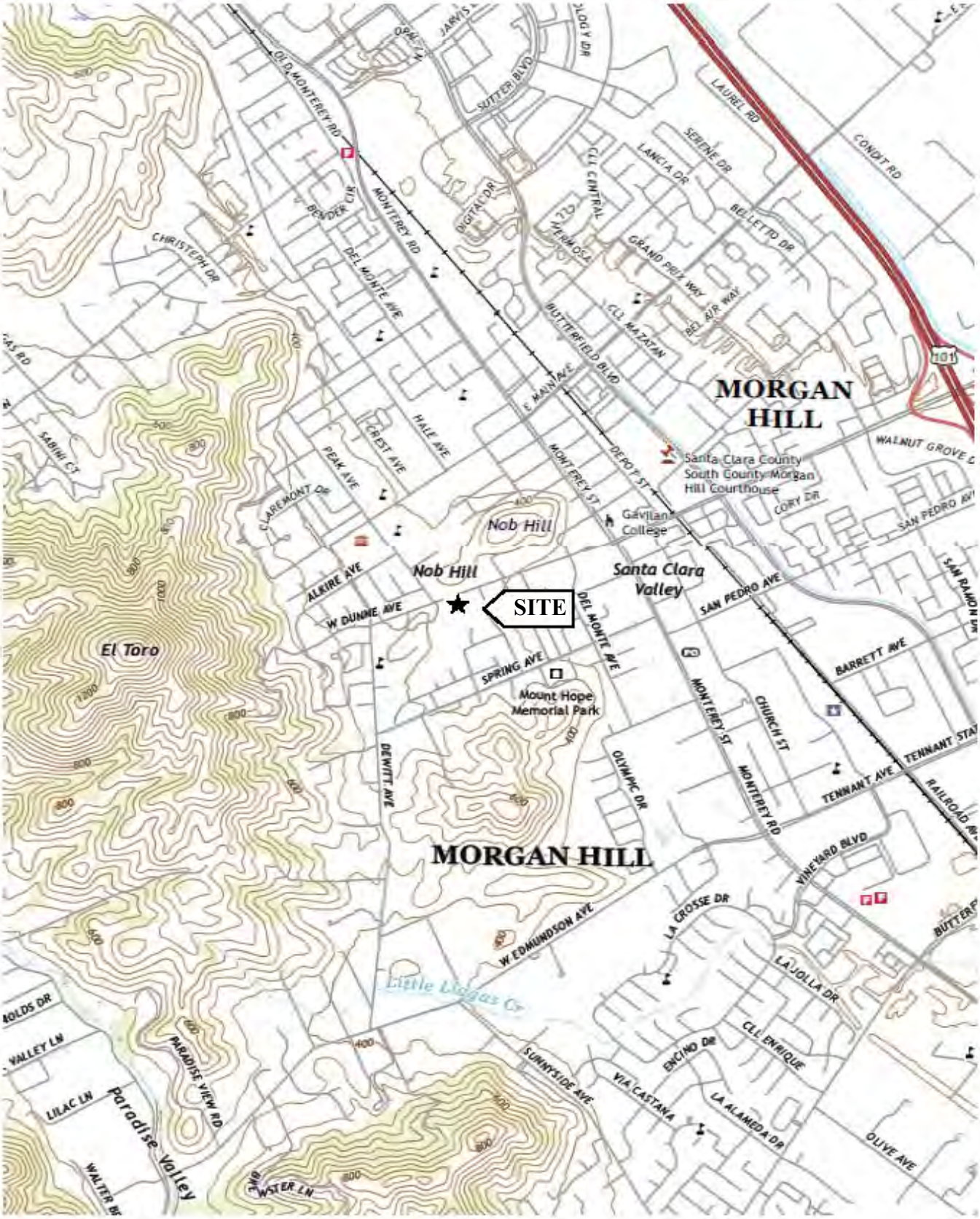


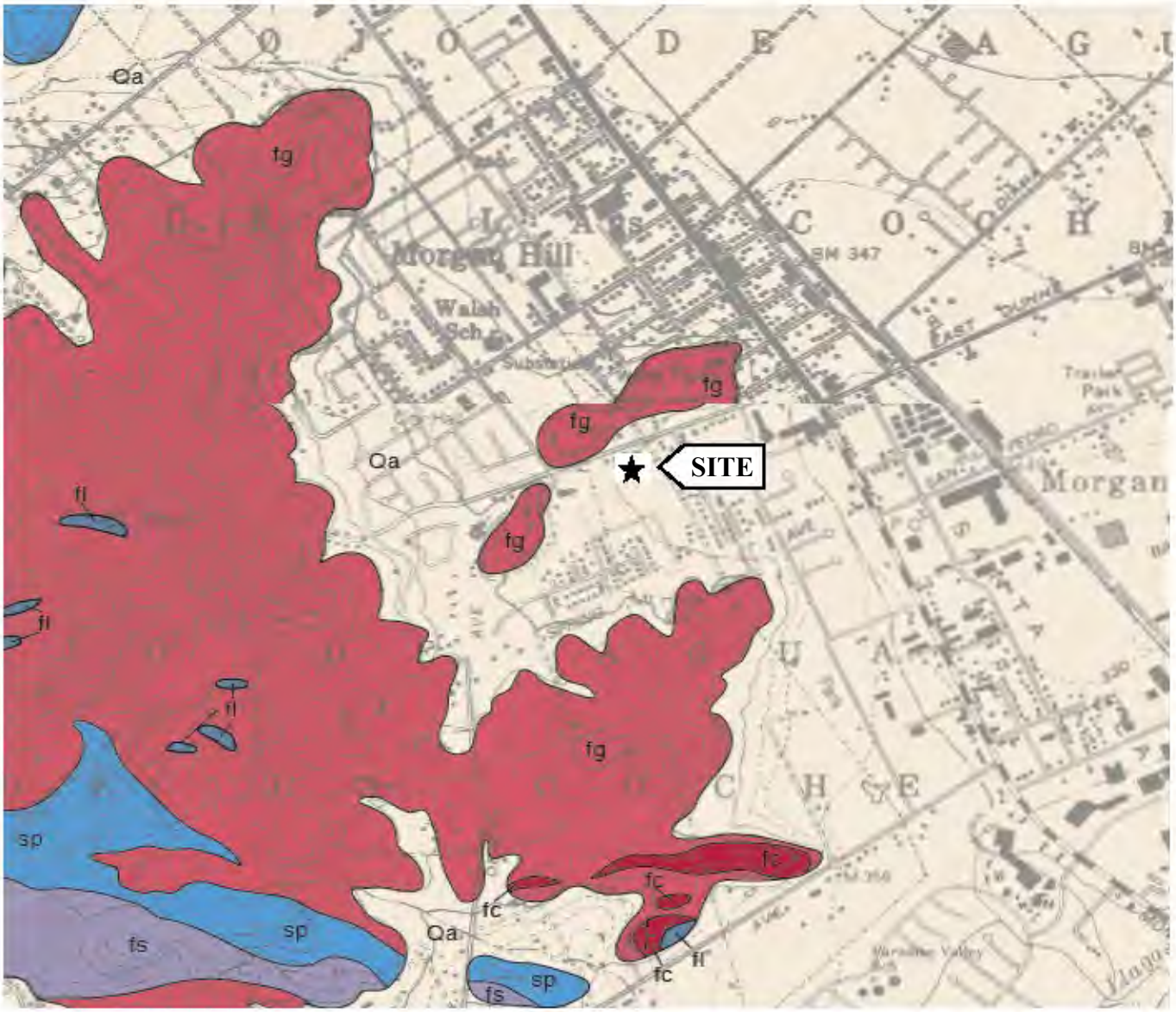
BASE: U.S. Geological Survey, 2021, Morgan Hill and Mount Madonna 7.5' Quadrangles, Santa Clara County, California

SITE VICINITY MAP

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

FIVE NEW RESIDENCE BUILDINGS
270 West Dunne Avenue
Morgan Hill, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	1" = 2000'	1425.1	May 2022	1



EXPLANATION

Qa	Alluvial Gravel, Sand and Clay (Holocene)
sp	Serpentinite (Jurassic and Cretaceous)
fg	Franciscan Assemblage Greenstone (Jurassic and Cretaceous)
fs	Franciscan Assemblage Graywacke Sandstone (Jurassic and Cretaceous)
fc	Fransiscan Assemblage Chert (Jurassic and Cretaceous)
fl	Franciscan Assemblage Limestone (Jurassic and Cretaceous)

N

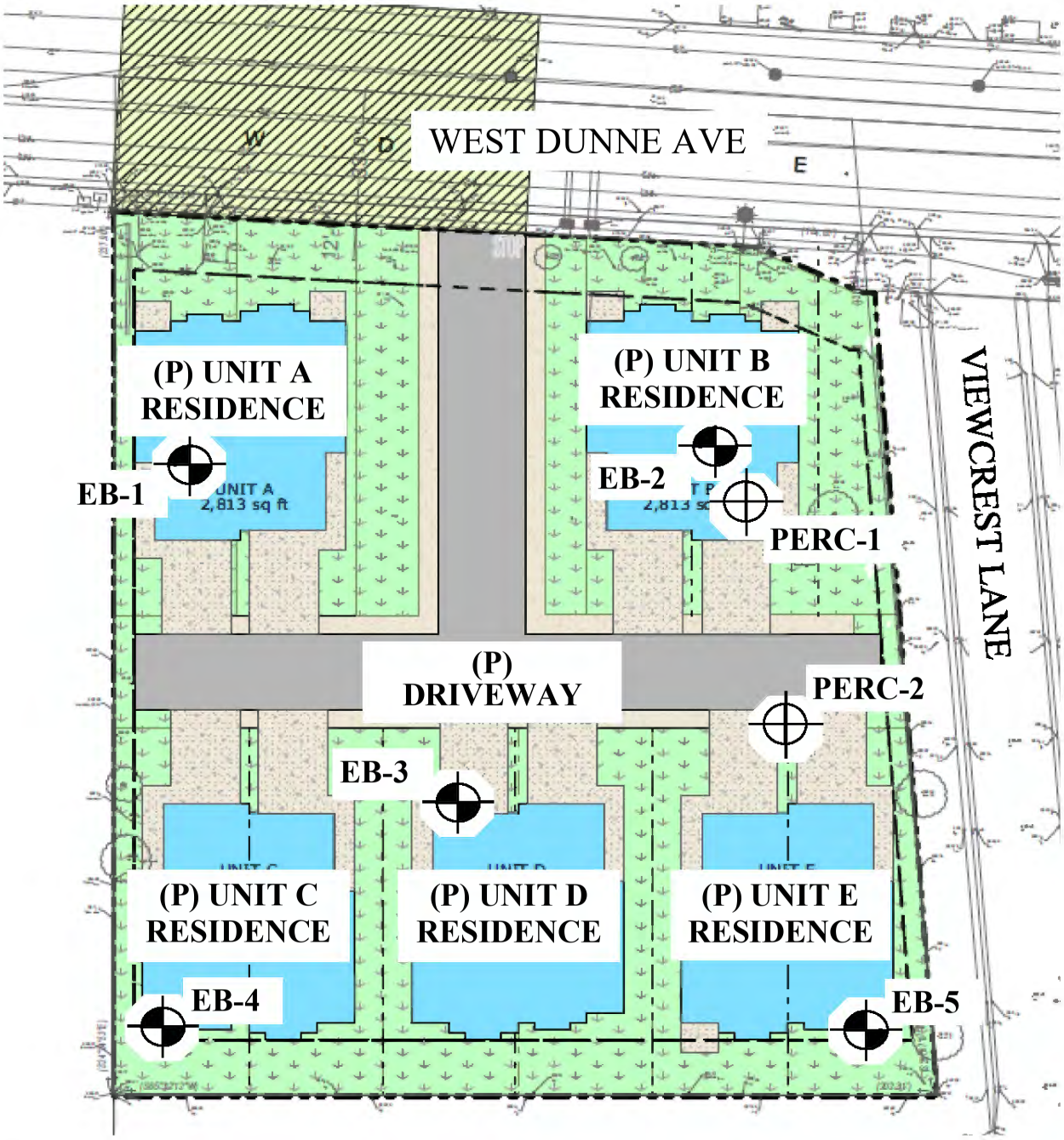
BASE: Thomas Dibblee, Jr., 2005, Geologic Map of the Morgan Hill and Mt. Madonna Quadrangles, Santa Clara County, Dibblee Geology Center Maps #DF-159 and DF-168

LOCAL GEOLOGIC MAP

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

FIVE NEW RESIDENCE BUILDINGS
270 West Dunne Avenue
Morgan Hill, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	1" = 2000'	1425.1	May 2022	2



EXPLANATION

EB-1 — Approximate Location of Exploratory Boring

PERC-1 — Approximate Location of Percolation Test Hole

BASE: Prepared by Weston Miles Architects, Dated July 12, 2021

SITE PLAN

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

FIVE NEW RESIDENCE BUILDINGS
270 West Dunne Avenue
Morgan Hill, California

APPROVED BY	SCALE	PROJECT NO.	DATE	DRAWING NO.
GF	1" = 40' ±	1425.1	May 2022	3

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISION
COARSE GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS (LESS THAN 5% FINES)	GW	Well graded gravels, gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
		GRAVEL WITH FINES	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines
	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS (LESS THAN 5% FINES)	SW	Well graded sands, gravelly sands, little or no fines
			SP	Poorly graded sands or gravelly sands, little or no fines
		SANDS WITH FINES	SM	Silty sands, sand-silt mixtures, non-plastic fines
			SC	Clayey sands, sand-clay mixtures, plastic fines
FINE GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT IS LESS THAN 50%		ML	Inorganic silts and very fine sands, rock flour, silty or 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 IS GREATER THAN 50%		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

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENINGS			
200	40	10	4	3/4"	3"	12"	
SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

GRAIN SIZES

SANDS AND GRAVELS	BLOWS/FOOT ✦
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	OVER 50

RELATIVE DENSITY

SILTS AND CLAYS	STRENGTH ★	BLOWS/FOOT ✦
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	OVER 4	OVER 32

CONSISTENCY

✦ Number of blows of 140 pound hammer falling 30 inches to drive a 2 inch O.D. (1-3/8 inch I.D.) split barrel (ASTM D-1586).

★ Unconfined compressive strength in tons/sq.ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D-1586), pocket penetrometer, torvane, or visual observation.

CLEARY CONSULTANTS, INC.
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KEY TO EXPLORATORY BORING LOGS

FIVE NEW RESIDENCE BUILDINGS
270 West Dunne Avenue
Morgan Hill, California

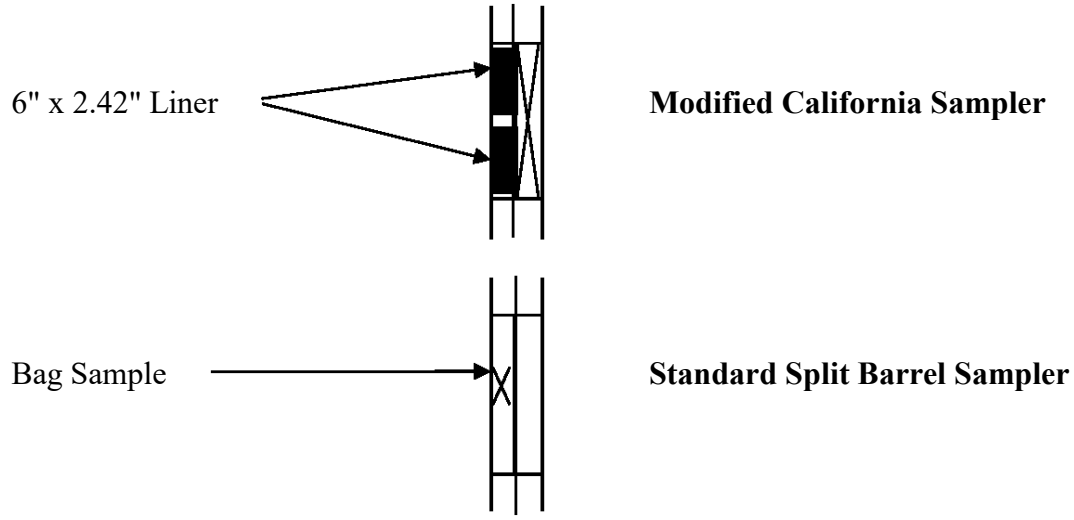
PROJECT NO.	DATE	DRAWING NO.
1425.1	May 2022	4

FIELD SAMPLING PROCEDURES

The soils encountered in the borings were continuously logged in the field by our representative and described in accordance with the Unified Soil Classification System (ASTM D-2487).

Representative soil samples were obtained from the borings at selected depths appropriate to the soil investigation. All samples were returned to our laboratory for classification and testing.

In accordance with the ASTM D1586 procedure, the standard penetration resistance was obtained by dropping a 140 pound hammer through a 30-inch free fall. The 2-inch O.D. Standard split barrel sampler was driven 18 inches or to practical refusal and the number of blows were recorded for each 6-inch penetration interval. The blows per foot recorded on the boring logs represent the accumulated number of blows, or N-value, required to drive the penetration sampler the final 12 inches. In addition, 3-inch O.D. x 2.42-inch I.D. drive samples were obtained using a Modified California Sampler and 140 pound hammer. Blow counts for the Modified California Sampler were converted to standard penetration resistance by multiplying by 0.6. The sampler type is shown on the boring logs in accordance with the designation below.



Where obtained, the shear strength of the soil samples using either Torvane (TV) or Pocket Penetrometer (PP) devices is shown on the boring logs in the far right hand column.

CLEARY CONSULTANTS, INC. Geotechnical Engineers and Geologists	SUMMARY OF FIELD SAMPLING PROCEDURES FIVE NEW RESIDENCE BUILDINGS 270 West Dunne Avenue Morgan Hill, California		
	PROJECT NO.	DATE	DRAWING NO.
	1425.1	May 2022	5

LABORATORY TESTING PROCEDURES

The laboratory testing program was directed toward a quantitative and qualitative evaluation of the physical and mechanical properties of the soils underlying the site.

The natural water content was determined on 34 samples of the materials recovered from the borings in accordance with the ASTM D2216 Test Procedure. These water contents are recorded on the boring logs at the appropriate sample depths.

Dry density determinations were performed on 19 samples to measure the unit weight of the subsurface soils in accordance with the ASTM D2937 Test Procedure. The results of these tests are shown on the boring logs at the appropriate sample depths.

Atterberg Limit determinations were performed on seven samples of the subsurface soils in accordance with the ASTM D4318 Test Procedure to determine the range of water contents over which the materials exhibited plasticity. The Atterberg Limits are used to classify the soils in accordance with the Unified Soil Classification System and to evaluate the soil's expansion potential. The results of these tests are presented on Drawing 12, and on the boring logs at the appropriate sample depths.

The percent soil fraction passing the #4 sieve and #200 sieves were determined on 18 samples of the subsurface soils in accordance with the ASTM D1140 Test Procedure to aid in the classification of the soils. The results of these tests are shown on the boring logs at the appropriate sample depths.

Free swell tests were performed on 18 samples of the soil materials to evaluate the swelling potential of the soil. The free swell tests were performed by slowly pouring 10 ml of air-dried soil passing the No. 40 sieve into a 100 ml graduated cylinder filled with approximately 90 ml of distilled water. The suspension was stirred repeatedly to ensure thorough wetting of the soil specimen. The graduated cylinder was then filled with distilled water to the 100 ml mark and allowed to settle until equilibrium was reached (approximately 24 hours). The free swell volume of the soil was then noted. The percent free swell was calculated by subtracting the initial soil volume from the free swell volume, dividing the difference by the initial volume, and multiplying the result by 100 percent. The results of these tests are presented on the boring logs.

R-Value tests were performed by Cooper Testing Laboratory on representative samples of the subgrade soils to provide data for the pavement design. The tests were performed in accordance with California Test Method 301-F on both untreated material and on material chemically-treated with a five percent mixture of 50 percent hi-calcium quicklime and 50 percent Portland cement, and indicated R-Values of 10 and 53, respectively, at an exudation pressure of 300 pounds per square inch. The results of the tests are presented on Drawings 13 and 14.

Corrosion testing was performed on a composite sample of the surficial soil materials from the site. Testing included resistivity, pH, chloride and sulfate testing performed in accordance with ASTM G57, ASTM G51, Caltrans 422 (modified) and Caltrans 417 (modified), respectively. The results of these tests are presented on Drawing 15 and are discussed in Section I. Soil Corrosivity.

EQUIPMENT	6" Diameter Solid Flight Auger*	ELEVATION	---	LOGGED BY	DL
DEPTH TO GROUNDWATER	Not Enc.	DEPTH TO BEDROCK	Not Enc.	DATE DRILLED	9/1/2021

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
Planter	Yellowish Brown	Very Dense	SC-SM	1			4	109	
CLAYEY TO SILTY SAND, slightly moist, fine to coarse grained sand, occasional fine subangular to subrounded gravel, weathered sandstone fragments, iron staining						53/10"	11	117	
@1.5': Liquid Limit = 42% Plasticity Index = 16% Finer Than #4 = 90% Finer Than #200 = 23% Free Swell = 60%				2		50/5"	13		
	Yellowish Brown to Reddish Brown			3		45/4"	19		
@2.0': moist						62/6"			
@3.0': Finer Than #4 = 97% Finer Than #200 = 47% Free Swell = 60%				4					
				5					
	Yellowish Brown		SC	6					
				7					
@8.5': slightly moist Finer Than #4 = 100% Finer Than #200 = 46% Free Swell = 70%				8					
				9		42/5"	9	99	
Bottom of Boring = 9.0' (Practical Drilling Refusal)				10					
				11					
				12					
				13					
				14					
				15					
				16					
				17					
				18					
				19					
				20					

* Drilled with CME-75 Truck Mounted Rig

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

LOG OF EXPLORATORY BORING NO. 1

FIVE NEW RESIDENCES
270 West Dunne Avenue
Morgan Hill, California

PROJECT NO.	DATE	DRAWING NO.
1425.1	May 2022	7

EQUIPMENT	6" Diameter Solid Flight Auger*	ELEVATION	---	LOGGED BY	DL
DEPTH TO GROUNDWATER	Not Enc.	DEPTH TO BEDROCK	Not Enc.	DATE DRILLED	9/1/2021

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
Irrigated Grass Lawn									
SILTY SAND, moist, fine to occasionally coarse grained sand, occasional fine subangular to subrounded gravel, fine rootlets	Brown to Yellowish Brown	Dense	SM	1		35	15		
@1.5': Liquid Limit = 44% Plasticity Index = 17% Finer Than #4 = 90% Finer Than #200 = 36% Free Swell = 50%				2			11	95	
		Medium Dense		3		22	10		
CLAYEY SAND, moist, fine to occasionally coarse grained sand, severely weathered sandstone fragments	Yellowish Brown to Reddish Brown	Very Dense	SC-SM	4		30/4"	14	109	
@4.0': Finer Than #4 = 92% Finer Than #200 = 37% Free Swell = 60%				5		52/6"	15		
				6					
	Yellowish Brown		SC	7					
				8					
@8.5': Finer Than #4 = 98% Finer Than #200 = 47% Free Swell = 70%				9		36/4"	10	126	
				10					
				11					
				12					
				13					
@14.0': slightly moist				14		33/4"	6	114	
Bottom of Boring = 14.0' (Practical Drilling Refusal)				15					
				16					
				17					
				18					
				19					
* Drilled with CME-75 Truck Mounted Rig				20					

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

LOG OF EXPLORATORY BORING NO. 2

FIVE NEW RESIDENCES
270 West Dunne Avenue
Morgan Hill, California

PROJECT NO.	DATE	DRAWING NO.
1425.1	May 2022	8

EQUIPMENT	6" Diameter Solid Flight Auger*	ELEVATION	---	LOGGED BY	DL
DEPTH TO GROUNDWATER	Not Enc.	DEPTH TO BEDROCK	Not Enc.	DATE DRILLED	9/1/2021

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
Soil Landscape	Brown to Reddish Brown	Very Stiff	CL	1			5		
SANDY CLAY, slightly moist, fine to coarse grained sand, occasional fine subangular to subrounded gravel, weathered sandstone fragments						32	9	83	
@1.5': Liquid Limit = 39% Plasticity Index = 17% Finer Than #4 = 95% Finer Than #200 = 57% Free Swell = 60%		Hard	CL-CH	2					
@3.0': moist Liquid Limit = 50% Plasticity Index = 26% Finer Than #4 = 88% Finer Than #200 = 56% Free Swell = 80%	Yellowish Brown to Reddish Brown			3		42	13		
@4.0': Finer Than #4 = 97% Finer Than #200 = 72% Free Swell = 100%				4		30/4"	27	99	
				5					
				6		82/11"	16		
	Yellowish Brown		CL	7					
@8.5': Finer Than #4 = 100% Finer Than #200 = 61% Free Swell = 70%				8					
				9		54/5"	10	108	
Bottom of Boring = 9.0' (Practical Drilling Refusal)				10					
				11					
				12					
				13					
				14					
				15					
				16					
				17					
				18					
				19					
				20					

* Drilled with CME-75 Truck Mounted Rig

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

LOG OF EXPLORATORY BORING NO. 3

FIVE NEW RESIDENCES
270 West Dunne Avenue
Morgan Hill, California

PROJECT NO.	DATE	DRAWING NO.
1425.1	May 2022	9

EQUIPMENT	6" Diameter Solid Flight Auger*	ELEVATION	---	LOGGED BY	DL
DEPTH TO GROUNDWATER	Not Enc.	DEPTH TO BEDROCK	Not Enc.	DATE DRILLED	9/1/2021

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
Soil Landscape									
SANDY CLAY, slightly moist, fine to coarse grained sand, occasional fine subangular to subrounded gravel, iron staining	Brown to Reddish Brown	Very Stiff	CL	1			7		
						25	12	98	
				2					
@1.5': Liquid Limit = 42% Plasticity Index = 19% Finer Than #4 = 91% Finer Than #200 = 55% Free Swell = 70%				3		32	12		
		Hard							
				4			12		
						59	13	103	
@4.5': Finer Than #4 = 98% Finer Than #200 = 60% Free Swell = 60%				5					
				6		75	13		
				7					
SILTY SAND, moist, fine to occasionally coarse grained sand, weathered sandstone fragments	Yellowish Brown	Very Dense	SM	8					
@8.5': Finer Than #4 = 97% Finer Than #200 = 16% Free Swell = 30%				9		45/6"	11	117	
				10					
				11					
				12					
				13					
@13.5': friable				14		60/5"	8	107	
Bottom of Boring = 14.0' (Practical Drilling Refusal)				15					
				16					
				17					
				18					
				19					
* Drilled with CME-75 Truck Mounted Rig				20					

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

LOG OF EXPLORATORY BORING NO. 4

FIVE NEW RESIDENCES
270 West Dunne Avenue
Morgan Hill, California

PROJECT NO.	DATE	DRAWING NO.
1425.1	May 2022	10

EQUIPMENT	6" Diameter Solid Flight Auger*	ELEVATION	---	LOGGED BY	DL
DEPTH TO GROUNDWATER	Not Enc.	DEPTH TO BEDROCK	Not Enc.	DATE DRILLED	9/1/2021

DESCRIPTION AND CLASSIFICATION				DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT (%)	DRY DENSITY (PCF)	SHEAR STRENGTH (KSF)
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE						
Soil Landscape	Brown to Reddish Brown	Hard	CL	1		43/6"	10	107	
SANDY CLAY, slightly moist, fine to coarse grained sand, occasional fine subangular to subrounded gravel, weathered sandstone fragments, iron staining				2					
@1.0': Finer Than #4 = 95% Finer Than #200 = 56% Free Swell = 60%				3		45	9		
@2.5': Liquid Limit = 33% Plasticity Index = 14% Finer Than #4 = 97% Finer Than #200 = 59% Free Swell = 50%				4		34/5"	17	111	
@3.5': moist				5		66	14		
@5.0': Liquid Limit = 45% Plasticity Index = 21% Finer Than #4 = 86% Finer Than #200 = 52% Free Swell = 70%				6					
	Reddish Brown to Grayish Brown, Mottled		CL-CH	7					
				8					
@9.5': Finer Than #4 = 91% Finer Than #200 = 56% Free Swell = 100%				9		62	18	104	
				10			19	117	
				11					
	Yellowish Brown to Reddish Brown			12					
@13.5': Finer Than #4 = 100% Finer Than #200 = 59% Free Swell = 80%				13					
				14		48/6"	12	118	
Bottom of Boring = 14.0' (Practical Drilling Refusal)				15					
				16					
				17					
				18					
				19					
				20					

* Drilled with CME-75 Truck Mounted Rig

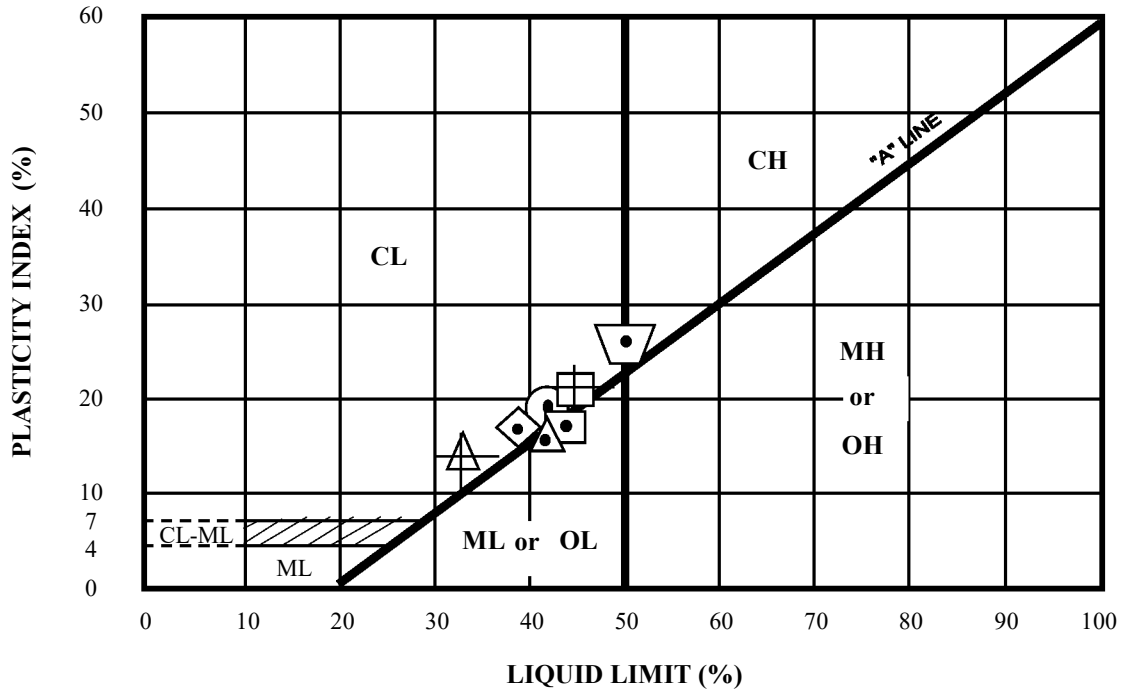
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

LOG OF EXPLORATORY BORING NO. 5

FIVE NEW RESIDENCES
270 West Dunne Avenue
Morgan Hill, California

PROJECT NO.	DATE	DRAWING NO.
1425.1	May 2022	11



KEY SYMBOL	BORING NO.	SAMPLE DEPTH (feet)	NATURAL WATER CONTENT %	LIQUID LIMIT %	PLASTICITY INDEX %	PASSING NO. 200 SIEVE %	LIQUIDITY INDEX	UNIFIED SOIL CLASSIFICATION SYMBOL
△	1	1.5	11	42	16	23	-0.9	SC - SM*
□	2	1.5	11	44	17	36	-0.9	SM*
◇	3	1.5	9	39	17	57	-0.8	CL
▽	3	3.0	27	50	26	56	0.1	CL - CH
○	4	1.5	12	42	19	55	-0.6	CL
⋔	5	2.5	9	33	14	59	-0.7	CL
⊞	5	5.0	14	45	21	52	-0.5	CL

*Classified as coarse-grained soil since less than 50% passes #200 sieve

CLEARY CONSULTANTS, INC.
Geotechnical Engineers and Geologists

PLASTICITY CHART

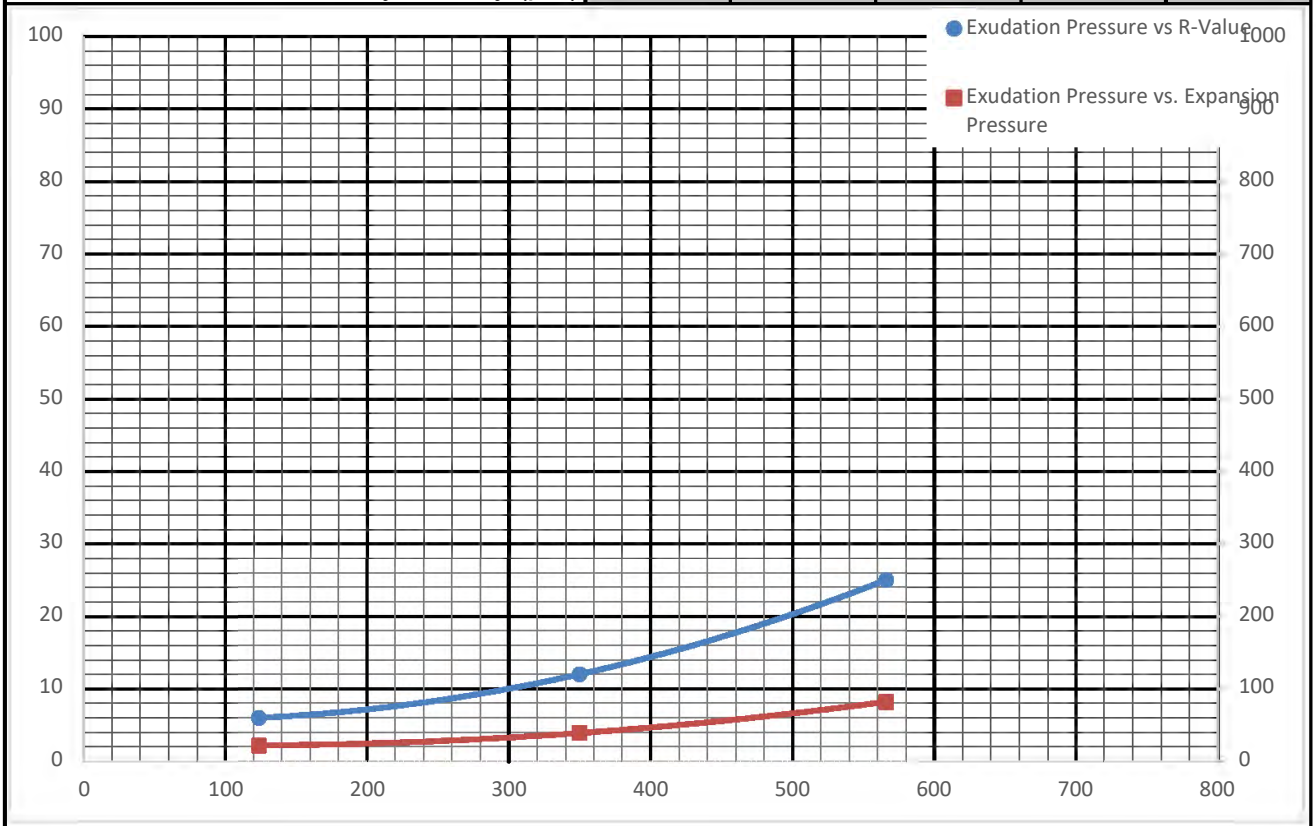
FIVE NEW RESIDENCE BUILDINGS
270 West Dunne Avenue
Morgan Hill, California

PROJECT NO.	DATE	DRAWING NO.
1425.1	May 2022	12

R-Value
CTM 301

CTL Job No.:	018-1096	Boring:	1-5	Reduced By:	RU
Client:	Cleary Consultants, Inc.	Sample:		Checked By:	PJ
Project Number:	1425.1	Depth:	0.5-3.0	Date:	11/2/2021
Project Name:	270 West Dunne Ave, Five New Residence Buildings		**R-Value**		**10**
Soil Description:	Reddish Brown Clayey Sand				
Remarks:			**Expansion Pressure**		**35**

Specimen Designation	A	B	C	D	E
Compactor Foot Pressure (psi)	90	70	230		
Exudation Pressure (psi)	350	124	566		
Exudation Load (lbf)	4398	1558	7113		
Height After Compaction (in)	2.67	2.49	2.43		
Expansion Pressure (psf)	39	22	82		
Stabilometer @ 2000	130	138	110		
Turns Displacement	4.80	5.98	3.26		
R-value	11	6	26		
Corrected R-Value	12	6	25		
Moisture Content (%)	20.3	22.3	18.4		
Wet Density (pcf)	130.9	130.5	134.2		
Dry Density (pcf)	108.8	106.7	113.4		

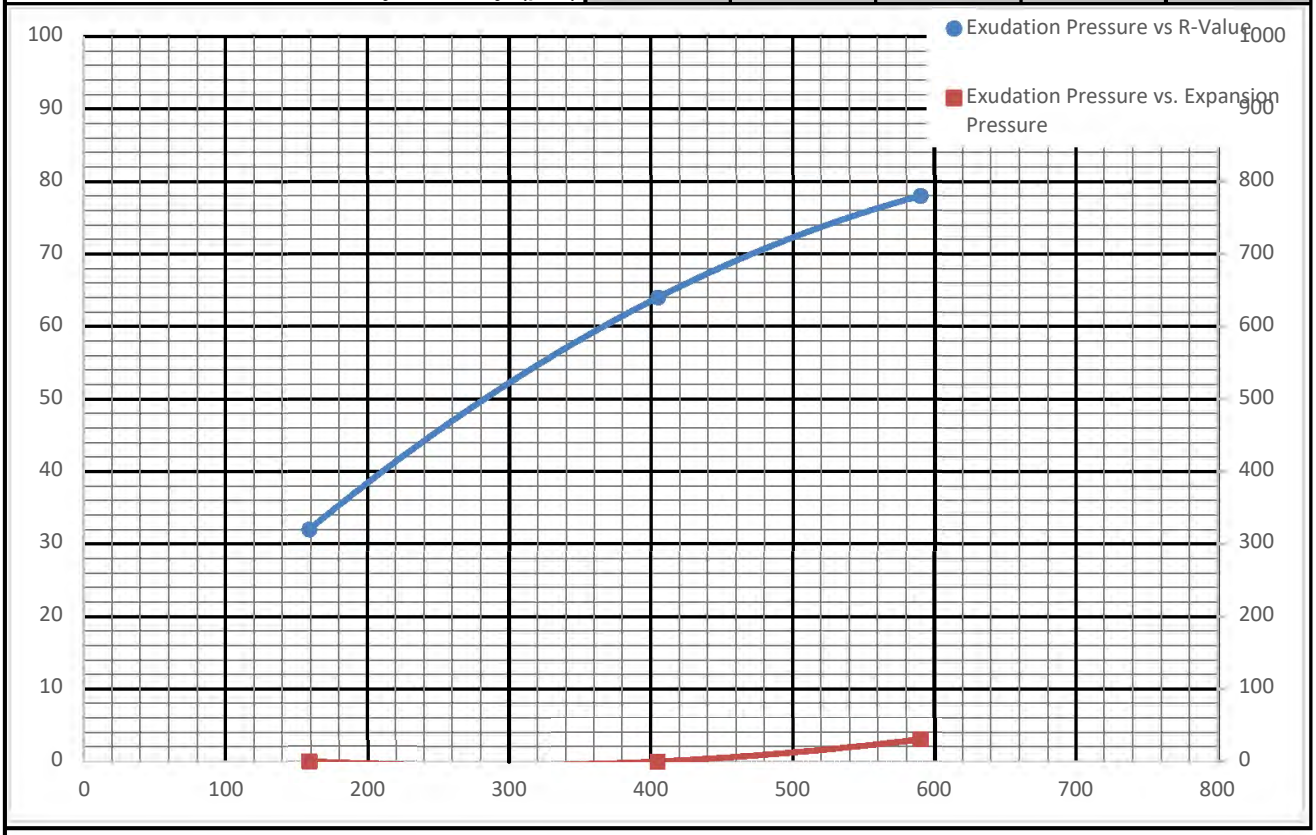


DRAWING NO. 13

R-Value
CTM 301

CTL Job No.:	018-1096	Boring:	1-5	Reduced By:	RU
Client:	Cleary Consultants, Inc.	Sample:		Checked By:	PJ
Project Number:	1425.1	Depth:	0.5-3.0	Date:	11/3/2021
Project Name:	270 West Dunne Ave, Five New Residence Buildings		**R-Value**		**53**
Soil Description:	Reddish Brown Clayey Sand (+5% QLP)				
Remarks:			**Expansion Pressure**		**0**

Specimen Designation	A	B	C	D	E
Compactor Foot Pressure (psi)	220	250	250		
Exudation Pressure (psi)	159	405	590		
Exudation Load (lbf)	1998	5089	7414		
Height After Compaction (in)	2.51	2.44	2.54		
Expansion Pressure (psf)	0	0	30		
Stabilometer @ 2000	98	44	26		
Turns Displacement	3.36	3.56	3.58		
R-value	32	65	78		
Corrected R-Value	32	64	78		
Moisture Content (%)	23.9	22.9	22.4		
Wet Density (pcf)	125.5	127.3	127.9		
Dry Density (pcf)	101.3	103.6	104.5		



DRAWING NO. 14

COOPER TESTING LABORATORY

Corrosivity Tests Summary

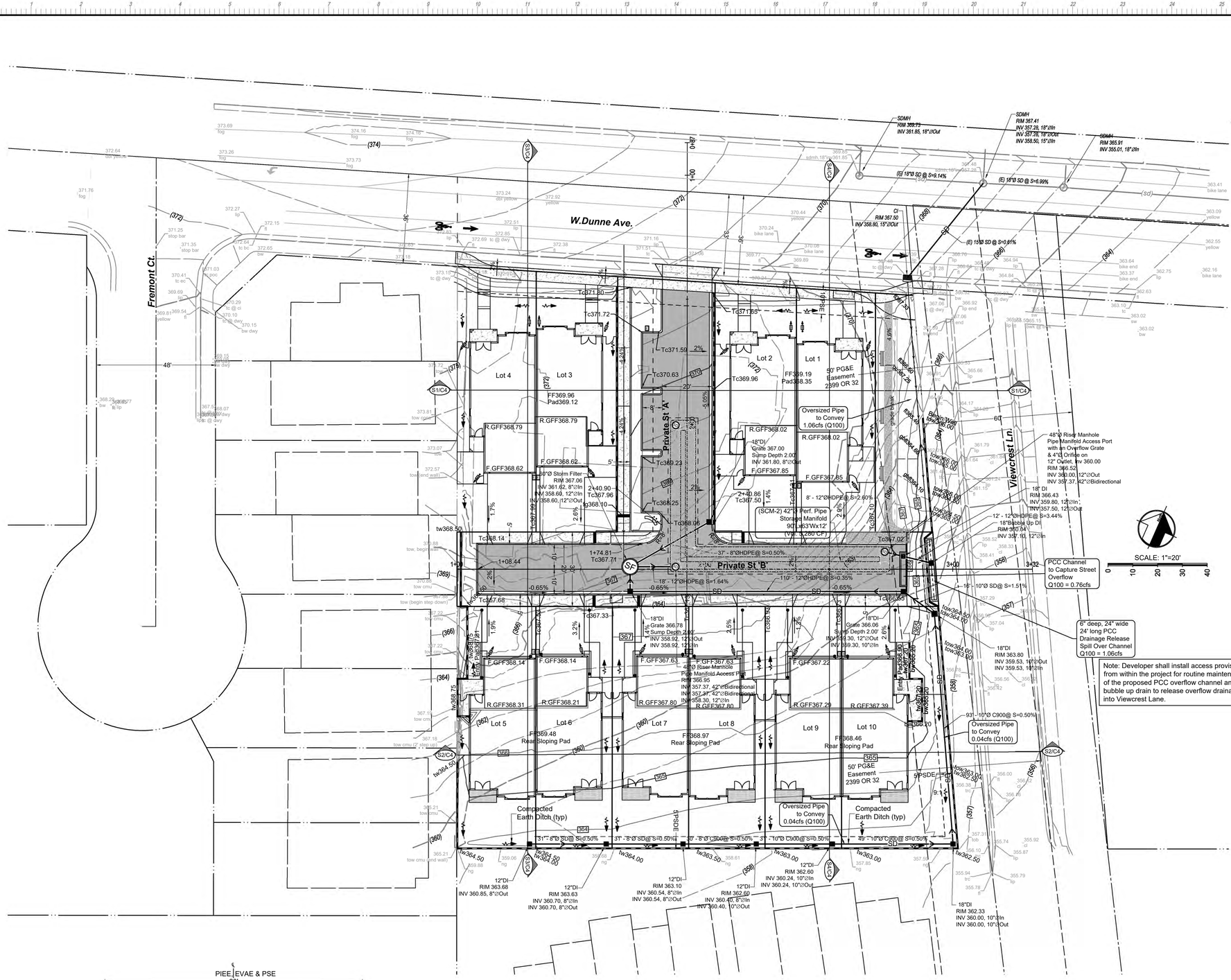
CTL # 018-1094 **Date:** 9/16/2021 **Tested By:** PJ **Checked:** PJ

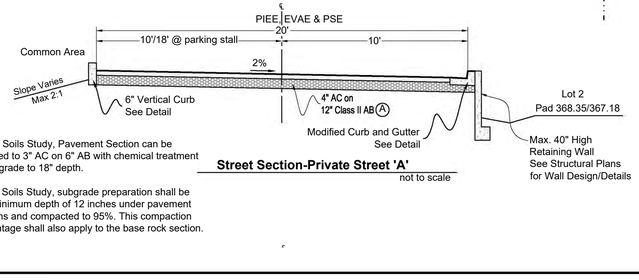
Client: Cleary Consultants, Inc. **Project:** 270 West Dunne Ave. - Five New Residence Buildings **Proj. No:** 1425.1

Remarks:

Sample Location or ID			Resistivity @ 15.5 °C (Ohm-cm)			Chloride	Sulfate		pH	ORP (Redox)		Sulfide	Moisture	Soil Visual Description
			As Rec.	Min	Sat.	mg/kg	mg/kg	%		E_H (mv)	At Test	Qualitative by Lead	At Test %	
						Dry Wt.	Dry Wt.	Dry Wt.						
Boring	Sample, No.	Depth, ft.	ASTM G57	Cal 643	ASTM G57	ASTM D4327	ASTM D4327	ASTM D4327	ASTM G51	ASTM G200	Temp °C	Acetate Paper	ASTM D2216	
EB 1-5	-	0.5-3.0	-	-	2,211	8	18	0.0018	7.1	552	24	-	12.8	Dark Yellowish Brown Clayey Sand w/ Gravel

DRAWING NO. 15

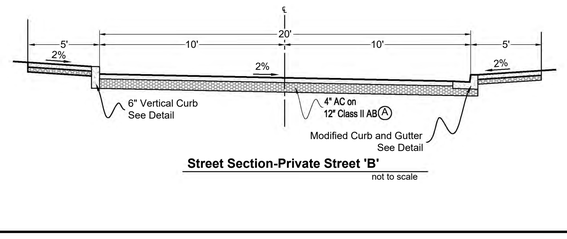




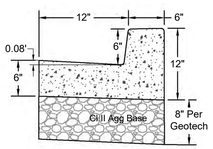
(A) Per Soils Study, Pavement Section can be modified to 3" AC on 6" AB with chemical treatment of subgrade to 18" depth.

(B) Per Soils Study, subgrade preparation shall be to a minimum depth of 12 inches under pavement sections and compacted to 95%. This compaction percentage shall also apply to the base rock section.

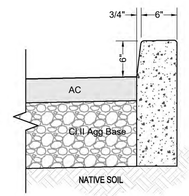
Street Section-Private Street 'A'
not to scale



Street Section-Private Street 'B'
not to scale



Modified Curb and Gutter Detail
Not to Scale



Vertical Curb Detail
Not to Scale

GRADING AND SITE PREPARATION NOTES:

1. ALL AREAS TO RECEIVE FILL SHALL BE STRIPPED TO A DEPTH DETERMINED BY THE SOILS ENGINEER. ANY A.C. OR P.C.C. PAVING SHALL BE SCARIFIED & REMOVED & SUBGRADE PREPARED & COMPACTED PER SOIL ENGINEER'S RECOMMENDATIONS PRIOR TO ANY FILLING.
2. ALL MATERIAL TO BE USED AS FILL WITHIN BUILDING PAD AREAS & PARKING OR DRIVEWAY AREAS TO BE FREE OF ALL VEGETATION & FOREIGN MATTER AND SHALL BE APPROVED BY SOILS ENGINEER.
3. BUILDING PADS & DRIVEWAY SUBGRADE SHALL BE COMPACTED PER RECOMMENDATIONS MADE BY THE SOILS ENGINEER.
4. BUILDING PADS SHALL BE LEVEL SIDE-TO-SIDE AND FRONT-TO-REAR, UNLESS OTHERWISE SHOWN.
5. STRIPPINGS MAY BE PLACED IN PLANTING AREA OR BURIED IN DESIGNATED PARK AREAS; ALL EXCESS STRIPPINGS SHALL BE HAULED AWAY. PAVING DEBRIS SHALL BE HAULED AWAY TO AN APPROVED DISPOSAL SITE.
6. ALL WORK SHOWN OR NOTED ON THESE PLANS SHALL BE DONE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE SOILS ENGINEER, ALL LOCAL, STATE, AND FEDERAL MINIMUM STANDARDS AND THE LATEST EDITION OF THE UNIFORM BUILDING CODE. NOTIFY SOILS ENGINEER 2 WORKING DAYS PRIOR TO BEGINNING OF ANY GRADING. REFER TO SOILS STUDY BY Cleary Consultants (Project No. 1425.1, Dated May 2022).
7. CONNECTIONS TO EXISTING PUBLIC UTILITIES SHALL BE DONE WITH APPROVAL & IN ACCORDANCE WITH THE UTILITY COMPANY'S REQUIREMENTS.
8. CONTRACTOR SHALL PROTECT ALL EXISTING SITE IMPROVEMENTS NOT SCHEDULED FOR REMOVAL DURING CONSTRUCTION. THEY SHALL REPAIR ANY DAMAGE TO NEW CONDITION AT THEIR EXPENSE.
9. VERIFY ALL EXISTING SITE CONDITIONS, SITE DIMENSIONS AND GRADES PRIOR TO START OF WORK.
10. CONFORM TO THE RECOMMENDATIONS OF THE DRAWINGS, DETAILS AND SITE SOILS REPORT FOR COMPACTION, STRIPPING, GRADING, PAVING AND UTILITY TRENCHES.
11. SOIL COMPACTION TESTS SHALL BE PAID FOR BY THE OWNER/DEVELOPER AS PER NOTE 3.
12. ALL GRADING AND RELATED WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF MORGAN HILL AND THE RECOMMENDATION OF THE SOILS ENGINEER.
13. CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING SERVICES AND UNDERGROUND UTILITIES & SEWERS. LOCATIONS SHOWN ON THE PLAN ARE APPROXIMATE AND SHOWN FOR GENERAL INFORMATION ONLY. CONTRACTOR SHALL CALL U.S.A. AT 800-227-2600 48 HOURS PRIOR TO UNDERGROUND WORK FOR FIELD LOCATOR SERVICE.
14. CONTRACTOR SHALL VERIFY THE LOCATIONS OF THE BUILDING AND PARKING IMPROVEMENTS FROM THE ARCHITECT'S DIMENSIONED DRAWING.
15. FOUNDATIONS AND FOOTING DETAILS SHOWN ARE FOR GRADING RELATIONSHIPS ONLY. CONTRACTOR SHALL REFER TO DIMENSIONED STRUCTURAL OR ARCHITECTURAL PLANS FOR ACTUAL DIMENSIONED DETAILS.
16. ANY VOIDS CREATED BY STRUCTURE REMOVAL, TREE REMOVAL, SEPTIC TANK AND LEACH LINE REMOVAL MUST BE BACKFILLED WITH PROPERLY COMPACTED NATIVE SOILS THAT ARE FREE OF ORGANICS & OTHER DELETERIOUS MATERIALS OR WITH APPROVED IMPORT FILL & COMPACTED TO THE SOILS ENGINEER'S RECOMMENDATIONS.
17. IT SHALL BE THE RESPONSIBILITY OF THE GRADING CONTRACTOR, DURING GRADING OPERATION, IN COOPERATION WITH MH ENGINEERING TO VERIFY QUANTITIES OF EARTHWORK. QUANTITIES SHOWN HAVE BEEN DILIGENTLY ESTIMATED BY THE ENGINEER, BASED UPON AVAILABLE INFORMATION, IN ORDER TO ASSIST THE CONTRACTOR. THE GROUND TOPOGRAPHY ELEVATIONS & CONTOURS WERE FURNISHED BY MH Engineering, dated June 2021. MH Engineering DOES NOT GUARANTEE CURRENT ACCURACY OF THE GROUND ELEVATIONS. CONTRACTOR SHALL FIELD VERIFY FOR HIMSELF THAT NO ADDITIONAL GRADING, IMPORTING OR EXPORTING OF EARTH HAS TAKEN PLACE SINCE THE TOPO SURVEY OF PROPERTY.
18. THE EARTHWORK QUANTITIES SHOWN ARE PROVIDED AS A COURTESY AND CONVENIENCE TO THE CONTRACTOR. THE CUT & FILLS SHOWN ARE APPROXIMATE CALCULATED QUANTITIES BASED ON THE DIFFERENCE BETWEEN EXISTING GROUND ELEVATIONS (CONTOURS) & ROUGH GRADE ELEVATIONS. THE CALCULATION MAKES NO PROVISION FOR SCARIFICATION & COMPACTION WORK OR FILLS. FOR THIS REASON & BECAUSE OF VARIABLES SUCH AS COMPACTION, SHRINKAGE & THE CONTRACTOR'S METHOD OF OPERATION, THE VOLUME OF DIRT ACTUALLY MOVED IN THE FIELD WILL PROBABLY VARY TO SOME EXTENT FROM THE CALCULATED VOLUME. FOR THE PURPOSE OF APPROXIMATING THE SHRINKAGE, 12% WAS USED FOR THE FILL VOLUMES.
19. THE CONTRACTOR'S EARTHWORK BID REFLECTS HIS OWN CALCULATION OF THE EARTHWORK COMPACTED & COMPLETE IN PLACE TO THE DETAILS, LINE, AND GRADE SHOWN ON THE PLANS.

Earthwork Summary----10" Slab Section

Description	Cut	Fill
Strippings loss (2" depth)	Typically Absorbed Onsite	
Streets & Site grading (incl. 12% compaction)	4,079	7,943
Underground Pipe manifold excavation Spoils	200	
Trench Spoils (wet & dry)	900	
Hardscape & Fine Grading-estimate	250	
Net volume	5,429	7,943
Estimated Import		**2,514±**

Note: all unusable strippings shall be hauled offsite as part of the site clearing and grubbing item of work.

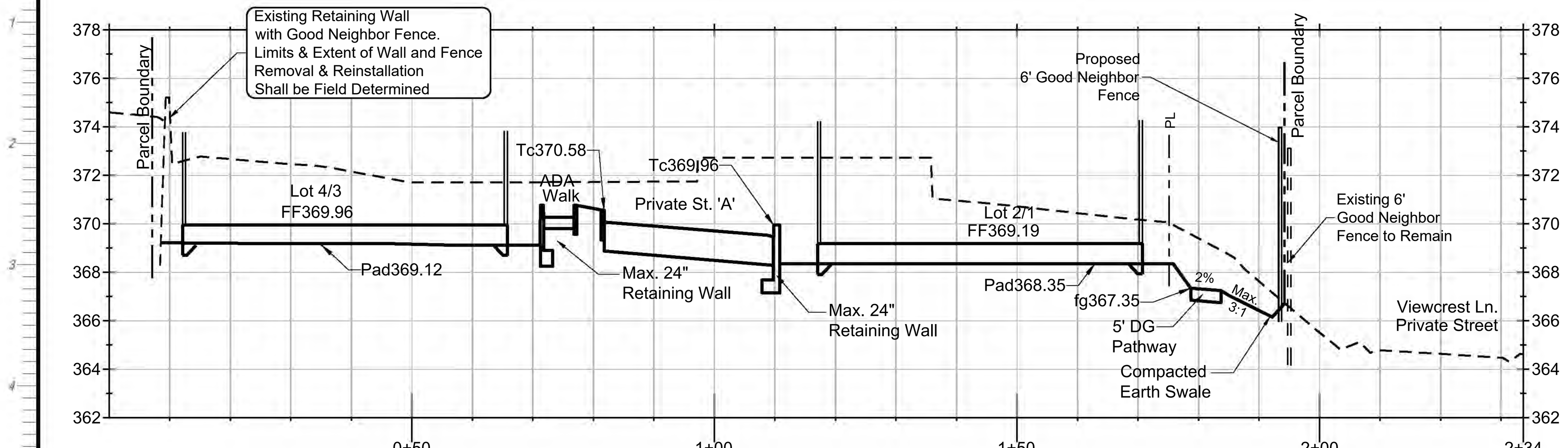
MH engineering Co.
16075 Vineyard Boulevard
Morgan Hill, CA 95037

Preliminary Grading & Drainage Plan
270 W. Dunne Avenue

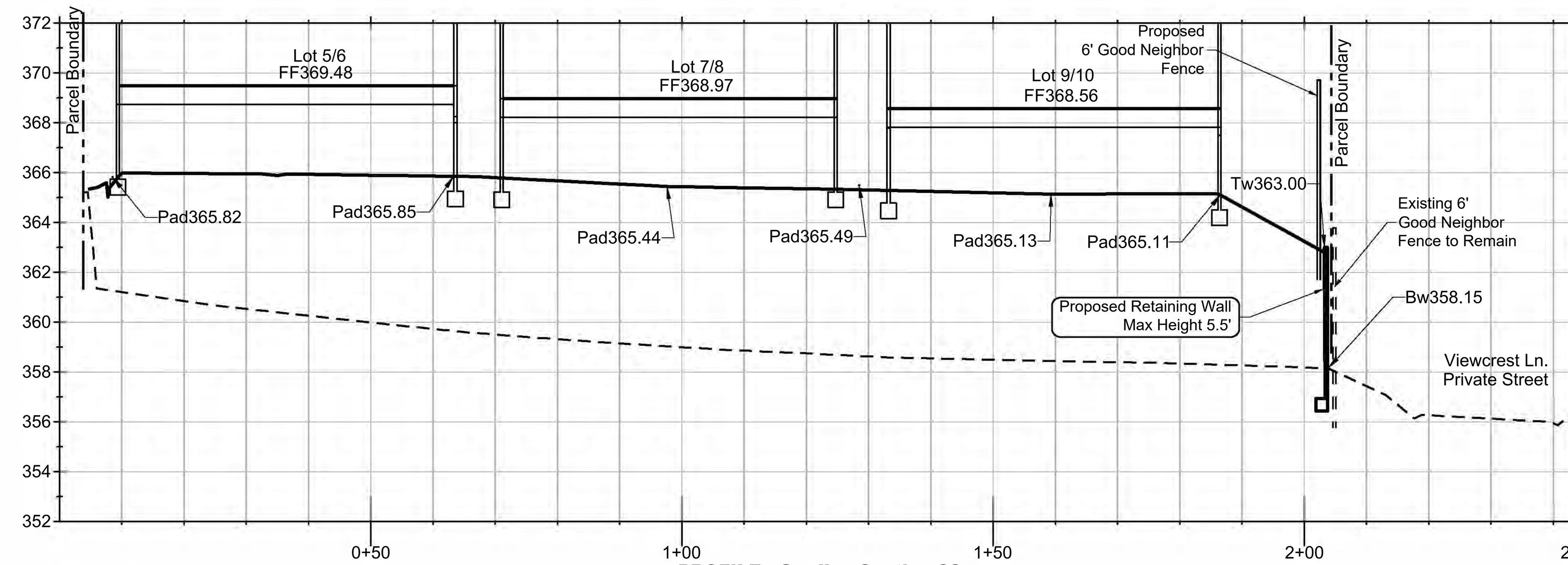
DATE: Jan 2024
SCALE: 1"=20'
DRAWN BY: RS
CHECKED BY: HS

JOB NO. 221089

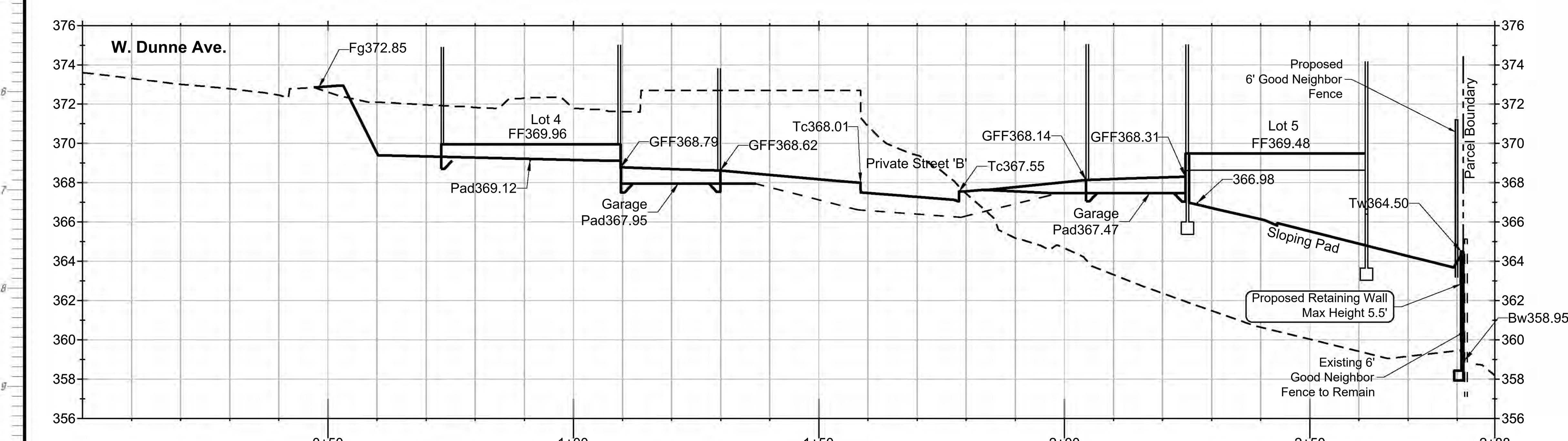
SHEET 3 OF 6



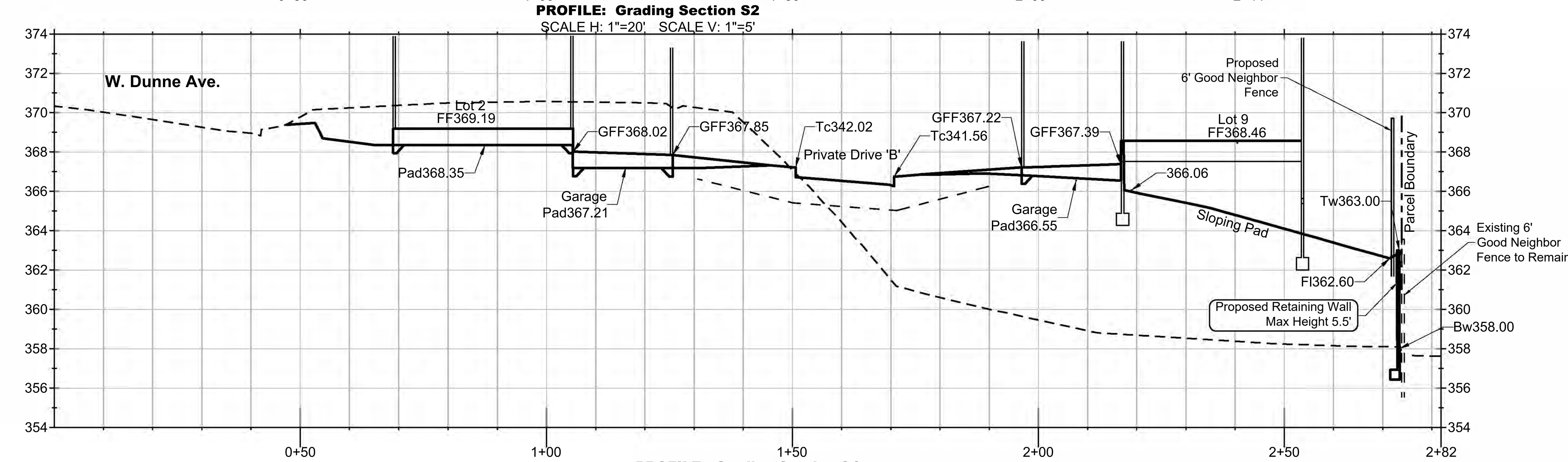
PROFILE: Grading Section S1
SCALE H: 1"=20' SCALE V: 1"=5'



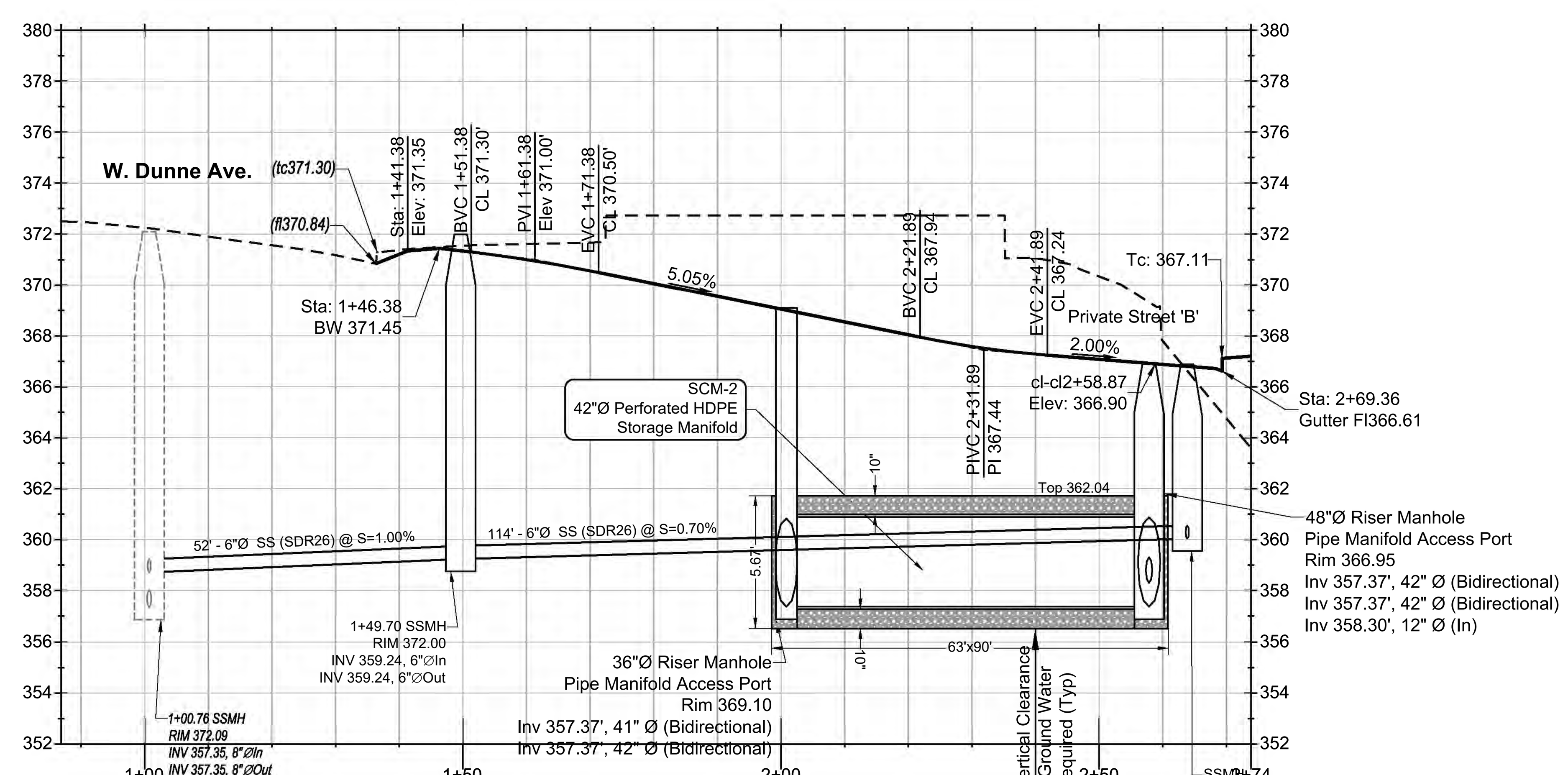
PROFILE: Grading Section S2
SCALE H: 1"=20' SCALE V: 1"=5'



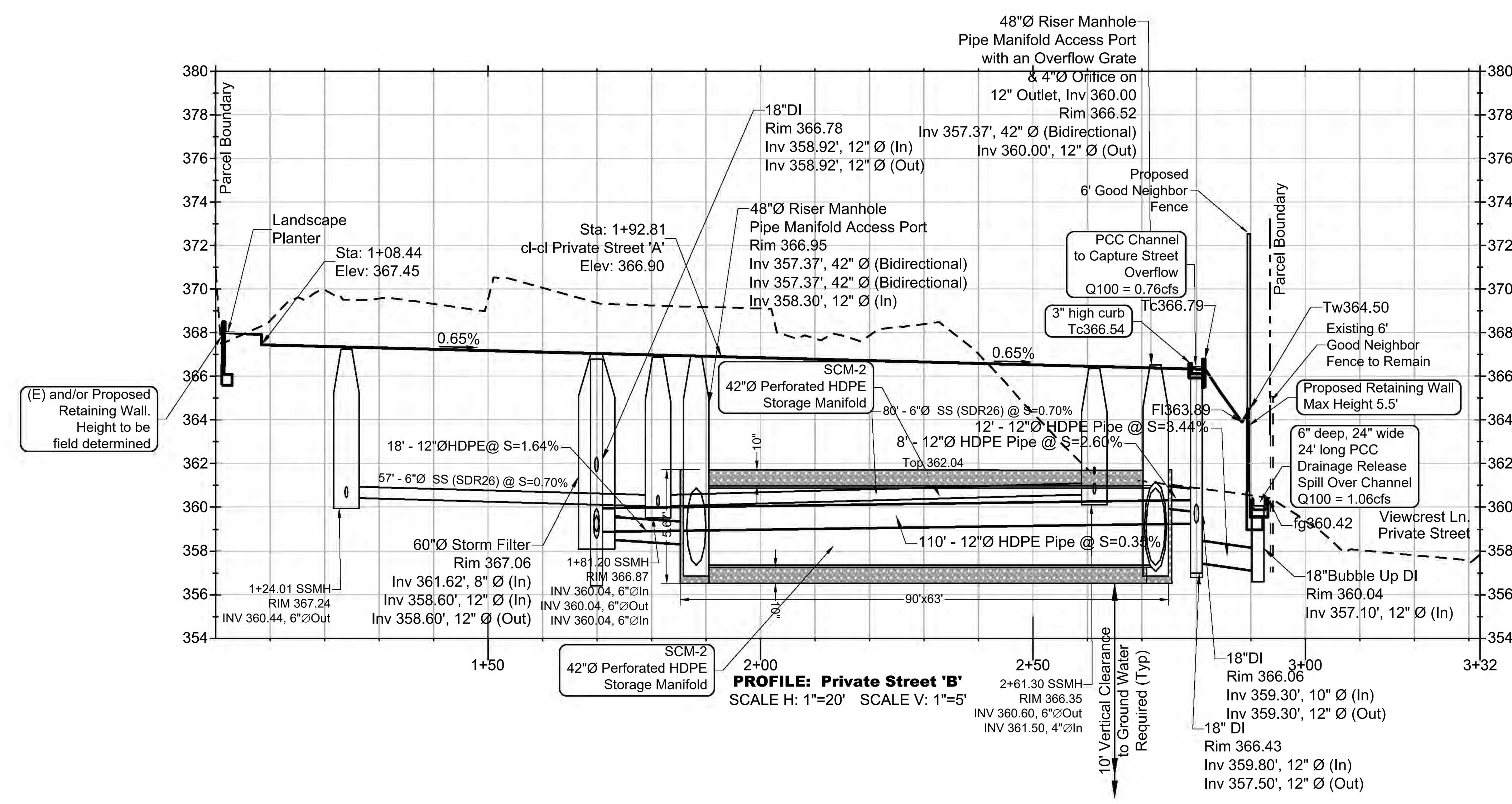
PROFILE: Grading Section S3
SCALE H: 1"=20' SCALE V: 1"=5'



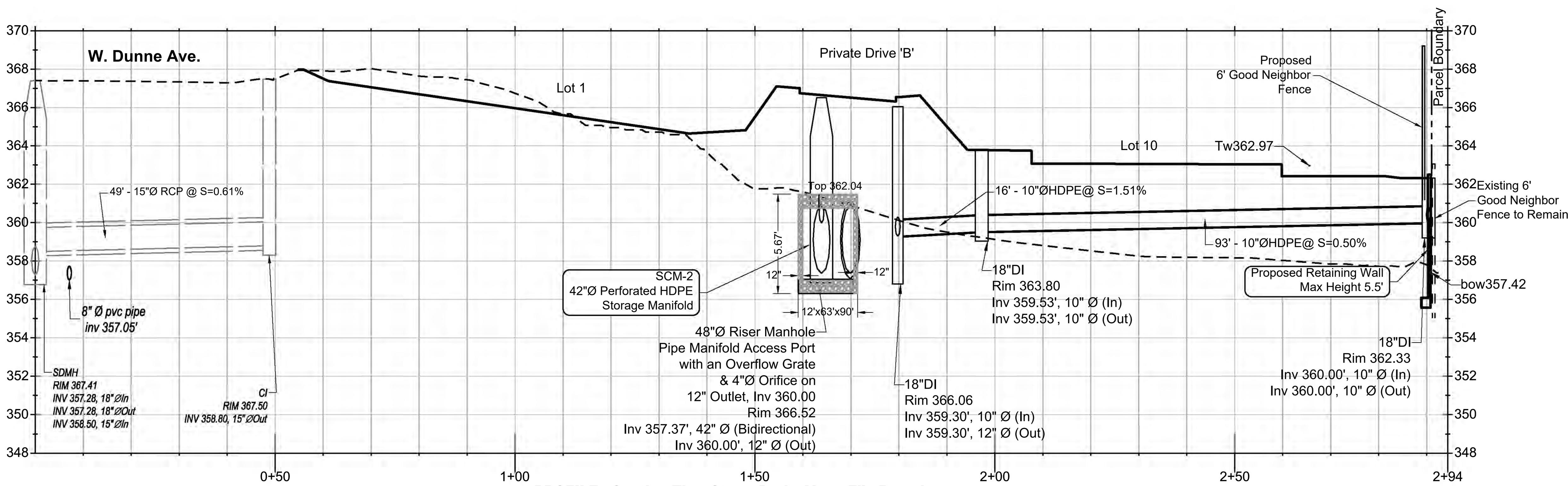
PROFILE: Grading Section S4
SCALE H: 1"=20' SCALE V: 1"=5'



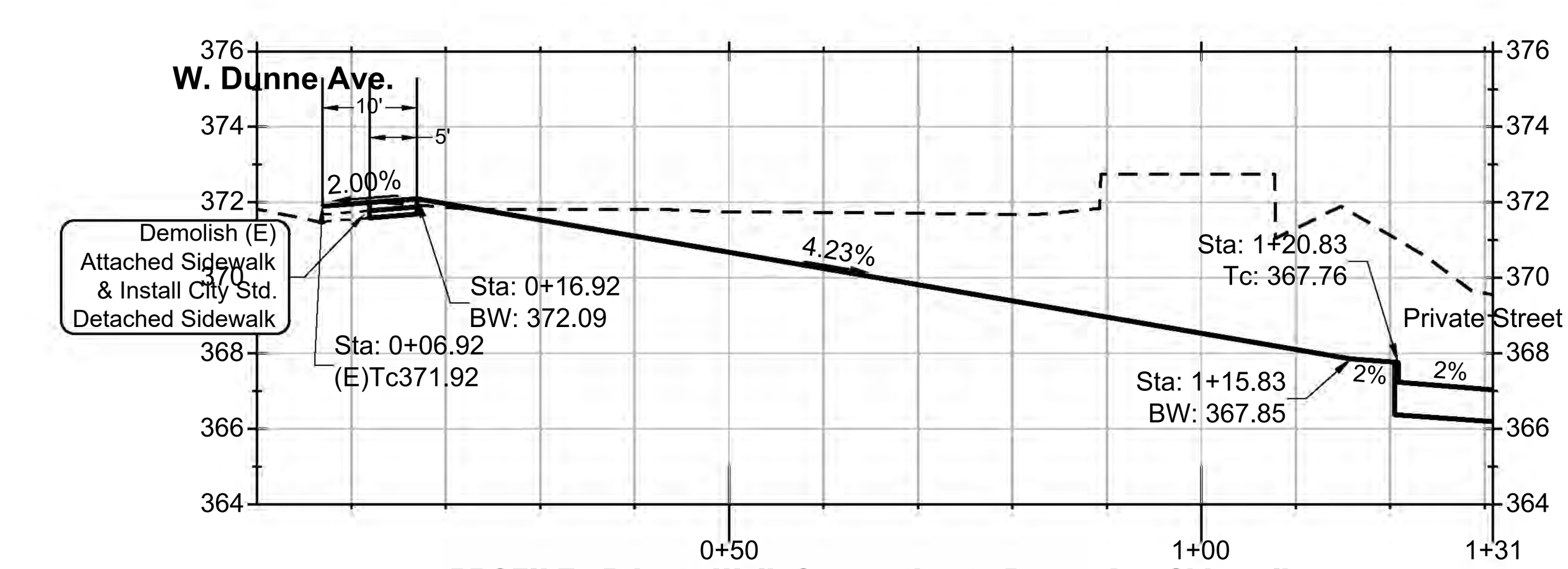
PROFILE: Private Street 'A'
SCALE H: 1"=20' SCALE V: 1"=5'



PROFILE: Private Street 'B'
SCALE H: 1"=20' SCALE V: 1"=5'



PROFILE: Section Thru Storm Drain Along E'ly Boundary
SCALE H: 1"=20' SCALE V: 1"=5'

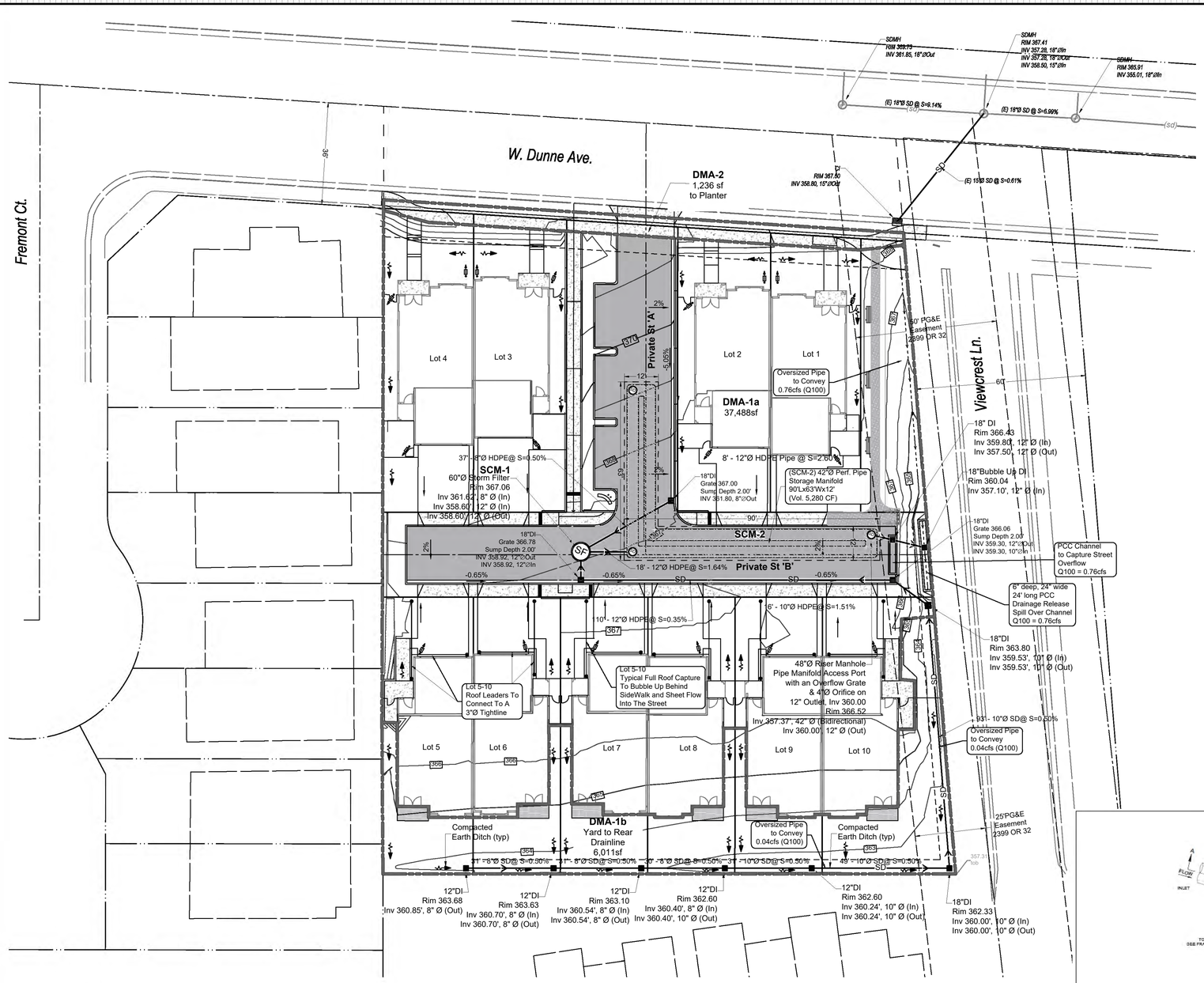


PROFILE: Private Walk Connection to Dunne Ave Sidewalk
SCALE H: 1"=20' SCALE V: 1"=5'

MH engineering Co.
16075 Vineyard Boulevard
Morgan Hill, CA 95037

Preliminary Grading Sections
270 W. Dunne Avenue

DATE: Jan 2024
SCALE: 1"=20'
DRAWN BY: RS
CHECKED BY: HS
JOB NO. 221089
SHEET 4 OF 6



DMA-1a & 1b

Contech 60"Ø StormFilter (SF) SCM-1 Pre-Treatment

SCM-2 42"Ø Perf. Pipe Storage Manifold

Mitigated Overflom to Bubble Up Drain at the E'ly Boundary along historic release path into ViewCrest Lane

DMA-2

Planter between existing curb & proposed detached sidewalk along Dunne Avenue

Note: Developer shall install access provision from within the project for routine maintenance of the proposed PCC overflow channel and bubble up drain to release overflow drainage into Viewcrest Lane.

Storm Water Management Flow Schematic

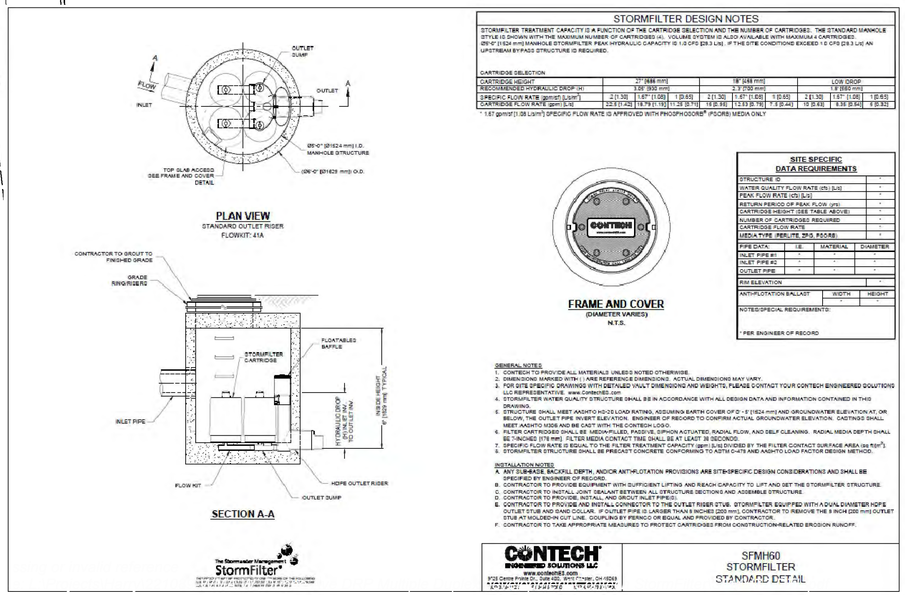
Table 1: Project Data

Project Name/Number	Robertson (SR2022-0023)
Application Submittal Date	Nov. 2022
Project Location	270 W. Dunne Avenue
APN#	767-12-060
Project Type and Description	Residential Project comprising of 10 townhome style attached units and related Access Street improvements
Total Project Site Area (acres)	44,735 sf
Total New Impervious Surface Area	28,314 sf
Total Replaced Impervious Surface Area	1,087 sf
Total Pre-Project Impervious Surface Area	9,608 sf
Total Post-Project Pervious Surface Area	16,421 sf
Net Impervious Area (Exhibit shall be provided to justify net impervious area results)	28,314 sf
Watershed Management Zone(s)	WMZ 1
85th Design Storm	1.15 inch
95th Design Storm	1.80 inch

270 W. Dunne Ave - Project LID Area Tabulation

DMA	DMA area (sf)	DMA Impervious Area (I.A.) sf			Total Impervious Area(sf)	Pervious Area (sf)
		Public Hardscape	Roofs, Onsite Driveways & Yard	Private Street & Walks		Yard & Open Space Landscape
1a	37,488	0	19,710	7,517	27,227	10,261
1b	6,011	0	0	0	0	6,011
2	1,236	972	0	0	1,087	149
Total Area	44,735	972	19,710	7,517	28,314	16,421

Total Project Site Gross Area	44,735
Total New Impervious Area	28,314
Total Replaced Impervious Area (Public Sidewalk & Drive Approach)	1,087
Total New Pervious Area	16,421
Net Impervious Area	**28,314>22,500 (Tier 4 Project)**



STORMFILTER DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (4). VOLUME SYSTEM ID ALSO AVAILABLE WITH MAXIMUM 4 CARTRIDGES. (25'-0" (7.62m) MANHOLE STORMFILTER PEAK HYDRAULIC CAPACITY IS 1.0 CFS (28.3 L/s). IF THE SITE CONDITIONS EXCEED 1.0 CFS (28.3 L/s) AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

CARTRIDGE HEIGHT	27" (686 mm)	18" (459 mm)		LOW DROP	
RECOMMENDED HYDRAULIC DROP (H)	3.06' (930 mm)		2.3' (700 mm)		1.9' (580 mm)
SPECIFIC FLOW RATE (gpm/sf) [L/s/m²]	2 [1.36]	1.67* [1.08]	1 [0.68]	2 [1.36]	1.67* [1.08]	1 [0.68]
CARTRIDGE FLOW RATE (gpm) [L/s]	22.5 [1.42]	18.79 [1.19]	11.24 [0.71]	15 [0.95]	12.53 [0.79]	7.5 [0.47]	15 [0.95]	8.34 [0.54]	5 [0.32]

* 1.67 gpm/sf [1.08 L/s/m²] SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	-
WATER QUALITY FLOW RATE (cfs) [L/s]	-
PEAK FLOW RATE (cfs) [L/s]	-
RETURN PERIOD OF PEAK FLOW (yrs)	-
CARTRIDGE HEIGHT (SEE TABLE ABOVE)	-
NUMBER OF CARTRIDGES REQUIRED	-
CARTRIDGE FLOW RATE	-
MEDIA TYPE (PERLITE, PPS, PSORB)	*

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	-	-	-
INLET PIPE #2	-	-	-
OUTLET PIPE	-	-	-

RIM ELEVATION	-

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	-	-

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE, www.ContechES.com.
4. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO H-20 LOAD RATING, ASSUMING EARTH COVER OF 2' - 6" (762 mm) AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION, ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
6. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES (178 mm). FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 30 SECONDS.
7. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm [L/s]) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft [m²]).
8. STORMFILTER STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPE(S).
E. CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUB. STORMFILTER EQUIPPED WITH A DUAL DIAMETER HDPE OUTLET STUB AND SAND COLLAR. IF OUTLET PIPE IS LARGER THAN 8 INCHES (200 mm), CONTRACTOR TO REMOVE THE 8 INCH (200 mm) OUTLET STUB AT MOLDED-IN CUTLINE. COUPLING BY PERNCO OR EQUAL AND PROVIDED BY CONTRACTOR.
F. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800.338.1122 513.645.7000 513.645.7993 FAX

SFMH60
STORMFILTER
STANDARD DETAIL

REGISTERED PROFESSIONAL ENGINEER
HARINDER S. NAGRA
C49717
STATE OF CALIFORNIA

MH engineering Co.
16075 Vineyard Boulevard
Morgan Hill, CA 95037

Preliminary Storm Water Management Plan
270 W. Dunne Avenue

DATE: Jan 2024
SCALE: 1"=20'
DRAWN BY: RS
CHECKED BY: HS

JOB NO. 221089

SHEET 5
OF 6

Appendix C

Historic Evaluation of the Residence at 270 West Dunne Avenue in the City of Morgan Hill (HRE)

Archaeological Resource Management

Robert R. Cartier, Ph.D.
496 North 5th Street
San Jose, CA 95112
Telephone (408) 295-1373
Fax (408) 286-2040
email: armcartier@netscape.net

Rebekah Robertson
PO Box 664
Genoa, NV 89411

April 19, 2024

RE: HISTORIC EVALUATION OF THE RESIDENCE AT 270 W. DUNNE AVENUE IN THE CITY OF MORGAN HILL

Dear Ms. Robertson,

As per your request our firm is submitting the enclosed historical evaluation of the property at 270 W. Dunne Avenue in the City of Morgan Hill. Based upon the requirements of the City of Morgan Hill, a methodology was designed which included the following services:

- a visual description of the structure including general appearance, condition, and architectural style
- photography of the structure
- documentation of property ownership history
- an evaluation of the structure using the criteria of the National Register of Historic Places, the California Register, and the City of Morgan Hill
- State Historic Resources Evaluation forms (DPR) 523 for the structure

Based upon the results of this investigation, it was determined that the property is not currently listed on the California Register of Historic Resources (CRHR), the National Register of Historic Places (NRHP), or the City of Morgan Hill Historical Inventory. The structure does not appear eligible for listing in any of these registers. Thus, it is determined that the structure is not historically significant, and no further recommendations are being made.

Sincerely,

Robert Cartier, Ph.D.
Principal Investigator

RC/dj

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # _____
HRI # _____
Trinomial _____
NRHP Status Code _____
Other Listings _____
Review Code _____ **Reviewer** _____ **Date** _____

Page 1 **of** 27 **Resource Name or #** 270 W. Dunne Avenue

P1. Other Identifier: _____

P2. Location: ____ **Not for Publication** x **Unrestricted** ***a. County** Santa Clara

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Mt. Madonna, CA **Date:** 2021 **T** ; **R** ; **1/4 of** **1/4 of Sec** ; **BM**

c. Address: 270 W. Dunne Avenue **City:** Morgan Hill, CA **Zip:**95037

d. UTM: 10S 6 19 476mE/41 09 414mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate)
APN: 767-12-060

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)
The primary structure at 270 W. Dunne Avenue is a single story ranch style residence in fair condition, although heavily altered from its original form. The structure is of frame construction and built in a roughly "L" shaped configuration, with the longer leg of the L being an addition to the original residence. The roof is hipped and of shallow pitch, surfaced with composition shingles. The eaves are broad and open, with exposed rafters, characteristic of the Ranch style of architecture. Exterior walls are surfaced with stucco, painted light gray. Fenestration throughout the structure consists primarily of vinyl clad windows, likely replacing original aluminum framed windows. The southern facade includes a square glass block window along the patio.

See Continuation Sheet, Page 4

***P3b. Resource Attributes:** (List attributes and codes.) HP02: SFR

***P4. Resources Present:** x Building __Structure __Object __District __Element of District __Site __Other

P5a. Photo or drawing (Photo required for buildings, structures, objects.)

P5b. Description of Photo: (View, date, accession #)
View of the front facade of 270 W. Dunne Avenue from the northwest

***P6. Date Constructed/Age and Sources**
Historic X Prehistoric Both
Constructed 1953 based on County of Santa Clara Assessor's data.

***P7. Owner and Address:**
Richard Borello
PO Box 448
Genoa, NV 89411

***P8. Recorded by:**
Robert Cartier
Archaeological Resource Management
496 North 5th Street
San Jose, CA 95112

***P9. Date Recorded:** 4/19/2024

***P10. Survey Type:** Intensive

***P11. Report Citation:** (Cite Survey Report and other sources, or enter "none.")
none

* Attachments: __None X Location Map __Sketch Map X Continuation Sheet X Building, Structure, and Object Record __Archaeological Record __District Record __Linear Feature Record __Milling Station Record __Rock Art Record __Artifact Record __Photographic Record __Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
Primary # _____
HRI # _____

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 2 **of** 27 ***NRHP Status Code** _____

***Resource Name or #** (Assigned by recorder) 270 W. Dunne Avenue

B1. Historic Name: Ralph & Helen Slauter Residence

B2. Common Name: 270 W. Dunne Avenue

B3. Original Use: residence **B4. Present Use:** residence

***B5. Architectural Style:** Ranch

***B6. Construction History:** (Construction date, alterations, and date of alterations)

Based on County of Santa Clara Assessor's property records, the residence at 270 W. Dunne Avenue was constructed in 1953 and at that time appears to have included only what is now the eastern wing of the structure (making up the short leg of the overall "L" shape of the residence. Other modifications made include replacement of the majority of the original windows, and reroofing of the residence. Permitted improvements to the property include an electrical permit in 1986 (MH BP# 86-12), the construction of the deck and arbor in 1986 (MH BP#86-134), construction of the carport in 1990 (MH BP# 90-0685), enclosure of the existing porch and a kitchen remodel also in 1990 (MH BP# 90-1263), grading of 100 cubic yards for a new driveway in 1991 (MH BP# 91-0443), and construction of the driveway and parking pad (MH BP# 91-0532), construction of an RV storage and shop building (later converted for use as a secondary residence) in 1991 (MH BP# 91-0695), and the western wing addition to the residence in 1998 (MH BP# 98-1250).

***B7. Moved?** x **No** ___ **Yes** ___ **Unknown** **Date:** _____ **Original Location:** _____

***B8. Related Features:**

Also present on the property is a garage, a modern secondary residence, a portable trailer building, a small shed, and a covered bocce ball court. These structures are described in more detail below.

See Continuation Sheet, Page 4

B9a. Architect: unknown **b. Builder:** unknown

***B10. Significance: Theme** Com. Growth & Development **Area** Morgan Hill, CA

Period of Significance Post-War (1953) **Property Type** private residential **Applicable Criteria** N/A

The property at 270 W. Dunne Avenue is located within the *Rancho Ojo de Agua de la Coche*, originally granted to Juan Maria Hernandez in 1835. In 1845 the rancho was purchased by Martin Murphy Senior. He granted the property to his son Bernard Murphy, who married Catherine O'Toole, originally of Canada, in 1851. The land passed to their infant son Martin J.C. Murphy in 1853 after Bernard's death. Catherine was later married to James Dunne. Martin J. C. Murphy died at the age of 19, at which point the property passed to his mother, now known as Catherine Dunne.

See Continuation Sheet, Page 5

B11. Additional Resource Attributes: (List attributes and codes) N/A

***B12. References:**

See continuation sheet, Page 7.

B13. Remarks:

***B14. Evaluator:** Robert R. Cartier

***Date of Evaluation:** 4/19/2024

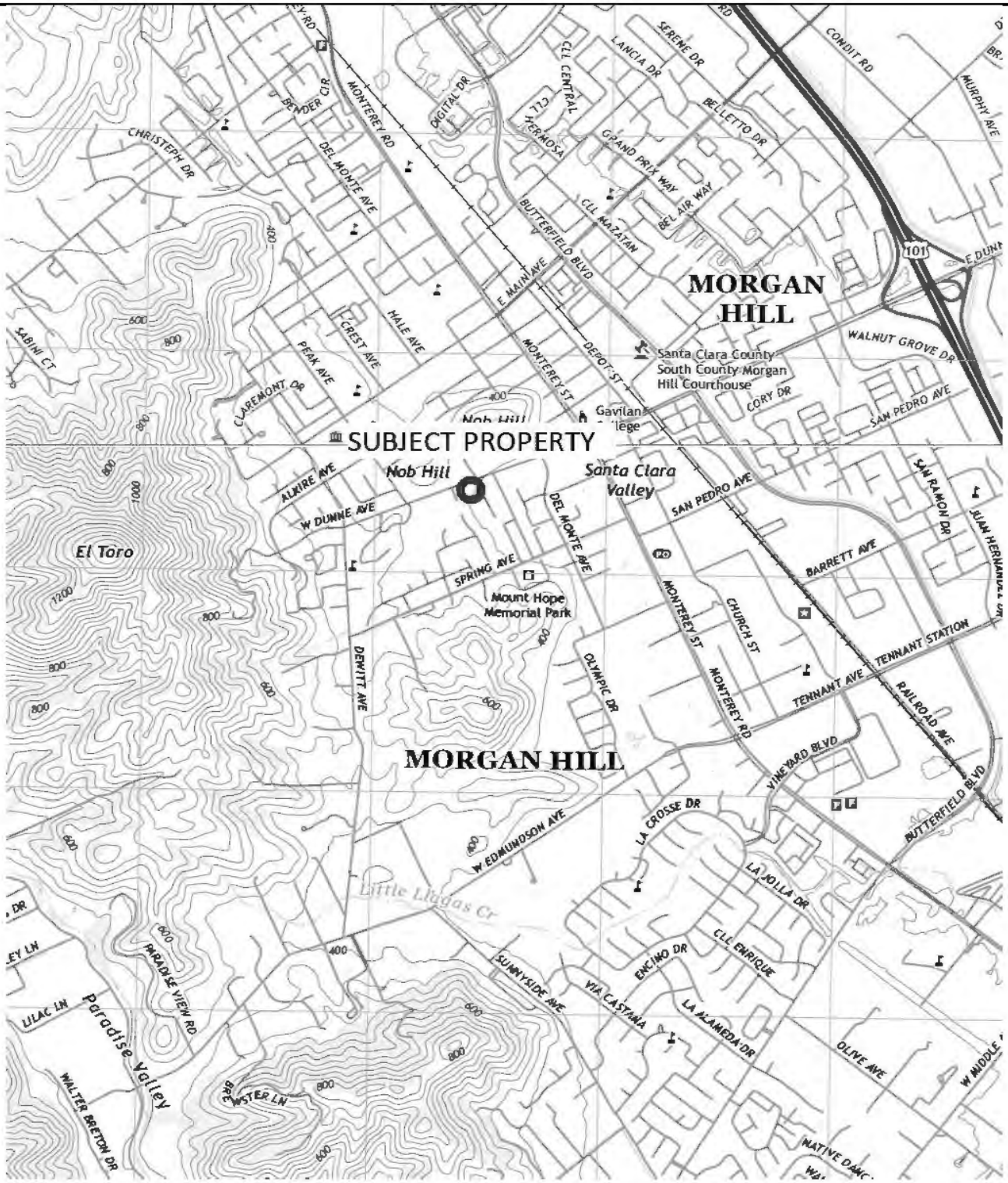
(This space reserved for official comments.)

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary # _____
HRI # _____
Trinomial _____

Page 3 **of** 27 **Resource Name or #** (Assigned by recorder) 270 W. Dunne Avenue
***Map Name:** Mt. Madonna, CA ***Scale:** 7.5 minute ***Date of Map**: 2021



Continued from P3a:

The original front entry is dis-used, and a newer entry porch has been added at the northeast corner of the front facade. This porch is entered via a long accessible ramp. A semi-detached garage is connected to the residence via a covered carport and creates a sheltered courtyard. A covered patio is located within the interior corner of the "L" within this courtyard.

Continued from B8:

Garage

The semi-detached garage has connected living space and is attached to the residence by a covered carport. The roof of this structure is hipped, with an extending gable at a slightly lower elevation above the carport. The roof is surfaced with wooden shingles. The eaves are somewhat broad and open, with exposed rafters. The exterior walls are surfaced with stucco, painted light gray. This structure appears to have been constructed roughly contemporaneously with the primary residence. The attached covered carport was constructed in 1990 based upon City of Morgan Hill permits.

Secondary Residence

The secondary residence on the property was originally constructed as a workshop and RV storage building in 1991 based upon City of Morgan Hill permits. This two-story structure features a saltbox roof above the front portion, with a gabled roof of moderate pitch to the rear. The roof is surfaced with composition shingles. The eaves are somewhat broad and open, with exposed rafters. Fenestration consists of modern vinyl frame windows in a variety of configurations.

Portable Trailer

This informal and portable structure is used as an office/storage building and is of relatively recent construction. The structure is rectangular in form, with a flat roof. The exterior walls are surfaced with flush vertical wooden paneling. The single front entry door is flanked at either end of the structure by square windows in a sliding configuration.

Shed

The storage shed on the property appears to be prefabricated. It features a front gabled roof, surfaced with composition shingles, and open eaves with exposed rafters. The exterior walls are surfaced with flush vertical wooden siding. A smaller utility structure sits to the rear of the shed. These structures appear to be of comparatively recent construction.

Bocce-ball Court

Situated along the edge of the flat area below the primary residence, the bocce-ball court is delineated on the northern side by a cinderblock retaining wall. The court is lined with sand and covered by a simple shed-roof awning of corrugated aluminum supported by undecorated wooden posts and braces. This structure is of relatively recent construction.

Continued from B10:

By 1876 the land made up a portion of the over 15,000 acre property of Catherine Dunne (Thompson & West, 1876), which included much of the southern area of present day Morgan Hill, and included large portions of the aforementioned *Rancho Ojo de Agua de la Coche* as well as *Rancho las Uvas*. After Catherine's death, the ranch was subdivided. The subject property consists of a portion of Lot 22, as shown on the map of "Catherine Dunne Ranch No. 3, Being Burbank & Devendorf's Subdivision of Parts of the Rancho Ojo de Agua de la Coche and Rancho Las Uvas" recorded May 11, 1894 (Book H of Maps, Page 64 & 65).

A review of available USGS Topographic Maps for the subject property shows the residence first present on the 1956 7.5 Minute Map of Mount Madonna, CA. On the 1917, 1931, and 1941 maps the subject property is shown as vacant land. The 1941 map also shows the subject property and much of the surrounding area were developed as orchards at that time. By 1956 the residence appears to be present, and is shown on all subsequent maps through 1996, after which the topo maps cease to show individual structures.

Based upon visual evaluation and available documentation, the residence on the property was originally constructed in 1953. By 1948 the property was owned by Charles W. and Evah E, Greene. On March 13, 1948 they granted the property to Ralph W. and Helen L. Slauter (Book 1585 OR, Page 598). Ralph William Slauter was born on August 21, 1910 in Vacaville, California. He married Helen Lucille Tanner (born June 17, 1913 in Washington State) on March 12, 1936. Based upon US Census records for 1950, Ralph Slauter was employed as a publisher and printer, and owned his own shop. Based on Library of Congress Newspaper data, R. W. Slauter was the publisher of the Morgan Hill Times and the San Martin News from 1947 until his retirement. He was also elected as a constable for the City of Morgan Hill during the mid 1940's and is listed as such in a City Directory listing in 1950. In that year the Slauters were living in Morgan Hill, at an address along Monterey highway. The Slauter's constructed the residence on the subject property in 1953. In 1966 the neighborhood was again subdivided, and the subject property was described as Parcel A as shown on the "Record of Survey, Being a Portion of lot 22, Catherine Dunne Ranch N. 3" filed October 3, 1966 (Book 215 of Maps, Page 9). During the 1960's, city directories list Ralph Slauter as being employed at the Morgan Hill Times. By 1971 he is listed as retired. Ralph W. Slauter died on may 8, 1984. The family retained ownership of the property until after his wife Helen's death on April 5, 1985. On October 25, 1985 the property was granted by decree of distribution to their son and daughter in-law Joey Ralph and Dee Ann Slauter (Book J498 OR, Page 849). That same day, they granted the property to Vito Pileggi (Book J498 OR, Page 858). Mr. Pileggi owned the property until April 7, 1989, when it was granted to Francis V. and Ruth Borello (Book K905 OR, Page 1915). Francis Virgil Borello was born January 19, 1927 in San Jose, California, the son of Sebastian G (or J.). and Louiga (or Louisa) P. Borello (AKA Borella). His father had come to the US from Italy in 1913 and purchased the former Ira O. Rhoades Ranch property on Cochrane Road (totaling 142 acres) in 1942 (Urban Programmers 2012). Francis followed into the family business as an orchardist and rancher. His wife Ruth was born December 22, 1926. On July 29,1992 the Borello's placed the property in a family trust (Book M303 OR, Page 2055). Francis V. Borello died on September 24, 2020. The property remains under the ownership of Borello family members through the family trust to the present day.

California Register of Historic Resources Criteria

A cultural resource is considered "significant" if it qualifies as eligible for listing in the California Register of Historic Resources (CRHR). Properties that are eligible for listing in the CRHR must meet one or more of the following criteria:

1. Association with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2. Association with the lives of persons important to local, California, or national history;
3. Embodying the distinctive characteristics of a type, period, region, or method of construction, or representing the work of a master, or possessing high artistic values; or
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

A property may be automatically listed in the CRHR if it is formally determined eligible for the National Register of Historic Places. Properties that are formally determined eligible for the NRHP are those that are designated as such through one of the federal preservation programs administered by the California Office of Historic Preservation (i.e., the National Register, Tax Certification, and Section 106 review of federal undertakings).

The CRHR interprets the integrity of a cultural resource based upon its physical authenticity. An historic cultural resource must retain its historic character or appearance and thus be recognizable as an historic resource. Integrity is evaluated by examining the subject's location, design, setting, materials, workmanship, feeling, and association. If the subject has retained these qualities, it may be said to have integrity. It is possible that a cultural resource may not retain sufficient integrity to be listed in the National Register of Historic Places yet still be eligible for listing in the CRHR. If a cultural resource retains the potential to convey significant historical/scientific data, it may be said to retain sufficient integrity for potential listing in the CRHR.

The property at 270 W. Dunne Avenue is not currently listed on the CRHR. In addition, it does not appear to be potentially eligible for listing in this register. The property is not associated with significant historic events, thus it does not appear to be eligible for listing under criterion 1. The first owners of the residence were Ralph and Helen Slauter. Ralph was the publisher of the local papers, The Morgan Hill Times and the San Martin News. He also served as a Constable for the City of Morgan Hill in the 1940's. Thus Ralph Slauter appears to have some local significance in the City of Morgan Hill. However, the subject property is not closely associated with his work for the newspapers, and thus the property does not appear to be eligible for listing under criterion 2. The structure is an example of Ranch style architecture, however it is not a notable example of this style, and has been somewhat altered from its original form. Thus the structure does not appear to be eligible for listing under criterion 3. In addition, the structure does not appear likely to yield important historical information. Thus it does not appear eligible for listing under criterion 4.

National Register Criteria

The National Register of Historic Places was first established in 1966, with major revisions in 1976. The register is set forth in 36 CFR 60 which establishes the responsibilities of the State Historic Preservation Officers (SHPO), standards for their staffs and review boards, and describes the statewide survey and planning process for historic preservation. Within this regulation guidelines are set forth concerning the National Register of Historic Places (36 CFR 60.6). In addition, further regulations are found in 36 CFR 63-66, 800, and Bulletin 15 which define procedures for determination of eligibility, identification of historic properties, recovery, reporting, and protection procedures. The National Register of Historic Places was established to recognize resources associated with the accomplishments of all peoples who have contributed to the country's history and heritage. Guidelines were designed for Federal and State agencies in nominating cultural resources to the National Register. These guidelines are based upon integrity and significance of the resource. Integrity applies to specific items such as location, design, setting, materials, workmanship, feeling, and association. Quality of significance in American history, architecture, archaeology, engineering and culture is present in resources that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and meet at least one of the following criteria:

a. that are associated with events that have made a significant contribution to broad patterns of our history;
b. that are associated with the lives of persons significant in our past;
c. that embody distinctive characteristics of type, period, or method of construction, or that represent the work of master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction;
d. that have yielded, or are likely to yield, information important in prehistory or history.

Integrity is defined in Bulletin 15: How to Apply the National Register Criteria for Evaluation, (U.S. Department of the Interior, National Park Service 1982) as:

> the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period. If a property retains the physical characteristics it possessed in the past then it has the capacity to convey association with historical patterns or persons, architectural or engineering design and technology, or information about a culture or peoples.

There are also seven aspects of integrity which are used. These aspects are:

1. location
2. design
3. setting
4. materials
5. workmanship
6. feeling
7. association

The property at 270 W. Dunne Avenue is not currently listed on the National Register of Historic Places. In addition, the structure does not appear to be potentially eligible for listing in this register. The structure is not associated with significant historical events. Thus it does not appear to be potentially eligible for listing under criterion a. The first owners of the residence were Ralph and Helen Slauter. Ralph was the publisher of the local papers, The Morgan Hill Times and the San Martin News. He also served as a Constable for the City of Morgan Hill in the 1940's. Thus Ralph Slauter appears to have some local significance in the City of Morgan Hill. However, the subject property is not closely associated with his work for the newspapers, and does not appear to be potentially eligible for listing under criterion b. Although the structure is an example of Ranch style architecture, it is not a notable example of this style. Thus it does not appear to qualify as potentially eligible under criterion c. The structure does not appear to be likely to yield information important in prehistory or history, thus it does not appear to qualify as potentially eligible under criterion d. In addition, the structure has been somewhat modified from its original form.

Local Historic Context and Criteria

The City of Morgan Hill Municipal Code (Chapter 18.60) describes the process of identifying, recording, and preserving historic resources within the City of Morgan Hill. Section 18.60.020 (Definitions) identifies Historic Significance under the Criteria of the NRHP as described above. Section 18.60.030 notes that " A resource must be associated with an important historical context and retain integrity of those features necessary to convey that significance."

The Historic Context Statement for the City of Morgan Hill was completed by CIRCA in 2006. This document provides a series of historical contexts through which individual structures within the City of Morgan Hill may be contextualized and examined. The subject property does not appear to qualify as significant under any of the historic contexts identified in this document. The original construction date of 1953 precludes significance under Historic Context Theme 1: Pre-Rancho Settlement and Theme 2: Pioneering Settlers. Historic Context Theme 3: Community Growth and Development is perhaps the broadest category, however, the structure's construction date (1953) also places it outside of the temporal timeframe of the associated property types identified in the Historic Context Statement. Although Francis Borello was involved with ranching and agricultural activities, the structure does not appear significant under Historic Context themes 4 (Agribusiness) or 5 (Commercial Development). Although the two most recent owners of the property may be of Italian descent (Vito Pileggi from 1985 to 1989 and the Borello family from 1989 to the present), neither appear to have played a significant role in Italian American cultural life within a local context. Thus, the property does not appear significant under Historic Context Theme 6: Ethnic and Religious Groups.

The subject structure was originally constructed in 1956, which, as identified in the Historic Context Statement Matrix (CIRCA 2006, Appendix A), places the structure within the Post WWII Period (1946 to 1957). Generally speaking, the property is characteristic of this period, reflecting themes of the post-war era such as expanding suburban residential development, and the ranch style of domestic architecture. However, it is not a notable example of either of these themes.

Continued from B12:

Ancestry.com
1900-1988 City Directories for Morgan Hill/San Jose/Santa Clara County. Accessed via ancestry.com.

Assessor's Office, County of Santa Clara
1988-2022 Assessor's property records for the property at 270 W. Dunne Avenue.

Circa Historic Property Development
2006 Historic Context Statement for the City of Morgan Hill.

Douglas, J.
1993 Historical Footnotes of Santa Clara Valley. San Jose Historical Museum Association, San Jose.

Gilroy Dispatch
2020 Obituary for Frank Borello in the Gilroy Dispatch, October 2, 2020.

Hoover, M. et al
1966 *Historic Spots in California.* Stanford University Press, Stanford California.

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Photo 1: View of the primary residence from the east.

Photo 2: View of the front facade from the southeast.

Photo 3: View of the original entry area of the residence.

Photo 4: View of the entry and porch.

Photo 5: View of the porch showing exposed rafters.

Photo 6: Oblique view of the newer corner entry.

Photo 7: View along the northern facade of the residence.

Photo 8: View of the covered carport connecting the residence and garage.

Photo 9: View of the courtyard area from the west.

Photo 10: View of covered deck and arbor (circa 1986) in courtyard

Photo 11: View of the rear portion of the residence.

Photo 12: oblique view of the southwest corner of the residence.

Photo 13: View of the southern facade along southern patio.

Photo 14: Detail of glass block window on southern facade.

Photo 15: View of garage door beneath covered carport.

Photo 16: Detail of gate connecting the residence and garage.

Photo 17: View of the garage with attached living space.

Photo 18: View of rear portion of the garage.

Photo 19: View of portable trailer on the property.

Photo 20: View of the modern secondary residence from the northeast.

Photo 21: View along the eastern wall of the secondary residence.

Photo 22: View of the eastern facade of the secondary residence.

Photo 23: View of storage shed and adjacent utility shed.

Photo 24: View of the southern side of the storage shed.

Photo 25: View of the covered bocce ball court from the patio.

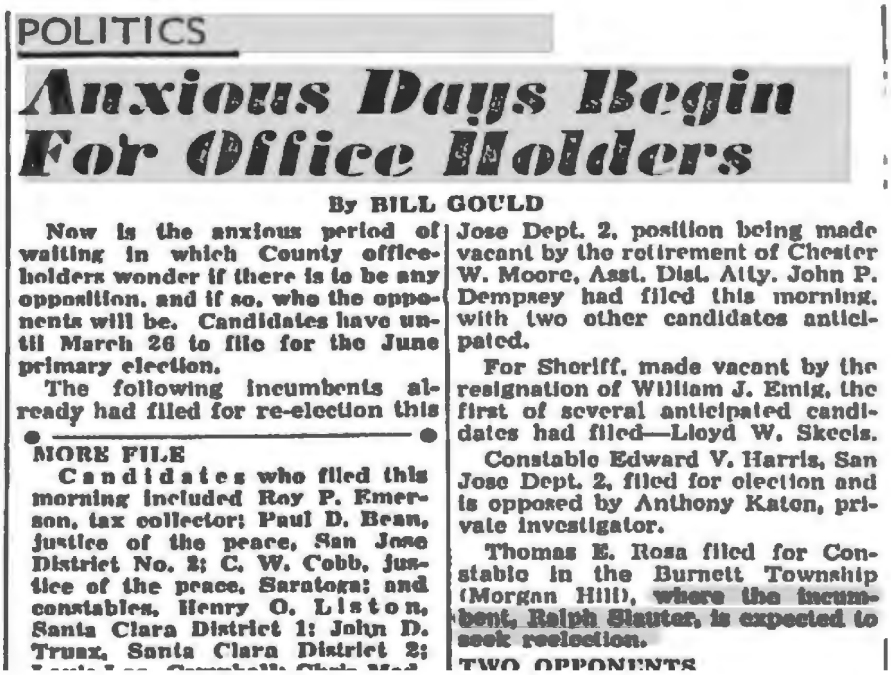
Photo 26: View of the length of the covered bocce ball court.

Photo 27: View of the bocce ball court and open yard area.

Photo 28: View of the large open yard south of the residence.

Photo 29: 1941 USGS Topographic Map, approximate project boundaries shown, note no structures on the subject property.

Photo 30: 1956 USGS Topographic Map, note structure on the subject property.



POLITICS

Anxious Days Begin For Office Holders

By BILL GOULD

Now is the anxious period of waiting in which County officeholders wonder if there is to be any opposition, and if so, who the opponents will be. Candidates have until March 26 to file for the June primary election.

The following incumbents already had filed for re-election this

MORE FILE

Candidates who filed this morning included Roy P. Emerson, tax collector; Paul D. Bean, justice of the peace, San Jose District No. 2; C. W. Cobb, justice of the peace, Saratoga; and constables, Henry O. Liston, Santa Clara District 1; John D. Truax, Santa Clara District 2;

Jose Dept. 2, position being made vacant by the retirement of Chester W. Moore, Asst. Dist. Atty. John P. Dempsey had filed this morning, with two other candidates anticipated.

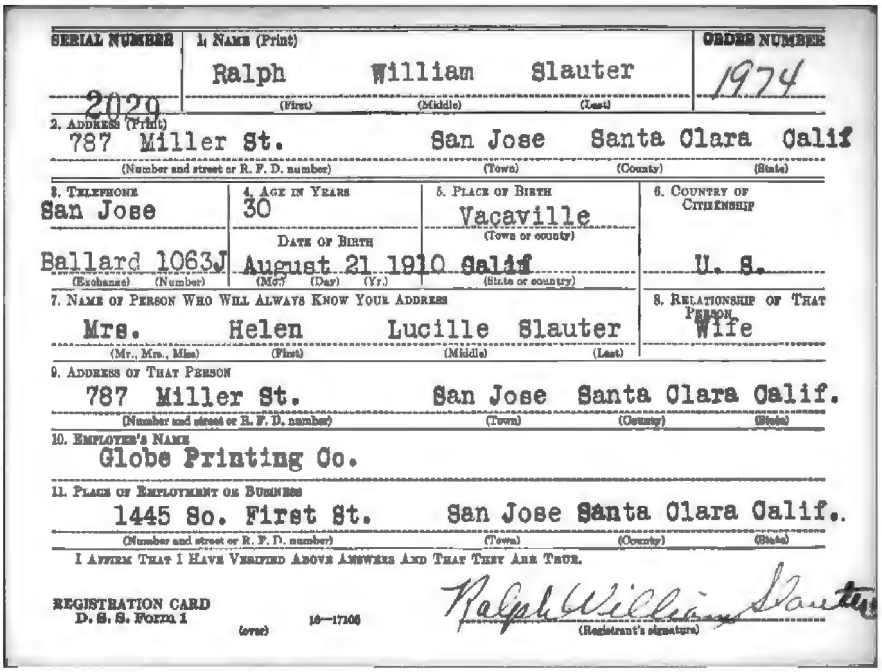
For Sheriff, made vacant by the resignation of William J. Emig, the first of several anticipated candidates had filed—Lloyd W. Skeels.

Constable Edward V. Harris, San Jose Dept. 2, filed for election and is opposed by Anthony Katen, private investigator.

Thomas E. Rosa filed for Constable in the Burnett Township (Morgan Hill), where the incumbent, Ralph Slauter, is expected to seek reelection.

TWO OPPONENTS

Photo 31: March 7, 1946 article in the San Jose Evening News, noting Ralph Slauter as an incumbent in an electoral race for constable.



SERIAL NUMBER 2020 | 1. NAME (Print) Ralph (First) William (Middle) Slauter (Last) | ORDER NUMBER 1974

2. ADDRESS (Print) 787 Miller St. (Number and street or R. F. D. number) San Jose (Town) Santa Clara (County) Calif (State)

3. TELEPHONE San Jose (Exchange) Ballard 1063J (Number)
4. AGE IN YEARS 30 DATE OF BIRTH (Mo.) August (Day) 21 (Yr.) 1910
5. PLACE OF BIRTH Vacaville (Town or county) Calif (State or country)
6. COUNTRY OF CITIZENSHIP U. S.

7. NAME OF PERSON WHO WILL ALWAYS KNOW YOUR ADDRESS Mrs. (Mr., Mrs., Miss) Helen (First) Lucille (Middle) Slauter (Last)
8. RELATIONSHIP OF THAT PERSON Wife

9. ADDRESS OF THAT PERSON 787 Miller St. (Number and street or R. F. D. number) San Jose (Town) Santa Clara (County) Calif. (State)

10. EMPLOYER'S NAME Globe Printing Co.

11. PLACE OF EMPLOYMENT OR BUSINESS 1445 So. First St. (Number and street or R. F. D. number) San Jose (Town) Santa Clara (County) Calif. (State)

I AFFIRM THAT I HAVE VERIFIED ABOVE ANSWERS AND THAT THEY ARE TRUE.

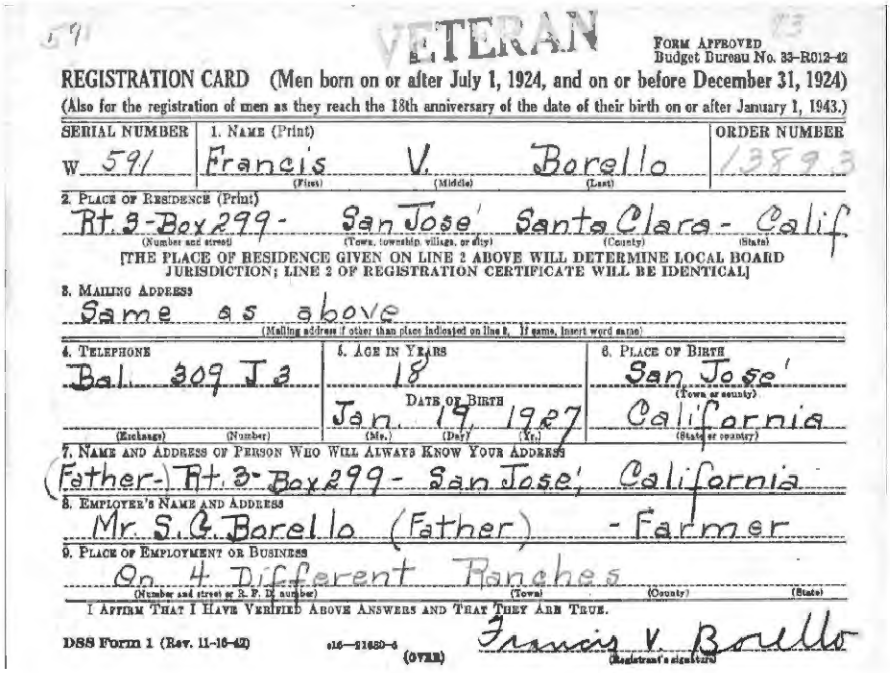
Ralph William Slauter (Registrant's signature)

REGISTRATION CARD
D. S. S. FORM 1 (over) 16—17106

Photo 32: WWII Draft card of Ralph William Slauter.

Photo 33: Undated photograph of Ralph and Helen Slauter holding the Morgan Hill Times.

Photo 34: Memorial Stone of Ralph W. and Helen L. Slauter, Mount Hope Cemetery, Morgan Hill.



VETERAN

FORM APPROVED
Budget Bureau No. 33-R012-42

REGISTRATION CARD (Men born on or after July 1, 1924, and on or before December 31, 1924)
(Also for the registration of men as they reach the 18th anniversary of the date of their birth on or after January 1, 1943.)

SERIAL NUMBER	1. NAME (Print)	ORDER NUMBER
W 591	Francis (First) V. (Middle) Borello (Last)	13893

2. PLACE OF RESIDENCE (Print): Rt. 3-Box 299- (Number and street) San Jose' (Town, township, village, or city) Santa Clara (County) - Calif (State)

[THE PLACE OF RESIDENCE GIVEN ON LINE 2 ABOVE WILL DETERMINE LOCAL BOARD JURISDICTION; LINE 2 OF REGISTRATION CERTIFICATE WILL BE IDENTICAL]

3. MAILING ADDRESS: Same as above
(Mailing address if other than place indicated on line 2. If same, insert word same)

4. TELEPHONE	5. AGE IN YEARS	6. PLACE OF BIRTH
Bal. 309 J 3 (Exchange) (Number)	18	San Jose' (Town or county)
	DATE OF BIRTH: Jan. 19, 1927 (Mo.) (Day) (Yr.)	California (State or country)

7. NAME AND ADDRESS OF PERSON WHO WILL ALWAYS KNOW YOUR ADDRESS: (Father-) Rt. 3- Box 299 - San Jose', California

8. EMPLOYER'S NAME AND ADDRESS: Mr S.G. Borello (Father), - Farmer

9. PLACE OF EMPLOYMENT OR BUSINESS: On 4 Different Ranches (Number and street or R. F. D. number) (Town) (County) (State)

I AFFIRM THAT I HAVE VERIFIED ABOVE ANSWERS AND THAT THEY ARE TRUE.

Francis V. Borello (Registrant's signature)

DSS Form 1 (Rev. 11-16-42) 16—21630-4 (OVER)

Photo 35: March 7, 1946 article in the San Jose Evening News, noting Ralph Slauter as an incumbent in an electoral race for constable.

Photo 36: Francis (Frank) Borello, from obituary website: https://www.legacy.com/us/obituaries/gilroydispatch/name/francis-borello-obituary?id=7419567

Appendix D

HRE Peer Review and Desktop Analysis

Rincon Consultants, Inc.
449 15th street, Suite 303
Oakland, California 94612
510-834-4455

March 14, 2024
Project No: 23-15020

Joey Dinh, Associate Planner
City of Morgan Hill
Development Services Center
17575 Peak Avenue
Morgan Hill, California 95037
Via email: joey.dinh@morganhill.ca.gov

Subject: Historic Resource Evaluation Peer Review — West Dunne – Roberston Residential Project, Morgan Hill, Santa Clara County, California

Dear Mr. Dinh:

Rincon Consultants, Inc. (Rincon) was retained by the City of Morgan Hill, Development Services Center (City) to conduct a peer review of the Historic Evaluation of the Residence at 270 West Dunne Avenue in the City of Morgan Hill (subject Historic Resource Evaluation [HRE]). The subject HRE was prepared by Robert R. Cartier of Archaeological Resource Management in 2022 (Cartier 2022) and consists of a cover letter with attached State of California Department of Parks and Recreation 523 Series Forms (DPR forms). The subject HRE recorded and evaluated the residence at 270 West Dunne Avenue (subject property) for eligibility for listing in the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR).

This letter report summarizes the results of a peer review of the subject HRE conducted by Rincon. The project would involve demolition of an existing historic-period residence and construction of 10 single-family attached units on the subject property. The peer review summarized herein assessed the adequacy of the subject HRE to support a California Environmental Quality Act (CEQA) Class 32 Categorical Exemption for the project. It additionally provides recommendations aimed at strengthening the subject HRE's defensibility in support of the project's Class 32 Categorical Exemption from CEQA.

Rincon Consultants Architectural Historian Ashley Losco, MHP, conducted this peer review, with oversight provided by Cultural Resources Program Manager, Rachel Perzel, MA. Ms. Losco is the primary author of this peer review letter report, which was additionally reviewed by Principal Architectural Historian Shannon Carmack for quality assurance/quality control. Ms. Losco, Ms. Perzel, and Ms. Carmack exceed the Secretary of the Interior's (SOI) Professional Qualification Standards (PQS) for architectural history and history (36 Code of Federal Regulations [CFR] Part 61).

Historic Resource Evaluation Summary

The subject HRE was prepared by Robert R. Cartier of Archaeological Resource Management for Weston Miles Architects, in August 2022. The purpose of the subject HRE was to evaluate the historic resource eligibility of the residence located at 270 West Dunne Avenue in the city of Morgan Hill, Santa Clara County, California (Santa Clara County Assessor's Parcel Number 767-12-060). The evaluation was presented on DPR forms and included a description of the subject property, photos, location and sketch maps, documentation of the subject property's history, and evaluation of the residence on the property for listing in the NRHP and the CRHR. The DPR forms also included a list of referenced materials. Mr. Cartier recommended the residence ineligible for listing in the NRHP and CRHR under all criteria (A, B, C, D and 1, 2, 3, 4).

Peer Review Methods

This peer review assessed the accuracy and adequacy of the subject HRE to support CEQA analysis and in line with industry-accepted standards and guidelines provided by the National Park Service (NPS) and the California Office of Historic Preservation (OHP) (California OHP 1995; NPS 1995). The peer review was limited to a review of the subject HRE, which is presented on DPR forms attached to a cover letter. No additional field work, substantial background or archival research, or supplemental analysis of the subject property were conducted by Rincon.

Peer Review

The methods implemented in preparation of the subject HRE appropriately included a field survey and archival research of the subject property. While Rincon concurs with the subject HRE's findings, several areas have been identified which are not specifically consistent with industry-accepted best standards and guidelines provided by the California OHP and the NPS. Rincon recommends the following actions to increase the subject HRE's defensibility in support of the project's Class 32 Categorical Exemption from CEQA.

Recommendations

- The subject HRE is focused on the residence on the subject property. However, the proposed project would result in the demolition of several buildings and features on the subject property, including but not limited to a garage, secondary residence, and shed. While some of these buildings may not date to the historic period, the subject HRE does not state as much definitively. The HRE did not include a review of building permits through the City of Morgan Hill. Therefore, the subject HRE, in particular the "*P3a. Description" and "*B6. Construction History" sections of the DPR forms, should be reframed to address the entirety of the subject property; specific recommendations include the following:
    - In *Instructions for Recording Historical Resources*, the California OHP provides the following guidance related to describing a resource on DPR forms: "Provide a concise, well-organized description of the resource. Describe its physical characteristics and appearance and summarize any features that are associated with it. Where possible, note all aspects of the resource you observe, even if some of those elements are not recorded in detail." (California OHP 1995:7). The same guidance document goes on to state that descriptions of buildings should identify construction details, include information on the nature and extent of alterations, and note a boundary description, however brief, in addition to describing resource's setting (California OHP 1995:7). In accordance with these guidelines, Rincon recommends that a more holistic description of the subject property be included in the subject HRE. The updated description should document the entire subject property including all buildings, structures, objects, in addition to their alterations, and setting.
    - The subject HRE provides property history including review of previous owners and occupants. However, the property history lacks a thorough construction and alteration history. The subject HRE includes a construction date only for the property's primary residence and did not include review of building permits or historical aerials. According to California OHP guidelines, a resource's construction history must list all alterations which substantially affect architectural integrity (California OHP 1995). Rincon therefore recommends review of property building permits and historical aerials and that additional detail be presented in section "*B6. Construction History" section to address the construction history of the entire subject property.

- According to NPS National Register Bulletin 15 *How to Apply the National Register Criteria for Evaluation*, three steps should be followed when evaluating a property's potential historical significance: determine the nature and origin of the property, identify the historic context with which it is associated, and evaluate the property's history to determine whether it is associated with the historic context in an important way (NPS 1995:7). The subject HRE does not present adequate historic context to support a finding of ineligibility under Criteria A/1 (events) or C/3 (architecture). Rincon therefore recommends that additional historic context, for example Post World War II residential development of Morgan Hill and/or Ranch-style architecture, be presented or referred to so that the property's potential significance may be further understood. DPR forms should minimally note which contexts the property's potential significance was considered within. Consideration should be given to referencing the *City of Morgan Hill Historic Context Statement* prepared by Circa in 2006 (Circa 2006). Additionally, the evaluation should succinctly explain why the property is not significant under each of the identified historic contexts.
- As defined in Public Resources Code Section 21084.1, a historical resource includes those listed in, or determined eligible for listing in the CRHR or a local register of historical resources. In its summary of findings, the cover letter included in the subject HRE states that the subject property is ineligible for listing in the NRHP, CRHR, in addition to the City of Morgan Hill Historical Inventory. However, the DPR forms present a regulatory context related only to the NRHP and CRHR and the evaluation does not address local criteria. Therefore, Rincon recommends that the City's local designation criteria (as defined by Chapter 18.60 of the City of Morgan Hill Municipal Code) be included in the regulatory context section and addressed in the evaluation.

Conclusions

In summary, Rincon did not identify specific evidence that would reverse the conclusions outlined in the subject HRE. However, to provide further defensibility of the project's CEQA review, Rincon recommends that additional work be completed prior to completion of the CEQA document to help strengthen and bolster the arguments presented in support of the project's Class 32 Categorical Exemption from CEQA.

Should you have any questions regarding this peer review letter, please do not hesitate to contact Ms. Perzel at 805-947-4817 or rperzel@rinconconsultants.com.

Sincerely,

Rincon Consultants, Inc.

Ashley Losco, MHP
Architectural Historian

Rachel Perzel, MA
Senior Architectural Historian, Cultural Resouces Program Manager

Shannon Carmack
Cultural Resources Principal

References

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Circa

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Morgan Hill, City of

2024 Code of Ordinances. Updated on February 23, 2024. https://library.municode.com/ca/morgan_hill/codes/code_of_ordinances. Accessed March 2024.

National Park Service (NPS)

1995 *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*. Washington D.C.: U.S. Department of the Interior. https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf. Accessed February 2024.

Rincon Consultants, Inc.
449 15th Street, Suite 303
Oakland, California 94612
510-834-4455

May 16, 2024
Project No: 23-15020

Joey Dinh, Associate Planner
City of Morgan Hill
Development Services Center
17575 Peak Avenue
Morgan Hill, California 95037
Via email: joey.dinh@morganhill.ca.gov

Subject: Cultural Resources Desktop Analysis for the West Dunne – Robertson Residential Project, Morgan Hill, Santa Clara County, California

Dear Mr. Dinh:

Rincon Consultants, Inc. (Rincon) was retained by the City of Morgan Hill, Development Services Center (City) to conduct a Cultural Resources Desktop Analysis in support of the West Dunne – Roberston Residential Project (project) located at 270 West Dunne Avenue in the city of Morgan Hill, Santa Clara County, California. Rincon understands the City currently anticipates a Class 32 Categorical Exemption will be the appropriate California Environmental Quality Act (CEQA) documentation for the project. Categorical Exemptions may not be used if a project would result in the substantial adverse change in the significance of a historical resource, which can include built environment and archaeological resources eligible for the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR) or local register. The purpose of this desktop analysis is to identify the potential for archaeological resources to occur within the project site and for the project to result in impacts to archaeological resources that may be considered historical resources under CEQA. A historical resource evaluation for the extant historic-period residence within the project site has previously been prepared by Robert R. Cartier of Archaeological Resource Management in 2022, which recorded and evaluated the residence for inclusion in the NRHP and the CRHR (Cartier 2022). Rincon conducted a separate peer review to address the adequacy of the historical resource evaluation; therefore, built-environment historical resources will not be discussed further in this report (Losco et al. 2024).

This desktop analysis is based on the results of a cultural resources records search of the California Historical Resources Information System (CHRIS), a Sacred Lands File (SLF) search conducted by the Native American Heritage Commission (NAHC), a review of historical maps and aerial imagery, and a review of the geotechnical report prepared for the project.

Project Location and Description

The 1.03-acre project site is located at 270 West Dunne Avenue in the city of Morgan Hill and is identified as Assessor's Parcel Number 767-12-060 (Attachment 1: Figure 1 and Figure 2). Specifically, the proposed project encompasses portions of Section 28 of Township 9 South, Range 3 East on the *Mt. Madonna, California* United States Geological Survey (USGS) 7.5-minute topographic quadrangle.

The project site is currently developed with one primary residence, one secondary residence, a detached garage, two small storage sheds, and a covered bocce ball court. The project would involve demolition of the existing residence, removal of existing trees, and the subsequent construction of 10 duet single-family attached units with two-car garages, and internal roadways. The project would

require approval of a vesting tentative subdivision map and design permit for the development of the 10 units.

California Historical Resources Information System

A records search of the CHRIS, Northwest Information Center (NWIC) located at Sonoma State University was completed on March 26, 2024. The NWIC is the official state repository for cultural resources records and reports for Santa Clara County. The purpose of the records search was to identify previously conducted cultural resource studies and previously recorded archaeological resources within a 0.5-mile buffer extending from the project site. The records search results were used to determine the general archaeological resources sensitivity of the project site and surrounding area and inform this desktop analysis.

The CHRIS records search (NWIC File No. 23-1134) did not identify any previously recorded archaeological resources within or adjacent to the project site (Attachment 2). No archaeological resources were identified in the 0.5-mile search radius. Further, Rincon completed a review of the NRHP, CRHR, the Archaeological Determinations of Eligibility list, and the California Historical Landmarks list, none of which include any listed archaeological resources within or adjacent to the project site.

The CHRIS records search identified one previous cultural resource study (S-010838) partially overlapping the project site and 36 previous cultural resource studies within the 0.5-mile search radius It does not appear that the project site has been systematically surveyed for archaeological resources. It appears that approximately 30 percent of the 0.5-mile radius has been surveyed for archaeological resources.

Study S-053380, *Cultural Resources Study of the Morgan Hill Water Tank Project, Cingular Wireless Site No. SNFCCA2007B, 100 W. Third Street, Morgan Hill, Santa Clara, California 95037*, was prepared by Historic Resource Associates in 2006. The study included a records search of the CHRIS, NWIC staff review of historical maps and literature for Santa Clara County, and a mixed windshield and pedestrian field survey for proposed collocation of antennas and other cellular equipment (Historic Resources Associates 2006). Study S-053380 covers approximately 15 percent of the project site's northeastern corner, however, a windshield survey method was employed for this area and it was not subject to pedestrian survey. Study S-053380 did not identify archaeological resources within its study area (Historic Resources Associates 2006).

Of the 36 previous studies, one is located immediately adjacent to the project site (S-010838), Study S-010838, *Cultural Resource Evaluation for a Parcel (APN 767-12-05) on W. Dunne Avenue in the City of Morgan Hill, County of Santa Clara* (Cartier 1989), was conducted by Archaeological Resource Management in 1989. The study included a records search of the CHRIS, a review of maps and records on file at the Morgan Hill Historical Museum, and a pedestrian survey. Study S-010838 did not identify archaeological resources within its study area (Cartier 1989).

Sacred Lands File Search

Rincon contacted the NAHC on February 14, 2024, to request a search of the SLF, as well as a contact list of Native Americans culturally affiliated with the project site. On April 8, 2024, the NAHC responded to Rincon's SLF and contact list request, stating that the results of the SLF search were positive. The NAHC response did not provide details regarding the nature or exact location of the positive result. The NAHC recommended contacting the tribes on the attached list for additional information. See Attachment 3 for the NAHC response and tribal contact list. On April 24, 2024, the City contacted the 19 NAHC-listed tribes requesting additional information regarding the positive SLF search. One round

of follow up outreach calls were conducted on May 1, 2024. As a result of the outreach effort, one response was received from Chairperson Irene Zwierlein of the Amah Mutsun Tribal Band of Mission San Juan Bautista on April 29, 2024 (Attachment 4). Chairperson Zwierlein did not provide additional information regarding the nature or location of the positive SLF search, but recommended cultural resources sensitivity training for construction personnel, as well as archaeological and Native American monitoring during ground disturbing activities associated with the project.

Historical Topographic Map and Aerial Imagery Review

A review of available historical topographic maps and aerial imagery was conducted to ascertain the development history of the project site. Historical topographic maps show the project site as undeveloped land in 1917 with Little Llagas Creek observed approximately 0.27 miles to the east (USGS 1917). A topographic map from 1939 depicts the project site as an agricultural field (USGS 1939). Aerial imagery from 1939 shows the project site as graded undeveloped land that was once utilized for agricultural activity, evidenced by visible orchard rows and subsequent tree removals (UCSB 1939). Adjacent parcels surrounding the project site to the north, south, east and west were also utilized for agricultural activities during this time and West Dunne Avenue is observed as a dirt road in its current location. By 1948, the project site remains undeveloped with much of the surrounding agricultural fields having decreased in size (NETR Online 2024). The existing single-family residence located within the project site is first observed in aerial imagery from 1953, with the surrounding setting largely unchanged from 1948 (NETR Online 2024). The construction of this residence is also seen in historical topographic maps from 1955 (USGS 1955). Additional earth movement is seen in imagery from 1957, with darker soil surrounding the existing residence and an earthen berm lining the southeastern edge of the driveway (UCSB 1957). In 1968, an additional building (detached garage) to the north of the primary residence has been constructed and residential development in the area surrounding the project site is present (UCSB 1968). Additional development within the project site is observed in 1993 and 2009, with the addition of a secondary residence and a bocce ball court, respectively (NETR 2024). Residential development surrounding the project site continues from 1971 through 2020 (NETR 2024). Review of historical aerials suggests the project site has been subject to repeated soil disturbance (e.g., through discing or other means and residential development).

Geotechnical Investigation Review

The geotechnical report, *Geotechnical Investigation, Five New Residence Buildings Project, 270 West Dunne Avenue, Morgan Hill, California* (Cleary Consultants, Inc. 2022), addresses subsurface conditions within the project site. The report details the results of five exploratory borings (EB-1 through EB-5) ranging from a depth of 9 to 14 feet below ground surface (bgs) within the project site. These subsurface investigations were completed on September 1, 2021, and placed in the proposed development locations throughout the project site, as shown in Attachment 1, Figure 3.

According to the geotechnical report, the soils encountered include: (EB-1) very dense clayey to silty sand to a maximum depth of 9 feet; (EB-2) medium dense to dense silty sand from 0 to 3.5 feet bgs underlain by very dense clayey sand from 3.5 to 14 feet bgs; (EB-3) very stiff to hard sandy clay from 0 to 9 feet bgs; (EB-4) very stiff to hard sandy clay from 0 to 7.5 feet bgs underlain by very dense silty sand from 7.5 to 14 feet bgs; (EB-5) hard sandy clay from 0 to 14 feet bgs.

The geotechnical report recommends that Unit A and B residential buildings be supported on conventional continuous and isolated spread footings in undisturbed native soils, and that the footings be embedded at least 18 inches into the supporting subgrade. The report further recommends that Unit C through E residential buildings be supported on cast-in-place straight shaft friction piers, and that the drilled piers should extend through any fill to a minimum depth of 8 feet into underlying native

soils. Thus, all of the proposed locations for residential development within the project site will need foundational support within undisturbed native soils.

Conclusions and Recommendations

No known archaeological resources were identified within the project site. However, the SLF search conducted by the NAHC was positive. The NAHC did not provide details on the nature or exact location of the positive result, but recommended contacting tribes for more information. The City contacted the 19 NAHC-listed tribes. One response was received from Chairperson Irene Zwierlein of the Amah Mutsun Tribal Band of Mission San Juan Bautista. While Chairperson Zwierlein did not provide information regarding the nature or location of the positive results, she did recommend cultural resources sensitivity training for construction personnel, as well as archaeological and Native American monitoring during ground disturbing activities associated with the project. The City's Standard Condition of Approval for development projects includes procedures to follow in the event of an unanticipated discovery, cultural resources sensitivity training for construction personnel, full-time Native American monitoring of all ground-disturbing activities by a member of the Tamien Nation, and retention of an archaeologist to respond to discoveries as needed, which is consistent with this request.

The subsurface archaeological sensitivity of the project site is considered moderate. While no archaeological resources have been documented within the project site or a 0.5-mile radius, only approximately 30 percent of the records search radius has been surveyed for archaeological resources. In addition, the project site's proximity to Little Llagas Creek elevates the sensitivity for archaeological resources by providing access to a freshwater source, a vital resource for prehistoric peoples, both as drinking water and as an attractant for wildlife. Prehistoric resources commonly found in proximity to water sources include village locations, temporary camps, and groundstone (milling) sites where food resources were procured and processed. While previous and modern disturbances may have disturbed shallowly buried resources, if any once existed onsite, proposed project-related ground disturbance will extend below disturbed soils or fill materials and into underlying native soils, and it is possible that subsurface archaeological materials may be encountered.

Rincon recommends inclusion of the City's Standard Condition of Approval for development projects. Compliance with existing state regulations would also be required in the event of an unanticipated discovery of human remains.

Should you have any questions regarding this cultural resources desktop analysis, please do not hesitate to contact Ms. Pfeiffer at 805-947-4816 or mpfeiffer@rinconconsultants.com.

Sincerely,

Rincon Consultants, Inc.

Mary Pfeiffer, BA
Archaeologist and Project Manager

Hannah Haas, MA, RPA
Senior Archaeologist and Program Manager

Candace Ehringer, MA, RPA
Cultural Resources Principal

Attachments

Attachment 1 Figures
Attachment 2 California Historical Resources Information System Records Search Results
Attachment 3 Native American Heritage Commission Sacred Lands File Search Results
Attachment 4 Amah Mutsun Tribal Band of San Juan Bautista Tribal Outreach Response

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Clearly Consultants, Inc.

2022 Geotechnical Investigation Five New Residence Buildings Project, 270 West Dunne Avenue, Morgan Hill, California.

Historic Resource Associates

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Losco, Ashley, Rachel Perzel and Shannon Carmack

2024 Historic Resource Evaluation Peer Review – West Dunne – Robertson Residential Project, Morgan Hill, Santa Clara County, California.

Nationwide Environmental Title Research (NETR)

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University of California, Santa Barbara (UCSB)

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1957 FrameFinder. [historical aerial photograph online database]. Flight CAS_1957, Frame Morgan-Hill. https://mil.library.ucsb.edu/ap_indexes/FrameFinder/. (Accessed March 2024).

1968 FrameFinder. [historical aerial photograph online database]. Flight CAS_2310, Frame 3-109. https://mil.library.ucsb.edu/ap_indexes/FrameFinder/. (Accessed March 2024).

Attachment 1

Figures

Figure 1 Regional Location Map

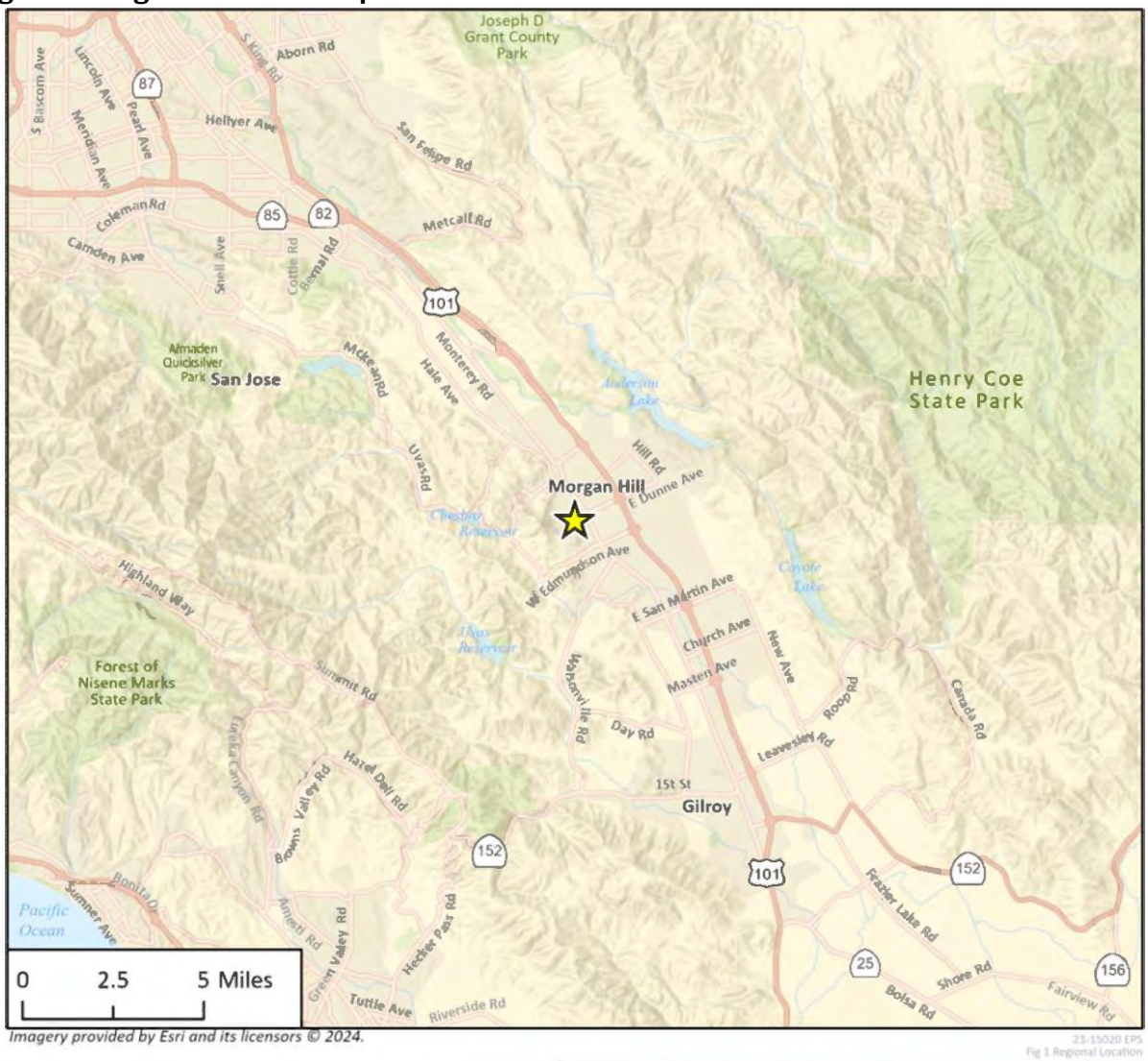
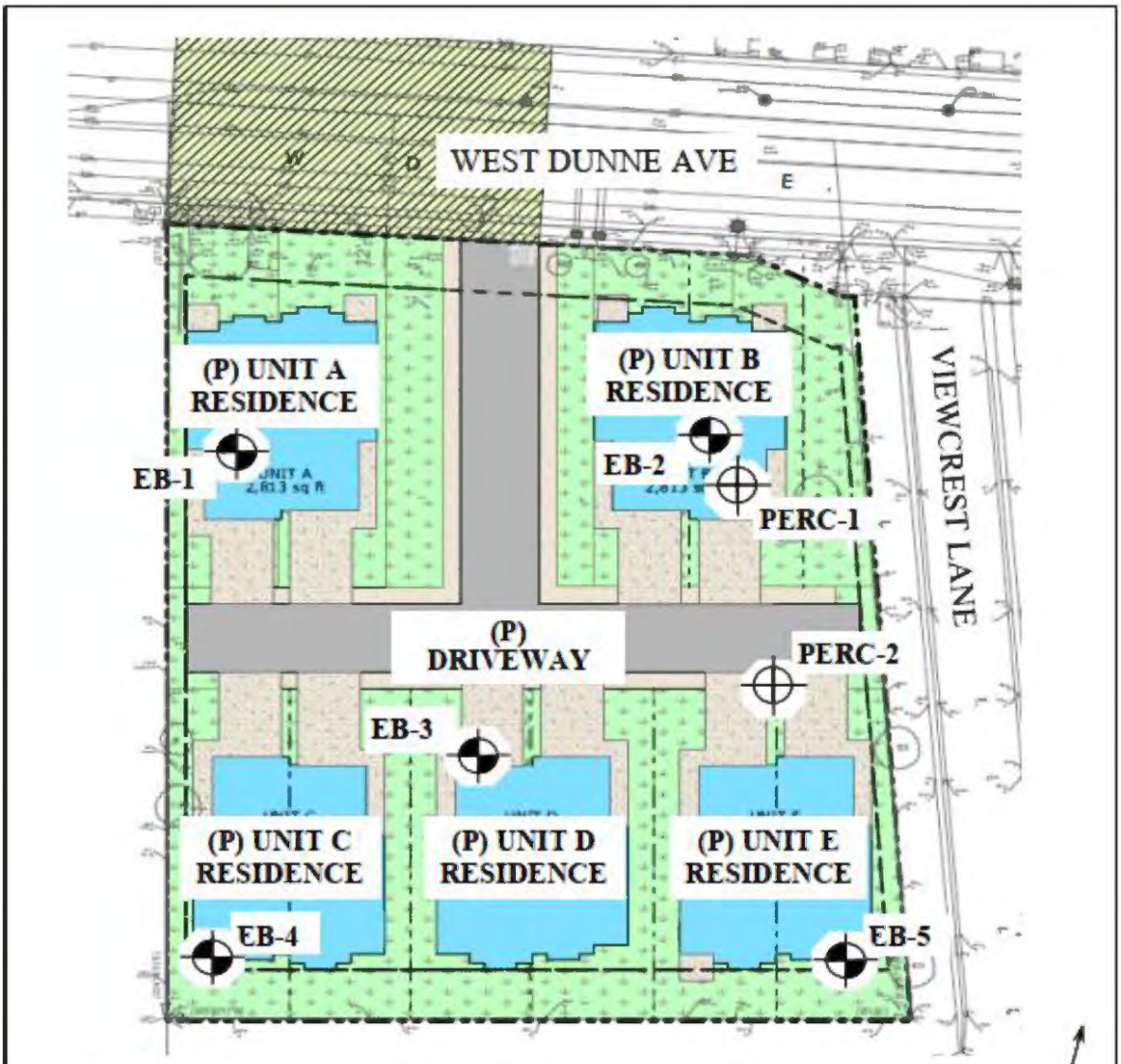


Figure 2 Project Location Map

Figure 3 Boring Locations of Geotechnical Investigation (Cleary Consultants, Inc. 2022)



Attachment 2

California Historical Resources Information System Records Search Results

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA, COLUSA, CONTRA COSTA, DEL NORTE, HUMBOLDT, LAKE, MARIN, MENDOCINO, MONTEREY, NAPA, SAN BENITO, SAN FRANCISCO, SAN MATEO, SANTA CLATA, SANTA CRUZ, SOLANO, SONOMA, YOLO

Northwest Information Center
Sonoma State University
1400 Valley House Drive, Suite 210
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
http://nwic.sonoma.edu

3/26/2024 NWIC File No.: 23-1134

Debbie Balam
Rincon Consultants, Inc.
180 N. Ashwood Avenue
Ventura, CA 93003

Re: West Dunne Avenue Project/ Project No. 23-15020

The Northwest Information Center received your record search request for the project area referenced above, located on the Mt. Madonna, Morgan Hill USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a 0.5 mi. radius:

Resources within project area:	None listed
Resources within 0.5 mi. radius:	[12] Please see attached list, page 3
Reports within project area:	S-10838, 53380
Reports within 0.5 mi. radius:	[38] Please see attached list, page 4

Resource Database Printout (list):		☒ enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):		☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database Records:		☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):		☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):		☐ enclosed	☒ not requested	☐ nothing listed
Report Digital Database Records:		☐ enclosed	☒ not requested	☐ nothing listed
Resource Record Copies:		☒ enclosed	☐ not requested	☐ nothing listed
Report Copies:	[within]	☒ enclosed	☐ not requested	☐ nothing listed
OHP Built Environment Resources Directory:		☐ enclosed	☐ not requested	☒ nothing listed
Archaeological Determinations of Eligibility:		☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):		☐ enclosed	☒ not requested	☐ nothing listed
GLO and/or Rancho Plat Maps:		☐ enclosed	☒ not requested	☐ nothing listed
Historical Maps:		☐ enclosed	☒ not requested	☐ nothing listed

Local Inventories:	☐ enclosed	☒ not requested	☐ nothing listed
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed
Shipwreck Inventory:	☐ enclosed	☒ not requested	☐ nothing listed

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Annette Neal

Researcher

Resources In 0.5 mi. Buffer

PrimCo	PrimNo
P-43-	000996
P-43-	001054
P-43-	001801
P-43-	002632
P-43-	002633
P-43-	002634
P-43-	002635
P-43-	002636
P-43-	002637
P-43-	002638
P-43-	002639
P-43-	003041

Reports in 0.5 mi. Buffer

DocCo	DocNo
S-	004237
S-	004286
S-	004312
S-	007739
S-	007840
S-	008237
S-	008478
S-	008483
S-	008706
S-	008711
S-	009350
S-	009900
S-	010379
S-	010729
S-	010802
S-	010839
S-	011673
S-	011674
S-	012173
S-	014755
S-	015124
S-	015650
S-	016695
S-	016700
S-	018299
S-	018391
S-	018393
S-	022619
S-	022819
S-	025322
S-	029657
S-	031428
S-	031436
S-	033061
S-	037010
S-	049126
S-	053037
S-	053565

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-004237	Voided - E-97 SCL	1974	Joseph C. Winter	Archaeological Resources of the Proposed Edmundson Ave. Park, Morgan Hill		
S-004286	Voided - E-149 SCL	1973	Thomas F. King and Patricia P. Hickman	Archaeological Impact Evaluation: The Llagas Creek Project		43-000071, 43-000233, 43-000406, 43-000408
S-004312	Voided - E-178 SCL	1975	Katherine S. Flynn	Archaeological Impact Evaluation, Proposed Construction of Seventeen Miles of Right-of-Way along the Proposed Santa Teresa Expressway by the County of Santa Clara Transportation Agency	Archaeological Resource Service	43-000173, 43-000174
S-007739		1985	Stephen A. Dietz	Morgan Hill Post Office Archaeological Reconnaissance (letter report).	Archaeological Consulting and Research Services, Inc.	
S-007840	IC Record Search Nbr - 6080-86-030	1986	Robert Cartier	Cultural Resource Evaluation of a Parcel on W. Dunne Avenue in the Town of Morgan Hill, County of Santa Clara	Archaeological Resource Management	
S-008237		1986	Betty Schmucker	A Cultural Resource Evaluation of the Gilroy Cogeneration Project Area, Gilroy, California.	Woodward-Clyde Consultants	
S-008478	Agency Nbr - Soil Conservation Service #0494; Voided - E-985 SCL; Voided - S-5018; Voided - S-5019	1981	Robert Cartier, Glory Anne Laffey, Charlene Detlefs, and Peter Johnson	Cultural Resources Evaluation of the Llagas Creek Watershed	Archeological Resource Management	43-000112, 43-000406, 43-000407, 43-000408, 43-000453
S-008478a		1981	Robert Cartier, Charlene Detlefs, and Glory Laffey	Addendum to the Llagas Creek Watershed Cultural Resources Evaluation: Identification and Evaluation of Potentially Significant Bridge Structures Within Reaches 2, 3 and 9	Archeological Resource Management	
S-008478b		1981	Robert Cartier and Charlene Detlefs	Addendum to the Llagas Creek Watershed Cultural Resources Evaluation: Identification and Evaluation of Potentially Significant Bridge and Culvert Structures Within Reaches 7a, 7b, 8a, and 11a	Archeological Resource Management	
S-008483	Other - #0623; Voided - E-991 SCL	1981		Cultural Resource Evaluation of a Parcel on West Dunne Avenue in the City of Morgan Hill, Santa Clara County.	Archaeological Resource Management	
S-008706	Submitter - ARS Project #86-14	1986	William Roop	Archaeological survey of the proposed Evergreen Park, Morgan Hill, CA, ARS project number 86-14 (letter report)	Archaeological Resource Service	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-008711	Submitter - ARS 86-49	1986	Katherine Flynn	Archaeological evaluation of 3 lots located at 17485 Monterey Street at West First Street, Morgan Hill (APN 767-7-27, 28, & 29) (letter report)	Archaeological Resource Management	
S-009350		1987	Larry Bourdeau	Results of Phase I Archaeological Reconnaissance with Recommendations for Cultural Resource Management, Chargin Heights Project Parcel, Application SD-87-07, City of Morgan Hill, Santa Clara County, California	Pacific Museum Consultants	
S-009900	Submitter - ARS 88-27	1988	Katherine Flynn	Archaeological survey of the proposed location of the Parkwood Apartments, W. Dunne Ave. at Del Monte Ave., Morgan Hill (letter report)	Archaeological Resource Service	
S-010379		1988	Larry Bourdeau	Results of Phase I Archaeological Reconnaissance with Recommendations for Cultural Resource Management, Greg Mussallem Project Parcel, APN 764-16-08, West Main Avenue at Del Monte Avenue, Morgan Hill, Santa Clara County, California	Pacific Museum Consultants	43-001054
S-010729		1989	Larry Bourdeau	Results of Phase I Cultural Resource Evaluation and Archaeological Reconnaissance with Recommendations for Cultural Resource Management, Shelle' Thomas Project Parcel, APN 764-16-15, 50 Keystone Avenue, Morgan Hill, Santa Clara County, California	Pacific Museum Consultants	
S-010802		1989	Miley Paul Holman	Archival and Field Inspection of the 12 Proposed Caltrain Extensions between San Jose and Gilroy, Santa Clara County, California (letter report)	Holman & Associates	43-001217
S-010839	IC Record Search Nbr - 6080-89-240	1989	Robert Cartier	Cultural Resource Evaluation for a Parcel (APN 767-12-24/25) on W. Dunne Avenue in the City of Morgan Hill, County of Santa Clara	Archaeological Resource Management	
S-011673	IC Record Search Nbr - 6080-89-269	1990	Robert Cartier	Cultural Resource Evaluation for 65-85 W. First Street in the City of Morgan Hill, County of Santa Clara	Archaeological Resource Management	
S-011674	IC Record Search Nbr - 6080-89-269	1990	Robert Cartier	Cultural Resource Evaluation for the Epperson Project, 140 W. Main Avenue in the City of Morgan Hill, County of Santa Clara	Archaeological Resource Management	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-012173		1990	Larry Bourdeau	Results of Phase II Archaeological Investigations with Recommendations for Cultural Resource Management: the Will Bone House, Historic Archaeological Site CA-SCL-670H, Greg Mussallem Project Parcel, APN 764-16-08, West Main Avenue at Del Monte Avenue, Morgan Hill, Santa Clara County, California	Pacific Museum Consultants	43-001054
S-014755		1992	Robert Cartier	Cultural Resource Evaluation of the Shelle' Thomas Property, City of Morgan Hill, Santa Clara County	Archaeological Resource Management	
S-015124		1993		Cultural Resource Evaluation of Nob Hill Terrace Properties, City of Morgan Hill, Santa Clara County	Archaeological Resource Management	
S-015650	Submitter - AC Project 2155	1993	Anna Runnings and Gary S. Breschini	Preliminary Cultural Resources Reconnaissance for Road Widening on East Dunne Avenue in Morgan Hill, Santa Clara County, California	Archaeological Consulting	
S-016695		1994		Cultural Resource Evaluation of Coast Federal Bank Property, City of Morgan Hill, Santa Clara County	Archaeological Resource Management	
S-016700		1994		Cultural Resource Evaluation of Skeel's Building Site, APN 767-07-50, City of Morgan Hill	Archaeological Resource Management	
S-018299		1996	Colin I. Busby	Cultural Resources Assessment, Santa Teresa Boulevard Plan Line, City of Morgan Hill and Unincorporated areas, Santa Clara County, California	Basin Research Associates, Inc.	43-000996
S-018391	IC Record Search Nbr - 60800-95-414	1995	Robert Cartier	Cultural Resource Evaluation of 6.0 Acres Adjacent to the East Side of De Witt Avenue, North of Spring Avenue, in the City of Morgan Hill, Santa Clara County	Archaeological Resource Management	
S-018393		1995		Cultural Resource Evaluation of a Parcel of Land Located at 225 Spring Avenue in the City of Morgan Hill, County of Santa Clara	Archeological Resource Management	
S-022619	IC Record Search Nbr - 60800-99-789	1999		Cultural Resources Evaluation of the Villa Ciolino Project in the City of Morgan Hill	Archaeological Resource Management	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-022819		2000	Wendy J. Nelson, Maureen Carpenter, and Julia G. Costello	Cultural Resources Survey for the Level (3) Communications Long Haul Fiber Optics Project, Segment WS05: San Jose to San Luis Obispo	Far Western Anthropological Research Group, Inc.; Foothill Resources, Ltd.	27-001191, 27-001219, 27-001243, 27-001889, 27-002242, 27-002322, 35-000024, 35-000036, 35-000111, 43-000106, 43-000109, 43-000141, 43-000455, 43-000573, 43-000575, 43-001071
S-025322	OHP PRN - FCC001127A-D	2000	John A. Nadolski	Archaeological Investigations for the Nob Hill Cell Tower Site	Pacific Legacy, Inc.	
S-025322a		2000	John A. Nadolski	Archaeological Reports for Cell Tower Sites	Pacific Legacy, Inc.	
S-025322b		2000	Daniel Abeyta	Telecommunication Facilities; FCC001127A-D: CA-1109, adjacent to Canyon Road near American Canyon Road and Interstate 80, Napa, CA; 100 West Third Street, Morgan Hill, CA; 9055 South Gate Ridge Road, San Ramon, CA; 2210 West College Avenue, Santa Rosa, CA (Concurrance Letter)	Office of Historic Preservation	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-029657	OHP PRN - FTA021021A; Voided - S-37863; Voided - S-42672; Voided - S-43525	2002	Wendy J. Nelson, Tammara Norton, Larry Chiea, and Reinhard Pribish	Archaeological Inventory for the Caltrain Electrification Program Alternative in San Francisco, San Mateo, and Santa Clara Counties, California	Far Western Anthropological Research Group, Inc.	38-000015, 38-004498, 38-004756, 38-004820, 38-004962, 38-005084, 38-005456, 38-005457, 38-005458, 38-005459, 38-005460, 38-005461, 38-005462, 41-000009, 41-000105, 41-000165, 41-000169, 41-000230, 41-000231, 41-000281, 41-000310, 41-000311, 41-000312, 41-000318, 41-000410, 41-000498, 41-000534, 41-000632, 41-000640, 41-000808, 41-001135, 41-001136, 41-001137, 41-001138, 41-001406, 41-002116, 41-002353, 41-002433, 41-002434, 41-002435, 41-002437, 41-002438, 41-002439, 41-002440, 41-002441, 41-002442, 41-002443, 41-002444, 41-002447, 41-002462, 41-002463, 41-002464, 41-002465, 43-000028, 43-000042, 43-000050, 43-000449, 43-000566, 43-000619, 43-000669, 43-000881, 43-000928, 43-001071, 43-001739, 43-002653, 43-002867, 43-002868, 43-002869, 43-002871, 43-002873, 43-002877, 43-002878, 43-003025, 43-003026, 43-003027, 43-003028, 43-003029, 43-003030, 43-003031, 43-003032, 43-003033, 43-003034, 43-003035, 43-003036, 43-003037, 43-003038, 43-003039, 43-003040, 43-003041, 43-003042, 43-003043, 43-003044
S-029657a		2002	Rand F. Herbert	Finding of No Adverse Effect, Caltrain Electrification Program, San Francisco, San Mateo, and Santa Clara Counties, California	JRP Historical Consulting Services	
S-029657b		2002		Historic Property Survey for the Proposed Caltrain Electrification Program, San Francisco, San Mateo, and Santa Clara Counties, California	Parsons; JRP Historical Consulting Services; Far Western Anthropological Research Group, Inc.	
S-029657c		2002	Knox Mellon	FTA021021A; Caltrain Electrification Program, San Francisco, San Mateo, and Santa Clara Counties	Office of Historic Preservation	
S-029657d		2003	Meta Bunse	Final Finding of Effect Amendment, Caltrain Electrification Project, San Francisco, San Mateo, and Santa Clara Counties, California	JRP Historical Consulting Services	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-029657e		2001	Rand F. Herbert	Draft Finding of No Adverse Effect, Caltrain Electrification Program, San Francisco, San Mateo, and Santa Clara Counties, California	JRP Historical Consulting Services	
S-029657f		2008	Sharon A. Waechter, Jack Meyer, and Laura Leach-Palm	Cultural Resources Addendum for the Caltrain Electrification Program Alternative: San Francisco, San Mateo, and Santa Clara Counties, California	Far Western Anthropological Research Group, Inc.	
S-029657g		2008	Meta Bunse	Addendum Finding of Effect, Caltrain Electrification Program, San Francisco to San Jose (MP 0.0 to 52.0); San Francisco, San Mateo, and Santa Clara Counties, California	JRP Historical Consulting, LLC	
S-029657h		2002		Inventory and Evaluation of Historic Resources, Caltrain Electrification Program, San Francisco to Gilroy (MP 0.0 to 77.4) (Draft)	JRP Historical Consulting Services	
S-031428	Voided - S-31469	2004		Historical Evaluation of the Property at 16835 Monterey Road in the City of Morgan Hill	Archaeological Resource Management	43-001801
S-031436	IC Record Search Nbr - RY048-1328-03-617	2004	Robert Cartier	Revised Cultural Resource Evaluation of the Dewitt Avenue Sewer Replacement Project Area in the City of Morgan Hill	Archaeological Resource Management	
S-033061	Submitter - SWCA Cultural Resources Report Database No. 06-507; Submitter - SWCA Report No. 10715-180	2006	Nancy Sikes, Cindy Arrington, Bryon Bass, Chris Corey, Kevin Hunt, Steve O'Neil, Catherine Pruett, Tony Sawyer, Michael Tuma, Leslie Wagner, and Alex Wesson	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	SWCA Environmental Consultants	01-000027, 01-000040, 01-000087, 01-000088, 01-000089, 01-000090, 07-000138, 27-000802, 27-001191, 27-001207, 28-000467, 43-000106, 43-000141, 43-000449, 43-000573, 43-000575, 43-000754, 43-000928, 43-001071, 48-000208, 48-000211, 48-000214, 48-000441, 48-000549, 49-001583, 57-000194, 57-000198, 57-000297, 57-000301, 57-000307
S-033061a		2006		Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	SWCA Environmental Consultants	
S-033061b		2007	Nancy E. Sikes	Final Report of Monitoring and Findings for the Qwest Network Construction Project (letter report)	SWCA Environmental Consultants	
S-037010	Submitter - CML-5152 (016); Voided - S-37012	2008	Miley Paul Holman	Archaeological Survey Report for the Third Street Promenade Project, City of Morgan Hill, Santa Clara County, CML-5152 (016)	Holman & Associates	43-002632, 43-002633, 43-002634, 43-002635, 43-002636, 43-002637, 43-002638, 43-002639

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-037010a		2008	Sheila McElroy	Historic Resource Evaluation Report (HRER) for City of Morgan Hill Third Street Promenade Project, 2007 Proposed Third Street Promendade Project: Between Monterey Road and Depot Street in Morgan Hill, California, Federal Identification Number (FIN): CML-5152 (016)	Circa: Historic Property Development	
S-049126	Agency Nbr - FA# STPL-5152(021)	2016	Judith Marvin	Historic Property Survey Report, City of Morgan Hill proposal to resurface two sections of Monterey Road, 4-SCL STPL-5152(021)	Foothills Resources, Ltd.	43-000469
S-049126a		2016	Ian Patrick, Melinda Pacheco Patrick, and Judith Marvin	Archaeological Survey Report for the City of Morgan Hill Monterey Road Preservation Project, Santa Clara County, California.	Patrick GIS Group, Inc.; Foothill Resources, Ltd.	
S-053037	Submitter - 17-115S; Submitter - UHC 00661 Morgan Hill	2017	Eileen Barrow	A Cultural Resources Study of APNs 817-36-032 and 817-36-033, Monterey Road, Morgan Hill, Santa Clara County, California	Tom Origer & Associates	
S-053565	OTIS Report Number - COE_2016_0216_001; Submitter - Project No. 30523030	2013	Joshua Peabody	A Cultural Resources Inventory for the Upper Llagas Creek Flood Protection Project, Project No. 30523030	Cardno Entrix	43-000406, 43-000407, 43-000408, 43-000453, 43-000469, 43-000996, 43-002028
S-053565a		2016	Aaron O. Allen	COE_2016_0216_001, Section 106 Consultation for the Construction of Flood-Protection Features and Evironmental Restoration along Llagas Creek	U.S. Army Corps of Engineers	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-010838	IC Record Search Nbr - 6080-89-240	1989	Robert Cartier	Cultural Resource Evaluation for a Parcel (APN 767-12-05) on W. Dunne Avenue in the City of Morgan Hill, County of Santa Clara	Archaeological Resource Management	
S-053380		2006	Dana E. Supernowicz	Cultural Resources Study Of The Morgan Hill Water Tank Project, Cingular Wireless Site No. SNFCCA2007B, 100 W. Third Street, Morgan Hill, Santa Clara County, California 95037	Historic Resource Associates	

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-43-000996		Resource Name - 205 & 205A West Main Avenue; OHP PRN - 5037-0112-0000; OHP Property Number - 013799	Building	Historic	HP02	1979 ([none], [none]); 1996 (Ward Hill, [none])	S-018299, S-027985, S-053565
P-43-001054	CA-SCL-000670H	Resource Name - Will Bone House; OHP Property Number - 013784; OHP PRN - 5037-0097-0000	Building	Historic	AH04; HP02	1979 (Larry Scettrini, MH Historical Society); 1988 (Larry Bourdeau, Pacific Museum Consultants)	S-010379, S-012173, S-027985
P-43-001801		Resource Name - 16835 Monterey (Street)	Building	Historic	HP02; HP06	2004 (Robert Cartier, Archaeological Resource Management)	S-031428
P-43-002632		Resource Name - APE map reference number 30; OHP PRN - 5037-0014-0000; Other - Morgan Hill Times Building; Other - Boutell Building; OHP Property Number - 013702	Building	Historic, Unknown	HP06	1979 (Larry Scettrini, MH Historical Society); 2006 (Sheila McElroy, Circa: Historic Property Development)	S-037010, S-037012
P-43-002633		Resource Name - APE map reference number 35; OHP PRN - 5037-0015-0000; Other - Block 18, Lot 2; Other - Aiken House; OHP Property Number - 013703	Building	Historic	HP02	1979 (Larry Scettrini, MH Historical Society); 2006 (Sheila McElroy, Circa: Historic Property Development)	S-037010, S-037012
P-43-002634		Resource Name - APE map reference number 45; OHP PRN - 5037-0016-0000; Other - Sumi's Beauty Shop; Other - Swope Residence; OHP Property Number - 013704; Other - 45 E 3rd Street	Building	Historic	HP02	1979 (Larry Scettrini, MH Historical Society); 2006 (Sheila McElroy, Circa: Historic Property Development)	S-037010, S-037012
P-43-002635		Resource Name - APE map reference number 55; OHP PRN - 5037-0017-0000; Other - Block 18, Lot 19; Other - F.M. Phelps Residence; OHP Property Number - 013705	Building	Historic	HP02	1979 (Larry Scettrini, MH Historical Society); 2006 (Sheila McElroy, Circa: Historic Property Development)	S-037010, S-037012

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-43-002636		Resource Name - APE map reference number 57; OHP PRN - 5037-0018-0000; Other - Block 18, Lot 18; Other - Kate Robinson Bungalow; OHP Property Number - 013706; Other - 57 E. 3rd St.	Building	Historic	HP02	1979 (Larry Scettrini, MH Historical Society); 2006 (Sheila McElroy, Circa: Historic Property Development)	S-037010, S-037012
P-43-002637		Resource Name - APE map reference number 65; OHP PRN - 5037-0019-0000; Other - Block 18, Lot 17; Other - John and Annabelle Allen House; Other - Glenwood Lumber Co. House; OHP Property Number - 013707	Building, Element of district	Historic	HP02	1979 (Larry Scettrini, MH Historical Society); 2006 (Sheila McElroy, Circa: Historic Property Development)	S-037010, S-037012
P-43-002638		Resource Name - APE map reference number 75; OHP PRN - 5037-0020-0000; Other - Block 18, Lot 16; Other - Lindsay House; Other - I.B. Briscoe House; OHP Property Number - 013708	Building	Historic	HP02	1979 (Larry Scettrini, MH Historical Society); 2006 (Sheila McIlroy, Circa: Historic Property Development)	S-037010, S-037012
P-43-002639		Resource Name - APE map reference number 95; OHP PRN - 5037-0021-0000; Other - Block 18, Lots 5, 6, 7 and 15; Other - Old Dee-Hi Plant (95 E 3rd Street); Other - Original Farmer's Union Store; OHP Property Number - 013709; Other - Original Farmers Union Store; Other - Old Dee-Hi Plant	Building	Historic	HP06	1979 (Larry Scettrini, MH Historical Society); 2006 (Sjeila McElroy, Circa: Historic Property Development)	S-037010, S-037012
P-43-003041		Resource Name - Hale's Lumber; Other - MP 67.70	Building	Historic	HP06	2001 (Theresa Rogers, JRP Historical Consulting Services)	S-029657, S-043525

Attachment 3

Native American Heritage Commission Sacred Lands File Search Results

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

April 8, 2024

Mary Pfeifffer
Rincon Consultants, Inc.

Via Email to: mpfeifffer@rinconconsultants.com

Re: West Dunne - Robertson Residential Project, Santa Clara County

To Whom It May Concern:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were positive. Please contact the tribes on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Santa Clara County

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Santa Clara	Amah Mutsun Tribal Band	N	Ed Ketchum, Vice-Chairperson		(530) 578-3864		aerieways@aol.com	Costanoan Northern Valley Yokut	Alameda,Calaveras,Contra Costa,Fresno,Madera,Mariposa,Merced,Monte	7/20/2023
	Amah Mutsun Tribal Band	N	Valentin Lopez, Chairperson	P.O. Box 5272 Galt, CA, 95632	(916) 743-5833		vjltestingcenter@aol.com	Costanoan Northern Valley Yokut	Alameda,Calaveras,Contra Costa,Fresno,Madera,Mariposa,Merced,Monterey,San Benito,San Francisco,San	7/20/2023
	Amah MutsunTribal Band of Mission San Juan Bautista	N	Irene Zwierlein, Chairperson	3030 Soda Bay Road Lakeport, CA, 95453	(650) 851-7489	(650) 332-1526	amahmutsuntribal@gmail.com	Costanoan	Alameda,Contra Costa,Merced,Monterey,San Benito,San Francisco,San Mateo,Santa Clara,Santa Cruz,Stanislaus	
	Costanoan Ohlone Rumsen-Mutsen Tribe	N	Patrick Orozco, Chairman	644 Peartree Drive Watsonville, CA, 95076	(831) 728-8471		yanapvoic97@gmail.com	Ohlone	Alameda,Contra Costa,Merced,Monterey,San Benito,San Francisco,San Mateo,Santa Clara,Santa Cruz,Stanislaus	4/4/2024
	Costanoan Rumsen Carmel Tribe	N	Desiree Munoz, Tribal Liaison		(909) 491-8254		ohlonesisters@gmail.com	Costanoan	Alameda,Contra Costa,Merced,Monterey,San Benito,San Francisco,San Mateo,Santa	8/18/2023
	Costanoan Rumsen Carmel Tribe	N	Carla Munoz, Tribal Council	604 W Fernleaf Ave Pomona, CA, 91766	(415) 690-3110		carlamarieohlone@gmail.com	Costanoan	Alameda,Contra Costa,Merced,Monterey,San Benito,San Francisco,San Mateo,Santa Clara,Santa Cruz,Stanislaus	8/18/2023
	Indian Canyon Mutsun Band of Costanoan	N	Ann Marie Sayers, Chairperson	P.O. Box 28 Hollister, CA, 95024	(831) 637-4238		ams@indiancanyons.org	Costanoan	Alameda,Contra Costa,Merced,Monterey,San Benito,San Francisco,San Mateo,Santa Clara,Santa Cruz,Stanislaus	3/15/2024
	Indian Canyon Mutsun Band of Costanoan	N	Kanyon Sayers-Roods, MLD Contact	1615 Pearson Court San Jose, CA, 95122	(408) 673-0626		kanyon@kanyonkonsulting.com	Costanoan	Alameda,Contra Costa,Merced,Monterey,San Benito,San Francisco,San Mateo,Santa Clara,Santa Cruz,Stanislaus	3/15/2024
	Muwekma Ohlone Tribe of the SF Bay Area	N	Charlene Nijmeh, Chairperson	1169 S. Main Street, Ste. 336 Manteca, CA, 95377	(408) 464-2892		cnijmeh@muwekma.org	Costanoan	Alameda,Contra Costa,Marin,Merced,Napa,Sacramento,San Francisco,San Joaquin,San Mateo,Santa	3/28/2024
	Muwekma Ohlone Tribe of the SF Bay Area	N	Richard Massiatt, Councilmember/MLD Tribal Rep.	1169 S. Main Street, Ste. 336 Manteca, CA, 95377	(209) 321-0372		rmassiatt@muwekma.org	Costanoan	Alameda,Contra Costa,Marin,Merced,Napa,Sacramento,San Francisco,San Joaquin,San Mateo,Santa	3/28/2024
	Ohlone/Costanoan-Esselen Nation	N	Christanne Najera, Vice Chairperson	519 Viejo Gabriel Soledad, CA, 93960	(831) 235-4590		chris.johntmenold@gmail.com	Costanoan Esselen	Alameda,Contra Costa,Merced,Monterey,San Benito,San Francisco,San Mateo,Santa Clara,Santa Cruz,Stanislaus	6/12/2023
	Ohlone/Costanoan-Esselen Nation	N	Louise Miranda-Ramirez, Chairperson	P.O. Box 1301 Monterey, CA, 93942	(408) 629-5189		ramirez.louise@yahoo.com	Costanoan Esselen	Alameda,Contra Costa,Merced,Monterey,San Benito,San Francisco,San Mateo,Santa Clara,Santa Cruz,Stanislaus	6/12/2023
	Tamien Nation	N	Quirina Luna Geary, Chairperson	PO Box 8053 San Jose, CA, 95155	(707) 295-4011		qgeary@tamien.org	Costanoan	Alameda,San Mateo,Santa Clara,Stanislaus	4/11/2023
	Tamien Nation	N	Lillian Camarena, Secretary	336 Percy Street Madera, CA, 93638	(559) 363-5914		Lcamarena@tamien.org	Costanoan	Alameda,San Mateo,Santa Clara,Stanislaus	4/11/2023
	Tamien Nation	N	Johnathan Wasaka Costillas, THPO	10721 Pingree Road Clearlake Oaks, CA, 94523	(925) 336-5359		thpo@tamien.org	Costanoan	Alameda,San Mateo,Santa Clara,Stanislaus	4/11/2023

Native American Heritage Commission
Native American Contact List
Santa Clara County

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
	The Ohlone Indian Tribe	N	Andrew Galvan, Chairperson	P.O. Box 3388 Fremont, CA, 94539	Phone: (510) 882-0527	(510) 687-9393	chochenyo@AOL.com	Bay Miwok Ohlone Patwin Plains Miwok	Alameda,Contra Costa,San Francisco,San Mateo,Santa Clara	7/24/2023
	The Ohlone Indian Tribe	N	Vincent Medina, Cultural Leader	17365 Via Del Rey San Lorenzo, CA, 94580	(510) 610-7587		vincent.d.medina@gmail.com	Bay Miwok Ohlone Patwin Plains Miwok	Alameda,Contra Costa,San Francisco,San Mateo,Santa Clara	7/24/2023
	The Ohlone Indian Tribe	N	Desiree Vigil, THPO	259 Winwood Avenue Pacifica, CA, 94044	(650) 290-0245		dirwin0368@yahoo.com	Bay Miwok Ohlone Patwin Plains Miwok	Alameda,Contra Costa,San Francisco,San Mateo,Santa Clara	11/30/2023
	Wuksachi Indian Tribe/Eshom Valley Band	N	Kenneth Woodrow, Chairperson	1179 Rock Haven Ct. Salinas, CA, 93906	(831) 443-9702		kwood8934@aol.com	Foothill Yokut Mono	Alameda,Calaveras,Contra Costa,Fresno,Inyo,Kings,Madera,Marin,Mariposa,Merced,Mono,Monterey,San Benito,San	6/19/2023

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed West Dunne - Robertson Residential Project, Santa Clara County.

Record: PROJ-2024-001906
Report Type: List of Tribes
Counties: Santa Clara
NAHC Group: All

Attachment 4

Amah Mutsun Tribal Band of San Juan Bautista Tribal Outreach Response

The Amah Mutsun Tribal Band of San Juan Bautista
&
A.M.T.B. Inc.

Letter of Response

To whom it may concern:

It is our pride and privilege to be of service for any Native American Cultural Resource Monitoring, Consulting and/ or Sensitivity Training you may need or require. We take our Heritage and History seriously and are diligent about preserving as much of it as we can. Construction is a constant in the Bay Area and with that new discoveries are bound to happen. If you choose our services, we will gladly guide all personnel through proper procedures to safely protect and preserve: Culture, Heritage, and History.

It is highly recommended, if not previously done, to search through Sacred Lands Files (SLF) and California Historical Resource Information Systems (CHRIS) as well as reaching out to the Native American Heritage Commission (NAHC) In order to determine whether you are working in a Cultural and/ or Historic sensitivity.

If you have received any positive cultural or historic sensitivity within 1 mile of the project area here are A.M.T.B Inc's and Amah Mutsun Tribal Band of San Juan Bautista's recommendations:

- All Crews, Individuals and Personnel who will be moving any earth be Cultural Sensitivity Trained.
- A Qualified California Trained Archaeological Monitor is present during any earth movement.
- A Qualified Native American Monitor is present during any earth movement.

If further Consultation, Monitoring or Sensitivity Training is needed please feel free to contact A.M.T.B. Inc. or Myself Directly. A.M.T.B. Inc. 650 851 7747

Irenne Zwierlein

Irenne Zwierlein

3030 Soda Bay Road, Lakeport
CA 95453
amtbinc21@gmail.com
(650)851-7447

Amah Mutsun Tribal Band of San Juan Bautista
&
AMTB Inc.

3030 Soda Bay Road Lakeport, CA 95453

Our rates for 2024 are

$275.00 per hour.

4 hours minimum

Cancellations not 48 hours (about 2 days) prior will be charged as a 4-hour minimum. There is a round trip mileage charge if canceled after they have traveled to site.

Anything over 8 hours a day is charged as time and a half.

Weekends are charged at time and a half.

Holidays are charged at double the time.

For fiscal year (FY) 2024, standard per diem rate of $412. ($333. lodging, $79 M&IE).

M&IE Breakdown FY 2023

M&IE Total[1]	Continental Breakfast/ Breakfast[2]	Lunch[2]	Dinner[2]	Incidental Expenses	First & Last Day of Travel[3]
$79.00	$18.00	$20.00	$36.00	$5.00	$59.25

Beginning 2024, the standard mileage rates for the use of a car round trip (also vans, pickups or panel trucks) will be: $.67 cents per mile driven for business use or what the current federal standard is at the time.

Our Payment terms are 5 days from date on invoice.

Our Monitors are Members of the Amah Mutsun Tribal Band of Mission San Juan Bautista.

If you have any questions, please feel free to contact the A.M.T.B. Inc. at the below contact information.

Sincerely,

Irenne Zwierlein

Irenne Zwierlein

3030 Soda Bay Rd, Lakeport
CA 95453
amtbinc21@gmail.com
(650)851-7747