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Draft Mitigated Negative Declaration

Moore Ranch New Single-Family Dwelling, Guesthouse, and Barns

Case No. 20LUP-00000-00040 & 22NGD-00000-00009

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1.0 REQUEST/PROJECT DESCRIPTION

The project is a request for a Land Use Permit to allow construction of a new approximately 2,000 gross square foot single-family dwelling with 823 square feet of covered porch area, an 800 gross square foot guesthouse with a 100 square foot covered porch, a 2,200 gross square foot storage barn ("Barn 1"), and an 864 gross square foot storage barn ("Barn 2"). The single-family dwelling will have a maximum height of 19 feet above existing grade, the guesthouse will have a maximum height of 16 feet above existing grade, Barn 1 will have a maximum height of 16 feet above existing grade, and Barn 2 will have a maximum height of 19 feet above existing grade. One new above-ground 5,000-gallon water storage tank is proposed for fire protection. Three underground 5,000-gallon water storage tanks are also proposed for domestic use and fire suppression. The proposed project will result in approximately 18,200 square feet (0.42 acres) of site disturbance, including approximately 100 cubic yards of cut and 240 cubic of fill. Water services will be provided by an existing private well located southwest of the proposed dwelling. As part of the project, a new 2-inch, above-ground water supply line will connect the existing well to the three 5,000-gallon, underground water storage tanks located adjacent to Barn 1. The proposed water line will follow exposed bedrock and avoid native plants. An underground 2-inch water supply line will connect the storage tanks to the dwelling and guest house. Sanitary service will be provided by a new private septic system. Fire protection will be provided by the Santa Barbara County Fire Department.

Access will be provided from an existing private 12-foot wide all-weather gravel driveway that will be improved as part of the project. The private driveway is approximately 954 feet long and connects to a private roadway easement commonly known as "Pennsylvania Avenue", which connects to Refugio Road. Proposed driveway improvements include a new all-weather gravel turnout area and an approximately 50-foot paved section in an area where the existing slope is 15 percent. Surface materials for all other portions of the existing driveway will remain as all-weather gravel. In addition to construction at the proposed building site, the project will include vegetation clearance for fuel modification purposes, in accordance with Santa Barbara County Fire Department requirements, as follows:

- 10 feet of vegetation clearance along both sides of access road
- Between 0-30 feet from structures: irrigated landscaping and complete removal of existing vegetation with the exception of individual native trees that will be maintained
- Between 30-100 feet from structures: mosaic clearing of vegetation

The project will include approximately 4,715 square feet of new landscaping. Two (2) Coast live oak trees (*Quercus agrifolia*) are proposed for removal, and four (4) will have significant impacts to the critical root zone. Removed and significantly impacted trees will be replaced on the subject property at a minimum ratio of ten 5-gallon replacement trees per one tree removed. An additional 31 protected trees located along the existing access road will be pruned in varying amounts in order to provide 10 feet of vegetation clearance along both sides of access road for emergency vehicle access. All 31 trees are expected to be preserved in place with less than 20 percent encroachment into the critical root zone. Remaining mature native oak trees on the property will be protected during construction with tree protection fencing placed at six feet from the tree dripline. Project implementation will also result in the removal of and isolated 0.30-acre patch of purple needle grass (*Stipa pulchra*) grassland within and adjacent to the proposed building site, as well as removal and/or pruning of approximately 0.26 acres of Refugio manzanita (*Arctostaphylos refugioensis*) chaparral along the existing access road. These plant communities are considered environmentally sensitive habitat under the Gaviota Coast Plan and onsite replacement will be necessary to mitigate for the loss of this habitat. Purple needle grass grassland shall be replaced onsite at a ratio of 2:1. Mixed Refugio manzanita chapparal shall be replaced onsite at a ratio of 3:1. All proposed structures will be located at least 100 feet from the outer edge of mapped riparian environmentally sensitive habitat areas.

Stormwater run-off will flow away from the proposed structures through several new earthen swales. An existing unpermitted culvert, which is located west of the proposed dwelling and runs under the existing well access road, will be permitted and expanded as a part of the project. The expansion includes replacement of the single 18-inch culvert with two 18-inch culverts.

The project site is located on a 92.2-acre parcel, zoned AG-II-100, and shown as Assessor's Parcel Number (APN) 081-040-044, located at 2389 Refugio Road in the Gaviota Coast Plan Area, Third Supervisorial District.

2.0 PROJECT LOCATION

The project site is located at 2389 Refugio Road, known as APN 081-040-044, in the Santa Ynez Mountains, near the Gaviota Coast of southern Santa Barbara County. The project site is located south of Forest Route 5N 19 and a private roadway easement commonly known as Pennsylvania Avenue, and approximately 0.7 miles west of Refugio Road. Regional access is provided from Highway 101, which connects to Refugio Road approximately six miles south of the project site. The project site is bounded on all sides by parcels zoned AG-II-100 that are developed with low-density single-family dwellings and associated agricultural uses.

2.1 Site Information	
Comprehensive Plan Designation	Inland, Rural, Agricultural II-100 (minimum parcel size of 100 acres)
Zoning District, Ordinance	**Zoning Ordinance:** County Land Use Development Code (LUDC) **Zone:** AG-II-100 **Minimum Lot Size:** 100 acres **Applicable Overlay Designation:** Environmentally Sensitive Habitat (ESH)
Site Size	92.2 acres (gross)
Present Use & Development	Undeveloped/Vacant
Surrounding Uses/Zoning	**North:** AG-II-100; A private road commonly known as Pennsylvania Avenue, with single-family dwellings and associated agricultural uses beyond, including the Reagan Ranch **South:** AG-II-100; Single-family dwellings and associated agricultural uses **East:** AG-II-100; Single-family dwellings and associated agricultural uses with Refugio Road beyond **West:** AG-II-100; Single-family dwellings and associated agricultural uses
Access	Private driveway off of a private roadway easement commonly known as Pennsylvania Avenue, which connects to Refugio Road.
Public Services	**Water Supply:** Private Onsite Well **Sewage:** Private Septic System **Fire:** Santa Barbara County Fire Department **Police Services:** Santa Barbara County Sheriff's Office

3.0 ENVIRONMENTAL SETTING

3.1 PHYSICAL SETTING

Slope/Topography: The subject property is one of several private inholdings within the Los Padres National Forest and is located just south of the crest of the Santa Ynez Mountains, between approximately 2,080-2,250

feet above mean sea level. The existing access road leading to the project site descends south to the project site from Pennsylvania Avenue, and is moderately sloping with a maximum slope of 15 percent. The existing topography of the location for the proposed structures is generally flat and is one of the only level areas on the parcel.

Flora: The project site supports a total of 12 vegetation communities and land cover types that are generally classified as grassland habitat, woodland habitat, scrub habitat, or disturbed/non-vegetated area. The specific vegetation communities are as follows:

General Habitat	Vegetation Community	Acres
Grassland	Purple Needle Grass Grassland	0.30
Woodlands	Coast Live Oak Woodland (Upland)	0.35
	Coast Live Oak Woodland (Riparian)	0.66
	Coast Live Oak – Madrone Woodland	0.33
	Coast Live Oak/Greenbark Ceanothus	0.83
Scrub	Chamise Chaparral Shrubland	1.63
	Mixed Refugio Manzanita Chaparral	0.38
	Greenbark Ceanothus Shrubland	0.39
	Greenbark Ceanothus – Big Pod Ceanothus Shrubland	0.65
	Scrub Oak – Southern Mixed Chaparral Shrubland	0.94
	Scrub Oak – Chamise Chaparral Shrubland	0.34
Disturbed	Non-Vegetated	0.66

The California California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS) Rare and Endangered Pant Inventory, and the United States Fish and Wildlife Service (USFWS) identify 46 special-status plant species that have been documented within the region. The literature review completed for the project's Biological Assessment Report, dated October 2021 (see Attachment 3) determined that 30 special-status plant species have the potential to occur at the project site, based on habitat suitability and elevation of the survey area. During botanical surveys conducted by Dudek biologists in July 2019, May 2020, and July 2020 the only special-status plant species observed was Refugio manzanita.

Fauna: During biological surveys conducted by Dudek biologists in June/July 2019, May/July/November 2020 and August 2021 biologists observed 29 species of wildlife either directly or through signs, including 20 bird species, three mammal species, two reptile species, and three invertebrate species. The literature review completed for the project's Biological Assessment Report, dated October 2021 (see Attachment 3) determined that 24 special-status wildlife species have the potential to occur at the project site. Only three of these species have at least a moderate potential to occur in the survey area: Blainville's horned lizard (Phrynosoma blainvillii), coast patch-nosed snake (*Salvadora hexalepis virgultea*), and San Diego desert woodrat (*Neotoma lepida intermedia*). Additionally, the parcel is located within area that has been designated as Final Critical Habitat for California red-legged frog (*Rana draytonii*), a federally threatened species.

Archaeological Sites: A Phase I Archaeological Survey was conducted for the proposed project. No previously undocumented archaeological resources, historical resources or unique archeological resources were identified within the project area and the potential to find unknown archaeological resources is considered low.

Soils: The soils on the project site are classified as Maymen stony fine sandy loam with 15 to 75 percent slopes and Maymen rock outcrop complex with 50 to 100 percent slopes according to the U.S. Department of Agriculture Natural Resources Conservation Service (NCRS 2017). The proposed structures will be sited in a location with underlying Maymen rock outcrop complex. This soil type is characterized as well drained with rapid surface runoff and high wind and water erosion hazard. The soil suitability rating for single-family dwellings on this soil type is *very limited*.

Surface Water Bodies (including wetlands, riparian areas, ponds, springs, creeks, rivers, lakes, and estuaries): Three intermittent unnamed streams cross over the subject parcel, flowing from north to south, as shown on the United States Geological Service (USGS) National Hydrography Dataset (NHD). Only one of the intermittent streams has the potential to be directly impacted by the proposed project, including redesign/replacement of an existing unpermitted culvert where a well access road crosses the intermittent stream. There are no lakes or other surface waters within 1,000 feet of the project site. No portion of the subject parcel is within the 100 year flood zone.

Existing Structures/Roads: The subject parcel is currently vacant. There are several existing unpaved/unimproved agricultural roads that provide vehicle access to a limited number of areas on the parcel, including to the existing private well. There are two unpaved entrance points to the parcel from Pennsylvania Avenue, including the existing access road that will provide access to the proposed project.

3.2 ENVIRONMENTAL BASELINE

The environmental baseline from which the project's impacts are measured consists of the physical environmental conditions in the vicinity of the project, as described above.

4.0 POTENTIALLY SIGNIFICANT EFFECTS CHECKLIST

The following checklist indicates the potential level of impact and is defined as follows:

Potentially Significant and Unavoidable Impact: A fair argument can be made, based on the substantial evidence in the file, that an effect may be significant.

Significant but Mitigable: Incorporation of mitigation measures has reduced an effect from a Potentially Significant Impact to an Insignificant Impact.

Insignificant Impact: An impact is considered adverse but does not trigger a significance threshold.

No Impact: There is adequate support that the referenced information sources show that the impact simply does not apply to the subject project.

Beneficial Impact: There is a beneficial effect on the environment resulting from the project.

Reviewed Under Previous Document: The analysis contained in a previously adopted/certified environmental document addresses this issue adequately for use in the current case and is summarized in the discussion below. The discussion should include reference to the previous documents, a citation of the page(s) where the information is found, and identification of mitigation measures incorporated from the previous documents.

4.1 AESTHETICS/VISUAL RESOURCES

Will the proposal result in:	Potent. Signif. and Unavoid.	Significant but Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. The obstruction of any scenic vista or view open to the public or the creation of an aesthetically offensive site open to public view?				X	
b. Change to the visual character of an area?				X	
c. Glare or night lighting which may affect adjoining areas?			X		
d. Visually incompatible structures?				X	

Existing Setting: The project site is located approximately 0.7 miles west of Refugio Road and approximately 4.5 miles north of Highway 101, in the Gaviota Coast Plan Area. The rural character of the Gaviota Coast Plan Area is one of a working agricultural landscape nestled between the mountains and the sea. Agriculture, from grazing to row crops and orchards, has been historically prominent and continues to define the character of the area. Public views in this area of the Santa Ynez Mountains and ocean are generally unimpeded and unfragmented. Residential and agricultural structures that are visible from public viewing areas are relatively few and generally of modest size, simple, and functional. The built environment is largely subordinate to the scenic natural features and pastoral qualities of the Gaviota Coast. The project site was strategically positioned on the subject parcel in an area that minimizes grading quantities and in an area that is not visible from any public viewing areas due to intervening topography and vegetation.

County Environmental Thresholds: The County's Visual Aesthetics Impact Guidelines classify coastal and mountainous areas, the urban fringe, and travel corridors as "especially important" visual resources. A project may have the potential to create a significantly adverse aesthetic impact if (among other potential effects) it would impact important visual resources, obstruct public views, remove significant amounts of vegetation, substantially alter the natural character of the landscape, or involve extensive grading visible from public areas. The guidelines address public, not private views.

Impact Discussion:

(a-b, d) No Impact: No project components, including proposed structures and land alterations will be visible from any public viewing place, such as roads, highways, railroads, public and other open spaces, trails, beaches, or other recreation areas. Structures are visually compatible with the rural character of the Gaviota Coast Plan Area and the project does not adversely alter the character of the landscape or topography. The proposed project was reviewed and granted final approval by the Central Board of Architectural Review (CBAR) on September 17, 2021 under Case No. 20BAR-00000-00008. All structures are in compliance with LUDC Section 35.62.040 (Ridgeline and Hillside Development Guidelines).

(c) Insignificant: Pursuant to the Gaviota Coast Plan Design Guidelines for lighting, exterior lighting shall be minimized and shielded to reduce impacts on nocturnal ecosystems and night sky access. Illumination of trees, landscaping, and building facades is not permitted. Where walkway and/or driveway lighting is deemed necessary for safety reasons, zero cut-off fixtures shall be used. Interior lighting emission should be low-level and carefully planned to prevent exterior light spread (i.e. 'lantern effect'). The project will include minimal exterior lighting to provide light near structure doorways for safety purposes. All proposed light fixtures shown on the project plans were reviewed and approved by CBAR under Case No.

20BAR-00000-00008. Adherence to Gaviota Coast Plan Design Guidelines for lighting will effectively mitigate any impacts associated with increased lighting from the proposed project, including avoidance of excessive lighting and glare.

Cumulative Impacts: The implementation of the project is not anticipated to result in any substantial change in the aesthetic character of the area since structures will not be visible from public viewing areas and proposed exterior lighting is in compliance with the Gaviota Coast Plan requirements for exterior lighting. Thus, the project will not cause a cumulatively considerable effect on aesthetics.

Mitigation and Residual Impact: With the implementation of existing policy, impacts would be less than significant. Therefore, no mitigation is necessary and residual impacts would be less than significant.

4.2 AGRICULTURAL RESOURCES

Will the proposal result in:	Poten. Signif. and Unavoid.	Significant but Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. Convert prime agricultural land to non-agricultural use, impair agricultural land productivity (whether prime or non-prime) or conflict with agricultural preserve programs?				X	
b. An effect upon any unique or other farmland of State or Local Importance?				X	

Impact Discussion:

(a-b) No Impact: The project site does not contain a combination of acreage and/or soils which render the site an important agricultural resource. There are no agricultural activities currently occurring on the parcel that would be disturbed by the proposed project, and the project will not impact any neighboring agricultural operations. There are no prime soils located on the subject parcel and the parcel is not under an agricultural preserve contract.

Cumulative Impacts: The County's Environmental Thresholds were developed, in part, to define the point at which a project's contribution to a regionally significant issue constitutes a significant effect at the project level. In this instance, the project has been found not to exceed the threshold of significance for agricultural resources. Therefore, the project's contribution to the regionally significant loss of agricultural resources is not considerable, and its cumulative effect on regional agriculture is insignificant.

Mitigation and Residual Impact: No impacts are identified. No mitigations are necessary.

4.3a AIR QUALITY

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. The violation of any ambient air quality standard, a substantial contribution to an existing or projected air quality violation, or exposure of sensitive receptors to substantial pollutant concentrations (emissions from direct, indirect, mobile and stationary sources)?			X		
b. The creation of objectionable smoke, ash or odors?			X		
c. Extensive dust generation?			X		

County Environmental Thresholds: Chapter 5 of the Santa Barbara County Environmental Thresholds and Guidelines Manual (as revised in January 2021) addresses the subject of air quality. The thresholds provide that a proposed project will not have a significant impact on air quality if operation of the project will:

- emit (from all project sources, mobile and stationary), less than the daily trigger for offsets for any pollutant (currently 55 pounds per day for NOx and ROC, and 80 pounds per day for PM_{10});
- emit less than 25 pounds per day of oxides of nitrogen (NOx) or reactive organic compounds (ROC) from motor vehicle trips only;
- not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone);
- not exceed the Air Pollution Control District (APCD) health risk public notification thresholds adopted by the APCD Board; and
- be consistent with the adopted federal and state Air Quality Plans.

No thresholds have been established for short-term impacts associated with construction activities. However, the County's Grading Ordinance requires standard dust control conditions for all projects involving grading activities. Long-term/operational emissions thresholds have been established to address mobile emissions (i.e., motor vehicle emissions) and stationary source emissions (i.e., stationary boilers, engines, and chemical or industrial processing operations that release pollutants).

Impact Discussion:

(a-c) Insignificant: The project will not result in significant new vehicle emissions (i.e., new vehicular trips to or from the site will be fewer than 100 Average Daily Trips). It will not involve new stationary sources (i.e., equipment, machinery, hazardous materials storage, industrial or chemical processing, etc.) that would increase the amount of pollutants released into the atmosphere. The project will also not generate additional smoke, ash, odors, or long term dust after construction. The project's contribution to global warming from the generation of greenhouse gases would be negligible.

Short-Term Construction Impacts. Project-related construction activities will require grading that has been minimized to the extent possible under the circumstances. Earth moving operations at the project site will not have the potential to result in significant project-specific short-term emissions of fugitive dust and $PM_{10,}$ with the implementation of standard dust control measures that are required for all new development in the County.

Emissions of ozone precursors (NO_x and ROC) during project construction would result primarily from the on-site use of heavy earthmoving equipment. Due to the limited period of time that grading activities would occur on the project site, construction-related emissions of NO_x and ROC would not be significant on a project-specific or cumulative basis. However, due to the non-attainment status of the air basin for ozone, the project should implement measures recommended by the APCD to reduce construction-related emissions of ozone precursors to the extent feasible. Compliance with these measures is routinely required for all new development in the County.

Long-Term Operation Emissions. Long-term emissions would result from project-generated vehicle trips and stationary sources (i.e. natural gas usage). Long-term emissions are typically estimated using the California Emissions Estimator Model (CalEEMod) computer model program. However, the proposed project, which includes one single-family dwelling, is below threshold levels for significant air quality impacts, pursuant to the screening table maintained by the Santa Barbara County APCD. Therefore, the proposed project would not have a potentially significant long-term impact on air quality.

Cumulative Impacts: The County's Environmental Thresholds were developed, in part, to define the point at which a project's contribution to a regionally significant impact constitutes a significant effect at the project level. In this instance, the project has been found not to exceed the significance criteria for air quality. Therefore, the project's contribution to regionally significant air pollutant emissions is not cumulatively considerable, and its cumulative effect is insignificant.

Mitigation and Residual Impact: The project would not result in significant project-specific long-term air quality impacts with implementation of standard APCD control measures. No mitigation measures are required.

4.3b AIR QUALITY - GREENHOUSE GAS EMISSIONS

Greenhouse Gas Emissions - Will the project:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X		
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X	

Existing Setting: Greenhouse gases (GHG) include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) (California Health and Safety Code, § 38505(g)). These gases create a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as "the greenhouse effect," human activities have accelerated the generation of GHG emissions above pre-industrial levels (U.S. Global Change Research Program 2018). The global mean surface temperature increased by approximately 1.8°F (1°C) in the past 80 years, and is likely to reach a 2.7°F (1.5°C) increase between 2030 and 2050 at current global emission rates (IPCC 2018).

The largest source of GHG emissions from human activities in the United States is from fossil fuel combustion for electricity, heat, and transportation. Specifically, the *Inventory of U.S. Greenhouse Gasses and Sinks: 1990-2017* (U.S. Environmental Protection Agency 2019) states that the primary sources of GHG

emissions from fossil fuel combustion in 2017 included electricity production (35%), transportation (36.5%), industry (27%), and commercial and residential end users (17-19%, respectively). Factoring in all sources of GHG emissions, the energy sector accounts for 84% of total emissions in addition to agricultural (8%), industrial processes (5.5%), and waste management (2%) sources. Regarding non-stationary sources of GHG emissions within Santa Barbara County specifically, the transportation sector produces 38% of the total emissions, followed by the building energy (28%), agriculture (14%), off-road equipment (11%), and solid waste (9%) sectors (County of Santa Barbara Long Range Planning Division 2018).

The County of Santa Barbara's Final Environmental Impact Report (EIR) for the Energy and Climate Action Plan (ECAP) (PMC, 2015) and the *2016 Greenhouse Gas Emissions Inventory Update and Forecast* (County of Santa Barbara Long Range Planning Division, 2018) contain a detailed description of the proposed project's existing regional setting as it pertains to GHG emissions. Regarding non-stationary sources of GHG emissions within Santa Barbara County specifically, the transportation sector produces 38% of the total emissions, followed by the building energy (28%), agriculture (14%), off-road equipment (11%), and solid waste (9%) sectors (County of Santa Barbara Long Range Planning Division 2018).

The overabundance of GHG in the atmosphere has led to a warming of the earth and has the potential to substantially change the earth's climate system. More frequent and intense weather and climate-related events are expected to damage infrastructure, ecosystems, and social systems across the United States (U.S. Global Change Research Program 2018). California's Central Coast, including Santa Barbara County, will be affected by changes in precipitation patterns, reduced foggy days, increased extreme heat days, exacerbated drought and wildfire conditions, and acceleration of sea level rise leading to increased coastal flooding and erosion (Langridge, Ruth 2018).

Global mean surface warming results from GHG emissions generated from many sources over time, rather than emissions generated by any one project (IPCC 2014). As defined in CEQA Guidelines Section 15355, and discussed in Section 15130, "'Cumulative impacts' refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Therefore, by definition, climate change under CEQA is a cumulative impact.

CEQA Guidelines Section 15064.4(b) states that a lead agency "should focus its analysis on the reasonably foreseeable incremental contribution of the project's [GHG] emissions to the effects of climate change." A project's individual contribution may appear small but may still be cumulatively considerable. Therefore, it is not appropriate to determine the significance of an individual project's GHG emissions by comparing against state, local, or global emission rates. Instead, the Governor's Office of Planning and Research recommends using an established or recommended threshold as one method of determining significance during CEQA analysis (OPR 2008, 2018). A lead agency may determine that a project's incremental contribution to an existing cumulatively significant issue, such as climate change, is not significant based on supporting facts and analysis [CEQA Guidelines Section 15130(a)(2)].

County Environmental Thresholds: On January 26, 2021, Santa Barbara County adopted interim GHG emissions thresholds of significance (Interim Thresholds) based on the County's 2030 GHG target (i.e., 50 percent below 2007 levels by 2030), which are in line with the State's GHG emission reduction goals. The interim GHG emissions thresholds are designed to identify (1) a cumulatively considerable contribution to an existing adverse condition, and (2) a cumulatively significant impact in combination with other projects causing related impacts. A CEQA lead agency may determine that a project's incremental contribution to an existing cumulatively significant issue, such as climate change, is not significant based on supporting facts and analysis (CEQA Guidelines Section 15130, Discussion of Cumulative Impacts, Subsection (a)(2)). The CEQA Guidelines direct that a project's contribution to a significant cumulative impact will be

rendered insignificant if the project is required to implement or fund its fair share of a mitigation measure designed to alleviate the cumulative impact (CEQA Guidelines Section 15130(a)(3)).

Consistent with CEQA Guidelines Section 15064.7, Thresholds of Significance, the County developed and adopted its Interim Thresholds of significance for determining the significance of a project's GHG emissions through analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. CEQA Guidelines Section 15064.7(a) states, "[a] threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect." Projects that comply with an applicable threshold will normally have an insignificant effect on the environment. Projects that exceed or otherwise do not comply with an applicable threshold may have a significant effect on the environment and, as a result, may require project modifications or mitigation measures to avoid or reduce those effects to insignificant levels. The following thresholds reflect this general guidance as well as the specific guidance set forth in CEQA Guidelines Section 15064.4 regarding the significance of impacts from GHG emissions.

Per CEQA Guidelines Section 15064.4, County staff should consider the following factors, among others, when determining the significance of impacts from GHG emissions on the environment: (1) the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (e.g., CEQA Guidelines Section 15183.5, Tiering and Streamlining the Analysis of Greenhouse Gas Emissions, Subsection (b)). The County recommends the use the California Emissions Estimator Model (CalEEMod) to estimate operational and construction GHG emissions from projects. CalEEMod, developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with the California Air Districts, estimates project emissions based on the types of proposed land uses, sizes, location within the state, and approximate start dates of construction and operations.

The thresholds framework consists, first, of a numerical threshold (Screening Threshold) and, second, an efficiency threshold (Significance Threshold). The County based the Screening Threshold on the types of land uses that the County permitted over a 10-year period (2010 –2019). The County set the Screening Threshold at a level that captures the "fair share" of emissions from new development consistent with its 2030 GHG emissions target. The County based the Significance Threshold on the targeted level of emissions from new development in 2030 and projected population and employment for the unincorporated county for the same year. The Interim GHG Thresholds recommend that land use projects be first assessed against a screening threshold of 300 $MTCO_2e$/year. Staff will compare the quantified GHG emissions against the 300 $MTCO_2e$/year Screening Threshold using the Board-adopted Size-Based Project Screening Criteria Table, which lists the types and sizes of projects that will typically emit less than 300 $MTCO_2e$/year. If the estimated GHG emissions are less than the Screening Threshold, staff can conclude that project will have an insignificant environmental impact, and the project would require no further analysis. For projects that exceed the screening threshold, a service population threshold of 3.8 $MTCO_2e$ is recommended.

Impact Discussion:

(a) Insignificant: The proposed project involves the construction of a new residence and appurtenant structures on an undeveloped project site, which will increase the residential density on site. However, due to the limited scope of the proposed project, GHG emissions from direct, indirect, and mobile sources associated with the site will not substantially change, and will be typical of other single-family residential

land uses in the immediate area. The new residence and appurtenant structures would be constructed to meet current Title 24 Building Code requirements for energy efficient construction and appliances, and current construction methods and technology would be utilized. Typical construction equipment would be used during demolition and construction, and site disturbance would be commensurate with the type and size of this single-family residential project. Analysis of the project using the Size-Based Project Screening Criteria Table indicates that the proposed project will emit less than 300 $MTCO_2e$/year, by the year 2030. The County presumes a project that is smaller than the size-based screening criteria (62,000 square feet for single-family housing projects), absent substantial evidence to the contrary, will have an insignificant impact and will not require further impact analysis.

(b) No Impact: The County adopted the ECAP in 2015 as its GHG emission reduction plan. The final ECAP progress report will be released in 2022. Until the 2030 CAP is adopted, the County considered projects or plans that have emissions below interim thresholds to be consistent with County GHG emission reduction plans. The interim thresholds are part of the County's GHG emissions reduction strategy and were informed by the County's 2030 target. The interim thresholds provide a pathway to show compliance with County goals. As discussed in Response "a" above, the project will comply with interim thresholds and be consistent with the County's GHG emission reduction strategy. Therefore, the proposed project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

Cumulative Impacts: The proposed project's total GHG emissions will be less than the applicable threshold of 300 $MTCO_2e$/year. Therefore, the project's incremental contribution to a cumulative effect is not cumulatively considerable and the project's greenhouse gas emissions will not have a significant impact on the environment.

Mitigation and Residual Impact: No mitigation is required. Residual impacts would be less than significant.

References:

BAAQMD. *California Environmental Quality Act Air Quality Guidelines*. May 2017.

California Air Resources Board, *Climate Change Scoping Plan*, December 2008.

County of Santa Barbara Long Range Planning Division, *Energy and Climate Action Plan*, May 2015.

County of Santa Barbara Long Range Planning Division, *Step-by-Step Guide for Evaluating Significance of Greenhouse Gas Emissions*, June 2019.

County of Santa Barbara Long Range Planning Division, *2016 Greenhouse Gas Emissions Inventory Update and Forecast*, June 2018.

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4.4 BIOLOGICAL RESOURCES

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
Flora					
a. A loss or disturbance to a unique, rare or threatened plant community?		X			
b. A reduction in the numbers or restriction in the range of any unique, rare or threatened species of plants?		X			
c. A reduction in the extent, diversity, or quality of native vegetation (including brush removal for fire prevention and flood control improvements)?		X			
d. An impact on non-native vegetation whether naturalized or horticultural if of habitat value?			X		
e. The loss of healthy native specimen trees?		X			
f. Introduction of herbicides, pesticides, animal life, human habitation, non-native plants or other factors that would change or hamper the existing habitat?		X			
Fauna					
g. A reduction in the numbers, a restriction in the range, or an impact to the critical habitat of any unique, rare, threatened or endangered species of animals?		X			

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
h. A reduction in the diversity or numbers of animals onsite (including mammals, birds, reptiles, amphibians, fish or invertebrates)?		X			
i. A deterioration of existing fish or wildlife habitat (for foraging, breeding, roosting, nesting, etc.)?		X			
j. Introduction of barriers to movement of any resident or migratory fish or wildlife species?			X		
k. Introduction of any factors (light, fencing, noise, human presence and/or domestic animals) which could hinder the normal activities of wildlife?			X		

Existing Plant and Animal Communities/Conditions:

Background and Methods:

Santa Barbara County has a wide diversity of habitat types, including chaparral, oak woodlands, wetlands and beach dunes. These are complex ecosystems and many factors are involved in assessing the value of the resources and the significance of project impacts. For this project, site visits were conducted by Planning and Development (P&D) staff on September 25, 2020, and October 8, 2021, and a Biological Assessment Report was prepared by Dudek (October 2021). Dudek biologists conducted site surveys in June/July 2019, May/July/November 2020, and August 2021 as is detailed in the Biological Assessment Report. The following analysis is based on the information collected during the site visits and presented in the Biological Assessment Report.

Flora:

The topography of the project site is moderately sloping towards the south and east, with the exception of the proposed building area which is one of the only level areas on the parcel. A stream channel transverses the western edge of the survey area. These conditions support the following 12 vegetation community types, which were observed and mapped on the property by Dudek:

General Habitat	Vegetation Community	Acres
Grassland	Purple Needle Grass Grassland	0.30
Woodlands	Coast Live Oak Woodland (Upland)	0.35
	Coast Live Oak Woodland (Riparian)	0.66
	Coast Live Oak – Madrone Woodland	0.33
	Coast Live Oak/Greenbark Ceanothus	0.83
Scrub	Chamise Chaparral Shrubland	1.63
	Mixed Refugio Manzanita Chaparral	0.38
	Greenbark Ceanothus Shrubland	0.39
	Greenbark Ceanothus – Big Pod Ceanothus Shrubland	0.65
	Scrub Oak – Southern Mixed Chaparral Shrubland	0.94
	Scrub Oak – Chamise Chaparral Shrubland	0.34
Disturbed	Non-Vegetated	0.66

The location of each vegetation community is shown on Figure 3 of the Biological Assessment Report prepared by Dudek (Attachment 3). The plant communities on the parcel have been subject to some previous

disturbance from several existing unpaved/unimproved agricultural roads that provide vehicle access to a limited number of areas on the parcel.

The proposed building site includes an isolated patch of purple needle grass grassland, disturbed habitats, and the fringes of several areas mapped within scrub communities. Scrub communities dominate much of the survey area, but coast live oak woodland communities are found along the stream channel that transverses the western edge of the survey area and crosses the road to the well south of the proposed building site. In addition to the purple needle grass grassland and disturbed habitat in the immediate area of the building site, several additional communities fall within 100 feet of the proposed building site. These include coast live oak/greenbark ceanothus, chamise chaparral, and scrub oak-southern mixed chaparral, in addition to both upland and riparian coast live oak woodland in the other portion of the 100-foot buffer.

The purple needle grass grassland association has a "G3" global rarity ranking and an "S3" state rarity ranking. Locally, it is considered environmentally sensitive habitat (ESH) under the Gaviota Coast Plan. The coast live oak woodland alliance has a "G5" global rarity ranking and a "S4" state rarity ranking. Although these rankings indicate that the coast live oak woodland alliance is apparently secure, it is considered ESH under the Gaviota Coast Plan. On the project site, coast live oak woodland occurs in both upland and riparian settings. Coast live oak – madrone woodland possesses a global ranking of "G5" and a state ranking of "S4", so is not considered sensitive. However, as an association of coast live oak woodland alliance, it is typically considered ESH under the Gaviota Coast Plan. Coast live oak/greenbark ceanothus woodland has a global rank of "G5" and a state rank of "S4", and, therefore, is not sensitive. The chamise chaparral shrubland alliance has a global rank of "G5" and a state rank of "S5". This ranking indicates that globally and within California the alliance is widespread, abundant, and secure. Mixed Refugio manzanita chaparral is not a plant community recognized by the California Native Plant Society, however, the dominant plant species within the scrub canopy is Refugio manzanita (*Arctostaphylos refugioensis*), a California Rare Plant Rank (CRPR) 1B.2 plant, which is also noted as a species of particular value in the Conservation Element of the County Comprehensive Plan. Therefore, this vegetation community is considered sensitive. Greenbark ceanothus shrubland alliance and Greenbark Ceanothus – Big Pod Ceanothus Shrubland have a global rank of "G4" and a state rank of "S4", and thus are not considered sensitive. The scrub oak – southern mixed chaparral does not have a global or state rarity ranking. Scrub oak – chamise chaparral shrubland alliance has a global rank of "G4" and a state rank of "S4", therefore it is not considered sensitive. The disturbed/anthropogenic habitat areas on the parcel are mostly bare, but some support small amounts of weedy herbaceous vegetation, and an area of disturbed habitat near the wellhead supports significant cover of deer weed, a native perennial herb that is tolerant of disturbance. Within the survey area, disturbed habitat is associated with the existing road and the area around the wellhead.

The California California Natural Diversity Database (CNDDB), California Native Plant Society (CNPS) Rare and Endangered Pant Inventory, and the United States Fish and Wildlife Service (USFWS) identify 46 special-status plant species that have been documented within the region. The literature review completed for the project's Biological Assessment Report, dated October 2021 (see Attachment 3) determined that 30 special-status plant species have the potential to occur at the project site, based on habitat suitability and elevation of the survey area. During botanical surveys conducted in July 2019, May 2020, and July 2020 the only special-status plant species observed was Refugio manzanita.

A Tree Protection Report was prepared by Dudek, dated October 6, 2021 (see Attachment 4) in which all trees immediately adjacent to the proposed project footprint were inventoried and evaluated. There is a total of 145 trees located within the project survey area, representing two tree species, Coast live oak (*Quercus agrifolia*) and Pacific madrone (*Arbutus menziesii*). Out of the 145 total trees, 125 are considered protected trees by Santa Barbara County. In general, the trees are in good (18 trees) to fair (96 trees)

overall condition, with 31 trees exhibiting poor health. None of the surveyed trees were found to be dead. The trees on site have structural ratings that range from fair to poor, with 114 trees exhibiting fair structure and 31 trees exhibiting poor structure. No pests and/or pathogens were observed on site.

Fauna:

Wildlife species expected to inhabit the site include common species such as turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), California scrub jay (*Aphelocoma claifornica*), brush rabbit (*Sylvilagus bachmanii*), western gray squirrel (*Sciurus griseus*), and western fence lizard (*Sceloporus occidentalis*). All of these species and several other common species were observed during the site surveys conducted by a Dudek biologist and documented in the biological assessment report prepared by Dudek. According to Dudek, the parcel supports suitable conditions for three special-status wildlife species including Blainville's horned lizard (*Phrynosoma blainvillii*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), and San Diego desert woodrat (*Neotoma lepida intermedia*). Nesting birds (Class Aves) have the potential to occur on the property and are protected under California Fish and Game Code 2503 and 3503.5.

The project site is located within area that has been designated as Final Critical Habitat for California red-legged frog (*Rana draytonii*), a federally threatened species. The nearest CRLF occurrence to the property is located 1.6 miles south of the survey area. During the field assessment, no evidence was observed that ponding of any duration occurs within the two streams closest to the project site. The site itself and surrounding areas are otherwise occupied by chaparral and, to a lesser extent, by upland oak woodland. Beyond 500 feet from the site, aerial images and National Wetlands Inventory and National Hydrography Dataset data suggest several areas may be suitable for California red-legged frog, but none of these areas are closer than 800 feet. The nearest potentially suitable aquatic breeding habitat to the project site is approximately 0.3 miles away, but the project site itself and areas within 500 feet are confirmed to support no suitable aquatic breeding habitat; therefore California red-legged frog is unlikely to occur there. The project biologist coordinated with USFWS in making determinations regarding CRLF.

No special status wildlife species were directly observed on the parcel during Dudek's surveys/site visits conducted in June or July 2019; May, July, or November 2020, or April or August 2021, but several middens of unknown woodrat species (potentially San Diego desert woodrat) were identified during surveys.

County Environmental Thresholds:

Santa Barbara County's Environmental Thresholds and Guidelines Manual (2021) includes guidelines for the assessment of biological resource impacts. The following thresholds are applicable to this project:

Wetlands: Projects which result in a net loss of important wetland area or wetland habitat value, either through direct or indirect impacts to wetland vegetation, degradation of water quality, or would threaten the continuity of wetland-dependent animal or plant species are considered to have a potentially significant effect on the environment. Projects which substantially interrupt wildlife access, use and dispersal in wetland areas would typically be considered to have a potentially significant impact. Projects which disrupt the hydrology of wetlands systems would be considered to have a potentially significant impact.

Riparian Habitats: Project created impacts may be considered significant due to: direct removal of riparian vegetation; disruption of riparian wildlife habitat, particularly animal dispersal corridors and or understory vegetation; or intrusion within the upland edge of the riparian canopy leading to potential disruption of animal migration, breeding, etc. through increased noise, light and glare, and human or domestic animal intrusion; or construction activity which disrupts critical time periods for fish and other wildlife species.

Native Grasslands: In general, project created impacts to native grasslands may be considered significant if they involve removal of or severe disturbance to a patch or a combined patch area of native grasses that is greater than one-quarter (1/4) acre in size. The grassland must contain at least 10 percent relative cover of native grassland species (based on a sample unit). Impacts to patch areas less than one-quarter acre in size that are clearly isolated and not part of a significant native grassland or an integral component of a larger ecosystem are usually considered insignificant.

Oak Woodlands and Forests: Project created impacts may be considered significant due to habitat fragmentation, removal of understory, alteration to drainage patterns, disruption of the canopy, removal of a significant number of trees that would cause a break in the canopy, or disruption in animal movement in and through the woodland.

Individual Native Trees: Project created impacts may be considered significant due to the loss of 10% or more of the trees of biological value on a project site.

Other Rare Habitat Types: The Manual recognizes that not all habitat-types found in Santa Barbara County are addressed by the habitat-specific guidelines. Impacts to other habitat types or species may be considered significant, based on substantial evidence in the record, if they substantially: (1) reduce or eliminate species diversity or abundance; (2) reduce or eliminate the quality of nesting areas; (3) limit reproductive capacity through losses of individuals or habitat; (4) fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources; (5) limit or fragment range and movement; or (6) interfere with natural processes, such as fire or flooding, upon which the habitat depends.

Impact Discussion:

(a-c) Significant but Mitigable: The project will result in direct removal of a 0.30-acre isolated patch of purple needle grass grassland. The area supporting purple needle grass grassland is the only level area devoid of significant scrub habitat and oaks trees in the vicinity and required land clearing and grading for building will be minimal compared with other locations nearby on the parcel. As a native grassland, this community is considered ESH under Policy NS-4 of the Gaviota Coast Plan and replacement of this community will be necessary to mitigate for the loss of this habitat. Per the County Environmental Thresholds and Guidelines Manual, removal of less than 0.25 acres of native grassland that "is clearly isolated and is not a part of a significant native grassland or an integral component of a larger ecosystem, is usually considered insignificant." The native grassland that will be removed by project implementation meets the criteria of being clearly isolated, as all surrounding habitats are scrub or woodland communities. It is not a part of a significant native grassland, as no other native grassland, or grassland of any type, occurs within the survey area. An examination of aerial photos shows that only scrub habitats, woodland habitats, and dirt roads occur within 600 feet of the proposed building site. In addition, the grassland is small (0.30 acres) and does not provide the level of ecological function of a large, more connected system of grassland that would support populations of vertebrate grassland species or significant foraging by raptors dependent on open space to access terrestrial prey species. The grassland does not the fall under the threshold of being less than a quarter acre for determining removal of a native grassland to be "insignificant." Therefore, removal of this grassland would be considered a significant but mitigable impact, with mitigation at a 2:1 ratio provided to compensate for this loss.

In order to comply with Fire Department fuel management requirements, the project will result in impacts to approximately 0.10 acres of Upland Coast Live Oak Woodland, 0.10 acres of Coast Live Oak/Madrone Woodland, and 0.26 acres of Mixed Refugio Manzanita. As discussed above, Coast live oak woodland is

considered ESH under the Gaviota Coast Plan, and the dominant plant species within the Mixed Refugio Manzanita scrub canopy is Refugio manzanita (*Arctostaphylos refugioensis*), a California Rare Plant Rank (CRPR) 1B.2 plant, which is also noted as a species of particular value in the Conservation Element of the County Comprehensive Plan. Therefore, impacts to these communities would be considered significant unless mitigation is provided to compensate for the loss.

Other non-sensitive native plant communities may be potentially impacted by fuel management activities. Approximately 0.26 acres of existing vegetation will be removed for construction of the proposed structures, and approximately 2.69 acres of existing vegetation will be selectively thinned for fuel management.

With the application of the mitigation measures described below (MM 1, MM 2, MM 3, and MM 4) impacts to sensitive and native plant communities are considered significant but mitigable.

The project will not result in direct removal of County-mapped riparian ESH-GAV overlay. In addition, the ESH-GAV overlay occurs entirely outside the fuel management areas. The ESH stream bank occurs entirely outside 100 feet of the project footprint (approximately 120 feet at its nearest), more than 100 feet from any structures, and more than 100 feet from any leach fields. Therefore, the project will not result in impacts to the ESH-GAV overlay. Although no impacts are expected to riparian ESH, to ensure that the project does not result in incidental impacts to ESH, mitigation measure MM 5 has been included below. Temporary impacts to the stream channel related to the redesign/expansion of an existing unpermitted culvert are addressed in Section 4.15 below.

(d) Insignificant: As discussed above, the vegetation on the project site is primarily comprised of native species. The project will result in the loss of 0.34 acres of disturbed habitat that is mostly bare, but contains small amounts of weedy herbaceous vegetation. This habitat does not provide significant habitat value because there is a very small amount affected relative to the surrounding area, therefore impacts to non-native vegetation are considered insignificant.

(e) Significant but Mitigable: Out of the 134 individual Coast live oak trees and 11 Pacific madrone trees that were inventoried and evaluated within or immediately adjacent to the proposed project footprint, a total of two (2) Coast live oak trees (*Quercus agrifolia*) are proposed for removal, and four (4) Coast live oak trees will have significant impacts to the critical root zone. Removed and significantly impacted trees will be replaced on the subject property at a minimum ratio of ten 5-gallon replacement trees per one tree removed. An additional 31 protected trees located along the existing access road will be pruned in varying amounts in order to provide 10 feet of vegetation clearance along both sides of the access road for emergency vehicle access. All 31 trees are expected to be preserved in place with less than 20 percent encroachment into the critical root zone. Remaining mature native trees on the property will be protected during construction with tree protection fencing placed at six feet from the tree dripline. Unexpected damage to trees not specifically planned for removal will be required to be mitigated through replacement. Dudek provided tree replacement and protection recommendations in a Tree Protection Report, dated October 6, 2021 (see Attachment 4), to mitigate the loss of trees from the property and enhance the survivability of those trees designated for retention on the project site. These recommendations have been incorporated in mitigation measures MM 6 though MM 10 below; therefore impacts to native specimen trees are considered significant but mitigable.

(f) Significant but Mitigable: The proposed single-family dwelling and accessory structures will not require or include introduction of a significant level of human habitation. The proposed project includes approximately 4,715 square feet of new ornamental landscaping surrounding the proposed structures. Introduced landscaping could change or hamper the existing habitat if landscaping is non-native or invasive.

Mitigation measure MM 11 will require landscaping and other ornamental planting around the proposed development to include a mixture of native, locally-occurring trees and ornamental landscaping of value to wildlife, especially pollinators. The proposed project, including the proposed landscaping plans and plant palette, was reviewed and granted final approval by the Central Board of Architectural Review (CBAR) on September 17, 2021 under Case No. 20BAR-00000-00008. The maintenance of the proposed landscaping could introduce minor amounts of herbicides and pesticides, but the requirement to use native plant and tree species for landscaping (MM 11) will help keep the need for herbicide and pesticides at a minimum, therefore impacts to the existing habitat are considered significant but mitigable.

(g-i) Significant but Mitigable: As mentioned above, several special-status wildlife species have the potential to occur in the project vicinity, and the project could result in impacts to these species. These include California red-legged frog, Blainville's horned lizard, coast patch-nosed snake, and San Diego desert woodrat. Additionally, project construction and clearance within the fuel management zone has the potential to impact nesting birds on and adjacent to the site. Impacts could include direct destruction of nests or disturbance of nesting activities in adjacent areas, leading to nest abandonment and nest failure. Bird nests with eggs or young of all migratory bird species are protected under the Migratory Bird Treaty Act and the California Fish and Game Code. The potential loss of an active nest resulting from construction activities would be in conflict with these regulations. Nesting birds species occurring within and adjacent to the proposed building site may include, but would not be limited to, Nuttall's woodpecker (*Dryobates nuttallii*), California thrasher (*Toxostoma redivivum*), canyon wren (*Catherpes mexicanus*), dark-eyed junco (*Junco hyemalis*), and California scrub-jay. With the implementation of mitigation measures, including pre-construction surveys (MM 12 and MM 13), environmental monitoring (MM 3), environmental awareness training (MM 3), and delimiting construction area (MM 4), impacts to wildlife would be **significant but mitigable**.

(j-k) Insignificant: Lighting associated with the proposed project will be required to be installed in compliance with the Gaviota Coast Plan Design Guidelines for lighting, which requires any exterior night lighting installed on the project site to be minimized and shielded to reduce impacts on nocturnal ecosystems. Illumination of trees, landscaping, and building facades is not permitted. Where walkway and/or driveway lighting is deemed necessary for safety reasons, zero cut-off fixtures shall be used. The project will include minimal exterior lighting to provide light near structure doorways for safety purposes. Adherence to Gaviota Coast Plan Design Guidelines for lighting will effectively mitigate any impacts associated with increased lighting from the proposed project, including avoidance of excessive lighting and glare. Any additional fencing, noise, human habitation, etc. resulting from the proposed project will not hinder the normal activities or impede movement of wildlife since neighboring parcels are developed similarly with residential and agricultural uses and the footprint of proposed development is confined to a small area of the 92-acre parcel. Habitat areas on the parcel have been subject to some previous disturbance from several existing unpaved/unimproved agricultural roads that provide vehicle access to a limited number of areas on the parcel. As a result, impacts would be **insignificant**.

Cumulative Impacts: The proposed project is located in a relatively remote area of Refugio Canyon and no other planned, pending, or recently approved projects in the area are anticipated to result in significant impacts to biological resources. Any significant impacts to biological resources onsite will be adequately mitigated, which will ensure that the project does not have a cumulatively considerable effect on the County's biological resources.

Mitigation and Residual Impact: The following mitigation measures would reduce the project's biological resource impacts to an insignificant level:

MM 1. Bio-12 Habitat Restoration. The Owner/Applicant shall submit for P&D approval a Restoration Plan prepared by a P&D-approved biologist and designed to provide for creation of habitat to replace purple needle grass grassland, mixed Refugio manzanita, and individual Refugio manzanita shrubs removed due to project construction and fuel modification activities. In accordance with Policy NS-11 of the Gaviota Coast Plan, habitat creation shall occur onsite (within the project parcel). Purple needle grass grassland shall be replaced at a ratio of 2:1. Mixed Refugio manzanita chaparral shall be replaced at a ratio of 3:1. Individual Refugio manzanita shrubs shall be replaced at a ratio of 3:1. To determine the number of manzanita being removed, prior to construction, a qualified biologist shall count all Refugio manzanita shrubs within the proposed building site or the fuel modification zone, as well as all Refugio manzanita shrubs expected to be removed as part of vegetation clearance along the existing road. The Restoration Plan shall include a habitat mitigation and monitoring plan, which shall include the following components:

a. Acreage of purple needle grass grassland and mixed Refugio manzanita chaparral required to mitigate impacts at the required ratios.
b. The minimum number of Refugio manzanita shrubs required to be planted under the above-cited ratio.
c. Defined attainable and measurable goals and objectives to be achieved through the habitat restoration program.
d. A restoration work plan that details methodologies, a restoration schedule, plant materials, and implementation strategies.
e. Defined performance standards for the purple needle grass habitat creation and the Refugio manzanita habitat creation.
f. A monitoring plan that includes methods and analysis of results, goals for success, and an adaptive management plan and suggestions for failed restoration efforts.
g. A five-year maintenance and monitoring period, including submittal of annual reports to the P&D Permit Compliance staff.

PLAN REQUIREMENTS: The Habitat Restoration Plan shall include a site plan which indicates the location of all replacement plantings. **TIMING:** Plans shall be submitted prior to issuance of Land Use Permit. The Owner/Applicant shall post a performance security to ensure installation prior to Final Building Inspection Clearance and maintenance for five years. The owner shall maintain the replacement plantings for five years following Final Building Inspection Clearance. **MONITORING:** The Owner/Applicant shall demonstrate to P&D compliance monitoring staff that all required components of the approved plan(s) are in place as required prior to Final Inspection Clearance and maintained throughout maintenance period. P&D compliance monitoring staff signature is required to release the installation security upon satisfactory installation of all items in approved plans and maintenance security upon successful implementation of this plan.

MM 2. Special Condition – Worker Environmental Awareness Program (WEAP) Training. All construction personnel shall attend a WEAP training by a qualified biologist prior to commencement of construction activities. The training will include a description of a special-status species potentially present in the area, jurisdictional habitats present proximate to the project site, information on sensitive habitats to be avoided, specific measures that are being implemented to protect special-status species, the boundaries within which the project may be accomplished, and procedures to be implemented in the event that a special-status species is observed in the work area. **TIMING & MONITORING:** The Owner/Applicant shall submit to P&D compliance monitoring staff the name and contact information for the biologist prior to pre-construction meeting. Prior to the commencement of grading the Owner/Applicant shall submit

an attendance sheet to P&D compliance monitoring staff that includes the names and dated signatures of all construction personnel that have completed the WEAP training.

MM 3. Special Condition – Environmental Monitor. The Owner/Applicant shall retain a qualified biologist to act as an environmental monitor for all measures requiring environmental mitigation. The monitor shall be responsible for: (1) ensuring that procedures for verifying compliance with environmental mitigations are implemented; (2) establishing lines of communication and reporting methods; (3) conducting compliance reporting; (4) conducting construction crew training regarding environmentally sensitive areas and protected species; (5) maintaining authority to stop work; and (6) outlining actions to be taken in the event of non-compliance. **TIMING:** Monitoring and reporting shall be completed on a weekly basis. **MONITORING:** The Owner/Applicant shall submit to P&D compliance monitoring staff the name and contact information for the environmental monitor prior to pre-construction meeting. A final monitoring report shall be prepared after construction, or after all project activities have been completed by the contractor. P&D compliance monitoring staff shall site inspect as appropriate to ensure compliance.

MM 4. Special Condition – Delimiting Construction Area. Prior to initiation of vegetation removal, grading, or equipment mobilization, the Applicant shall implement the following measures to protect natural resources adjacent to construction areas:

a. Install temporary fencing or equivalent form of demarcation along the perimeter of defined construction areas to protect natural resources.
b. All construction-related activities shall be confined to the designated construction areas within the fenced/demarcated areas.
c. Fencing/demarcation shall be maintained during the duration of construction until all project activities are complete and County sign-off has occurred, including repairing or replacing downed fence.
d. A qualified biological monitor shall monitor the condition of the fence, to ensure avoidance of impacts to surrounding resources.

PLAN REQUIREMENTS: Fencing shall be graphically depicted on project plans. **TIMING**: This condition shall be printed on project plans submitted for Land Use Permit issuance, and installed prior to the preconstruction meeting and the commencement of grading. **MONITORING**: P&D compliance monitoring staff shall review plans and confirm fence installation. Compliance staff shall conduct site inspections to ensure compliance during grading and construction.

MM 5. Special Condition – Protection of Riparian ESH. All construction-related activities, including, but not limited to construction, storage areas, and staging areas, shall be located at a maximum distance away from mapped ESHA and riparian habitat associated with potential jurisdictional aquatic features. If any impacts occur to riparian vegetation, coordinate with the California Department of Fish and Wildlife with regard to obtaining a Streambed Alteration Agreement pursuant to Section 1600 of the California Fish and Game Code and coordinate with the Regional Water Quality Control Board with regard to obtaining a Clean Water Certification pursuant to Section 401 of the Clean Water Act. In accordance with the Gaviota Coast Plan (County 2016) *Dev Std NS-2*, mapped riparian ESH overlay areas shall have a development area setback buffer of 100 feet from the edge of either side of the top-of-bank of creeks or the existing edge of riparian vegetation, whichever is further. In locations where the construction activities

encroach within this buffer, it is important to provide further protection to riparian vegetation and aquatic habitats to the greatest extent possible.

a. The Contractor shall establish a temporary barrier around staging areas to delineate work boundaries and prevent entrance into non-impact areas. The temporary barrier shall use highly visible construction fencing to ensure that trees and other vegetation outside of work areas are avoided during construction.
b. When sizeable construction equipment is working within the buffer, flaggers must be utilized to assist in equipment positioning to avoid impacts to the buffer area during construction.

PLAN REQUIREMENTS: The above measure shall be noted on all grading and construction plans. **MONITORING**: P&D compliance monitoring staff shall ensure compliance on site during construction.

MM 6. Bio-01a Tree Protection Plan-Site Plan Component. The Owner/Applicant shall submit a Tree Protection Plan (TPP) prepared by a P&D-approved arborist and/or biologist and designed to protect native and specimen trees that are not proposed for removal. The Owner/Applicant shall comply with and depict the following on the TPP exhibit and Grading and Building Plans.

a. All trees, except those that have been previously noted for removal in the Tree Protection Report (dated October 6, 2021) prepared for the project by Dudek shall be preserved. No grading for buildings, accessways, easements, subsurface grading sewage disposal and well placement shall take place within the area within six feet of the dripline of any of these trees unless specifically authorized by the project biologist.
b. Two coast live oak trees, located within the proposed building area will be removed per the Tree Protection Report dated October 6, 2021. Depict location of these trees.
c. Four coast live oak trees located along the existing access road and within the proposed building area will be significantly impacted (greater than 20 percent encroachment into the critical root zone) per the Tree Protection Report dated October 6, 2021. Depict location of these trees.
d. Depict equipment storage (including construction materials, equipment, fill soil or rocks) and construction staging and parking areas outside of the protection area.
e. All proposed utility corridors and irrigation lines shall be as shown on the TPP exhibit and Grading and Building Plans. New utilities shall be located within roadways, driveways, or a designated utility corridor such that impacts to trees are minimized.
f. Depict the type & location of protective fencing (see below) or other barriers to be in place to protect trees in protection areas during construction.
g. Depict the location of all driveways within 25 feet of dripline areas. Only pervious paving materials (gravel, brick without mortar, turf block) are permitted within 6 feet of dripline areas, except for an approximately 50-foot paved section of the driveway in an area where the existing slope is 15 percent.

PLAN REQUIREMENTS: The Owner/Applicant shall: (1) Submit the TPP; (2) Include all applicable components in Tree Replacement Plan and/or Landscape and Irrigation Plans if these are required; (3) include as notes or depictions all plan components listed above, graphically depicting all those related to earth movement, construction, and temporarily and/or permanently installed protection measures. **TIMING:** The Owner/Applicant shall comply with this measure prior to issuance of Land Use Permit. Plan components shall be included on all plans prior to the issuance of grading and building permits. The Owner/Applicant shall install tree protection measures onsite

prior to issuance of grading or building permits and pre-construction meeting. **MONITORING:** The Owner/Applicant shall demonstrate to P&D compliance monitoring staff that trees identified for protection were not damaged or removed or if damage, or removal occurred, that correction is completed as required by the TPP prior to Final Building Inspection Clearance.

MM 7. Bio-01b Tree Protection Plan – Construction Component. The Owner / Applicant shall submit a Tree Protection Plan (TPP) prepared by a P&D-approved arborist and/or biologist and designed to protect existing native and specimen trees that would not be removed by the proposed project. The Owner Applicant shall comply with and specify the following as notes on the TPP and Grading and Building Plans:

a. Fencing of all trees to be protected at least six feet outside the dripline with chain-link (or other material satisfactory to P&D) fencing at least 3 ft high, staked every six feet to prevent any collapse, and with signs identifying the protection area placed in 15-ft intervals on the fencing.
b. Fencing/staking/signage shall be maintained throughout all grading and construction activities.
c. All trees located within 25 ft of buildings shall be protected from stucco and/or paint during construction.
d. No irrigation is permitted within 6 ft of the dripline of any protected tree unless specifically authorized.
e. The following shall be completed only by hand and under the direction of a P&D approved arborist/biologist:
    i. Any trenching required within the dripline or sensitive root zone of any specimen.
    ii. Cleanly cutting any roots of one inch in diameter or greater, encountered during grading or construction.
    iii. Tree removal and trimming. All pruning/trimming shall adhere to ANSI A-300 pruning and ISA pruning standards.
f. Special equipment: Any trenching or construction completed within the TPZ shall be accomplished by hand tools or other methods that avoid damage to tree roots, such as directional drilling, air-spade excavation, or others. If the use of hand tools is deemed infeasible by P&D, P&D may authorize work with rubber-tired construction equipment weighing five tons or less. If significant large rocks are present, or if spoil placement will impact surrounding trees, then a small tracked excavator (i.e., 215 or smaller track hoe) may be used as determined by P&D staff and under the direction of a P&D approved biologist\.
g. Grading shall be designed to avoid ponding and ensure proper drainage within driplines of oak trees.

PLAN REQUIREMENTS: The Owner/Applicant shall: (1) submit the TPP; (2) Include all applicable components in Tree Replacement Plan and/or Landscape and Irrigation Plans if these are required; (3) include as notes or depictions all plan components listed above, graphically depicting all those related to earth movement, construction, and temporarily and/or permanently installed protection measures. **TIMING:** The Owner/Applicant shall comply with this measure prior to issuance of Land Use Permit. Plan components shall be included on all plans prior to the issuance of grading and building permits. The Owner/Applicant shall install tree protection measures onsite prior to issuance of grading/building permits and pre-construction meeting. **MONITORING:** The Owner/Applicant shall demonstrate to P&D compliance monitoring staff that trees identified for protection were not damaged or removed or, if damage or removal occurred, that correction is completed as required by the TPP prior to Final Building Inspection Clearance.

MM 8. Bio-01c Tree Protection Plan-Unexpected Damage and Mitigation. In the event of unexpected damage or removal, this mitigation shall include but is not limited to posting of a performance security and hiring an outside consulting biologist or arborist to assess damage and recommend mitigation. The required mitigation shall be done under the direction of P&D prior to any further work occurring on site. Any performance securities required for installation and maintenance of replacement trees will be released by P&D after its inspection and approval of such installation and maintenance.

Damaged trees shall be mitigated on a minimum 10:1 ratio for coast live oaks or native species. If it becomes necessary to remove a tree not planned for removal, if feasible, the tree shall be boxed and replanted. If a P&D approved arborist certifies that it is not feasible to replant the tree, it shall be replaced on a 10:1 basis (15:1 for Blue or Valley Oaks) with trees with 1-gallon or larger size saplings grown from locally obtained seed. If replacement trees cannot all be accommodated on site, a plan must be approved by P&D for replacement trees to be planted off site.

MM 9. Bio-02 Tree Replacement. The Owner/Applicant shall submit for P&D approval an Oak Tree Replacement Plan prepared by a P&D-approved arborist/ biologist designed to replace trees that will be removed or significantly impacted (greater than 20 percent encroachment into the critical root zone) as a part of the proposed project. The plan shall include the following components:

a. The replacement trees shall be Coast live oak species (*Quercus agrifolia*) planted at a similar density of site conditions and shall be replaced with the following ratio:
    i. Ten 5-gallon size Coast live oak trees obtained from locally occurring saplings or seed stock for every coast live oak tree approved to be removed or significantly disturbed (greater than 20 percent encroachment into the critical root zone). Show replanting location on plans.
b. Species shall be from locally obtained plans and seed stock.
c. The trees shall be gopher fenced.
d. The trees shall be irrigated with drip irrigation on a timer until established (the establishment period determined by the approved P&D arborist or biologist).
e. The trees shall be weaned off of irrigation over a period of two to three years.
f. No permanent irrigation shall occur within the dripline of any naturally occurring Coast live oak, madrone, or other native tree.
g. All new trees shall be protected from predation by wild and domestic animals and from human interference by the use of staked, chain link fencing and gopher fencing during the maintenance period.

PLAN REQUIREMENTS: Include the components of the replacement plan in Landscape and Irrigation Plans. **TIMING:** Plans shall be submitted prior to issuance of Land Use Permit. The Owner/Applicant shall post a performance security to ensure installation prior to Final Building Inspection Clearance and maintenance for a minimum of five years. **MONITORING:** The Owner/Applicant shall demonstrate to P&D compliance monitoring staff that all required components of the approved plan(s) are in place as required prior to Final Inspection Clearance and maintained throughout the 5-year maintenance period. An annual tree protection and replacement monitoring report prepared by a P&D approved arborist or biologist shall be submitted to the County by the applicant for each year of the 5-year maintenance period. P&D compliance monitoring staff signature is required to release the installation security upon

satisfactory installation of all items in approved plans and maintenance security upon successful implementation of this plan.

MM 10. Bio-03a Onsite Arborist/Biologist. The Owner/Applicant shall designate a P&D-approved arborist/biologist to be onsite throughout all grading and construction activities which may impact native trees. Duties include the responsibility to ensure all aspects of the approved Tree Protection & Tree Replacement Plans are carried out. **MONITORING:** The Owner/Applicant shall submit to P&D compliance monitoring staff the name and contact information for the approved arborist/biologist prior to commencement of construction / pre-construction meeting. P&D compliance monitoring staff shall site inspect as appropriate.

MM 11. Bio-21 Use Natives. Landscaping around the proposed structures shall include a mixture of native, locally-occurring trees and ornamental landscaping of value to wildlife, especially pollinators. Invasive, non-native plants, including invasive grasses, shall not be included in landscaping palettes. **PLAN REQUIREMENTS:** The Owner/Applicant shall incorporate this requirement into a landscape plan to be prepared by a P&D approved landscape architect or arborist. **TIMING:** Landscaping shall be installed prior to Final Building Inspection Clearance. **MONITORING:** Approved landscaping shall be installed to plan prior to Final Building Inspection Clearance by P&D compliance monitoring staff.

MM 12. Special Condition – Preconstruction Surveys for Special-Status Wildlife Species. No more than 7 days prior to construction, a qualified biologist shall conduct a focused special-status wildlife survey on site. The survey will include the potential project footprint as well as the surrounding habitat potentially supporting special-status wildlife species. Should special-status wildlife be identified within the potential project footprint, species-specific protection measures shall be employed to avoid impacts to these species.

For California red-legged frogs, the survey shall include a search for suitable aquatic habitat in all accessible areas within 100 meters (approximately 330 feet) of the project footprint. If any California red-legged frogs are observed, the U.S. Fish and Wildlife Service shall be contacted and appropriate avoidance and minimization measures shall be implemented, as determined by the qualified biologist and approved by County Planning and Development, to ensure protection of the frogs. Measures may include establishment of avoidance buffers through installation of exclusionary fencing no less than 100 feet around aquatic habitat and 50 feet around riparian habitat prior to construction, to prevent California red-legged frogs from entering the construction area; installation of orange construction fencing to demarcate the site perimeter to ensure construction activities do not encroach on California red-legged frog habitat; and installation of BMPs, such as straw wattles and sandbags along the exclusionary fencing to prevent construction water or any potential pollutants from entering aquatic habitat.

Surveys for other potentially occurring special-status species (Blainville's horned lizard, coast patch-nosed snake, San Diego desert woodrat) shall be conducted on the project footprint and within 50 feet, and along the existing road between the entrance and the project footprint. Methods shall be those that are appropriate for detecting these species. If Blainville's horned lizard or coast patch-nosed snake is encountered during the survey or during construction, the qualified biologist shall capture the animal and move it out of harm's way. If any woodrat middens are encountered within the proposed building site, the fuel modification zone, or the 10-foot road clearance area, the biologist shall dismantle the midden and move the materials to the nearest

suitable location out of harm's way, so that the woodrats may have the opportunity to re-establish their nest nearby.

PLAN REQUIREMENTS: This condition shall be printed on all zoning, building and grading plans. **MONITORING:** P&D shall be given the name and contact information for the biologist prior to initiation of the pre-grading survey. Permit Compliance and P&D staff shall review the survey report(s) for compliance with this condition prior to the commencement of ground-disturbing activities and perform site inspections throughout the construction period to verify compliance in the field.

MM 13. Bio-23 Nesting Bird Surveys. To avoid disturbance of nesting birds, including raptorial species, protected by the Federal Migratory Bird Treaty Act (MBTA) and Sections 3503, 3503.5, and 3513 of the California Fish and Game Code (CFGC), the removal of vegetation, ground disturbance, exterior construction activities, and demolition shall occur outside of the bird nesting season (February 1 through August 31) whenever feasible. If these activities must occur during the bird nesting season, then a pre-construction nesting bird survey shall be performed by a County-qualified biologist. Pre-construction surveys for nesting birds shall occur within the area to be disturbed and shall extend outward from the disturbance area by 300 feet. The distance surveyed from the disturbance may be reduced if property boundaries render a 300-foot survey radius infeasible, or if existing disturbance levels within the 300-foot radius (such as from a major street or highway) are such that project-related activities would not disturb nesting birds in those outlying areas. If any occupied or active bird nests are found, a buffer shall be established and demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. The buffer shall be 100 feet for non-raptors and 300 feet for raptors, unless otherwise determined by the qualified biologist and approved by P&D. Buffer reductions shall be based on the known natural history traits of the bird species, nest location, nest height, existing pre-construction level of disturbance in the vicinity of the nest, and proposed construction activities. All construction personnel shall be notified as to the location of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground disturbing activities or vegetation removal shall occur within this buffer until the County-qualified biologist has confirmed that nesting is completed, the young have fledged and are no longer dependent on the nest, or the nest fails, and there is no evidence of a second nesting attempt; thereby determining the nest unoccupied or inactive. If birds protected under MBTA or CFGC are found to be nesting in construction equipment, that equipment shall not be used until the young have fledged and are no longer dependent on the nest, and there is no evidence of a second nesting attempt.

PLAN REQUIREMENTS AND TIMING: If construction must begin within the nesting season, then the pre-construction nesting bird survey shall be conducted no more than one week (7 days) prior to commencement of vegetation removal, grading, or other construction activities. Active nests shall be monitored by the biologist at a minimum of once per week until it has been determined that the nest is no longer being used by either the young or adults, and there is no evidence of a second nesting attempt. Bird survey results and buffer recommendations shall be submitted to County Planning and Development for review and approval prior to commencement of grading or construction activities. The qualified biologist shall prepare weekly monitoring reports, which shall document nest locations, nest status, actions taken to avoid impacts, and any necessary corrective actions taken. Active nest locations shall be marked on an aerial map and provided to the construction crew on a weekly basis after each survey is conducted. Active nests shall not be removed without written authorization from USFWS and CDFW.

MONITORING: P&D shall be given the name and contact information for the biologist prior to initiation of the pre-construction survey. Permit Compliance and P&D staff shall review the survey report(s) for compliance with this condition prior to the commencement of ground-disturbing activities and perform site inspections throughout the construction period to verify compliance in the field.

With the incorporation of these measures, residual impacts would be insignificant.

4.5 CULTURAL RESOURCES

Will the proposal:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. Cause a substantial adverse change in the significance of any object, building, structure, area, place, record, or manuscript that qualifies as a historical resource as defined in CEQA Section 15064.5?				X	
b. Cause a substantial adverse change in the significance of a prehistoric or historic archaeological resource pursuant to CEQA Section 15064.5?		X			
c. Disturb any human remains, including those located outside of formal cemeteries?		X			
d. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in the Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: 1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or 2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			X		

County Environmental Thresholds: Chapter 8 of the Santa Barbara County Environmental Thresholds and Guidelines Manual (January 2021) contains guidelines for the identification, significance evaluation, and mitigation of impacts to cultural resources, including archaeological, historic, and tribal cultural resources. In accordance with the requirements of CEQA, these guidelines specify that if a resource cannot be avoided, it must be evaluated for importance under specific CEQA criteria. CEQA Section 15064.5(a)(3)A-D contains the criteria for evaluating the importance of archaeological and historic resources. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the significance criteria for listing in the California Register of Historical Resources: (A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (B) Is associated with the lives of persons important in our past; (C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or (D) Has yielded, or may be likely to yield, information important in prehistory or history. The resource also must possess integrity of at least some of the following: location, design, setting, materials, workmanship, feeling, and association. For archaeological resources, the criterion usually applied is (D).

CEQA calls cultural resources that meet these criteria "historical resources". Specifically, a "historical resource" is a cultural resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources, or included in or eligible for inclusion in a local register of historical resources, as defined in subdivision (k) of Section 5020.1, or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1. As such, any cultural resource that is evaluated as significant under CEQA criteria, whether it is an archaeological resource of historic or prehistoric age, a historic built environment resource, or a tribal cultural resource, is termed a "historical resource".
CEQA Guidelines Section 15064.5(b) states that "a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." As defined in CEQA Guidelines Section 15064.5(b), substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired. The significance of an historical resource is materially impaired when a project: (1) demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; (2) demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources; or (3) demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

For the built environment, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (Weeks and Grimmer 1995), is generally considered as mitigated to an insignificant impact level on the historical resource.

Existing Setting: For at least the past 10,000 years, the area that is now Santa Barbara County has been inhabited by Chumash Indians and their ancestors. Based on a Phase 1 Archaeological Assessment conducted by Dudek (2020), as well as records on file at the CCIC (Central Coast Information Center of the University of California, Santa Barbara), cultural resources are not located in the vicinity of the proposed project. Based on a records search conducted at the CCIC on November 10, 2020, no recorded archaeological sites are located within the project area. However, four cultural resources have been

previously identified within 1 mile of the project site. The Phase 1 archaeological survey conducted by Dudek did not identify any archaeological resources within the project are proposed for development. An extended Phase 1 was not undertaken as no cultural materials were observed, no previously recorded resources exist within or adjoining the project area, and the potential for buried cultural despots is low.

The subject 92.2-acre parcel is currently vacant, so there is no potential for historic built resources.

On December 6, 2021, a formal notice of application completeness for the proposed project was sent to Julie Tumamait-Stenslie, Chair, Barbareno/Ventureno Band of Mission Indians, and Kenneth Kahn, Tribal Chairman, Santa Ynez Band of Chumash Indians. The notice provided notification of the opportunity for consultation under Assembly Bill (AB) 52, and included a description of the proposed project and a summary of the Phase 1 study methods and results. To date, Santa Barbara County has received one tribal request, from the Tribal Elder' Counsel for the Santa Ynez Band of Chumash Indians (SYBCI), to participate in government-to-government consultation pursuant to Public Resources Code (PRC) Section 21080.3.1 and in accordance with the provisions of AB 52. Consultation began on December 23, 2021, and concluded on January 24, 2022. No reply was received from the Barbareno/Ventureno Band of Mission Indians. No tribal cultural resources (TCRs) were identified on the subject parcel.

Impact Discussion:

(a, b, c, d) Insignificant/Significant but Mitigable: Dudek staff archaeologists conducted a Phase I cultural resources survey on November 12, 2020. All exposed ground surfaces were surveyed using 3-meter (10-foot) parallel transects. The proposed improvement areas were divided into three survey groups: building and grading area (Locus A), access road improvements (Locus B), and the septic system area (Locus C). According to the survey, exposed soils under scrub vegetation in Locus A accounted for approximately 20 percent of the proposed improvement area and provided fair to good ground surface visibility (30-80 percent). An open area in the center of Locus A accounted for approximately 80 percent of the proposed improvement area and provided good to excellent ground surface visibility (70-100 percent). Locus B is currently occupied by an access road with vegetation on both sides. Shovel scrapes were employed where needed to expose surface soils and careful attention was given to all barren ground. The exposed soils accounted for approximately 85 percent of the proposed improvement area and provided very good to excellent ground surface visibility (80-100 percent). Areas on either side of the existing access road intermittently occupied by scrub vegetation accounted for approximately 15 percent of the proposed improvement area and provided fair to good ground surface visibility (30-80 percent). Locus C is undeveloped with the exception of the existing well location. The improvement areas intended for the pipeline installation are sporadically to densely covered in upland scrub and the existing well area is barren. Shovel scrapes were employed where needed to expose surface soils and careful attention was given to barren ground near and around the existing well. The exposed soils under scrub vegetation accounted for approximately 70 percent of the proposed improvement area and provided fair to good ground surface visibility (30-80 percent). The barren area at and near the existing well accounted for approximately 30 percent of the proposed improvement area and provided good to excellent ground surface visibility (70-100 percent). No cultural material was observed within Locus A, B, or C.

The survey stated that based on the generally good ground surface visibility and use of shovel scrapes in areas with more surface vegetation, the intensive archaeological survey results are considered to be reliable. Due to the absence of any prehistoric or historic remains identified within the proposed project site during background research and the intensive pedestrian survey under reliable conditions and that the NAHC Sacred Land Files search results were negative, the potential for unrecorded archaeological resources to exist within the proposed project site is considered low. However, the potential to encounter

unrecorded archaeological resources cannot be completely ruled out based on a lack of previous ground disturbance and the existence of four previously recorded archaeological sites within 1 mile of the proposed project site, the closest of which is located 780 meters (2,560 ft.) southeast of the proposed project site. The archaeological resources report contained recommended mitigation measures to ensure proper treatment of unknown cultural resources in the event that they are encountered during construction. Impacts are considered **significant but mitigable** with implementation of the mitigation measures listed below (MM 14 though MM 16).

On January 24, 2022, the Santa Ynez Band of Chumash Indians (SYBCI) commented that the recommended mitigation measures contained in the archaeological resources report are important to ensure that no inadvertent discoveries are made, especially since there are several previously recorded archeological sites within 1000 meters of the area of potential effects. SYBCI requested to be notified of any unexpected discovery during ground disturbance and project construction, and provided no further comments or consultation requests.

Cumulative Impacts: Since the project will not significantly impact cultural resources, it will not have a cumulatively considerable effect on the County's cultural resources with implementation of the mitigation measures described below.

Mitigation and Residual Impact:

The following mitigation measures would reduce the project's cultural resource impacts to an insignificant level:

> **MM 14. Cultural Resources Monitor and Pre-Construction Workshop.** The Owner/Applicant shall retain a P&D approved archaeologist to conduct spot-monitoring to include no less than two site visits during ground disturbance construction activities, as well as on-call availability for response to inadvertent discoveries. The P&D approved archaeologist shall conduct a pre-construction workshop to be attended by construction supervisors and all equipment operators. During the workshop, the archaeologist shall do the following:
>
> a. Identify the types of archeological materials that may be uncovered and provide examples of common artifacts to examine;
> b. Describe what would temporarily stop construction and for how long;
> c. Describe a reasonable "worst case" new discovery scenario such as the discovery of intact human remains;
> d. Explain reporting requirements and responsibilities of the construction supervisor; and
> e. Discuss prohibited activities including unauthorized collecting of artifacts.
>
> **TIMING:** Prior to issuance of a Land Use Permit, the Owner/Applicant shall submit for P&D review and approval, a contract or Letter of Commitment between the Owner/Applicant and the archaeologist, consisting of a project description and scope of work, and once approved, shall execute the contract. **MONITORING:** The Owner/Applicant shall provide P&D compliance monitoring staff with the name and contact information for the assigned onsite monitor(s) prior to grading/building permit issuance and pre-construction meeting. P&D compliance monitoring staff shall confirm monitoring by archaeologist and P&D grading inspectors shall spot check field work.
>
> **MM 15. CulRes-09 Stop Work at Encounter.** The Owner/Applicant and/or their agents, representatives or contractors shall stop or redirect work immediately in the event archaeological remains are encountered during grading, construction, landscaping or other construction-related

activity. The Owner/Applicant shall immediately contact P&D staff, and retain a P&D approved archaeologist and Native American representative to evaluate the significance of the find in compliance with the provisions of the County Archaeological Guidelines and conduct appropriate mitigation funded by the Owner/Applicant. **PLAN REQUIREMENTS:** This condition shall be printed on all building and grading plans. **MONITORING:** P&D permit processing planner shall check plans prior to issuance of Land Use Permit and P&D compliance monitoring staff shall spot check in the field throughout grading and construction.

MM 16. Unanticipated Discovery of Human Remains. In the unlikely event that human remains are encountered, construction in the area of the finding will cease and the Santa Barbara County Coroner shall be contacted to determine the age and the origin of the remains. A P&D approved physical anthropologist will assist the coroner to make the determination whether human remains are prehistoric or not. In the event the remains are Native American in origin, the NAHC will be contacted to determine necessary procedures for protection and preservation of the remains, including reburial, as provided in the CEQA Guidelines, Section 15064.5(e), "CEQA and Archaeological Resources," CEQA Technical Advisory Series. Additionally, The Owner/Applicant shall immediately contact P&D staff, and retain a P&D approved archaeologist and Native American representative to evaluate the significance of the find in compliance with the provisions of the County Archaeological Guidelines and conduct appropriate mitigation funded by the Owner/Applicant. **PLAN REQUIREMENTS:** This condition shall be printed on all building and grading plans. **MONITORING:** P&D permit processing planner shall check plans prior to Issuance of Zoning Clearance for Grading, and P&D compliance monitoring staff shall spot check in the field throughout grading and construction.

With the incorporation of these measures, residual impacts would be insignificant.

4.6 ENERGY

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. Substantial increase in demand, especially during peak periods, upon existing sources of energy?			X		
b. Requirement for the development or extension of new sources of energy?			X		

Existing Setting: Electricity is provided to the subject parcel by Pacific Gas and Electric (PG&E).

County Environmental Thresholds: The County has not identified significance thresholds for electrical and/or natural gas service impacts (Thresholds and Guidelines Manual). Private electrical and natural gas utility companies provide service to customers in Central and Southern California, including the unincorporated areas of Santa Barbara County.

Impact Discussion:

(a,b) Insignificant: The County has not identified significance thresholds for electrical and/or natural gas service impacts (Thresholds and Guidelines Manual). The proposed project consists of the construction of one single-family dwelling and accessory structures. The proposed project will not result in a substantial increase

in energy demand especially during peak periods and no development or extension of new energy sources will be required. In summary, the project will have minimal long-term energy requirements, and no adverse impacts would result. Existing energy sources would have sufficient capacity to serve the project.

Cumulative Impacts: The project's contribution to the regionally significant demand for energy is not considerable, and is therefore insignificant.

Mitigation and Residual Impact: No mitigation is required. Residual impacts would be insignificant.

4.7 FIRE PROTECTION

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. Introduction of development into an existing high fire hazard area or exposure of people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X		
b. Project-caused high fire hazard?			X		
c. Introduction of development into an area without adequate water pressure, fire hydrants or adequate access for fire fighting?			X		
d. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X		
e. Introduction of development that will substantially impair an adopted emergency response plan, emergency evacuation plan, or fire prevention techniques such as controlled burns or backfiring in high fire hazard areas?			X		
f. Development of structures beyond safe Fire Dept. response time?			X		

Existing Setting: The project site, due to its location in a rural area with significant amounts of open space and flammable vegetation, is designated a high fire hazard area. High fire hazard areas are those regions of the County that are exposed to significant fuel loads, such as large areas of undisturbed native/naturalized vegetation. Standard Santa Barbara County Fire Department requirements for commercial development in designated high fire hazard areas are applicable to this property. Fire response services for the site will continue to be provided by Santa Barbara County Fire Station No. 38 located at 17200 Calle Mariposa Reina, Gaviota. Fire response time from this fire station is approximately thirty minutes. The subject property is one of several private inholdings within the Los Padres National Forest and is located just south of the crest of the Santa Ynez Mountains. The Forest Service, Pacific Southwest Region Fire and Aviation Management (FAM) is primarily responsible for fire suppression and management within the Los Padres National Forest lands and lands managed by Forest Service partners.

County Standards: The following County Fire Department standards are applied in evaluating impacts associated with the proposed development:

- The emergency response thresholds include Fire Department staff standards of one on-duty firefighter per 4000 persons (generally 1 engine company per 12,000 people, assuming three firefighters/station). The emergency response time standard is approximately 5-6 minutes.
- Water supply thresholds include a requirement for 750 gpm at 20 psi for urban single family dwellings in urban and rural developed neighborhoods, and 500 gpm at 20 psi for dwellings in rural areas (lots larger than five acres).
- The ability of the County's engine companies to extinguish fires (based on maximum flow rates through hand held line) meets state and national standards assuming a 5,000 square foot structure. Therefore, in any portion of the Fire Department's response area, all structures over 5,000 square feet are an unprotected risk (a significant impact) and therefore should have internal fire sprinklers.
- Access road standards include a minimum width (depending on number of units served and whether parking would be allowed on either side of the road), with some narrowing allowed for driveways. Cul-de-sac diameters, turning radii and road grade must meet minimum Fire Department standards based on project type.
- Two means of egress may be needed and access must not be impeded by fire, flood, or earthquake.

A potentially significant impact could occur in the event any of these standards is not adequately met.

Impact Discussion:

Predictions about the long-term effects of global climate change in California include increased incidence of wildfires and a longer fire season, due to drier conditions and warmer temperatures. Any increase in the number or severity of wildfires has the potential to impact resources to fight fires when they occur, particularly when the state experiences several wildfires simultaneously. Such circumstances place greater risk on development in high fire hazard areas.

(a-e) Insignificant: The existing development is currently served by Santa Barbara County Fire Station No. 38 located at 17200 Calle Mariposa Reina in Gaviota. The response time to the project site from this station is approximately thirty minutes. The proposed project will not cause a significant fire hazard as it will be constructed and permitted in accordance with Santa Barbara County Fire Department standards, including the following: 1) the use of fire-resistant materials for new exterior construction, 2) all access ways shall be installed and made serviceable in compliance with County Fire Department requirements, 3) approval of plans for stored water fire protection system and hydrants; and 4) completion and maintenance of a minimum of 100 feet of defensible space for all buildings and structures. These provisions would offset the slower emergency response time from the nearest fire station. Compliance with the Fire Department's letter dated April 5, 2021 will ensure that all conditions regarding fire protection will be met, and that impacts would be **insignificant**.

(d) Insignificant: The project will not affect fire prevention techniques such as controlled burns or backfires.

Cumulative Impacts: Since the project will not create significant fire hazards, it will not have a cumulatively considerable effect on fire safety within the County.

Mitigation and Residual Impact: No mitigation is required. Residual impacts would be **insignificant.**

4.8 GEOLOGIC PROCESSES

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving exposure to or production of unstable earth conditions such as landslides, earthquakes, liquefaction, soil creep, mudslides, ground failure (including expansive, compressible, collapsible soils), or similar hazards?		X			
b. Disruption, displacement, compaction or overcovering of the soil by cuts, fills or extensive grading?		X			
c. Exposure to or production of permanent changes in topography, such as bluff retreat or sea level rise?				X	
d. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X	
e. Any increase in wind or water erosion of soils, either on or off the site?		X			
f. Changes in deposition or erosion of beach sands or dunes, or changes in siltation, deposition or erosion which may modify the channel of a river, or stream, or the bed of the ocean, or any bay, inlet or lake?		X			
g. The placement of septic disposal systems in impermeable soils with severe constraints to disposal of liquid effluent?			X		
h. Extraction of mineral or ore?				X	
i. Excessive grading on slopes of over 20%?			X		
j. Sand or gravel removal or loss of topsoil?			X		
k. Vibrations, from short-term construction or long-term operation, which may affect adjoining areas?			X		
l. Excessive spoils, tailings or over-burden?				X	

Existing Setting: The project site is located in a portion of the County that is identified in the Seismic Safety and Safety Element as having a low potential for liquefaction, landslides, expansive soils, soil creep, and compressible/collapsible soils. The project site has a low potential for high groundwater and a moderate potential for seismic/tectonic activity. Its overall geological problems index is Category III (moderate).

County Environmental Threshold: Pursuant to the County's Adopted Thresholds and Guidelines Manual, impacts related to geological resources may have the potential to be significant if the proposed project involves any of the following characteristics:

1. The project site or any part of the project is located on land having substantial geologic constraints, as determined by P&D or PWD. Areas constrained by geology include parcels located near active or potentially active faults and property underlain by rock types associated with compressible/collapsible soils or susceptible to landslides or severe erosion. "Special Problems" areas designated by the Board of Supervisors have been established based on geologic constraints, flood hazards and other physical limitations to development.
2. The project results in potentially hazardous geologic conditions such as the construction of cut slopes exceeding a grade of 1.5 horizontal to 1 vertical.
3. The project proposes construction of a cut slope over 15 feet in height as measured from the lowest finished grade.
4. The project is located on slopes exceeding 20% grade.

Impact Discussion:

(a) Significant but Mitigable: The Seismic Safety and Safety Element characterizes the project area as containing an overall Geologic Problems Index of Category III. Category III lands have moderate problems but would generally be suitable for all types of development. The project site is not underlain by any known fault. A Geotechnical Investigation Report dated November 5, 2019 (see Attachment 5), has been prepared by Pacific Materials Laboratory to ensure appropriate specifications for site preparation, grading, utility trenches, foundations, retaining walls, flatwork, drainage, and construction are implemented to ensure structural soundness and to comply with the California Building Code. The primary geotechnical concerns are the excavation characteristics of the soils, the suitability of the soils for use as fill and backfill, the stability of the soils during grading, and the erodible nature of the soils. The report concludes that the grading and construction of the proposed project are feasible from a soil-engineering perspective provided the recommendations contained in the Geotechnical Investigation Report are incorporated into the design and implemented during construction (Pacific Materials Laboratory, November 2019). Therefore, with the incorporation of Mitigation Measure No. 17 requiring adherence to the approved soils engineering study, impacts would be **significant but mitigable**.

(b, e-f) Significant but Mitigable: Grading will include approximately 100 cubic yards of cut, and 240 cubic yards of fill. Total disturbed area will be approximately 18,200 square feet (0.42 acres); this calculation includes driveway improvements, construction areas, landscaped areas, and drainage improvements. At their nearest point, structures will be approximately 120 feet from an intermittent stream that transverses the western edge of the project site. This stream channel has the potential to be impacted by the proposed project, including redesign/replacement of an existing unpermitted culvert where a well access road crosses the intermittent stream. The grading and site preparation activities associated with the proposed project could have potentially significant impacts associated with increased wind or water erosion of the site. In order to mitigate potentially significant impacts resulting from proposed grading activities, Mitigation Measure No. 18 below requires submittal of an Erosion and Sediment Control Plan (ESCP) using Best Management Practices (BMPs) designed to stabilize the site, prevent erosion, and convey storm water runoff to existing drainage systems keeping contaminants and sediment onsite. The Erosion and Sediment Control Plan will be a part of the Grading Plan submittal. With incorporation of this measure, impacts would be **significant but mitigable**.

(c-d, h, l) No Impact: The project site is located several miles away from the Pacific Ocean, and therefore, there will be no impacts with respect to sea level rise. There are no unique geologic, paleontologic, or physical features at the project site. No extraction of mineral ore is proposed as a part of the project and the project would not result in excessive spoils, tailings, or overburden. As a result, there would be **no impacts**.

(g, i-k) Insignificant: The proposed project will not cause the placement of septic disposal systems in impermeable soils with severe constraints to disposal of liquid effluent. The single family dwelling and associated guest house will be served by a permitted, residential septic system built in accordance with Environmental Health Services requirements. No grading is proposed on slopes greater than 20 percent and the project will not involve the loss of topsoil. Construction of the proposed project is likely to produce some minor ground vibration associated with movement of large equipment and excavation. However, due to the scope of the proposed project, vibrations from short-term construction will be insignificant. Additionally, there are no sensitive receptors to noise or vibration within 1,000 feet of the project site. The long-term residential use does not include activities which will create vibration. As a result, impacts would be **insignificant**.

Cumulative Impacts: Since the project will not result in significant geologic impacts after mitigation, and geologic impacts are typically localized in nature, it will not have a cumulatively considerable effect on geologic hazards within the County.

Mitigation and Residual Impact: The following mitigation measures would reduce the project's geologic impacts to an insignificant level:

> **MM 17. Geo-01b Soils Engineering Study.** The Owner/Applicant shall submit a soils engineering study addressing structure sites and access road(s) to determine structural design criteria. **PLAN REQUIREMENTS:** The Owner/Applicant shall submit the study for P&D review and approval. Elements of the approved study shall be reflected on grading and building plans as required. **TIMING:** The Owner/Applicant shall submit the study prior to issuance of the Land Use Permit. **MONITORING:** P&D permit processing planner and grading staff shall review the study. The Owner/Applicant shall demonstrate that the submitted plans conform to required study components. Grading and building inspectors shall ensure compliance in the field.
>
> **MM 18. Geo-02 Erosion and Sediment Control Plan**. Where required by the latest edition of the California Green Code and/or Chapter 14 of the Santa Barbara County Code, a Storm Water Pollution Prevention Plan (SWPPP), Storm Water Management Plan (SWMP) and/or an Erosion and Sediment Control Plan (ESCP) shall be implemented as part of the project. Grading and erosion and sediment control plans shall be designed to minimize erosion during construction and shall be implemented for the duration of the grading period and until re-graded areas have been stabilized by structures, long-term erosion control measures or permanent landscaping. The Owner/Applicant shall submit the SWPPP, SWMP or ESCP) using Best Management Practices (BMP) designed to stabilize the site, protect natural watercourses/creeks, prevent erosion, convey storm water runoff to existing drainage systems keeping contaminants and sediments onsite. The SWPPP or ESCP shall be a part of the Grading Plan submittal and will be reviewed for its technical merits by P&D. Information on Erosion Control requirements can be found on the County web site re: Grading Ordinance Chapter 14 (https://www.countyofsb.org/1042/Grading-Code) refer to Erosion and Sediment Control Plan Requirements; and in the California Green Code for SWPPP (projects < 1 acre) and/or SWMP requirements. **PLAN REQUIREMENTS**: The grading and SWPPP, SWMP and/or ESCP shall be submitted for review and approved by P&D prior to approval of land use clearances. The plan shall be designed to address erosion, sediment and

pollution control during all phases of development of the site until all disturbed areas are permanently stabilized. **TIMING**: The SWPPP requirements shall be implemented prior to the commencement of grading and throughout the year. The ESCP/SWMP requirements shall be implemented between November 1st and April 15th of each year, except pollution control measures shall be implemented year round. **MONITORING**: P&D staff shall perform site inspections throughout the construction phase.

With the incorporation of these measures, residual impacts would be insignificant.

4.9 HAZARDOUS MATERIALS/RISK OF UPSET

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. In the known history of this property, have there been any past uses, storage or discharge of hazardous materials (e.g., fuel or oil stored in underground tanks, pesticides, solvents or other chemicals)?			X		
b. The use, storage or distribution of hazardous or toxic materials?			X		
c. A risk of an explosion or the release of hazardous substances (e.g., oil, gas, biocides, bacteria, pesticides, chemicals or radiation) in the event of an accident or upset conditions?			X		
d. Possible interference with an emergency response plan or an emergency evacuation plan?			X		
e. The creation of a potential public health hazard?			X		
f. Public safety hazards (e.g., due to development near chemical or industrial activity, producing oil wells, toxic disposal sites, etc.)?				X	
g. Exposure to hazards from oil or gas pipelines or oil well facilities?				X	
h. The contamination of a public water supply?			X		

Existing Setting: The subject parcel does not contain or use any known hazardous materials in sufficient quantities to pose a public health risk. Properties which are known, or discovered, to contain hazardous materials are subject to the removal and/or treatment requirements of the California Fire Code. Within the County, the Environmental Health Services Hazardous Materials Unit (HMU) must review and approve any proposed plan to decontaminate a site found to contain a hazardous material.

County Threshold: The County's safety threshold addresses involuntary public exposure from projects involving significant quantities of hazardous materials. The threshold addresses the likelihood and severity of potential accidents to determine whether the safety risks of a project exceed significant levels.

Impact Discussion:

(a-e, h) Insignificant: The proposed project will result in the development of one single-family dwelling. The use of common household materials (cleaners, garden and automotive products, etc.) on the project site will not result in significant hazardous materials/waste impacts or contaminate a public water supply. Traffic that will be generated by the project will not substantially interfere with emergency response capabilities to the project site or to other properties in the project area.

(f-g) No Impact: No oil and/or gas pipelines or facilities are located on, or near, the subject parcel. Therefore, the proposed project would not impact public safety or exposure to hazards.

Cumulative Impacts: Since the project will not create significant impacts with respect to hazardous materials and/or risk of upset, it will not have a cumulatively considerable effect on safety within the County.

Mitigation and Residual Impact: No mitigation is required. Residual impacts would be **insignificant.**

4.10 LAND USE

Will the proposal result in:	**Poten. Signif. and Unavoid.**	**Signif. But Mitigable**	**Insignif.**	**No Impact / Beneficial Impact**	**Reviewed Under Previous Document**
a. Structures and/or land use incompatible with existing land use?				X	
b. Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?		X			
c. The induction of substantial unplanned population growth or concentration of population?				X	
d. The extension of sewer trunk lines or access roads with capacity to serve new development beyond this proposed project?				X	
e. Loss of existing affordable dwellings through demolition, conversion or removal?				X	
f. Displacement of substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X	
g. Displacement of substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X	
h. The loss of a substantial amount of open space?				X	

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
i. An economic or social effect that would result in a physical change? (i.e. Closure of a freeway ramp results in isolation of an area, businesses located in the vicinity close, neighborhood degenerates, and buildings deteriorate. Or, if construction of new freeway divides an existing community, the construction would be the physical change, but the economic/social effect on the community would be the basis for determining that the physical change would be significant.)				X	
j. Conflicts with adopted airport safety zones?				X	

Impact Discussion:

(a, c-j) No Impact: The project is not growth inducing, and does not result in the loss of affordable housing, loss of open space, or a significant displacement of people. The project does not involve the extension of a sewer trunk line, and does not conflict with any airport safety zones. The project is compatible with existing land uses. A single family dwelling and accessory structures are an allowed use in the AG-II-100 Zone District with a Land Use Permit.

(b) Significant but Mitigable: The proposed project is subject to all applicable requirements and policies contained in the Gaviota Coast Plan, including several polices and development standards that are intended to avoid and/or mitigate environmental impacts to natural (biological) resources. Relevant policies and development standards from the Gaviota Coast Plan are provided in Section 9 below. As discussed in Section 4.4 above, the proposed project will result in impacts to Environmentally Sensitive Habitat (ESH). Restoration of impacted ESH areas, consistent with Policy NS-11, is required through mitigation measure MM 1. Mitigation measures MM 2 through MM 13 will ensure protection of sensitive habitat, plant, and wildlife species; therefore the project is consistent with the policies protecting natural resources from the Gaviota Coast Plan. The Gaviota Coast Plan also identifies policies which require that development be sited to avoid visually prominent areas, minimize infrastructure requirements, and minimize fragmentation of the landscape. As discussed in Section 4.1 above, the project site was strategically positioned on the subject parcel in an area that minimizes grading quantities and that is not visible from any public viewing areas due to intervening topography and vegetation. No project components, including proposed structures and land alterations will be visible from any public viewing place, such as roads, highways, railroads, public and other open spaces, trails, beaches, or other recreation areas. In order to minimize infrastructure requirements, an existing private driveway will provide access to the proposed project, and the project was sited near the existing well.

Mitigation and Residual Impact: Mitigation measures MM 1 through MM 13 (see section 4.4 above for full descriptions) would reduce the project's land use impacts to an insignificant level.

Cumulative Impacts: The implementation of the project is not anticipated to result in any substantial change to the site's conformance with environmentally protective policies and standards or have significant growth inducing effects. Thus, the project will not cause a cumulatively considerable effect on land use.

4.11 NOISE

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. Long-term exposure of people to noise levels exceeding County thresholds (e.g. locating noise sensitive uses next to an airport)?			X		
b. Short-term exposure of people to noise levels exceeding County thresholds?		X			
c. Project-generated substantial increase in the ambient noise levels for adjoining areas (either day or night)?			X		

Existing Setting: The proposed project site is located outside of 65 dB(A) noise contours for roadways, public facilities, airport approach and take-off zones. Surrounding noise-sensitive uses consist of residential dwellings on adjacent parcels. The closest residence to the project site is located approximately 1,060 feet south of the project site.

County Threshold: Noise is generally defined as unwanted or objectionable sound which is measured on a logarithmic scale and expressed in decibels (dB(A)). The duration of noise and the time period at which it occurs are important values in determining impacts on noise-sensitive land uses. The Community Noise Equivalent Level (CNEL) and Day-Night Average Level (L_{dn}) are noise indices which account for differences in intrusiveness between day- and night-time uses. County noise thresholds are: 1) 65 dB(A) CNEL maximum for exterior exposure, 2) 45 dB(A) CNEL maximum for interior exposure of noise-sensitive uses, and 3) an increase in noise levels by 3 db(A) – either individually or cumulatively when combined with other noise-generating sources when the existing (ambient) noise levels already exceed 65 db(A) at outdoor living areas or 45db(A) at interior living areas. Noise-sensitive land uses include: residential dwellings; transient lodging; hospitals and other long-term care facilities; public or private educational facilities; libraries, churches; and places of public assembly.

Noise from grading and construction activity proposed within 1,600 feet of sensitive receptors, including schools, residential development, commercial lodging facilities, hospitals or care facilities, would generally result in a potentially significant impact. According to EPA guidelines average construction noise is 95 dB(A) at a 50' distance from the source. A 6 dB drop occurs with a doubling of the distance from the source. Therefore, locations within 1,600 feet of the construction site would be affected by noise levels over 65 dB(A).

Impact Discussion:

(a, c) Insignificant: The proposed project involves the construction of a single-family dwelling. Long-term noise generated onsite would not: 1) exceed County thresholds, or 2) substantially increase ambient noise levels in adjoining areas. Noise sensitive uses on the project site would not be exposed to or impacted by off-site noise levels exceeding County thresholds. Impacts would be insignificant.

(b) Significant but Mitigable: Noise generated from heavy equipment during grading and construction can temporarily exceed County noise thresholds of 65 dB(A) CNEL for a distance of up to approximately 1,600 feet. During grading and construction on the project site, temporary construction noise could result in significant, short-term noise impacts, which may affect nearby residents. Mitigation Measure MM 19 will

mitigate short-term construction-related noise impacts to an insignificant level by limiting construction hours. Further, short-term noise impacts will cease to occur upon project completion.

Cumulative Impacts: The implementation of the project is not anticipated to result in any substantial noise effects. Therefore, the project will not contribute in a cumulatively considerable manner to noise impacts.

Mitigation and Residual Impact: The following mitigation measure would reduce the project's noise impacts to an **insignificant** level:

> **MM 19. Noise-02 Construction Hours.** The Owner/Applicant, including all contractors and subcontractors shall limit construction activity, including equipment maintenance and site preparation, to the hours between 8:00 a.m. and 5:00 p.m., Monday through Friday. No construction shall occur on weekends or State holidays. Non-noise generating construction activities such as interior plumbing, electrical, drywall and painting (depending on the compressor noise levels) are not subject to these restrictions. Any subsequent amendment to the Comprehensive General Plan, applicable Community or Specific Plan, or Zoning Code noise standard upon which these construction hours are based shall supersede the hours stated herein. **PLAN REQUIREMENTS:** The Owner/Applicant shall provide and post a sign stating these restrictions at all construction site entries. **TIMING:** Signs shall be posted prior to commencement of construction and maintained throughout construction. **MONITORING:** The Owner/Applicant shall demonstrate that required signs are posted prior to grading/building permit issuance and pre-construction meeting. Building inspectors and permit compliance staff shall spot check and respond to complaints.

4.12 PUBLIC FACILITIES

Will the proposal require or result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. A need for new or altered police protection and/or health care services?			X		
b. Student generation exceeding school capacity?			X		
c. Significant amounts of solid waste or breach any federal, state, or local standards or thresholds relating to solid waste disposal and generation (including recycling facilities and existing landfill capacity)?			X		
d. The relocation or construction of new or expanded wastewater treatment facilities (sewer lines, lift-stations, etc.) the construction or relocation of which could cause significant environmental effects?			X		
e. The relocation or construction of new or expanded storm water drainage or water quality control facilities, the construction of which could cause significant environmental effects?			X		

Existing Setting:

Physical: The proposed project will develop a new single family dwelling on a parcel that is currently vacant. This location will be served by private sewage disposal. Police protection for the project site is provided by the County Sheriff's Department. The closest emergency healthcare facilities are in Santa Ynez and Goleta.

County Environmental Thresholds:

Schools: A significant level of school impacts is generally considered to occur when a project would generate sufficient students to require an additional classroom.

Solid Waste: A project is considered to result in significant impacts to landfill capacity if it would generate 196 tons per year of solid waste. This volume represents 5% of the expected average annual increase in waste generation, and is therefore considered a significant portion of the remaining landfill capacity. In addition, construction and demolition waste from remodels and rebuilds is considered significant if it exceeds 350 tons. A project which generates 40 tons per year of solid waste is considered to have an adverse effect on solid waste generation, and mitigation via a Solid Waste Management Plan is recommended.

Table 4.12.A: Typical Waste Generation During Construction

Commercial Development	Amounts in Pounds per Square foot
Remodel	40
Demolition	100
New construction	25
Residential Development	Amounts in Pounds per Square foot
Remodel	100
Demolition	60
New construction	15

Note: These estimates are based on the US Environmental Protection Agency's 1998 C&D study (Document: EPA530-R-98-010; June 1998) and data gathered by the San Luis Obispo Integrated Waste Management Authority in 2005 and 2006.

Impact Discussion:

(a, b) Insignificant: The proposed project involves the construction of a new 2,000 square foot single family dwelling, an 800 square foot guest house, two storage barns of 2,200 square feet and 864 square feet, and new landscaping. Proposed structural development on the project site will total 5,864 gross square feet. This amount and type of new development would not have a significant impact on existing police protection or health care services, and existing service levels are sufficient to serve the proposed project. The project will not generate the number of students (approximately 20) that would require an additional classroom. Further, school fees will be paid as required by State Law.

(c) Insignificant: The proposed project will not generate solid waste in excess of County thresholds. Based on estimates shown in Table 4.12.A, new residential construction totaling 5,864 gross square feet would generate approximately 44 tons of construction waste ([5,864 sf x 15 pounds/sq. ft.] / 2000 pounds/ton). As such, solid waste generated by project construction would not exceed the significance threshold of 350 tons. To calculate the project's long-term solid waste generation associated with the new single-family dwelling, the following formula is used: 3.01 people/unit x # of units x 0.95 tons/year = tons/year/project (*County Environmental Thresholds and Guidelines Manual*). Therefore, project operation will generate an

estimated 2.86 tons of solid waste per year, which does not exceed the significance threshold of 196 tons per year. Therefore, solid waste impacts would be **insignificant**.

(d, e) Insignificant: The project will not cause the need for new or altered sewer system facilities as it will include a new private septic system. The proposed project will create new impervious surfaces that could result in greater surface runoff from the site but the project site is located outside the NPDES area. The project includes stormwater control measures which will capture stormwater on the site and minimize impacts. Therefore, the project would have an insignificant impact on public facilities, either on a project-specific or cumulative basis.

Cumulative Impacts: The County's Environmental Thresholds were developed, in part, to define the point at which a project's contribution to a regionally significant impact constitutes a significant effect at the project level. In this instance, the project has been found not to exceed the threshold of significance for public services. Therefore, the project's contribution to the regionally significant demand for public services is not considerable, and is insignificant.

4.13 RECREATION

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. Conflict with established recreational uses of the area?			X		
b. Conflict with biking, equestrian and hiking trails?			X		
c. Substantial impact on the quality or quantity of existing recreational opportunities (e.g., overuse of an area with constraints on numbers of people, vehicles, animals, etc. which might safely use the area)?			X		

County Threshold/Setting: The Thresholds and Guidelines Manual contains no threshold for park and recreation impacts. However, the Board of Supervisors has established a minimum standard ratio of 4.7 acres of recreation/open space per 1,000 people to meet the needs of a community. The Santa Barbara County Parks Department maintains more than 900 acres of parks and open spaces, as well as 84 miles of trails and coastal access easements.

The project site is located at 2389 Refugio Road, known as APN 081-040-044, within the Gaviota Coast Plan Area of southern Santa Barbara County. The subject property is one of several private inholdings within the Los Padres National Forest and is located just south of the crest of the Santa Ynez Mountains. The project site is located southwest of Forest Route 5N 19 (commonly known as W. Camino Cielo) and directly south of a private roadway easement commonly known as Pennsylvania Avenue. Recreational activities within the Los Padres National Forest consist of but are not limited to hiking, mountain biking, horseback riding, and nature study along the crest of the Santa Ynez Mountain Range. The Gaviota Coast Plan shows a proposed 'primary route' trail following W. Camino Cielo. The proposed trail alignment for West Camino Cielo crest trail west of Refugio Road generally follows parcel boundaries and the historic alignment of West Camino Cielo Road west of Refugio Road—including along Pennsylvania Avenue, which is located adjacent to the northern boundary of the subject property.

Impact Discussion:

(a-c) Insignificant: The proposed project will be developed on a privately-owned parcel with no history of public recreational use. There are no public biking, equestrian or hiking trails onsite. A proposed on-road trail is designated on Pennsylvania Avenue, which is adjacent to the entire northern boundary of the subject parcel. However, this private roadway easement has historically been gated from the public, therefore project implementation will not result in any conflicts with established recreational uses of the area, including biking, equestrian or hiking trails, nor would the project preclude the future establishment of a trail following this alignment in the future. Existing public accessways near the subject parcel such as Refugio Road and W. Camino Cielo would not become overused or obstructed as a result of the project. The population increase associated with project implementation would result in insignificant adverse impacts on the quality and quantity of existing recreational opportunities, both in the project vicinity and County-wide. Impacts would be **insignificant**.

Cumulative Impacts: Since the project will not affect recreational resources, it will not have a cumulatively considerable effect on recreational resources within the County.

Mitigation and Residual Impact: No mitigation is required. Residual impacts would be less than significant.

4.14 TRANSPORTATION

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?			X		
b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?			X		
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X		
d. Result in inadequate emergency access?			X		

Existing Setting: The subject parcel is located approximately 0.7 mile west of Refugio Road. Regional access is provided from Highway 101, which is connects to Refugio Road approximately six miles south of the project site. According to the Gaviota Coast Plan, Refugio Road is a two-lane road that connects Highway 101 in Gaviota to State Highway 246 in Santa Ynez and is used mainly by residents of Refugio Canyon.

County Thresholds: According to the County's Environmental Thresholds and Guidelines Manual, a significant transportation impact would occur when:

- **a.** the project conflicts with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities.
- **b.** the project conflicts or is inconsistent with CEQA Guidelines Section 15064.3(b).
- **c.** the project substantially increases hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

d. the project results in inadequate emergency access.

Impact Discussion:

(a) Insignificant: The Santa Barbara County Association of Governments (SBCAG) 2040 Regional Transportation Plan and Sustainable Communities Strategy (SBCAG, 2013) and the County's Comprehensive Plan, zoning ordinances, capital improvement programs, and other planning documents contain transportation and circulation programs, plans, ordinances, and policies. A transportation impact occurs if a project conflicts with the overall purpose of an applicable transportation and circulation program, plan, ordinance, or policy, including impacts to existing transit systems and bicycle and pedestrian networks pursuant to Public Resources Code Section 21099(b)(1). The proposed project involves construction of a single-family dwelling on a parcel zoned for residential development. The project will not result in conflicts with an applicable Program, Plan, Ordinance, or Policy related to transportation, and therefore, will result in an insignificant impact.

(b) Insignificant: Many agencies, including the County, use "screening criteria" to identify projects that would result in less than significant VMT impacts without conducting detailed VMT analyses and studies. The OPR Technical Advisory contains screening criteria for land use and transportation projects. The County uses these screening criteria, as shown in Table 4.14.A.

Table 4.14.A: Screening Criteria for Land Use Projects

Screening Categories	Project Requirements to Meet Screening Criteria
Small Projects	A project that generates 110 or fewer average daily trips.[1]
Locally Serving Retail	A project that has locally serving retail uses that are 50,000 square feet or less, such as specialty retail, shopping center, grocery/food store, bank/financial facilities, fitness center, restaurant, or café. If a project also contains a non-locally serving retail use(s), that use(s) must meet other applicable screening criteria.
Projects Located in a VMT Efficient Area	A residential or office project that is located in an area that is already 15 percent below the county VMT (i.e., "VMT efficient area"). The County's Project-Level VMT Calculator determines whether a proposed residential or office project is located within a VMT efficient area.

[1]The County calculates a project's daily trips using the latest version of the Trip Generation Manual (Institute of Transportation Engineers) or locally valid trip rates approved by the County Public Works Department. Land uses with irregular or seasonal trip making characteristics, such as wineries or special event centers, should apply an annual average daily trip rate and provide a trip generation memo explaining how the project meets the screening criteria for small projects.
Source: Table 2, Screening Criteria for Land Use Projects, *County of Santa Barbara Environmental Thresholds and Guidelines Manual* (Revised January 2021).

The County presumes that land use projects meeting any of the screening criteria, absent substantial evidence to the contrary, would have less than significant VMT impacts and would not require further analysis. A single-component project (e.g., residence, office, or store) only needs to meet one of the screening criteria.

Using the County's VMT Tool, it was determined that the proposed project, which involves construction of a single-family dwelling, will result in fewer than 110 average daily trips. The project meets the screening criteria for small projects, and therefore, is presumed to have insignificant impacts related to VMT.

(c) Insignificant: The proposed project involves construction of a single-family dwelling and driveway improvements. The proposed driveway improvements are designed to be consistent with the County's driveway standards, and will not result in hazards due to a geometric design feature. Further, the proposed project involves construction of a single-family dwelling on a parcel zoned to allow residential development,

and will not increase hazards due to incompatible uses. Therefore, the project will not result in hazards due to a geometric design feature or incompatible uses, and impacts will be insignificant.

(d) Insignificant: The proposed driveway improvements included as part of the project are designed to comply with County and Santa Barbara County Fire Department standards and will not results in inadequate emergency access. Therefore, impacts related to emergency access are insignificant.

Cumulative Impacts: The County's Environmental Thresholds were developed, in part, to define the point at which a project's contribution to a regionally significant impact constitutes a significant effect at the project level. In this instance, the project has been found not to exceed the threshold of significance for transportation. Therefore, the project's contribution to the regionally significant transportation impacts is not considerable, and is insignificant.

Mitigation and Residual Impact: No mitigation is required. Residual impacts would be less than significant.

4.15 WATER RESOURCES/FLOODING

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters?		X			
b. Changes in percolation rates, drainage patterns or the rate and amount of surface water runoff?		X			
c. Change in the amount of surface water in any water body?		X			
d. Discharge, directly or through a storm drain system, into surface waters (including but not limited to wetlands, riparian areas, ponds, springs, creeks, streams, rivers, lakes, estuaries, tidal areas, bays, ocean, etc) or alteration of surface water quality, including but not limited to temperature, dissolved oxygen, turbidity, or thermal water pollution?		X			
e. Alterations to the course or flow of flood water or need for private or public flood control projects?				X	
f. Exposure of people or property to water related hazards such as flooding (placement of project in 100 year flood plain), accelerated runoff or tsunamis, sea level rise, or seawater intrusion?				X	
g. Alteration of the direction or rate of flow of groundwater?			X		
h. Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or recharge interference?			X		

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
i. Overdraft or over-commitment of any groundwater basin? Or, a significant increase in the existing overdraft or over-commitment of any groundwater basin?			X		
j. The substantial degradation of groundwater quality including saltwater intrusion?			X		
k. Substantial reduction in the amount of water otherwise available for public water supplies?			X		
l. Introduction of storm water pollutants (e.g., oil, grease, pesticides, nutrients, sediments, pathogens, etc.) into groundwater or surface water?		X			

Existing Setting: Three intermittent unnamed streams cross over the subject parcel, flowing from north to south, as shown on the United States Geological Service (USGS) National Hydrography Dataset (NHD). Only one of the intermittent streams has the potential to be directly impacted by the proposed project, including redesign/expansion of an existing unpermitted culvert where a well access road crosses the intermittent stream. According to the Biological Assessment Report prepared by Dudek (see Attachment 3), the stream is ephemeral and subject to periodic rapid flows during rain and immediately after rain events. No water was observed in this stream by the Dudek biologist in June or July 2019; May, July, or November 2020, or April or August 2021. The width of the stream as measured at the OHWM averaged approximately 2 feet, ranging from 1 to 3 feet over its course. The stream is located entirely more than 120 feet from the proposed building site. There are no lakes or other surface waters within 1,000 feet of the project site. No portion of the subject parcel is within the 100 year flood zone.

The Gaviota Coast comprises several watersheds and sub-watersheds with watercourses ranging from ephemeral to semi-perennial based upon the duration of surface water flow within them. Some of the watersheds on the Gaviota Coast provide potable water and irrigation supplies for ranches through surface water diversions, in addition to groundwater extraction via wells that tap bedrock aquifers or alluvial sediments that have accumulated along canyon floors. However, the Gaviota Coast lacks true aquifers so groundwater extraction is a limiting factor for development.

County Thresholds:

Water Resources Thresholds: A project is determined to have a significant effect on water resources if it would exceed established threshold values which have been set for each overdrafted groundwater basin. These values were determined based on an estimation of a basin's remaining life of available water storage. If the project's net new consumptive water use [total consumptive demand adjusted for recharge less discontinued historic use] exceeds the threshold adopted for the basin, the project's impacts on water resources are considered significant.

A project is also deemed to have a significant effect on water resources if a net increase in pumpage from a well would substantially affect production or quality from a nearby well.

Water Quality Thresholds: A significant water quality impact is presumed to occur if the project:

- Is located within an urbanized area of the county and the project construction or redevelopment individually or as a part of a larger common plan of development or sale would disturb one (1) or more acres of land;
- Increases the amount of impervious surfaces on a site by 25% or more;
- Results in channelization or relocation of a natural drainage channel;
- Results in removal or reduction of riparian vegetation or other vegetation (excluding non-native vegetation removed for restoration projects) from the buffer zone of any streams, creeks or wetlands;
- Is an industrial facility that falls under one or more of categories of industrial activity regulated under the NPDES Phase I industrial storm water regulations (facilities with effluent limitation; manufacturing; mineral, metal, oil and gas, hazardous waste, treatment or disposal facilities; landfills; recycling facilities; steam electric plants; transportation facilities; treatment works; and light industrial activity);
- Discharges pollutants that exceed the water quality standards set forth in the applicable NPDES permit, the Regional Water Quality Control Board's (RWQCB) Basin Plan or otherwise impairs the beneficial uses[1] of a receiving water body;
- Results in a discharge of pollutants into an "impaired" water body that has been designated as such by the State Water Resources Control Board or the RWQCB under Section 303 (d) of the Federal Water Pollution Prevention and Control Act (i.e., the Clean Water Act); or
- Results in a discharge of pollutants of concern to a receiving water body, as identified by the RWQCB.

Impact Discussion

(a-d, l) Significant but Mitigable: Redesign/expansion of the unpermitted culvert and improvement of the access road stream crossing will result in approximately 224 square feet (0.005 acres) of direct impacts to the ephemeral stream. These impacts would result in removal of silt from the stream channel and increase stream capacity, and therefore will result in an improvement of stream function over current conditions. The proposed installation of two 18-inch culverts will be able to accommodate runoff from a 25-year storm event (see Attachment 6). The impacts associated with the culvert redesign/expansion will be temporary and no vegetation removal or disturbance is anticipated. Additionally, the footprint of the proposed culvert is within an existing agricultural road that has been previously disturbed. As a result, impacts to the riparian habitat will be insignificant with the implementation of Mitigation Measure MM 5 (Protection of Riparian ESH), discussed in Section 4.4 above. Additionally, Mitigation Measure MM 20, described below, will require the owner/applicant to obtain any necessary approvals from applicable State and Federal agencies prior to issuance of a Land Use Permit.

The project will create minor amounts of additional storm water runoff as a result of newly constructed impermeable surfaces (i.e. structures, driveways, patios, etc.). Potential indirect impacts could occur to the stream located in the western and southern portion of the survey area as a result of construction site runoff. These impacts may include accidental pollutant/chemical spills or discharge of materials from the use of concrete, oil/gas, water runoff, or on-site fueling stations. To address potential impacts to aquatic resources in the project vicinity, Mitigation Measures MM 21 though MM 22 below are proposed, in addition to Mitigation Measures MM 2 (WEAP Training), MM 3 (Environmental Monitor), MM 5

[1] Beneficial uses for Santa Barbara County are identified by the Regional Water Quality Control Board in the Water Quality Control Plan for the Central Coastal Basin, or Basin Plan, and include (among others) recreation, agricultural supply, groundwater recharge, fresh water habitat, estuarine habitat, support for rare, threatened or endangered species, preservation of biological habitats of special significance.

(Protection of Riparian ESH), and MM 18 (Erosion and Sediment Control Plan) discussed in Sections 4.4 and 4.8 above.

(e-f) No Impact: No public flood control projects would be required. The project site is located outside of the designated flood way and flood plain area. No exposure of people or property to water related flooding hazards would occur. Therefore, the project would have **no impact** related to flood hazards.

(g-k) Insignificant: The project will be supplied with water for domestic uses and fire protection from an existing private onsite well which was drilled in 1985 and reviewed and approved by Environmental Health Services for domestic uses on April 1, 2021. The project will not result in a significant increase of water consumption or impacts to groundwater quality since the proposed project consists of one single family dwelling and accessory structures. Proposed landscaping included as a part of the project is subject to the California Water Conservation in Landscaping requirements. Water for the site will be pumped to four (4) new 5,000 gallon water tanks [one (1) tanks dedicated to fire suppression and three (3) dedicated to domestic use and fire suppression]. The limited extraction of groundwater to support the new residential and accessory development on the site will have a negligible effect on the quantity, quality, or direction or rate of flow of subsurface water. The project's impact on water supplies is therefore **insignificant**.

Cumulative Impacts: The County's Environmental Thresholds were developed, in part, to define the point at which a project's contribution to a regionally significant impact constitutes a significant effect at the project level. In this instance, the project has been found not to exceed the threshold of significance for water resources. Therefore, the project's contribution to the regionally significant issues of water supplies and water quality is not considerable, and is insignificant.

Mitigation and Residual Impact: The following mitigation measures would reduce the project's water resource impacts to an insignificant level:

> **MM 20. Bio-08 Fish and Wildlife.** No alteration to stream channels or banks shall be permitted (no Land Use Permit shall be issued) until the Owner/Applicant demonstrates receipt of all authorizations from the California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), U.S. Army Corps of Engineers (USACE), and/or federal agencies for any planned alteration to stream channels or banks including the approximately 224 square feet (0.005 acre) of direct impacts associated with the ephemeral stream crossing improvements. **PLAN REQUIREMENTS:** This condition shall be printed on all building and grading plans. **TIMING:** Permittee shall provide to P&D copies of approvals obtained from CDFW, RWQCB, USACE, and/or federal agencies prior to issuance of Land Use Permit.
>
> **MM 21. WatConv-04 Equipment Storage-Construction**. The Owner/Applicant shall designate a construction equipment filling and storage area(s) to contain spills, facilitate clean-up and proper disposal and prevent contamination from discharging to the storm drains, street, drainage ditches, creeks, or wetlands. The areas shall be no larger than 50 x 50 foot unless otherwise approved by P&D and shall be located at least 100 feet from any storm drain, waterbody or sensitive biological resources. **PLAN REQUIREMENTS:** The Owner/Applicant shall designate the P&D approved location on all Land Use, Grading, and Building permits. **TIMING**: The Owner/Applicant shall install the area prior to commencement of construction. **MONITORING**: P&D compliance monitoring staff shall ensure compliance prior to and throughout construction.
>
> **MM 22. WatConv-05 Equipment Washout-Construction.** The Owner/Applicant shall designate a washout area for the washing of concrete trucks, paint, equipment, or similar activities to prevent wash water from discharging to the storm drains, street, drainage ditches, creeks, or wetlands.

Note that polluted water and materials shall be contained in this area and removed from the site bi-monthly. The area shall be located at least 100 feet from any storm drain, water body, or sensitive biological resources. **PLAN REQUIREMENTS:** The Owner/Applicant shall designate the P&D approved location on all Land Use, Grading, and Building permits. **TIMING:** The Owner/Applicant shall install the area prior to commencement of construction. **MONITORING:** P&D compliance monitoring staff shall ensure compliance prior to and throughout construction.

With the incorporation of these measures, residual impacts would be **insignificant**.

5.0 INFORMATION SOURCES

5.1 County Departments Consulted:
Police, Fire, Public Works, Flood Control, Parks, Environmental Health, Special Districts, Regional Programs

5.2 Comprehensive Plan:

X	Seismic Safety/Safety Element		Conservation Element
	Open Space Element	X	Noise Element
	Coastal Plan and Maps		Circulation Element
X	ERME		

5.3 Other Sources:

X	Field work		Ag Preserve maps
X	Calculations	X	Flood Control maps
X	Project plans	X	Other technical references
	Traffic studies		(reports, survey, etc.)
X	Records	X	Planning files, maps, reports
X	Grading plans	X	Zoning maps
X	Elevation, architectural renderings	X	Soils maps/reports
X	Published geological map/reports	X	Plant maps
X	Topographical maps	X	Archaeological maps and reports
			Other

6.0 PROJECT SPECIFIC *(short- and long-term)* AND CUMULATIVE IMPACT SUMMARY

The proposed project does not have potential impacts that cannot be feasibly mitigated to insignificant levels.

I. Project-Specific Impacts which are of unavoidable significance levels: None

II. Project-Specific Impacts which are potentially significant but can be reduced to insignificant levels with incorporation of mitigation measures: Biological Resources, Cultural Resources, Geologic Processes, Land Use, Noise, Water Resources/Flooding.

III. No potentially significant adverse cumulative impacts have been identified.

7.0 MANDATORY FINDINGS OF SIGNIFICANCE

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
1. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, contribute significantly to greenhouse gas emissions or significantly increase energy consumption, or eliminate important examples of the major periods of California history or prehistory?		X			
2. Does the project have the potential to achieve short-term to the disadvantage of long-term environmental goals?			X		
3. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects and the effects of probable future projects.)			X		
4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X			
5. Is there disagreement supported by facts, reasonable assumptions predicated upon facts and/or expert opinion supported by facts over the significance of an effect which would warrant investigation in an EIR ?			X		

1. As discussed in this document, the proposed project has the potential to substantially degrade the quality of the environment. However, mitigation measures proposed in these sections will reduce project impacts to insignificant levels. With incorporation of the mitigation measures identified in this document, the project will not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, contribute significantly to greenhouse gas emissions or significantly increase energy consumption, or eliminate important examples of the major periods of California history or prehistory.

2. There are no short-term environmental goals that will be achieved by the proposed project to the disadvantage of long-term environmental goals.

3. As discussed throughout this document, the project does not have any impacts that are individually limited, but cumulatively considerable. Any contribution of the project to significant cumulative impacts will be adequately reduced by mitigation measures identified to address project-specific impacts.

4. The project will allow for the construction of a 2,000 square foot single family dwelling, an 800 square foot guesthouse, a 2,200 square foot storage barn, and an 864 square foot storage barn. Proposed driveway improvements include a new turnout area and an approximately 50-foot paved section. An existing unpermitted culvert, which is located west of the proposed dwelling and runs under an existing well access road, will be permitted and expanded as a part of the project. As discussed in this document, with implementation of identified required mitigation measures, all impacts to human beings, either directly or indirectly, will be adequately reduced to less than significant levels.

5. There is no known disagreement among experts regarding the projects impacts.

8.0 PROJECT ALTERNATIVES

Not applicable.

9.0 INITIAL REVIEW OF PROJECT CONSISTENCY WITH APPLICABLE SUBDIVISION, ZONING AND COMPREHENSIVE PLAN REQUIREMENTS

Zoning

The proposed project is consistent with the requirements of the Santa Barbara County Land Use and Development Code (Inland Zoning Ordinance). The AG-II-100 zoning of the site allows for the development of a single family dwelling and accessory structures with the approval of a Land Use Permit.

Comprehensive Plan

The project is subject to all applicable requirements and policies under the Santa Barbara County Land Use and Development Code and the County's Comprehensive Plan, including the Gaviota Coast Plan. The following policies and development standards, among others, are applicable to the proposed project:

- **Land Use Development Policy No. 4:** Prior to issuance of a development permit, the County shall make the finding, based on information provided by environmental documents, staff analysis, and the applicant, that adequate public or private services and resources (i.e., water, sewer, roads, etc.) are available to serve the proposed development. The applicant shall assume full responsibility for costs incurred in service extensions or improvements that are required as a result of the proposed project. Lack of available public or private services or resources shall be grounds for denial of the project or reduction in the density otherwise indicated in the land use plan. Affordable housing projects proposed pursuant to the Affordable Housing Overlay regulations, special needs

housing projects or other affordable housing projects which include at least 50% of the total number of units for affordable housing or 30% of the total number of units affordable at the very low income level shall be presumed to be consistent with this policy if the project has, or is conditioned to obtain all necessary can and will serve letters at the time of final map recordation, or if no map, prior to issuance of land use permits.

- **Hillside and Watershed Protection Policy No. 1:** Plans for development shall minimize cut and fill operations. Plans requiring excessive cutting and filling may be denied if it is determined that the development could be carried out with less alteration of the natural terrain.

- **Hillside and Watershed Protection Policy No. 2:** All developments shall be designed to fit the site topography, soils, geology, hydrology, and any other existing conditions and be oriented so that grading and other site preparation is kept to an absolute minimum. Natural features, landforms, and native vegetation, such as trees, shall be preserved to the maximum extent feasible. Areas of the site which are not suited to development because of known soil, geologic, flood, erosion or other hazards shall remain in open space.
- **Hillside and Watershed Protection Policy No. 7:** Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and other harmful waste, shall not be discharged into or alongside coastal streams or wetlands either during or after construction.

- **Historical and Archaeological Policy No. 2:** When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids impacts to such cultural sites if possible.

- **Parks/Recreation Policy No. 4:** Opportunities for hiking and equestrian trails should be preserved, improved, and expanded whenever compatible with surrounding uses.

- **Visual Resources Policy No. 2:** In areas designated as rural on the land use plan maps, the height, scale, and design of structures shall be compatible with the character of surrounding natural environment, except where technical requirements dictate otherwise. Structures shall be subordinate in appearance to natural landforms; shall be designed to follow natural contours of the landscape; and shall be sited so as not to intrude into the skyline as seen from public viewing places.

- **Gaviota Coast Plan Policy NS-2: Natural Resources Protection.** (INLAND) Environmentally Sensitive Habitat (ESH) areas and important or sensitive biological and natural resources shall be protected to the maximum extent feasible. Where special-status plant and animal species are found pursuant to the review of a discretionary project, the habitat in which the sensitive species is located shall be preserved to the maximum extent feasible. Development in areas adjacent to ESH areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

- **Gaviota Coast Plan Policy NS-4: ESH Criteria and Habitat Types.** (INLAND)The following criteria are used in determining which habitats in the Gaviota Coast Plan area warrant the Environmentally Sensitive Habitat Area overlay designation:
    1) Unique, rare, or fragile communities which should be preserved to ensure their survival in the future, e.g., dune vegetation, native grasslands.
    2) Rare and endangered species habitats that are also protected by Federal and State laws, e.g., harbor seal rookeries and haul out areas.
    3) Plant community ranges that are of significant scientific interest because of extensions of range, or unusual hybrid, disjunct, and relict species.
    4) Sensitive wildlife habitats which are vital to species survival, e.g., White-tailed Kite habitat, butterfly trees.
    5) Outstanding representative natural communities that have values ranging from a particularly rich flora and fauna to an unusual diversity of species.
    6) Areas with outstanding educational values that should be protected for scientific research and educational uses now and in the future, e.g., Naples Reef.
    7) Areas that are important because of their biological productivity such as wetlands, kelp beds, and intertidal areas.
    8) Areas that are structurally important in protecting natural landforms and species, e.g., dunes which protect inland areas, riparian corridors that protect stream banks from erosion and provide shade, kelp beds which provide cover for many species.

  Specific biological habitats are considered environmentally sensitive and shall be subject to the provisions of the Environmentally Sensitive Habitat (ESH) and Environmentally Sensitive Habitat Gaviota (ESH GAV) Overlays including qualifying habitat that exists outside of the mapped ESH and ESH GAV overlays. A general guideline for inclusion is those plant communities that have a California Natural Diversity Database (CNDDB) rarity ranking of G1, S1, G2, S2, G3, or S3. Two habitat types have been included due to their sensitive nature within the county, although they do not meet the rarity ranking criterion (i.e., Coast Live Oak Woodlands and Western rush marshes). Additional sensitive wildlife habitats are also listed. The list includes, but is not limited to:
    1) Native Forests and Woodlands including, but not limited to: madrone forest, tanoak forest, black cottonwood forest, Bishop pine forest, sycamore woodlands, coast live oak woodland, Valley oak, red willow thickets, and California bay forest;
    2) Rare Native Chaparral and Coastal Scrub Habitats, including, but not limited to: Burton Mesa shrubland chaparral, central maritime chaparral, wart leaf Ceanothus chaparral, giant Coreopsis scrub, bush monkeyflower scrub, California brittle bush scrub, sawtooth goldenbush scrub, silver dune lupine-mock heather scrub, lemonade berry scrub, and white sage scrub;
    3) Rare Native Grassland and Herbaceous vegetation, including, but not limited to: Dune mats, Western rush marshes, meadow barley patches, giant wildrye grassland, creeping ryegrass turfs, foothill needlegrass grasslands, purple needlegrass grasslands;
    4) Coastal Wetlands, including, but not limited to: estuarine, riverine and riparian habitats;
    5) Marine mammal haulouts;
    6) Monarch butterfly habitat;
    7) Raptor nesting and breeding areas; and
    8) Special status species habitats.

- **Gaviota Coast Plan Policy NS-7: Riparian Vegetation.** (INLAND) Riparian vegetation shall be protected to the maximum extent feasible. Riparian vegetation shall not be removed except where clearing is necessary for the maintenance of existing roads and/or free flowing channel conditions, the removal of invasive exotic species, stream/creek restoration, or the provision of essential public services. Any unavoidable riparian vegetation removal conducted in compliance with the activities identified by this policy shall be conducted in compliance with the Environmentally Sensitive Habitat and resource protection policies and provisions of the Gaviota Coast Plan, the Comprehensive Plan, and the Local Coastal Program.

- **Gaviota Coast Plan Policy NS-10: Habitat Buffers.** (INLAND) Buffer policies should be flexible and consider the purpose, ecological benefit, and context of the buffer as well as the use of the land next to the buffer.

- **Gaviota Coast Plan Policy NS-11: Restoration.** (INLAND) Biological impacts shall be avoided to the maximum extent feasible. In cases where adverse impacts to biological resources cannot be avoided after impacts have been minimized, restoration shall be required. A minimum replacement ratio shall be required to compensate for the destruction of native habitat areas or biological resources. The area or units to be restored, acquired, or dedicated for a permanent protective easement shall exceed the biological value of that which is destroyed. Where onsite restoration is infeasible or not beneficial with regard to long-term preservation of habitat, an offsite easement and/or alternative mitigation measures that provide adequate quality and quantity of habitat and will ensure long-term preservation shall be required.

- **Gaviota Coast Plan Development Standard NS-2: ESH Setbacks and Buffers.** (INLAND) Mapped riparian ESH-GAV overlay areas shall have a development area setback buffer of 100 feet from the edge of either side of the top-of-bank of creeks or the existing edge of riparian vegetation, whichever is further. Development within other ESH areas shall be required to include setbacks or undeveloped buffer zones from these areas as part of the proposed development, except where setbacks or buffers would preclude reasonable use of the parcel. In determining the location, width and extent of setbacks and/or buffer areas, the County's biological resources and/or vegetation maps and other available data shall be used (e.g., maps, studies, or observations). Appropriate public recreational trails may be allowed within setbacks or buffer areas.

  Required buffers for ESH-GAV may be adjusted upward or downward on a case-by-case basis but shall not preclude reasonable use of a parcel. The buffer shall be established based on an investigation of the following factors and, when appropriate, after consultation with the Department of Fish and Wildlife and Regional Water Quality Control Board, if required, in order to protect the biological productivity and water quality of streams:
  - Demonstration of a net environmental benefit;
  - Existing vegetation, soil type and stability of stream corridors;
  - How surface water filters into the ground;
  - Slope of the land on either side of the stream;
  - Location of the 100 year flood plain boundary; and
  - Consistency with adopted Gaviota Coast Plan and Comprehensive Plan policies.

- **Gaviota Coast Plan Development Standard NS-5: Wetlands.** (INLAND) If potentially jurisdictional wetlands or waters are found on or adjacent to a project site in the Plan Area and have potential to be impacted by implementation of the project, a formal wetlands delineation of the project site, focused on the area to be disturbed and/or affected by the project, shall be completed following the methods outlined in the United States Army Corps of Engineers (USACE) 1987 Wetlands Delineation Manual and the Regional Supplement to the USACE Delineation Manual for the Arid West Region (USACE 2008). A determination of the presence/absence and boundaries of any Waters of the U.S. and Waters of the State shall also be completed following the appropriate USACE guidance documents for determining Ordinary High Water Mark boundaries. The limits of any riparian habitats on-site under the sole jurisdiction of California Department of Fish and Wildlife shall also be delineated, as well as any special aquatic sites that may not be within the USACE jurisdiction under the Clean Water Act or meet federal jurisdictional criteria but are regulated by Federal Endangered Species Act, California Endangered Species Act, Regional Water Quality Control Board, and/or California Coastal Commission (CCC).

  Mitigation for unavoidable impacts to wetlands and waters shall be based on the impacted type of wetland and project design. Mitigation should prevent any net loss of wetland functions and values of the impacted wetland. Plan Policy NS-11 requires a replacement ratio to compensate for the destruction of native habitat and biological resources that exceeds the biological value of that which is destroyed. However, the resource agencies may require higher mitigation ratios depending on the type and quality of resource impacted. Mitigation ratios for impacts to wetlands and riparian habitat are typically around 2:1 or 3:1, but can be as high as 8:1 for especially rare or valuable wetland types such as vernal pools.

- **Gaviota Coast Plan Development Standard CS-1: Phase 1 Archaeological Surveys.** A Phase 1 archaeological survey shall be performed when identified as necessary by a County archaeologist or contract archaeologist. The survey shall include all areas of the project that would result in ground disturbance. The content, format, and length of the Phase 1 survey report shall be consistent with the nature and size of the project and findings of the survey.

- **Gaviota Coast Plan Policy LU-10: Development Siting.** (INLAND) Development shall be sited to the maximum extent possible to: 1) avoid environmentally sensitive habitat, 2) avoid visually prominent areas, 3) minimize infrastructure requirements and/or redundancy, and 4) minimize fragmentation of the landscape.

- **Gaviota Coast Plan Policy Vis-2: Visually Subordinate Development.** Development shall be visually subordinate to the natural and agricultural environment as seen from public viewing places. Visual subordinance shall be achieved through adherence to the Site Design Hierarchy and Design Guidelines. “Visually subordinate” is defined as development that is partially visible but not dominant or disruptive in relation to the surrounding landscape as viewed from a public viewing place.

- **Gaviota Coast Plan Development Standard TEI-7: Onsite Wastewater Treatment System Locations.** (INLAND) Onsite wastewater treatment systems and other potential sources of water pollution shall be a minimum of 100 feet from the edge of either side of top-of-bank or existing edge of riparian vegetation, whichever is further. Modifications to existing and

new sources of potential water pollution shall meet this buffer to the maximum extent feasible. This standard applies unless supplanted by Environmental Health Services Standards.

10.0 RECOMMENDATION BY P&D STAFF

On the basis of the Initial Study, the staff of Planning and Development:

____ Finds that the proposed project WILL NOT have a significant effect on the environment and, therefore, recommends that a Negative Declaration (ND) be prepared.

_X_ Finds that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures incorporated into the REVISED PROJECT DESCRIPTION would successfully mitigate the potentially significant impacts. Staff recommends the preparation of an ND. The ND finding is based on the assumption that mitigation measures will be acceptable to the applicant; if not acceptable a revised Initial Study finding for the preparation of an EIR may result.

____ Finds that the proposed project MAY have a significant effect on the environment, and recommends that an EIR be prepared.

____ Finds that from existing documents (previous EIRs, etc.) that a subsequent document (containing updated and site-specific information, etc.) pursuant to CEQA Sections 15162/15163/15164 should be prepared.

Potentially significant unavoidable adverse impact areas: None

_____ With Public Hearing ___X___ Without Public Hearing

PREVIOUS DOCUMENT: N/A

PROJECT EVALUATOR: **Tina Mitchell** **DATE:** August 17, 2022

11.0 DETERMINATION BY ENVIRONMENTAL HEARING OFFICER

_X_ I agree with staff conclusions. Preparation of the appropriate document may proceed.
____ I DO NOT agree with staff conclusions. The following actions will be taken:
____ I require consultation and further information prior to making my determination.

SIGNATURE: Alex Tuttle **DRAFT MND DATE**: 8/17/2022

12.0 ATTACHMENTS

1. Vicinity Map
2. Project Plans
3. Biological Assessment Report prepared by Dudek (October 2021)
4. Tree Protection Report prepared by Dudek (October 2021)
5. Geotechnical Investigation Report prepared by Pacific Materials Laboratory (November 2019)
6. Hydrology Memo prepared by Coast Engineering and Surveying (September 2021)

Attachment 1: Vicinity Map

Attachment 2: Project Plans

MOORE RANCH

SINGLE FAMILY RESIDENCE, GUEST HOUSE & STORAGE BARNS

DRAWING INDEX

REVISIONS

REV. 1	00/00/0000	SHEET NO.	ARCHITECTURAL
		A0.00	COVER SHEET
		A0.10	EXISTING SITE SURVEY
		A0.11	SITE PHOTOS
		A1.00	PROPOSED SITE PLAN
		A1.01	ENLARGED SITE PLAN
		A2.10	PROPOSED MAIN RESIDENCE FLOOR PLANS
		A2.11	PROPOSED MAIN RESIDENCE ROOF PLAN
		A2.12	MAIN RESIDENCE EXTERIOR ELEVATIONS
		A2.13	MAIN HOUSE BUILDING SECTION + DETAILS
		A2.20	GUEST HOUSE PLANS & ELEVATIONS
		A2.21	GUEST HOUSE BUILDING SECTIONS
		A2.30	STORAGE BARN 1 PLANS & ELEVATIONS
		A2.40	STORAGE BARN 2 PLANS & ELEVATIONS
		A9.01	DETAILS
		A9.02	DOOR / WINDOW DETAILS
		A10.01	VISUALIZATIONS
		A10.02	VISUALIZATIONS
		A10.03	VISUALIZATIONS
			CIVIL
		C1	TITLE SHEET
		C2	PRELIMINARY GRADING AND DRAINAGE
		C3	EROSION AND SEDIMENT CONTROL PLAN
		C4	WATER PLAN
			LANDSCAPE
		L0.0	COVER SHEET
		L1.0	LANDSCAPE / PLANTING PLAN
		L1.1	PLANTING DEATILS & NOTES
		L2.0	IRRIGATION PLAN
		L2.1	IRRIGATION DETAILS & NOTES
		L3.0	MODEL WATER EFFICIENT LANDSCAPE PLAN
			STRUCTURAL
		S0.1	STRUCTURAL TITLE SHEET
		S0.2	STRUCTURAL SPECIFICATIONS
		S1.1	FOUNDATION PLAN
		S1.2	ROOF FRAMING PLAN
		S2.1	TYPICAL CONCRETE DETAILS
		S2.2	FOUNDATION DETAILS
		S3.1	TYPICAL FRAMING DETAILS
		S3.2	ROOF FRAMING DETAILS

SYMBOLS LEGEND

DETAIL (SECTION) — 1 / A5.01

DETAIL (PLAN) — 1 / A101 SIM

SECTION — 1 / A4.01

GRID / CONTROL LINE — A

ELEVATION CALLOUT — 01 / 04 A7.01 02 / 03

LEVEL — LABEL 0' - 0"

SPOT ELEVATION (DATUM) — LABEL 0' - 0"

SHEET REFERENCE — TITLE / SCALE 01

DOOR TAG — XXX-X

WINDOW TAG — X

KEYNOTE — 1.25

WALL TYPE — X

REVISION TAG — 1

FIXTURE CALLOUT — P-01

ROOM TAG — MASTER BEDROOM 101 / 150 SF

BREAK LINE

STEP INDICATION

ABBREVIATIONS

&	AND	FIXT	FIXTURE
@	AT	FL	FLOOR
ø	PENNY	FLASH	FLASHINGS
°	ANGLE	FLUOR	FLUORESCENT
⊥	PERPENDICULAR	FOC	FACE OF CONCRETE
		FOF	FACE OF FINISH
A/C	AIR CONDITIONER / CONDITIONING	FOM	FACE OF MASONRY
AB	ANCHOR BOLT	FOP	FACE OF PLYWOOD
ABV	ABOVE	FOS	FACE OF STUDS
AC	ASPHALTIC CONCRETE	FOW	FACE OF WALL
AD	AREA DRAIN	FP	FIREPROOF; FIREPLACE
ADA	AMERICANS WITH DISABILITIES ACT	FT	FOOT OR FEET
ADJ	ADJUSTABLE / ADJACENT	FTG	FOOTING
AFF	ABOVE FINISHED FLOOR	FURR	FURRING
AFG	ABOVE FINISHED GRADE	GA	GAUGE
AFS	ABOVE FINISHED SLAB	GALV	GALVANIZED
AL / ALUM	ALUMINUM	GC	GENERAL CONTRACTOR
ALT	ALTERNATE	GL	GLASS / GLAZING
ANOD	ANODIZED	GR	GRADE
AP	ACCESS PANEL	GYP	GYPSUM
APPROX	APPROXIMATELY	GYP BD	GYPSUM BOARD
ARCH	ARCHITECTURAL	HB	HOSE BIB
ASPH	ASPHALT	HDR	HEADER
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	HDWR	HARDWARE
AUTO	AUTOMATIC	HOR / HORIZ	HORIZONTAL
AVG	AVERAGE	HP	HIGH POINT; HORSEPOWER
BD	BOARD	HR	HANDRAIL; HOUR
BET	BETWEEN	HT	HEIGHT
BITUM	BITUMINOUS	HTR	HEATER
BLDG	BUILDING	HVAC	HEATING / VENTILATION / AIR CONDITIONING
BLK	BLOCK	HW (R)	HOT WATER (RETURN)
BLKG	BLOCKING	ID	INSIDE DIAMETER
BN	BOUNDARY MALING	IN	INCH / INCHES
BOT	BOTTOM	INCL	INCLUDED / INCLUDING
CAB	CABINET	INSUL	INSULATE / INSULATION
CB	CATCH BASIN	INT	INTERIOR
CF	CUBIC FOOT	JT	JOINT
CI	CAST IRON;CONTRACTOR INSTALLED	LAM	LAMINATED
CIP	CAST IN PLACE	LAV	LAVATORY
CJ	CONTROL JOINT; CEILING JOIST	LB	LAG BOLT
CL	CENTER LINE	LBS(#)	POUND(S)
CLG	CEILING	LF	LINEAR FOOT (FEET)
CLOS	CLOSET	LH	LEFT HAND
CLR	CLEAR	LIB	LIBRARY
CMU	CONCRETE MASONRY UNIT	LP	LOW POINT
CO	CLEAN;CLEAR OUT	LT	LIGHT
COL	COLUMN	LVR	LOUVER
CONC	CONCRETE	MACH	MACHINE
CONST	CONSTRUCTION	MAINT	MAINTENANCE
CONT	CONTINUOUS	MANF	MANUFACTURER
COR	CORRIDOR	MAS	MASONRY
CSK	COUNTERSINK	MATL	MATERIAL
		MAX	MAXIMUM
DBL	DOUBLE	MB	MACHINE BOLT
DEMO	DEMOLISH; DEMOLITION	MECH	MECHANICAL
DF	DOUGLAS FIR	MEMB	MEMBRANE
DIA	DIAMETER	MEZZ	MEZZANINE
DIAG	DIAGONAL	MIN	MINIMUM
DIM	DIMENSION	MISC	MISCELLANEOUS
DIV	DIVISION	MR	MOISTURE RESISTANT
DN	DOWN	MTL	METAL
DS	DOWNSPOUT		
DWG	DRAWING	(N)	NEW
		N	NORTH
EA	EACH	NA OR NA	NOT AVAILABLE / APPLICABLE
EJ	EXPANSION JOINT	NIC	NOT IN CONTRACT
EL	ELEVATION	NO / #	NUMBER
ELEC	ELECTRICAL	NOM	NOMINAL
ELEV	ELEVATOR	NTS	NOT TO SCALE
EMER	EMERGENCY		
EN	EDGE NAIL	OC	ON CENTER
ENG	ENGINEER	OD	OUTSIDE DIAMETER
EQ	EQUAL(LY)	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
EQPT	EQUIPMENT	OPNG	OPENING
EQUIP	EQUIPMENT	OPG / OPNG	
EST	ESTIMATE	OZ	OUNCE
EVC	ELECTRIC VEHICLE CHARGER		
EVO	ELECTRIC VEHICLE OUTLET	P	PAINT (NUMBER - SEE SPEC'S)
EXIST	EXISTING	PED	PEDESTAL
EXP	EXPANSION	PER	PERIMETER
EXT	EXTERIOR	PERF	PERFORATED
		PERP	PERPENDICULAR
FAST	FASTENER(S)	PL	PROPERTY LINE
FAU	FORCED AIR UNIT	PLAS	PLASTER
FBO	FURNISHED BY OWNER	PLYWD	PLYWOOD
FCO	FLOOR CLEAN OUT	POC	POINT OF CONNECTION
FD	FLOOR DRAIN	PR	PAIR
FF	FINISHED FLOOR	PRCST	PRE-CAST
FG	FINISHED GRADE	PREFAB	PREFABRICATED
FH	FLAT HEAD		
FIN	FINISHED	PROP	PROPERTY
		PSF	POUNDS PER SQUARE FOOT
		PSI	POUNDS PER SQUARE INCH
		PT	POINT
		PTDF	PRESSURE TREATED DOUGLAS FIR
		Q	QUARTZ
		QT	QUARRY TILE
		QTY	QUANTITY
		R	RISER
		RAD	RADIUS
		RCP	REFLECTED CEILING PLAN
		RD	ROOF DRAIN
		REF	REFERENCE; REFRIGERATOR
		REG	REGISTER
		REINF	REINFORCED
		REQ	REQUIRED
		REV	REVISE / REVISION
		RFL	REFLECTED
		RH	RIGHT HAND; ROUND HEAD
		RM	ROOM
		RO	ROUGH OPENING
		RWD	REDWOOD
		S	SOUTH
		SCHED	SCHEDULE
		SD	STORM DRAIN
		SECT	SECTION
		SF	SQUARE FEET
		SHT	SHEET
		SHTG	SHEATHING
		SHWR	SHOWER
		SIM	SIMILAR
		SMACNA	RE: THE ARCH SHEET METAL MANUAL
		SOG	SLAB ON GRADE
		SPEC	SPEC'IFY / SPECIFICATION
		SQ	SQUARE
		SQFT	SQUARE FEET
		SQIN	SQUARE INCH(ES)
		SS	STAINLESS STEEL
		ST	STONE
		STD	STANDARD
		STL	STEEL
		STOR	STORAGE
		STRUCT	STRUCTURE / STRUCTURAL
		SUSP	SUSPENDED
		SYM	SYMMETRICAL
		SYN	SYNTHETIC
		SYS	SYSTEM
		T&B	TOP AND BOTTOM
		T&G	TONGUE AND GROOVE
		TBD	TO BE DETERMINED
		TBS	TO BE SELECTED
		TEL	TELEPHONE
		TEMP	TEMPORARY / TEMPERATURE
		THK	THICK
		THRU	THROUGH
		TOC	TOP OF CONCRETE
		TOS	TOP OF SLAB
		TOW	TOP OF WALL
		TV	TELEVISION
		TYP	TYPICAL
		UL	UNDERWRITER'S LABORATORY
		UNF / UNFIN	UNFINISHED
		UNO	UNLESS NOTED OTHERWISE
		UON	UNLESS OTHERWISE NOTED
		UPS	UNINTERRUPTIBLE POWER SUPPLY
		V	VOLT
		VB	VAPOR BARRIER
		VERT	VERTICAL
		VEST	VESTIBULE
		VGDF	VERTICAL GRAIN DOUGLAS FIR
		VIF	VERIFY IN FIELD
		VNR	VENEER
		VOL	VOLUME
		VTR	VENT THRU ROOF
		W	WEST
		W	WITH
		WO	WITHOUT
		WC	WATER CLOSET
		WD	WOOD
		WF	WIDE FLANGE
		WH	WATER HEATER
		WI	WROUGHT IRON
		WIN	WINDOW
		WP	WATERPROOF(ING)
		WPT	WORK POINT
		WWF	WELDED WIRE FABRIC
		YD	YARD

GENERAL NOTES

A. GENERAL NOTES

1. INTERPRETATION OF DRAWINGS AND DOCUMENTS: EACH CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS AT THE PROJECT SITE BEFORE EXECUTING ANY WORK AND SHALL NOTIFY THE OWNER AND THE ARCHITECT OF ANY DISCREPANCIES BEFORE PROCEEDING. THE ARCHITECT SHALL BE NOTIFIED OF ANY UNUSUAL OR UNFORESEEN CONDITIONS OR SITUATIONS WHICH MAY AFFECT THE STRUCTURAL INTEGRITY OR SAFETY OF THE PROJECT.

2. ADHERENCE TO PLANS: STRICT ADHERENCE TO THE CONSTRUCTION DOCUMENTS MUST BE MAINTAINED. NO CHANGES SHALL BE MADE IN THE PROJECT WHICH DEVIATE FROM THE PLANS AND SPECIFICATIONS WITHOUT THE WRITTEN CONSENT OF THE OWNER. NO STRUCTURAL CHANGES SHALL BE MADE WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT.

3. WORKING DRAWING: FIGURED DIMENSIONS AND DETAILED DRAWINGS SHALL BE FOLLOWED IN PREFERENCE TO SCALE MEASUREMENTS. IN CASE OF ANY DOUBT ON THE PART OF THE CONTRACTOR AS TO THE EXACT MEANING OF THE DRAWINGS AND THESE SPECIFICATIONS, HE SHALL APPLY TO THE ARCHITECT FOR AN INTERPRETATION IN WRITING BEFORE PROCEEDING WITH HIS WORK.

4. SHOP DRAWINGS: CONTRACTOR SHALL SUBMIT COPIES OF ALL SHOP DRAWINGS FOR REVIEW BY ARCHITECT PRIOR TO CONTRACTOR'S APPROVAL FOR CONSTRUCTION.

5. THE CONTRACTOR SHALL PROVIDE ALL SHORING AND BRACING REQUIRED TO PROTECT PERSONNEL AND ADJACENT PROPERTY AND TO INSURE SAFETY OF THE PROJECT WORK.

6. WHEREVER IN THESE DRAWINGS ANY MATERIAL OR PROCESS IS INDICATED, IT IS FOR THE PURPOSE OF FACILITATING DESCRIPTION OF THE MATERIAL OR PROCESS DESIRED. THE CONTRACTOR MAY OFFER ANY MATERIAL OR PROCESS WHICH SHALL BE DEEMED EQUIVALENT BY THE ENGINEER AND THE ARCHITECT TO THAT MATERIAL OR PROCESS INDICATED OR SPECIFIED.

7. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS SHALL BE NEW AND BOTH WORKMANSHIP AND MATERIALS SHALL BE THE BEST OF THEIR RESPECTIVE KINDS. THE CONTRACTOR SHALL, IF REQUIRED, FURNISH SATISFACTORY EVIDENCE AS THE KIND AND QUALITY OF MATERIALS.

8. IT SHALL BE THE DUTY OF THE GENERAL CONTRACTOR TO SEE THAT ALL SUB-CONTRACTORS ARE FULLY INFORMED IN REGARD TO THE GENERAL CONDITIONS AND PRELIMINARY SPECIFICATIONS.

B. PERMITS AND REGULATIONS

1. EACH CONTRACTOR SHALL PAY FOR AND OBTAIN ALL PERMITS REQUIRED BY LOCAL AUTHORITIES BEFORE PROCEEDING WITH HIS RESPECTIVE INSTALLATION AND SHALL ARRANGE AND PAY FOR ANY INSPECTIONS AND EXAMINATIONS REQUIRED BY THOSE AUTHORITIES.

2. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE CURRENT EDITION OF THE CALIFORNIA BUILDING CODE, AND LAWS, ORDINANCES AND REGULATIONS OF ALL GOVERNMENTAL BODIES WITH JURISDICTION OVER THE PROJECT.

3. IF THE DRAWINGS AND SPECIFICATIONS ARE AT VARIANCE WITH ANY FEDERAL, STATE AND LOCAL OR MUNICIPAL LAW, ORDINANCE, RULES OR DEPARTMENTAL REGULATIONS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING BEFORE PROCEEDING WITH THAT WORK. IF ANY OF THE CONTRACTORS WORK SHALL BE DONE CONTRARY THERETO WITHOUT SUCH NOTICE HE SHALL BEAR ALL COST ARISING THEREFROM.

C. PROTECTION OF WORK & PROPERTY

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL VIOLATIONS OF CITY ORDINANCES AND STATE LAWS INVOLVED IN THE PERFORMANCE OF HIS WORK. HE SHALL PROVIDE, DURING THE PROGRESS OF HIS WORK, EVERY AND ALL SAFEGUARDS AND PROTECTION AGAINST ACCIDENTS, INJURY AND DAMAGE TO PERSONS AND PROPERTY INCLUDING ADJOINING PROPERTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK AND EVERY PART THEREOF, AND FOR ALL MATERIALS, TOOLS, APPLIANCES AND PROPERTY OF EVERY DESCRIPTION USED IN CONNECTION THEREWITH.

2. THE CONTRACTOR ASSUMES ALL RISKS, HAZARDS AND CONDITIONS IN CONNECTION WITH THE PERFORMANCE OF THE CONTRACT, AND EVEN IF THE PERFORMANCE OF THE CONTRACT INVOLVES A GREATER EXPENDITURE OF MONEY THAN THE CONTRACTOR EXPECTED AT THE TIME OF BIDDING, NO ALLOWANCE WILL BE MADE ON ACCOUNT THEREOF, AND THE CONTRACTOR SHALL CONTINUE WITH AND COMPLETE THE WORK.

D. SUPERVISION

1. THE CONTRACTOR SHALL GIVE PERSONAL SUPERVISION TO THE WORK, USING HIS BEST SKILL AND ATTENTION, AND SHALL KEEP A COMPETENT FOREMAN AND NECESSARY ASSISTANTS CONSTANTLY ON THE SITE. THE FOREMAN SHALL BE THE PERSONAL REPRESENTATIVE OF THE CONTRACTOR AND ALL DIRECTIONS GIVEN BY HIM SHALL BE AS BINDING AS IF GIVEN BY THE CONTRACTOR. COMMUNICATION DELIVERED TO THE FOREMAN BY THE ARCHITECT SHALL BE AS BINDING AS IF DELIVERED TO THE CONTRACTOR.

E. DAMAGES IN THE WORK

1. THE OWNER, WITHOUT INVALIDATING THE CONTRACT, MAY ALTER BY ADDING TO OR DEDUCTING FROM THE WORK COVERED IN THE CONTRACT. ALL SUCH WORK SHALL BE EXECUTED UNDER THE CONDITIONS OF THE ORIGINAL CONTRACT EXCEPT THAT NO EXTRA WORK OR CHANGES SHALL BE DONE WITHOUT WRITTEN ORDER FROM THE ARCHITECT. SUCH ORDERS SHALL COVER THE AGREED PRICE AND TERMS OF EXTRA WORK OF CHANGES. IF WORK IS TO BE OMITTED, THEN PROPER CREDIT FOR SUCH OMITTED WORK SHALL BE GIVEN THE OWNER.

F. CLEANING BUILDING AND PREMISES

1. PRIOR TO THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE EXTERIOR AND INTERIOR OF THE BUILDING, INCLUDING FIXTURES, EQUIPMENT, FLOORS AND HARDWARE. REMOVING ALL PLASTER SPOTS, STAINS, PAINT SPOTS AND ACCUMULATED DUST AND DIRT. THIS SHALL INCLUDE THOROUGH CLEANING OF ALL ROOFS, WINDOW SILLS AND LEDGES, HORIZONTAL PROJECTIONS, STEPS, RAILS, SIDEWALKS OR OTHER SURFACES WHERE DEBRIS MAY HAVE COLLECTED WASH AND POLISH ALL GLASS.

G. GUARANTEES

1. EXCEPT AS OTHERWISE SPECIFIED, ALL WORK SHALL BE GUARANTEED IN WRITING BY THE CONTRACTOR AGAINST DEFECTS RESULTING FROM DEFECTIVE MATERIALS, POOR WORKMANSHIP OR FAULTY EQUIPMENT, FOR A PERIOD OF ONE YEAR FROM THE DATE OF FILING THE NOTICE OF COMPLETION AND THE ACCEPTANCE OF THE BUILDING BY THE OWNER. IF WITHIN THE GUARANTEE PERIOD CORRECTION OF FAULTY MATERIALS OR WORKMANSHIP IS NECESSARY IN THE OPINION OF THE OWNER, THE CONTRACTOR SHALL PROMPTLY, UPON RECEIPT OF NOTICE FROM THE OWNER AND WITHOUT EXPENSE TO THE OWNER, CORRECT FAULTY MATERIALS OR WORKMANSHIP.

H. VERIFICATION OF UNDERGROUND UTILITY IMPROVEMENTS

1. THE GENERAL CONTRACTOR SHALL PROVIDE THE OWNER WITH AN AS-BUILT DRAWING LOCATING AND DESCRIBING ALL UNDERGROUND UTILITIES LOCATED ON THE SITE, INCLUDING BUT NOT LIMITED TO THE FOLLOWING GAS LINES, WATER LINES, SANITARY SEWERS, TELEPHONE LINES, AND ELECTRIC LINES.

I. TRANSPORTATION OF EXCAVATED MATERIAL

1. THE CONTRACTOR SHALL TRANSPORT ALL EXCAVATED MATERIAL NOT REQUIRED FOR RE-COMPACTION TO AN APPROVED LANDFILL SITE OUTSIDE THE COASTAL ZONE. PROVIDE TRIP TICKETS FOR ALL EXCAVATED MATERIAL REMOVED FROM THE PROJECT.

CODE COMPLIANCE

THE PROJECT SHALL COMPLY WITH 2019 CALIFORNIA BUILDING CODE, 2019 CALIFORNIA PLUMBING CODE, 2019 CALIFORNIA MECHANICAL CODE, 2019 CALIFORNIA ELECTRICAL CODE, THE CALIFORNIA GREEN BUILDING STANDARDS, 2019 EDITION, THE 2019 CALIFORNIA FIRE CODE, THE CALIFORNIA ENERGY CODE 2019 EDITION, AND APPLICABLE LOCAL CODES AND ORDINANCES FOR THE COUNTY OF SANTA BARBARA.

PERMITS

20LUP-00040

SPECIAL INSPECTIONS

SEE STRUCTURAL DRAWINGS

SPECIAL COMPLIANCE

HIGH-FIRE ZONE COMPLIANCE: ALL EXTERIOR MATERIALS & SYSTEMS SHALL COMPLY WITH CHAPTER 7A OF THE 2019 CALIFORNIA BUILDING CODE AND SECTION R337 OF THE CALIFORNIA RESIDENTIAL BUILDING CODE.

STATISTICS/CALCULATIONS

SITE:

	EXISTING
LOT SIZE:	92.2 ACRES

BUILDING AREA:

	PROPOSED (S.F.)
MAIN HOUSE:	2,000
GUEST HOUSE:	800
STORAGE BARN 1:	2,200
STORAGE BARN 2:	864
TOTAL	5,864

PROJECT TEAM

GENERAL CONTRACTOR

CIVIL ENGINEER
COAST ENGINEERING & SURVEY INC.
P.O. BOX 13127
SAN LUIS OBISPO, CA 93406
805.439.1920
CONTACT: TODD ROBINSON

STRUCTURAL ENGINEER
TAYLOR & SYFAN
805.895.1685
CONTACT: SAGE SHINGLE, P.E., S.E.

MECHANICAL ENGINEER

ELECTRICAL ENGINEER

PLUMBING

LANDSCAPE
PARRYI STUDIO
805.440.5972
CONTACT: KATIE KLEIN

LAND PLANNER
DUDEK
621 CHAPALA STREET
SANTA BARBARA, CA 93101
805.308.8522
CONTACT: JESSICA KINNAHAN, AICP

LIGHTING

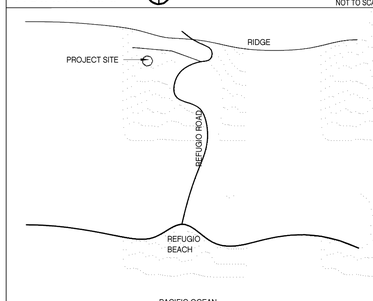
AUDIO/VISUAL

PROJECT INFORMATION

PROJECT NAME:	**MOORE RANCH**
PROJECT DESCRIPTION:	**THIS PROJECT PROPOSES A NEW 2,000 SF MAIN RESIDENCE, 800 SF GUEST HOUSE, 2,200 SF AND 864 SF STORAGE BARNS. NEW SEPTIC AND SOLAR SYSTEM. MINOR IMPROVEMENTS ON EXISTING DRIVEWAY PER FIRE.**
OWNER:	**YOUNG AMERICA'S FOUNDATION 217 STATE STREET SANTA BARBARA, CA**
PROJECT ADDRESS:	**2389 REFUGIO ROAD GAVIOTA, CA 93117**
A.P.N.	**081-040-044**
ZONING	**A-II-100**
CONSTRUCTION TYPE:	**V-B**
OCCUPANCY:	**R-3 / U**
SPRINKLERED:	**YES**
RIDGELINE HILLSIDE AREA:	**YES**
HIGH FIRE AREA:	**YES**
BUILDING HEIGHT LIMITATION:	**16' - 0"**
NUMBER OF STORIES:	**1**

VICINITY MAP

NOT TO SCALE



A34 STUDIO

CONTACT
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P.O. BOX 4566
SANTA BARBARA, CA 93140

PH: 805.477.8829
WWW.A34STUDIO.COM

PRINT / REVISIONS

01/2020		CBAR - CONCEPTUAL REVIEW

PLOT DATE 9/10/2021 9:20:02 AM

LICENSED ARCHITECT
ALAN MCLEOD
C-30890
11 / 2021
RENEWAL DATE
STATE OF CALIFORNIA

JOB NO. XXXX

PROJECT INFO

MOORE RANCH

081-040-044

SHEET NUMBER

A0.00

COVER SHEET

SHEET NAME

NOTES:

1. L.P. COOK & COMPANY, INC. HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP, TITLE EVIDENCE OR ANY OTHER FACTS, WHICH AN ACCURATE AND CURRENT "ABSTRACT OF TITLE" OR "TITLE POLICY" MAY DISCLOSE.

2. REGARDING THE USE OF PRINTS OF THIS MAP:
NORMAL PRINTING METHODS AND/OR HUMIDITY VARIATIONS WILL USUALLY ALTER THE EXACT SCALE OF ANY MAP SOMEWHAT. BEFORE USING PRINTS OF THIS MAP FOR ANY PURPOSE IN WHICH SCALE IS IMPORTANT, VERIFY THE SCALE FIRST.

3. THE VERTICAL DATUM IS "DERIVED CALIFORNIA ORTHOMETRIC HEIGHT" BASED UPON A GPS TIES TO COR STATION TJRN AND USING GEOID 12B FOR GEOID MODELING. SAID TJRN HAVING AN ELEVATION OF 635.58 US SURVEY FEET PER CALIFORNIA SPATIAL REFERENCE CENTER. TO CONVERT THE VERTICAL DATUM TO NAVD'88, SUBTRACT 0.121 US SURVEY FEET. ALL USERS MUST VERIFY AT LEAST TWO SEPARATE ELEVATIONS SHOWN HERE ON WITH PROJECT BENCH MARK, NOTED ABOVE, BEFORE PROCEEDING WITH CONSTRUCTION AND/OR LAYOUT WORK.

4. SUBSTRUCTURE UTILITIES ARE NOT SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT SUCH UTILITIES IN PLACE BY CALLING DIGALERT AT 811 48 HOURS MINIMUM IN ADVANCE OF EXCAVATING.

5. THIS MAP MAY BE PROVIDED IN AN ELECTRONIC FORMAT (ON COMPUTER DISK) AS A COURTESY TO THE CLIENT. THE DELIVERY OF THE ELECTRONIC FILE DOES NOT CONSTITUTE THE DELIVERY OF OUR PROFESSIONAL WORK PRODUCT. THE SIGNED PAPER PRINT DELIVERED WITH THIS ELECTRONIC FILE CONSTITUTES OUR PROFESSIONAL WORK PRODUCT, AND IN THE EVENT THE ELECTRONIC FILE IS ALTERED, THE PRINT MUST BE REFERRED TO, FOR THE ORIGINAL AND CORRECT SURVEY INFORMATION. THE L.P. COOK & CO., INC. SHALL NOT BE RESPONSIBLE FOR ANY MODIFICATIONS MADE TO THE ELECTRONIC FILE, OR FOR ANY PRODUCTS DERIVED FROM THE ELECTRONIC FILE WHICH ARE NOT REVIEWED, SIGNED AND SEALED BY THE L.P. COOK & CO., INC.

6. BOUNDARY LINES SHOWN HEREON ARE BASED ON PREVIOUSLY RECORDED SURVEYS AND MAPS. THESE MAPS HAVE MATHEMATICAL ISSUES SO THEY DO NOT EXACTLY CLOSE. IF NEW CONSTRUCTION IS GOING TO BE WITHIN 10 FEET OF A LOT LINE OR SETBACK THEN THAT LOT LINE WILL NEED TO BE SURVEYED ON THE GROUND TO DETERMINE IT'S TRUE LOCATION.

7. THE COORDINATES AND BASIS OF BEARINGS ARE CCS83, ZONE 5, EPOCH 2017.50, US SURVEY FEET, AS DETERMINED BY TIES TO COR STATIONS BBDM, COPR, GRES AND TJRN AS PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER. TO CONVERT GRID DISTANCES TO GROUND DISTANCES, DIVIDE THE GRID DISTANCES BY THE COMBINED FACTOR OF 0.99982250.

VICINITY MAP
Scale 1"=10,000'

LEGEND:

SYMBOLS LEGEND:
- UTILITY VAULT
- UTILITY POLE (AS NOTED)
- GUY
- PARCEL LINE SYMBOL

LINETYPE LEGEND:
- PARCEL LINE
- PARCEL LINE (GIS)
- PATH C/L UNPAVED
- ROAD NO CURB
- ROAD UNPAVED
- FENCE
- OHP — OVERHEAD POWER LINE
- XXX — CONTOUR (1' INTERVAL IN TARGET AREA & 5' ELSEWHERE)

L.P. COOK & COMPANY, Inc.
Land Surveying
Mapping & Digital Graphics
831 State Street, Suite 202, Santa Barbara, CA 93101-3227
(805) 966-5105

BAR SCALE: 0 60 120 180 240
GRAPHIC SCALE 1"=60'

TOPOGRAPHICAL SURVEY OF A PORTION OF SANTA BARBARA, CALIFORNIA

PARCEL 3 OF PARCEL MAP 11,697
PARCEL MAP BOOK 11 PAGE 40

BEING PORTION OF SECTION 12 OF T.5N R.31.W. S.B.B.&M.

APN:081-040-044

FOR: YOUNG AMERICAN'S FOUNDATION
ATTENTION BRENT KLIPPER

DATA COLLECTED: MAY, 2019

SHEET NO.: 1 OF 1
DRAWN BY: PHD
CHECKED BY: LPC
DATE: 5/27/19
JOB NO.: 1474.12F

A34STUDIO

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PRINT / REVISIONS

01/2020	CBAR - CONCEPTUAL REVIEW

PLOT DATE 9/10/2021 9:05:45 AM

LICENSED ARCHITECT
ALAN MCLEOD
C-30890
11 / 2021
RENEWAL DATE
STATE OF CALIFORNIA

JOB NO. XXXX

PROJECT INFO

MOORE RANCH

081-040-044

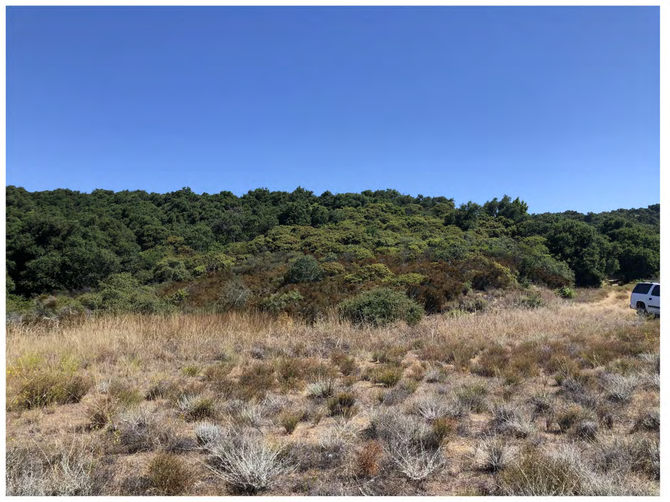
SHEET NUMBER

A0.10

EXISTING SITE SURVEY

SHEET NAME

VIEW SOUTH



VIEW NORTH

A34 STUDIO

CONTACT

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PLOT DATE 9/10/2021 9:06:00 AM

LICENSED ARCHITECT
ALAN MCLEOD
C-30890
11 / 2021
RENEWAL DATE
STATE OF CALIFORNIA

JOB NO. XXXX

PROJECT INFO

MOORE RANCH

081-040-044

SHEET NUMBER

A0.11

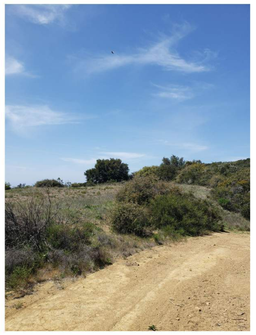
SITE PHOTOS

SHEET NAME

VIEW FROM SITE LOOKING SOUTH

VIEW OF SITE LOOKING NORTHWEST

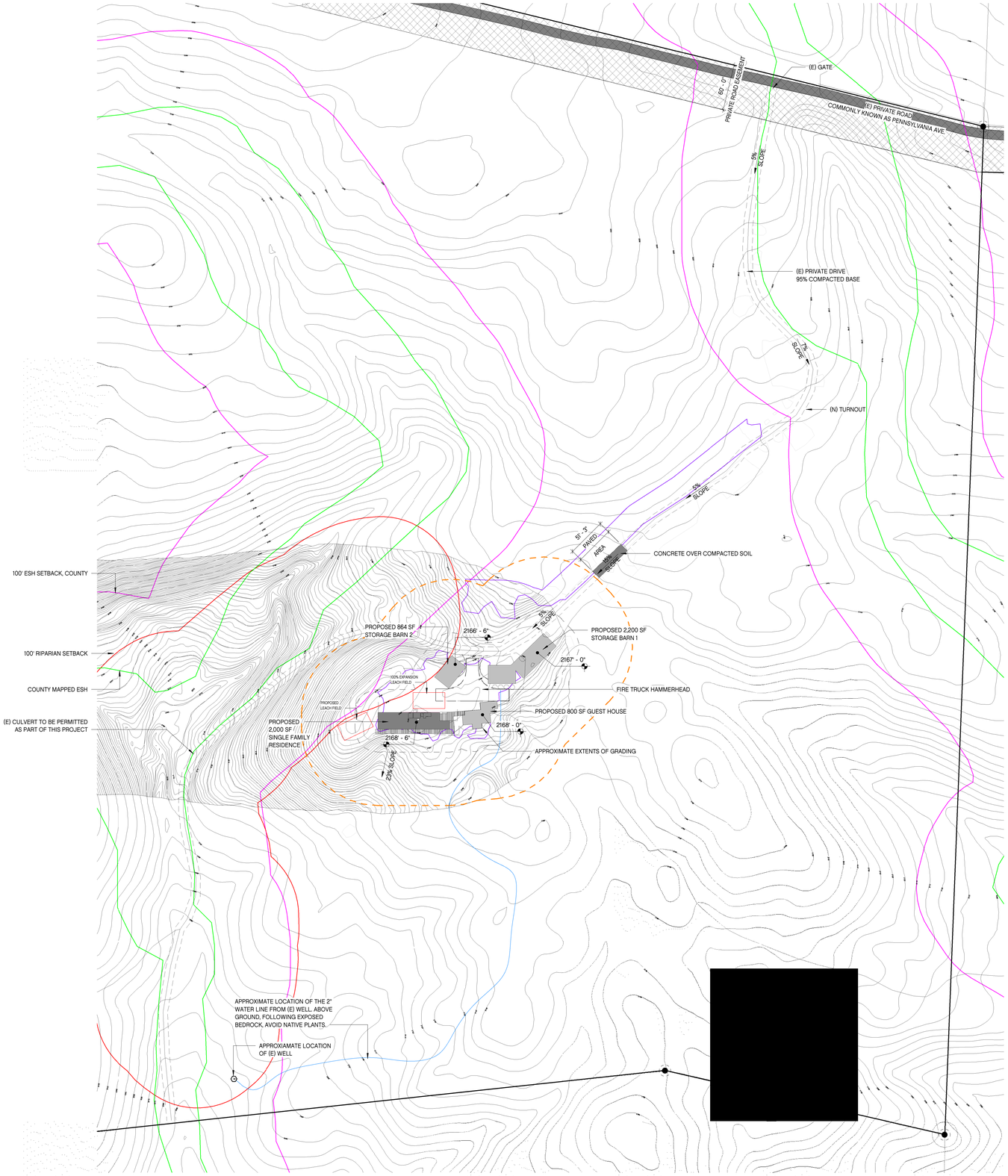
VIEW OF SITE LOOKING SOUTHWEST



VIEW OF SITE LOOKING SOUTHWEST
FROM EXISTING DIRT ROAD

PROPOSED SITE PROJECT STATISTICS

STRUCTURES	
FINISHED FLOOR ELEV.	2168'
AREA (SF)	5,864 SF
ROAD	
LENGTH (LF)	954' TO SITE
PAVED LENGTH (LF)	50'
GRADING (CY)	100 CUT / 240 FILL
ROAD ACCESS TO (E) WELL	
LENGTH	858'
INTERMITTENT STREAM CROSSING	YES
WATER LINE	
LENGTH (LF)	894'
TRENCH	NO
RIPARIAN DISTURBANCE	YES
PUBLIC VIEW AT NIGHT	NO



SITE PLAN - PROPOSED
SCALE: 1" = 60'-0"

GENERAL NOTES - SITE PLAN

1. FINISH GRADE WILL ALLOW 5% SLOPE FOR MINIMUM OF 10'-0" AWAY FROM STRUCTURE. TYP. IMPERVIOUS SURFACE @ 2%.

PROPERTY CORNER

PROPERTY LINE

SETBACK

60' PRIVATE ROAD RESERVATION PER O.R. 2441, PG 213

30' FUEL MODIFICATION BUFFER

100' FUEL MODIFICATION BUFFER

FOOTPRINT OF STRUCTURE

COUNTY MAPPED ESH

COUNTY MAPPED 100' ESH SETBACK

RIPARIAN 100' SETBACK

EVC

LOCATION OF ELECTRIC VEHICLE CHARGING STATION

FUEL MODIFICATION NOTES

ZONE 1
0-30 FEET
1. ALL EXISTING VEGETATION SHALL BE REMOVED COMPLETELY (WITH THE EXCEPTION OF A SMALL AMOUNT OF ANY EXISTING IDENTIFIED NATIVE SPECIES WITHIN THE 30' FUEL MODIFICATION SETBACK) AND REPLACED WITH APPROPRIATE LANDSCAPING FOR HIGH FIRE HAZARD AREAS.
2. ALL LANDSCAPING IN THIS ZONE WILL BE REGULARLY MAINTAINED.
3. NO NEW FLAMMABLE LANDSCAPING SHALL BE INSTALLED IN THIS ZONE.
4. LARGE TREES MAY OCCUPY THIS ZONE IF THEY ARE TRIMMED, WELL MAINTAINED AND FREE OF DISEASED, DEAD OR DYING MATERIAL.
5. ANY TREE OR SHRUB ADJACENT TO OR OVERHANGING A STRUCTURE SHALL BE WELL MAINTAINED, AND FREE OF DISEASED, DEAD OR DYING MATERIAL.

ZONE 2
30-100 FEET
1. EXISTING VEGETATION SHALL BE SELECTIVELY THINNED AS TO REDUCE PLANT-TO-PLANT, PLANT-TO-TREE, AND TREE-TO-TREE TRANSFER OF FIRE BOTH HORIZONTALLY AND VERTICALLY (FIRE LADDERS). SOME EXISTING VEGETATION TO BE REMOVED SHALL BE CUT AT THE BASE OF THE STUMP, ALLOW TO RE-SPROUT, THEN MAINTAINED AS A SMALL SHRUB BY PERIODIC TRIMMING.
2. EXISTING COASTAL SAGE SCRUB AND COYOTE BRUSH SCRUB SHALL REMAIN IN PLACE AND PROTECTED. NEW LANDSCAPING ADJACENT TO COASTAL SAGE SCRUB AND COYOTE BRUSH SCRUB SHALL BE SPACED ADEQUATELY TO PREVENT PLANT-TO-PLANT AND PLANT-TO-TREE OF FIRE BOTH HORIZONTALLY AND VERTICALLY (FIRE LADDERS).
3. ALL VEGETATION REMOVED SHALL BE CHIPPED ON-SITE AND USED AS MULCH IN AREAS OF DISTURBED SOILS TO REDUCE EROSION.

ADDITIONAL REQUIREMENTS
1. BRUSH AND VEGETATION SHALL BE CLEARED 5 FEET FROM EDGES OF PROPOSED ACCESS DRIVE.
2. INSTALLATION OF WATER SYSTEM PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. ALL DEAD MATERIAL SHALL BE REMOVED WITHIN THE 100 FOOT FIRE ZONES.
4. NOXIOUS MATERIALS SHALL BE REMOVED WITHIN THE 100 FOOT FIRE ZONES.

A34 STUDIO

CONTACT

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PLOT DATE 4/14/2022 2:10:06 PM

LICENSED ARCHITECT
ALAN MCLEOD
C-30890
11 / 2023
RENEWAL DATE
STATE OF CALIFORNIA

JOB NO. XXXX

PROJECT INFO

MOORE RANCH MAIN HOUSE

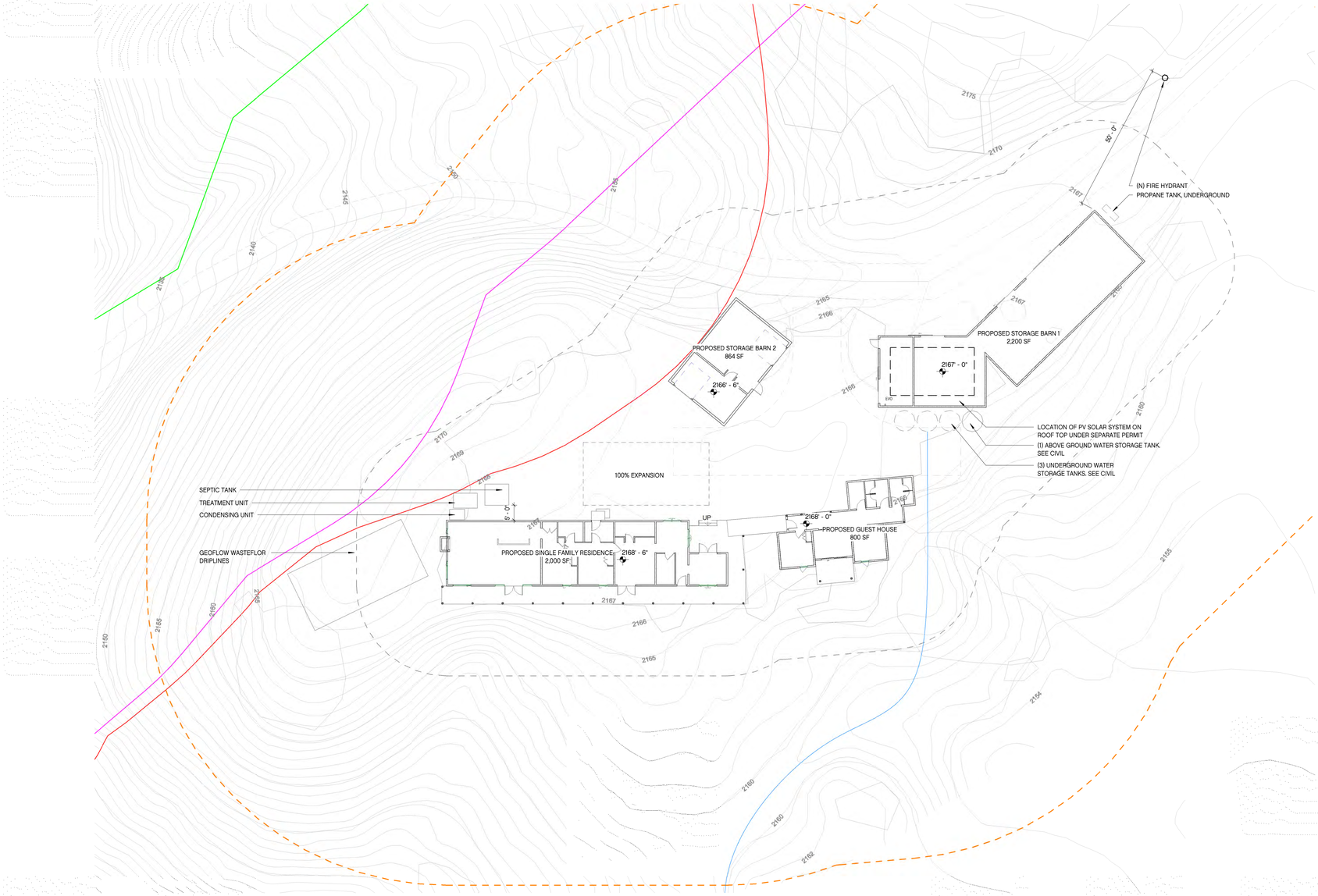
2389 REFUGIO ROAD
GAVIOTA, CA 93117

SHEET NUMBER

A1.00

PROPOSED SITE PLAN

SHEET NAME



SITE PLAN
SCALE: 1/16" = 1'-0"

N

GENERAL NOTES - SITE PLAN

1. FINISH GRADE WILL ALLOW 5% SLOPE FOR MINIMUM OF 10'-0" AWAY FROM STRUCTURE. TYP. IMPERVIOUS SURFACE @ 2%.

PROPERTY CORNER

PROPERTY LINE

SETBACK

60' PRIVATE ROAD RESERVATION PER O.R. 2441, PG 213

30' FUEL MODIFICATION BUFFER

100' FUEL MODIFICATION BUFFER

FOOTPRINT OF STRUCTURE

COUNTY MAPPED ESH

COUNTY MAPPED 100' ESH SETBACK

RIPARIAN 100' SETBACK

EVO

LOCATION OF ELECTRIC VEHICLE CHARGING STATION

FUEL MODIFICATION NOTES

ZONE 1
0-30 FEET
1. ALL EXISTING VEGETATION SHALL BE REMOVED COMPLETELY (WITH THE EXCEPTION OF A SMALL AMOUNT OF ANY EXISTING IDENTIFIED NATIVE SPECIES WITHIN THE 30' FUEL MODIFICATION SETBACK) AND REPLACED WITH APPROPRIATE LANDSCAPING FOR HIGH FIRE HAZARD AREAS.
2. ALL LANDSCAPING IN THIS ZONE WILL BE REGULARLY MAINTAINED.
3. NO NEW FLAMMABLE LANDSCAPING SHALL BE INSTALLED IN THIS ZONE.
4. LARGE TREES MAY OCCUPY THIS ZONE IF THEY ARE TRIMMED, WELL MAINTAINED AND FREE OF DISEASED, DEAD OR DYING MATERIAL.
5. ANY TREE OR SHRUB ADJACENT TO OR OVERHANGING A STRUCTURE SHALL BE WELL MAINTAINED, AND FREE OF DISEASED, DEAD OR DYING MATERIAL.

ZONE 2
30-100 FEET
1. EXISTING VEGETATION SHALL BE SELECTIVELY THINNED AS TO REDUCE PLANT-TO-PLANT, PLANT-TO-TREE, AND TREE-TO-TREE TRANSFER OF FIRE BOTH HORIZONTALLY AND VERTICALLY (FIRE LADDERS). SOME EXISTING VEGETATION TO BE REMOVED SHALL BE CUT AT THE BASE OF THE STUMP, ALLOW TO RE-SPROUT, THEN MAINTAINED AS A SMALL SHRUB BY PERIODIC TRIMMING.
2. EXISTING COASTAL SAGE SCRUB AND COYOTE BRUSH SCRUB SHALL REMAIN IN PLACE AND PROTECTED. NEW LANDSCAPING ADJACENT TO COASTAL SAGE SCRUB AND COYOTE BRUSH SCRUB SHALL BE SPACED ADEQUATELY TO PREVENT PLANT-TO-PLANT AND PLANT-TO-TREE OF FIRE BOTH HORIZONTALLY AND VERTICALLY (FIRE LADDERS).
3. ALL VEGETATION REMOVED SHALL BE CHIPPED ON-SITE AND USED AS MULCH IN AREAS OF DISTURBED SOILS TO REDUCE EROSION.

ADDITIONAL REQUIREMENTS
1. BRUSH AND VEGETATION SHALL BE CLEARED 5 FEET FROM EDGES OF PROPOSED ACCESS DRIVE.
2. INSTALLATION OF WATER SYSTEM PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. ALL DEAD MATERIAL SHALL BE REMOVED WITHIN THE 100 FOOT FIRE ZONES.
4. NOXIOUS MATERIALS SHALL BE REMOVED WITHIN THE 100 FOOT FIRE ZONES.

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11 / 2021
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STATE OF CALIFORNIA

JOB NO. XXXX

PROJECT INFO

MOORE RANCH

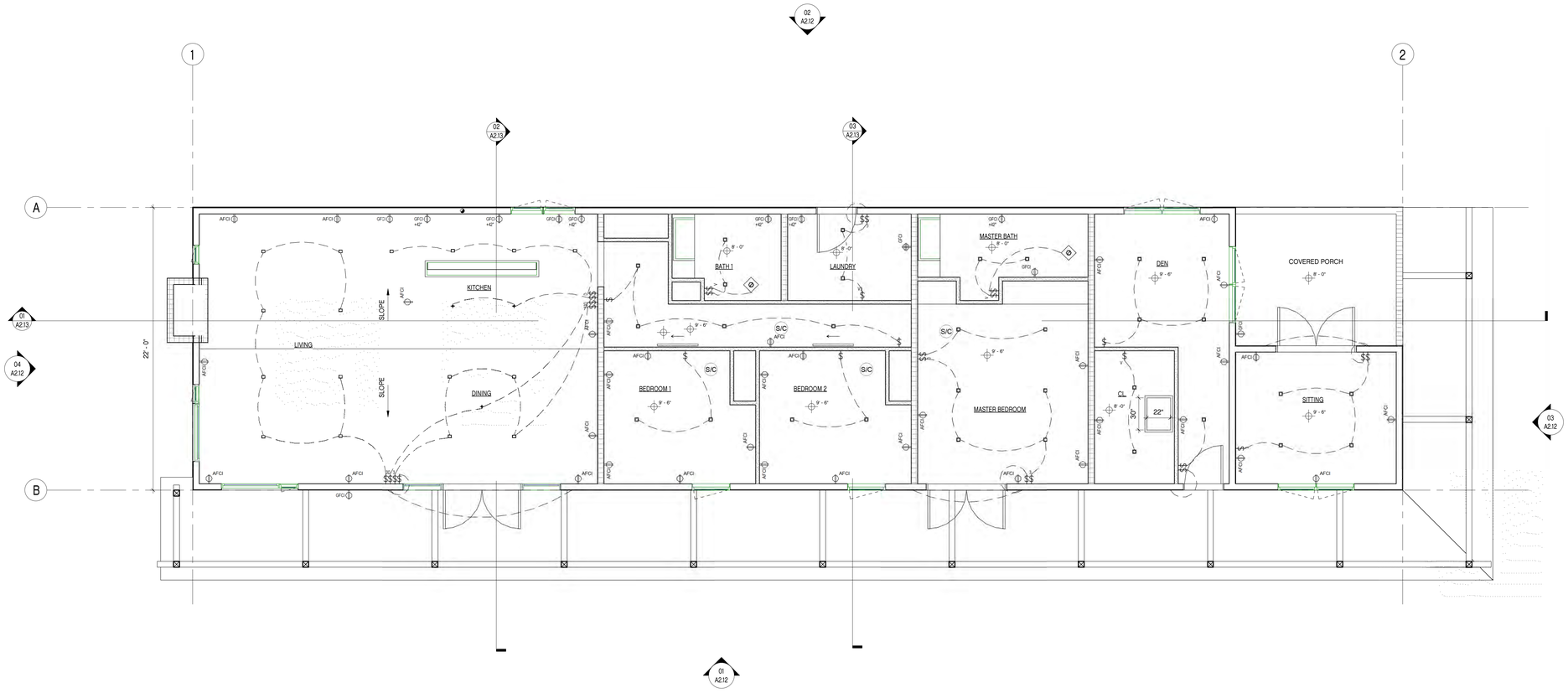
081-040-044

SHEET NUMBER

A1.01

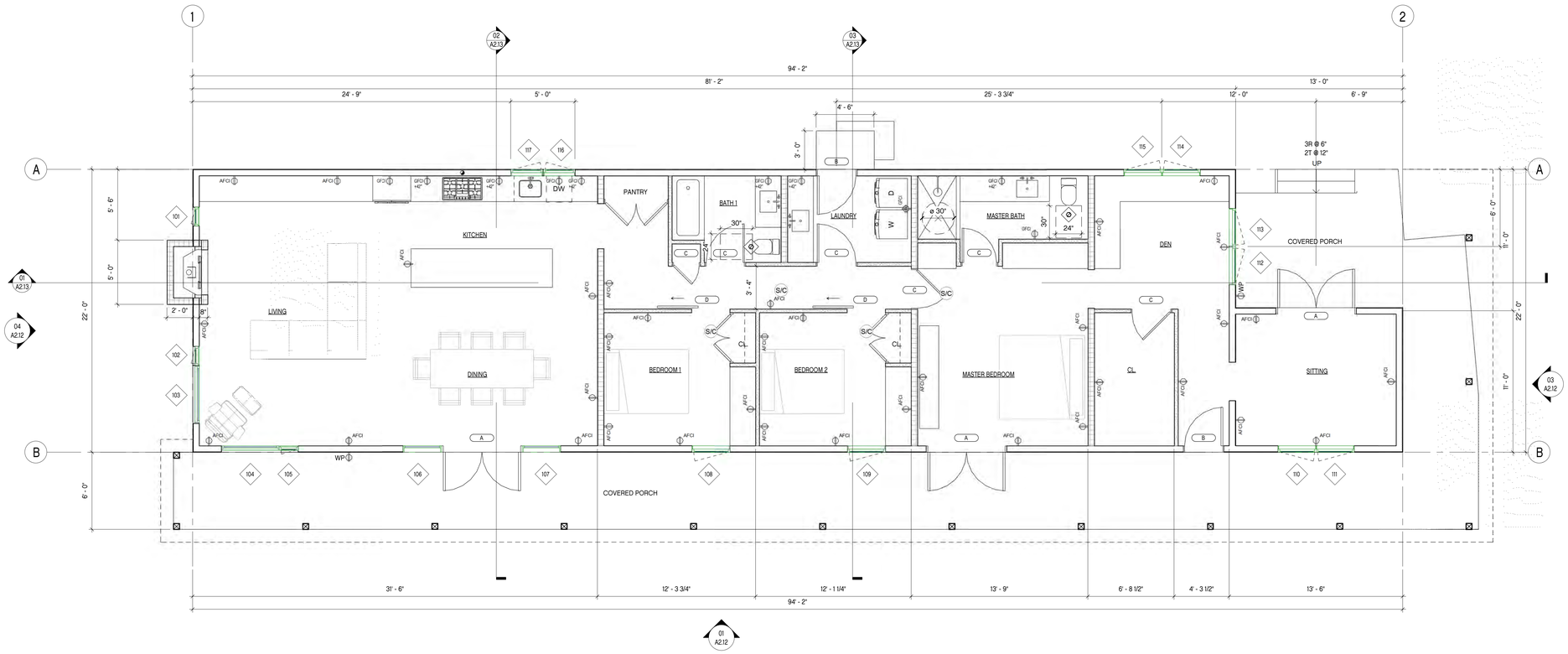
ENLARGED SITE PLAN

SHEET NAME



PROPOSED REFLECTED CEILING PLAN

SCALE: 1/4" = 1'-0"



PROPOSED FLOOR PLAN

SCALE: 1/4" = 1'-0"

FLOOR PLAN LEGEND

- EXT. 2X6 WD. STUD W/ GWB ONE SIDE AND PLY ONE SIDE PER STRUCTURAL
- INT. 2X6 WD. STUD W/ GWB BOTH SIDES
- INT. 2X4 WD. STUD W/ GWB BOTH SIDES
- S/C — SMOKE/CARBON MONOXIDE DETECTOR 120 VOLT HARD-WIRED, INTERCONNECTED W/ BATTERY BACKUP PER CRC R314.3 AND R315
- Ø — EXHAUST FAN MIN. 50 CFM, ENERGY STAR COMPLIANT AND CONTROLLED BY A HUMIDISTAT. COMPLY WITH CGBC 4.506.1 AND 24CAC 150 (a). PANASONIC FV-11VQ3 110 CFM, OR SIMILAR
- EXHAUST FAN, 100 CFM MIN FOR INTERMITTENT EXHAUST IN KITCHEN HOOD [PER CEC 150(O)]
- RECESSED CAN LIGHT W/ SQUARE TRIM. MANF: 2" - 4" JUNO LED, UL LISTED, IC RATED, 600LM - 800 LM, OR SIM.
- CEILING MOUNTED PENDANT FIXTURE. MANF: TBD
- AFCI — OUTLET, DUPLEX, ARC-FAULT-CIRCUIT-INTERRUPTER, STANDARD MOUNTING HEIGHT *INDICATES HEIGHT ABOVE FINISHED FLOOR
- GFCI — GROUND FAULT CIRCUIT INTERRUPTER *WP = WEATHERPROOF COVER @ EXTERIOR LOCATIONS * INDICATES HEIGHT ABOVE FINISHED FLOOR
- SWITCH (* = [NONE] - SINGLE POLE; 2 - TWO-POLE; 3 - THREE-WAY; 4 - FOUR-WAY; V - VACANCY SENSOR; D = DIMMER)

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LICENSED ARCHITECT
ALAN MCLEOD
C-30890
11 / 2021
RENEWAL DATE
STATE OF CALIFORNIA

JOB NO. XXXX

PROJECT INFO

MOORE RANCH

081-040-044

SHEET NUMBER

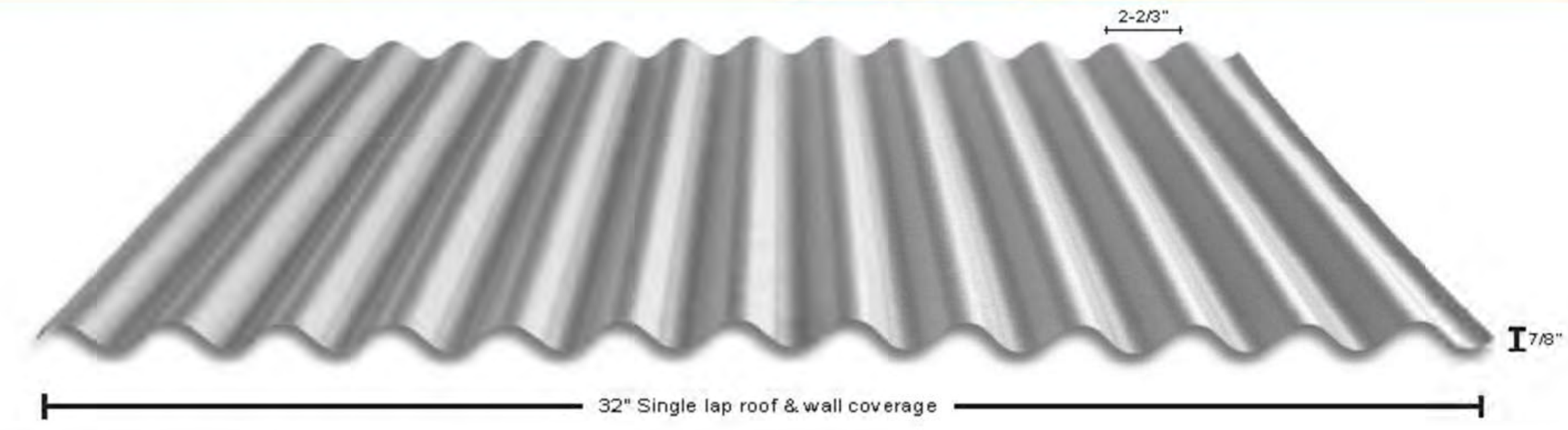
A2.10

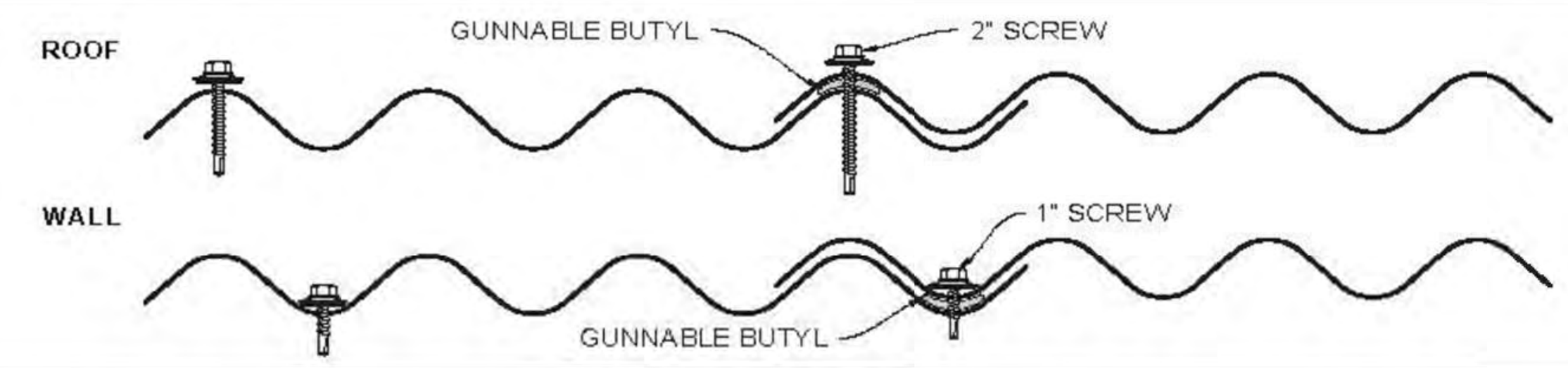
PROPOSED MAIN RESIDENCE FLOOR PLANS

SHEET NAME

TAYLOR METAL PRODUCTS

Classic 7/8" Corrugated™
ROOF AND WALL





KEY FEATURES

- 26, 24 & 22 gauge Tru-gauge™ and .032" Aluminum
- ASTM 283, 330, 331, 653 and 792
- UL 790 Class A Fire rated
  UL 2218 Class 4 Impact (hail) rated
- Custom lengths 1' to 45'
  (For longer lengths please inquire)
- Color matched neoprene washered screws
- Unique design only requires single lap for roof and wall applications
- Long length flashings available up to 20' 11"
- Recommended minimum pitch 3:12
- Fiberglass panels available to match profile
- Panel is available in a wide variety of "Cool" baked on ArmorTech™ or "Cool" baked on Kynar 500® colors Rusteel™ Plus (A606) and .032" Kynar 500® painted Aluminum

Allowable Live Load in PSF			Span In Feet (steel only)				
SPAN TYPE	GAUGE	KSI	2'	2' 6"	3'	3' 6"	4'
SINGLE SPAN	22	50	505	323	224	164	125
DOUBLE SPAN	22	50	485	315	220	162	124
THREE OR MORE SPANS	22	50	597	389	273	202	155
SINGLE SPAN	24	50	383	245	170	125	95
DOUBLE SPAN	24	50	368	239	167	123	94
THREE OR MORE SPANS	24	50	452	295	207	153	118
SINGLE SPAN	26	80	310	219	151	101	64
DOUBLE SPAN	26	80	301	210	135	90	54
THREE OR MORE SPANS	26	80	368	253	172	110	67

TAYLOR METAL PRODUCTS

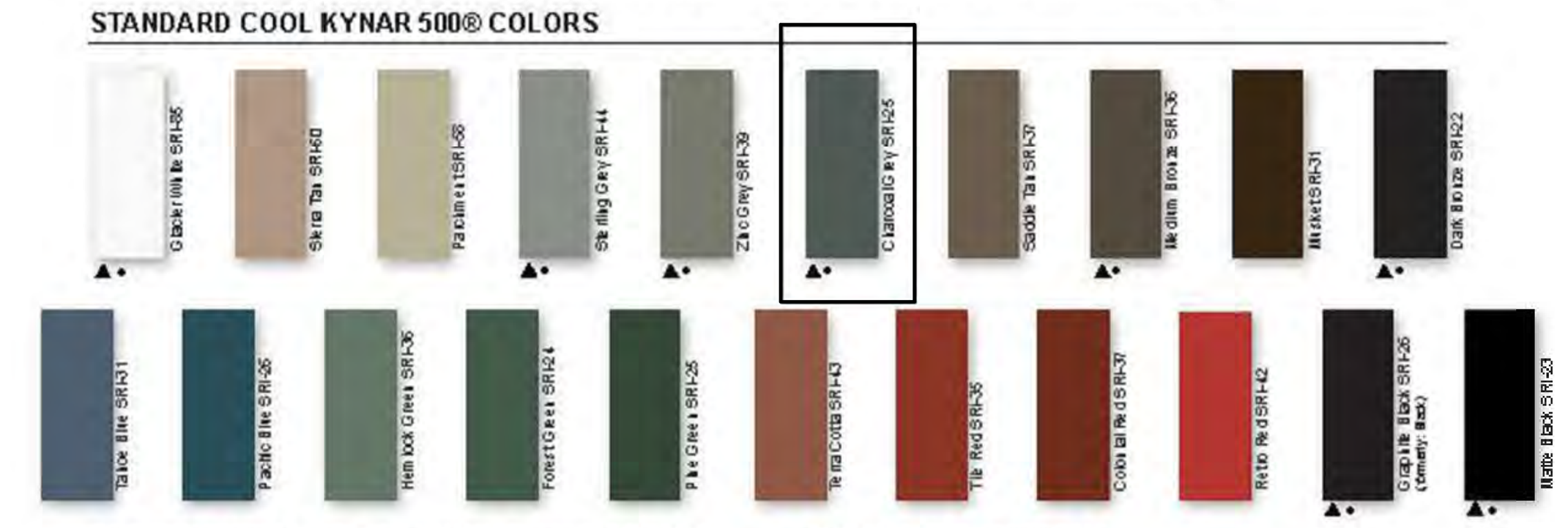
MATERIAL SPECIFICATIONS

- 26 gauge ArmorTech™ Painted Steel .019" (Thickness prior to painting) G-90 Galvanized or AZ-50
- 24 gauge Kynar 500® Painted Steel .0236" (Thickness prior to painting) G-90 Galvanized or AZ-50
- 24 gauge bare Zincalume® Plus AZ-55 *(No finish warranty – 25 yr. perforation warranty)*
- ▲ 22 gauge Kynar 500® Painted Steel .029" (Thickness prior to painting) G-90 Galvanized or AZ-50
- ● .032" Kynar 500® Painted Aluminum
- 26 gauge bare G-90 Galvanized *(No finish warranty – no perforation warranty)*
- 22 gauge Rusteel Plus™ (A606)
- Kynar 500® and substrate testing data available (See website)

STANDARD COOL ARMORTECH™ SMP COLORS
40-Year Residential Manufacturer's Limited Warranty

40-Year Residential / 20 and 30 Year Commercial Manufacturer's Limited Warranty

STANDARD COOL KYNAR 500® COLORS



PREMIUM METALLIC COOL KYNAR 500® COLORS

SPECIALIZED MATERIAL

These printed chips provide a close representation of the colors.

Metal samples are available upon request. Coatings are low gloss 10-15% sheen. *SRI = Solar Reflective Index. SRI values listed above are in accordance with ASTM E 1980 and are based on actual testing. ***Oil canning is not a cause for material rejection****

steelscape PPG

Standard Panels			
Gauge	Color	LBS SQFT	LBS LF
26	ArmorTech	1.02	2.92
24	Kynar	1.2	3.43
22	▲	1.51	4.33
.032 Alum	●	0.53	1.52

3-21

RIVERSIDE CA • SACRAMENTO CA • SALEM OR • SEATTLE WA • WOODINVILLE WA • WWW.TAYLORMETAL.COM

ROOFING NOTES

1. PROVIDE FLASHING (8" MIN. LAP) AT ROOF JOINTS, COORDINATE FLASHING MATERIAL SELECTION W/ ARCHITECT, TYP.
2. COORINDATE LOCATION OF (N) VENT RISERS WITH ARCHITECT.
3. ROOF DRAINS AND OVERFLOW DRAINS, WHERE CONCEALED WITHIN THE CONSTRUCTION OF THE BUILDING, SHALL BE INSTALLED IN ACCORDANCE WITH THE PLUMBING CODE AND CRC R903
4. METAL ROOFING SHALL HAVE AN UNDERLAYMENT OF 1 LAYER OF CLASS 'A' FIRE RATED VERSASHIELD MEMBRANE OVER 30LB BUILDING PAPER INSTALLED PER MANU. SPECS
5. RIGID FOAM INSULATION BOARDS LOCATED ON TOP OF ROOF SHEATHING OVER CONDITIONED SPACE. R-VALUE PER TITLE 24 ENERGY CALCS. LISTING REPORT #ESR-3463
6. INCYNENE INSULATION LOCATED IN WALLS PER TITLEL 24 REPORT. LISTING REPORT #ESR-3500

MATERIAL LEGEND

M-01	4" VERTICAL WOOD SIDING WHITE CEDAR TO GO GRAY
M-02	7/8" CORRUGATED METAL ROOFING DARK GRAY
M-03	7/8" PLASTER W/ INTEGRAL COLOR: GRAY

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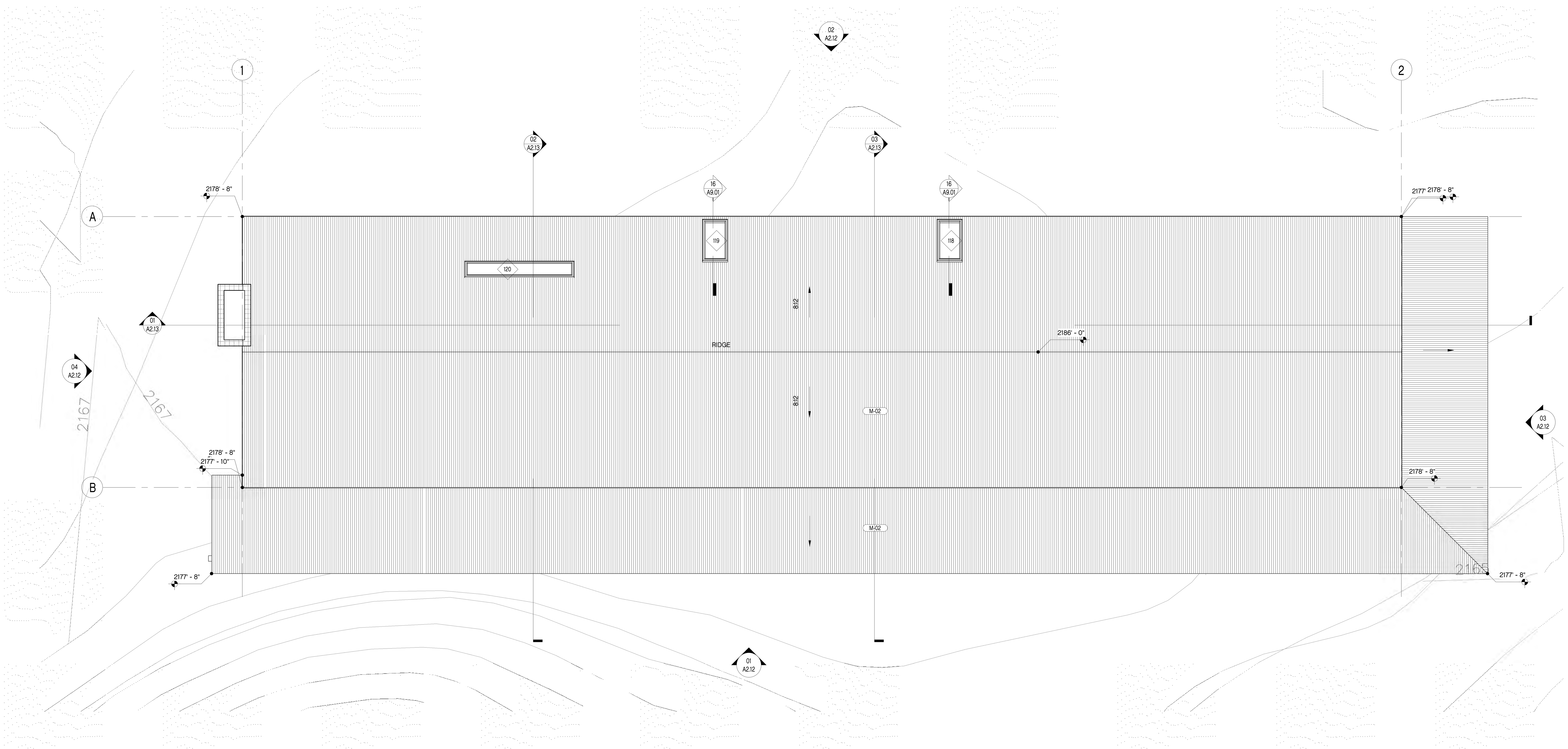

PROPOSED ROOF PLAN

SCALE: 1/4" = 1'-0"

N

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PROJECT INFO

MOORE RANCH

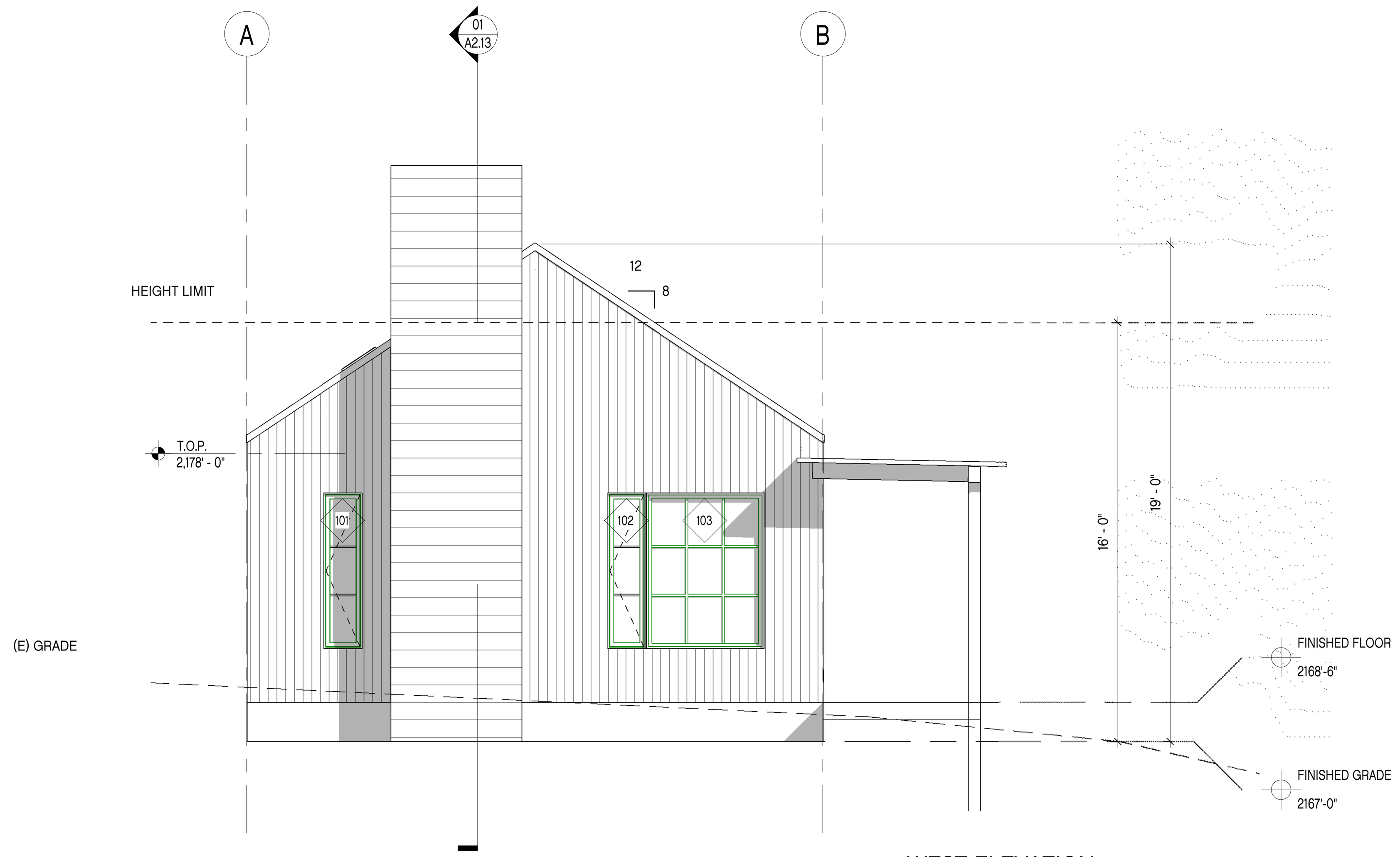
081-040-044

SHEET NUMBER

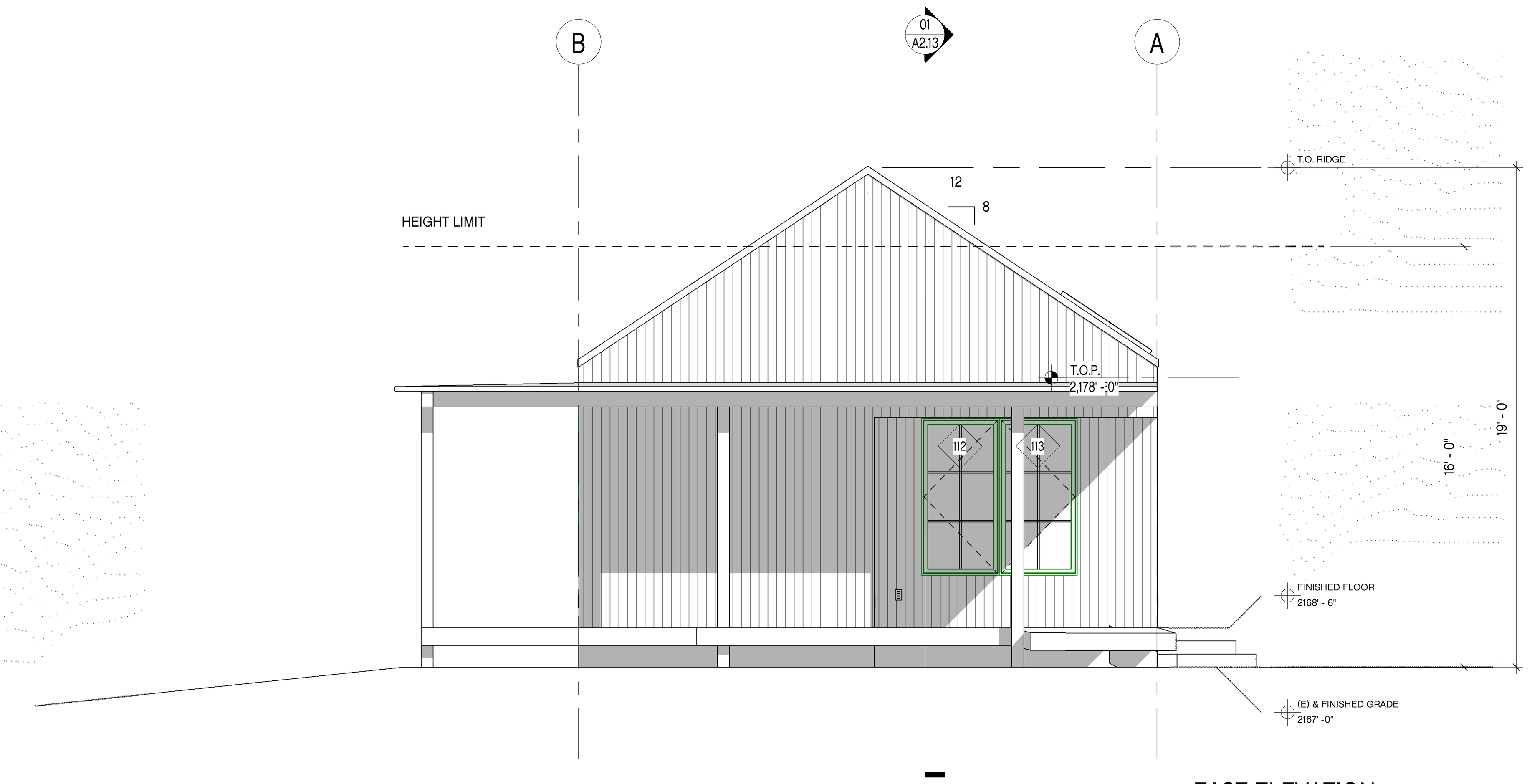
A2.11

PROPOSED MAIN RESIDENCE ROOF PLAN

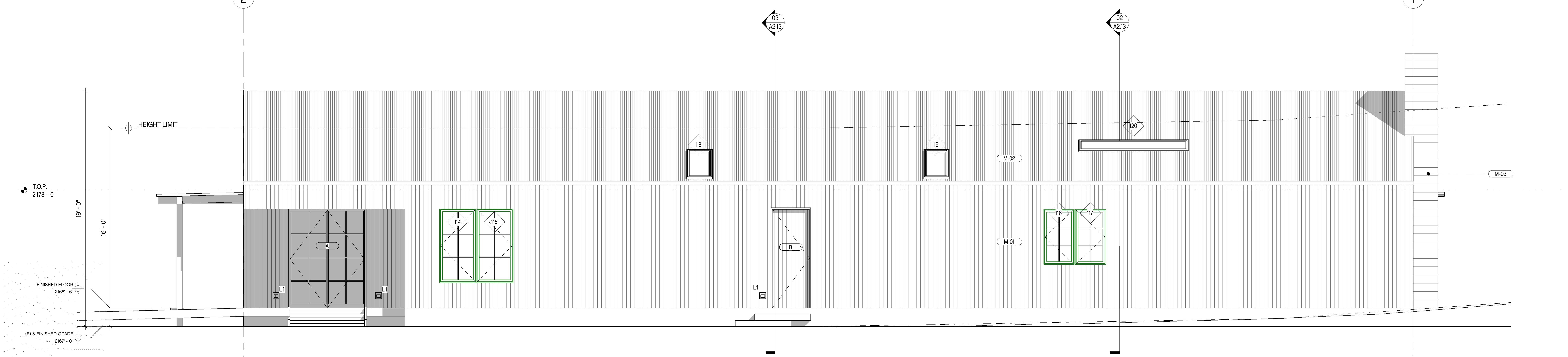
SHEET NAME



WEST ELEVATION 04
SCALE: 1/4" = 1'-0"



EAST ELEVATION 03
SCALE: 1/4" = 1'-0"



NORTH ELEVATION 02
SCALE: 1/4" = 1'-0"

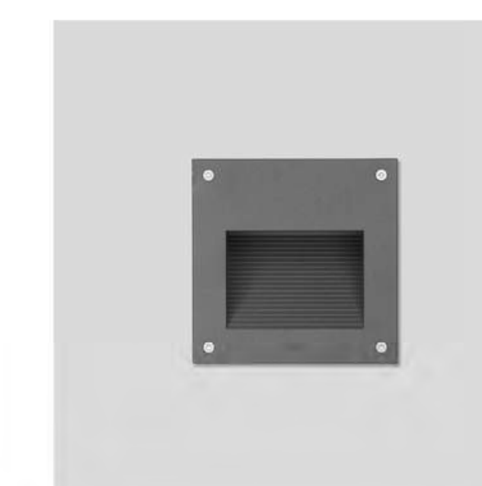
SOUTH ELEVATION 01
SCALE: 1/4" = 1'-0"

MATERIAL LEGEND

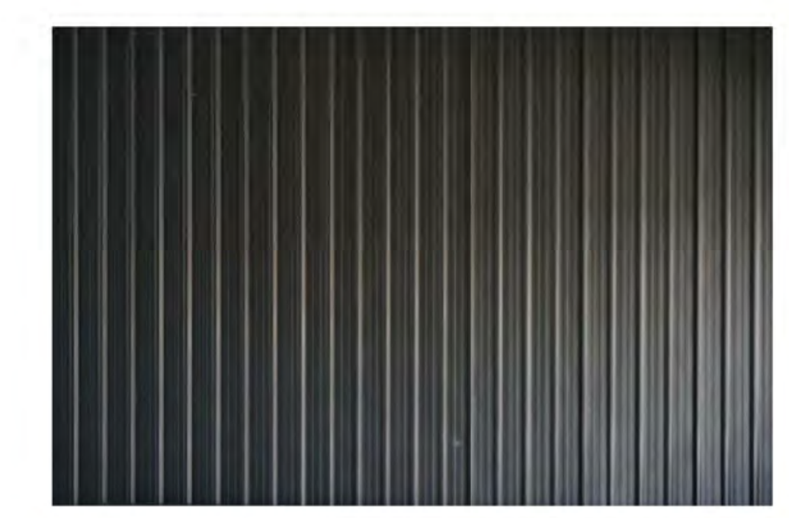
M-01	4" VERTICAL WOOD SIDING WHITE CEDAR TO GO GRAY
M-02	7/8" CORRUGATED METAL ROOFING DARK GRAY
M-03	7/8" PLASTER W/ INTEGRAL COLOR: GRAY

LED recessed wall - shielded

BEGA

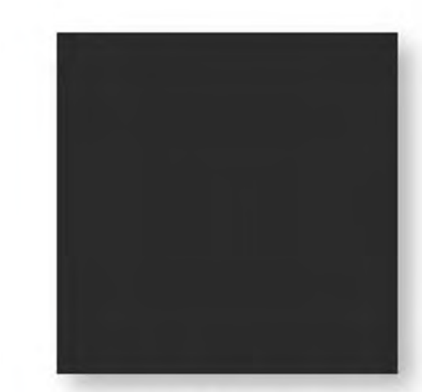


EXTERIOR LIGHT FIXTURE



M-02 = CORRUGATED METAL: GRAY

M-01 = WEATHERED CEDAR SIDING



Black Bean

FRAME COLOR
MILGARD ULTRA SERIES C650
FIBERGLASS WINDOW AND PATIO DOORS

M-03 = GRAY PLASTER

EXTERIOR DECKING

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C-30890
11 / 2021
RENEWAL DATE
STATE OF CALIFORNIA

JOB NO. XXXX

PROJECT INFO

MOORE RANCH

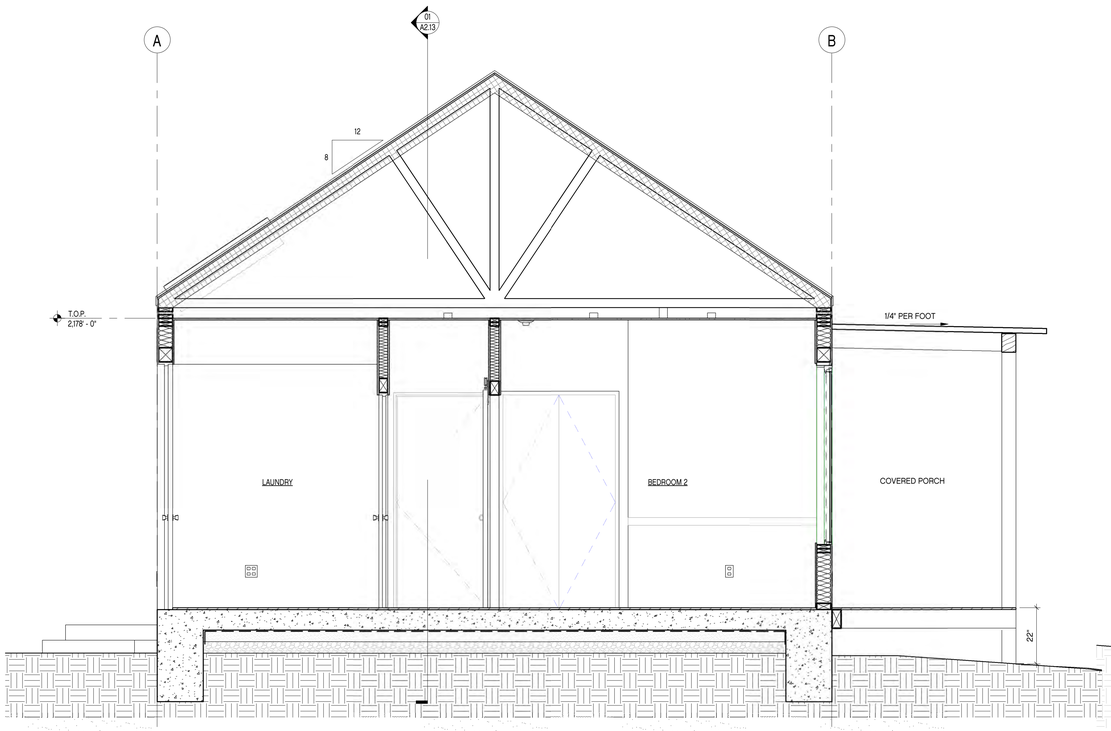
081-040-044

SHEET NUMBER

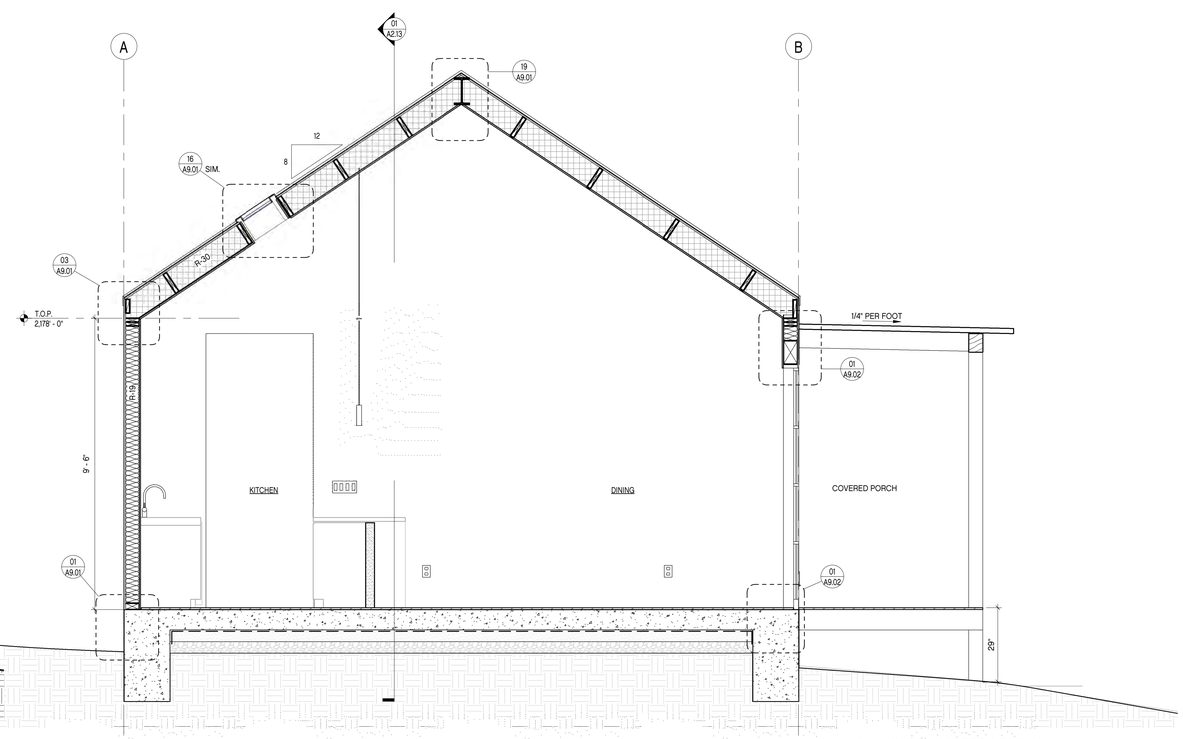
A2.12

MAIN RESIDENCE EXTERIOR ELEVATIONS

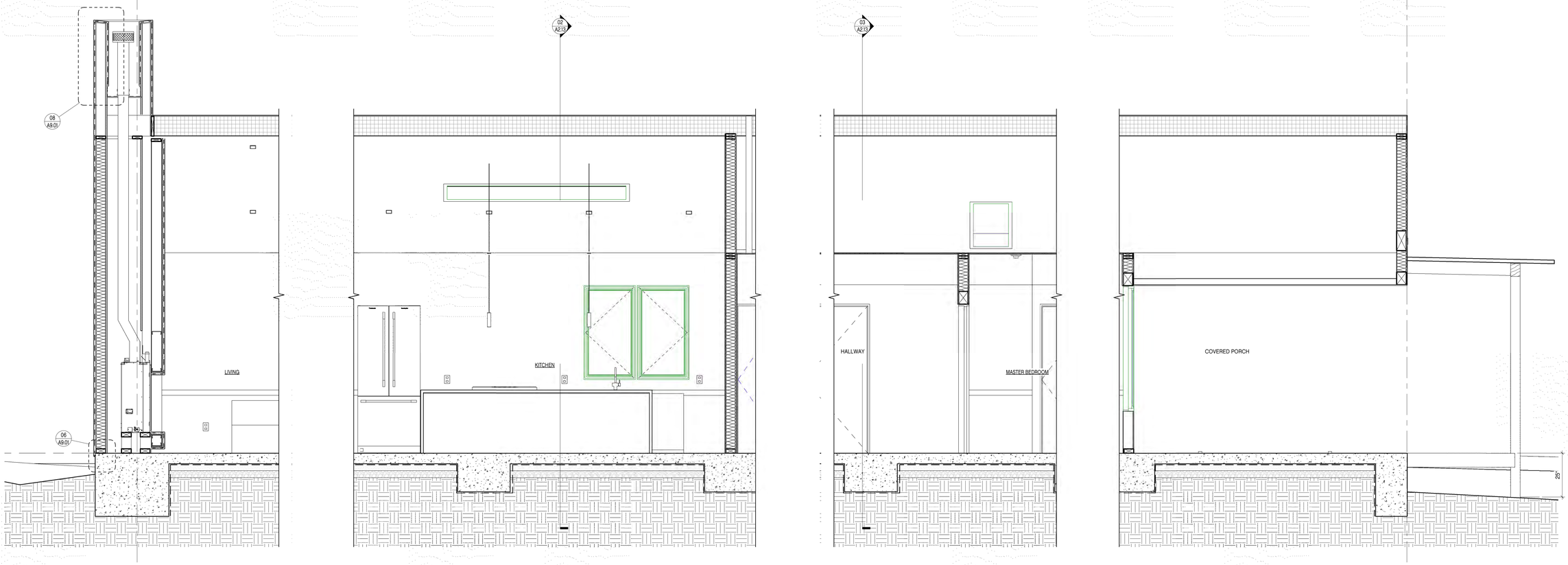
SHEET NAME



MAIN HOUSE DROP CEILING SECTION 03
SCALE: 1/2" = 1'-0"



MAIN HOUSE VAULTED SECTION 02
SCALE: 1/2" = 1'-0"



LONG CROSS SECTION 01
SCALE: 1/2" = 1'-0"

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C-30890
11 / 2021
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STATE OF CALIFORNIA

JOB NO. XXXX

PROJECT INFO

MOORE RANCH

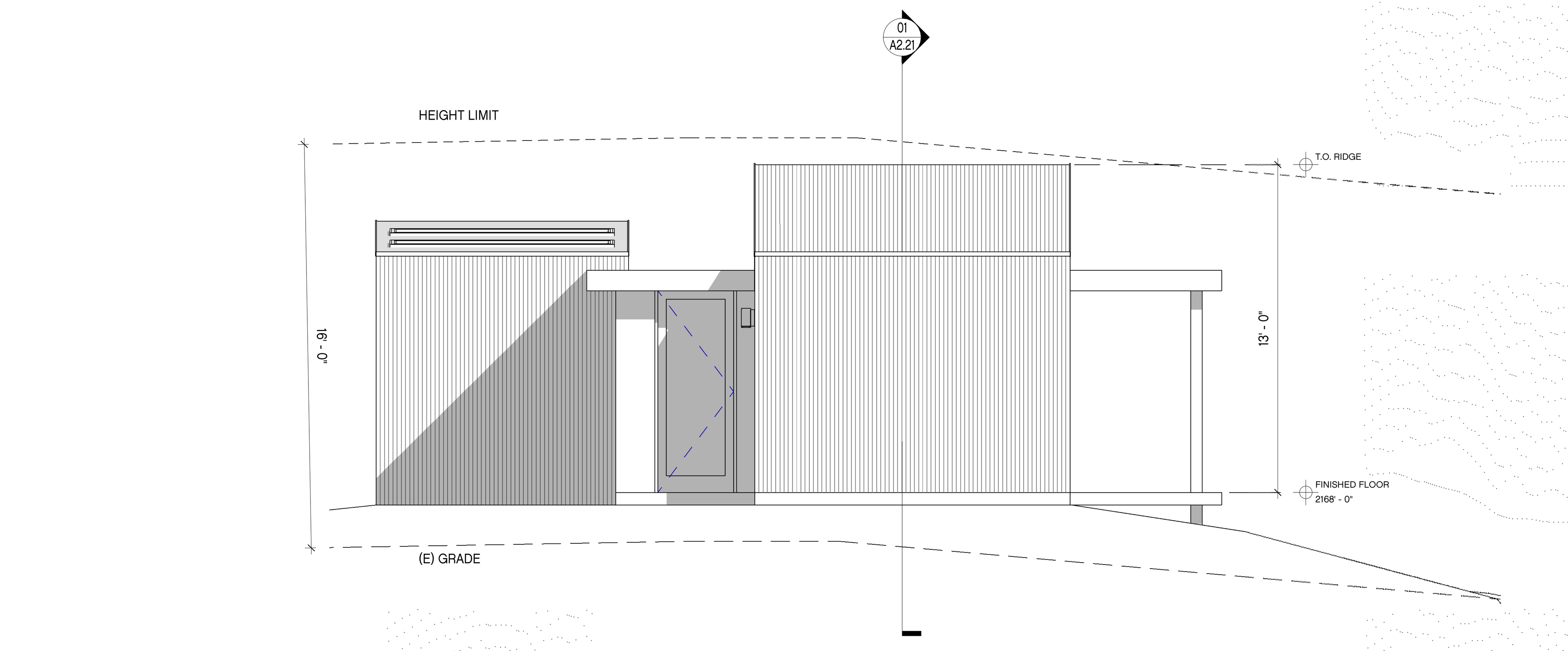
081-040-044

SHEET NUMBER

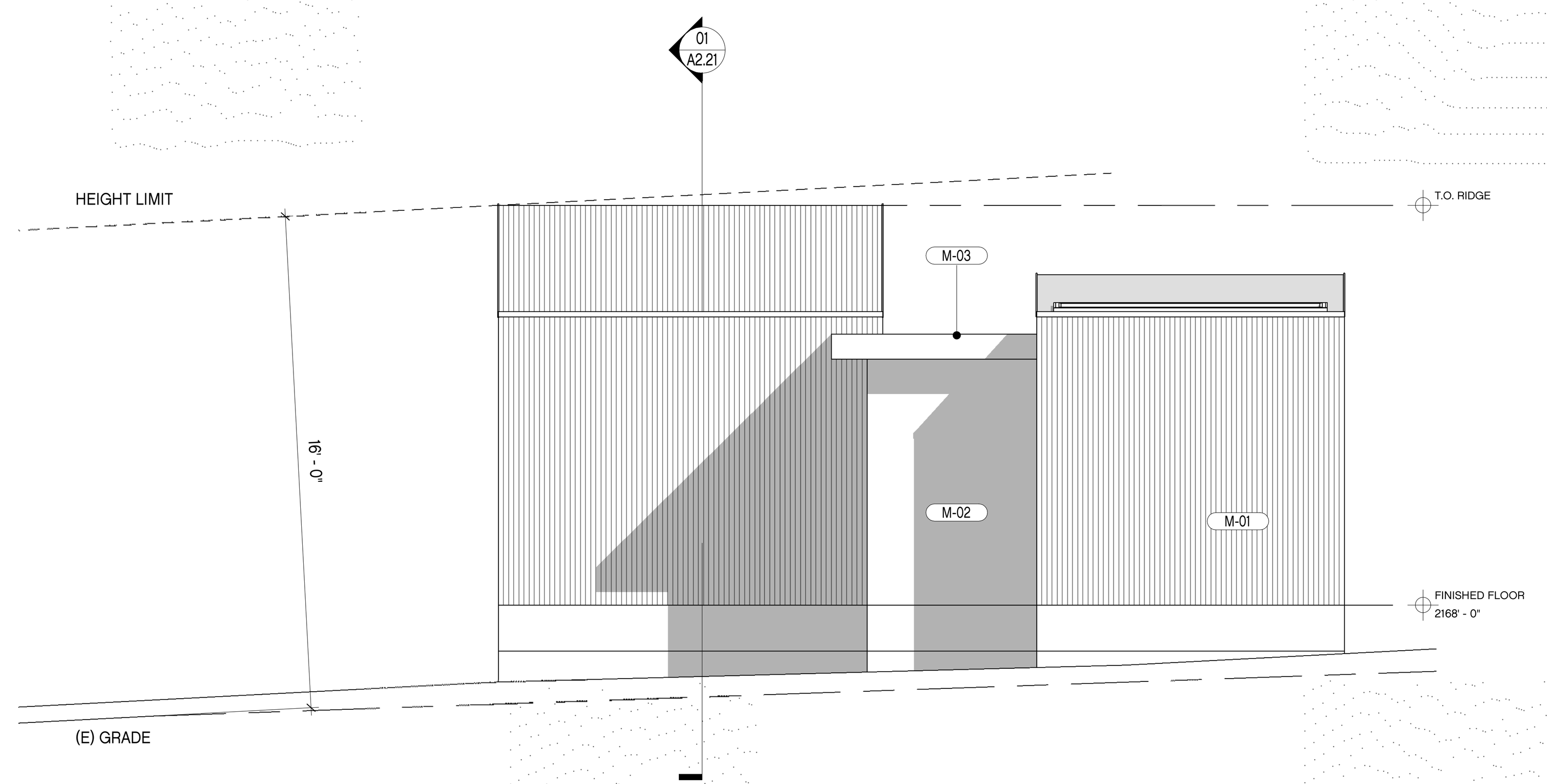
A2.13

SHEET NAME

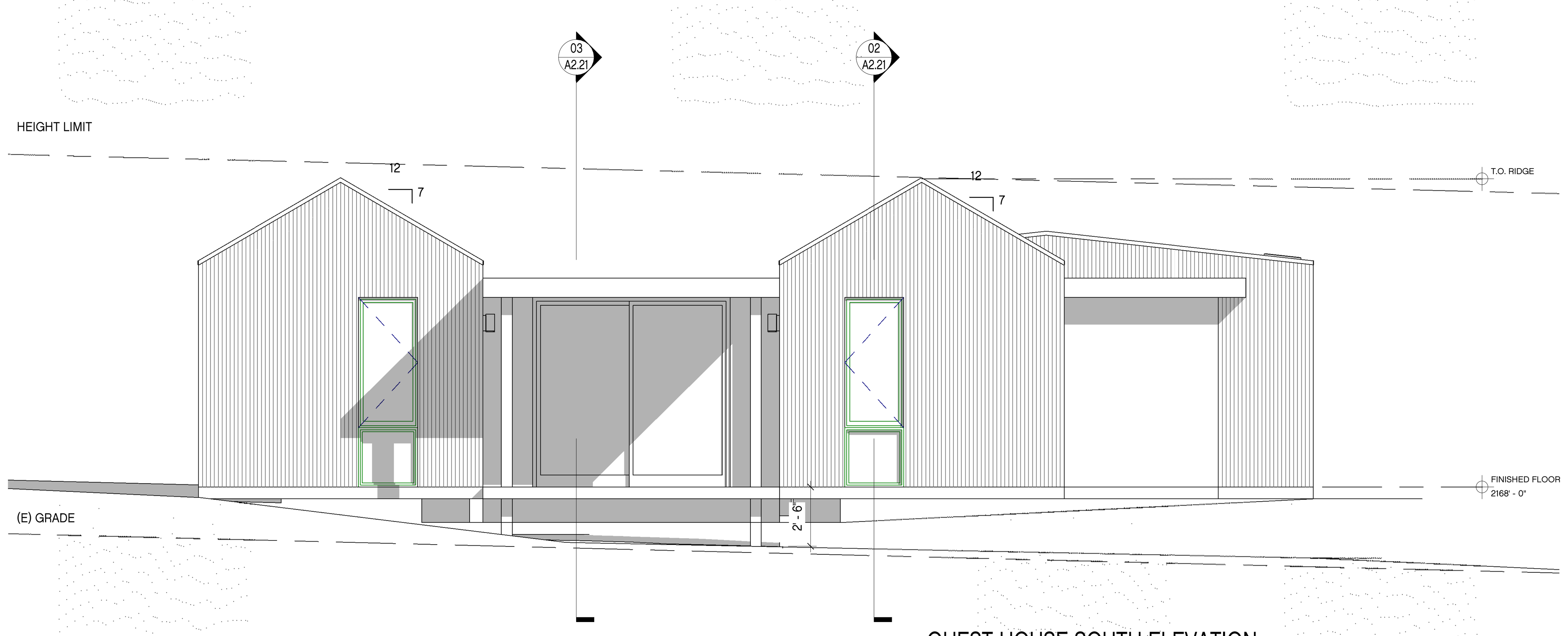
MAIN HOUSE
BUILDING SECTION +
DETAILS



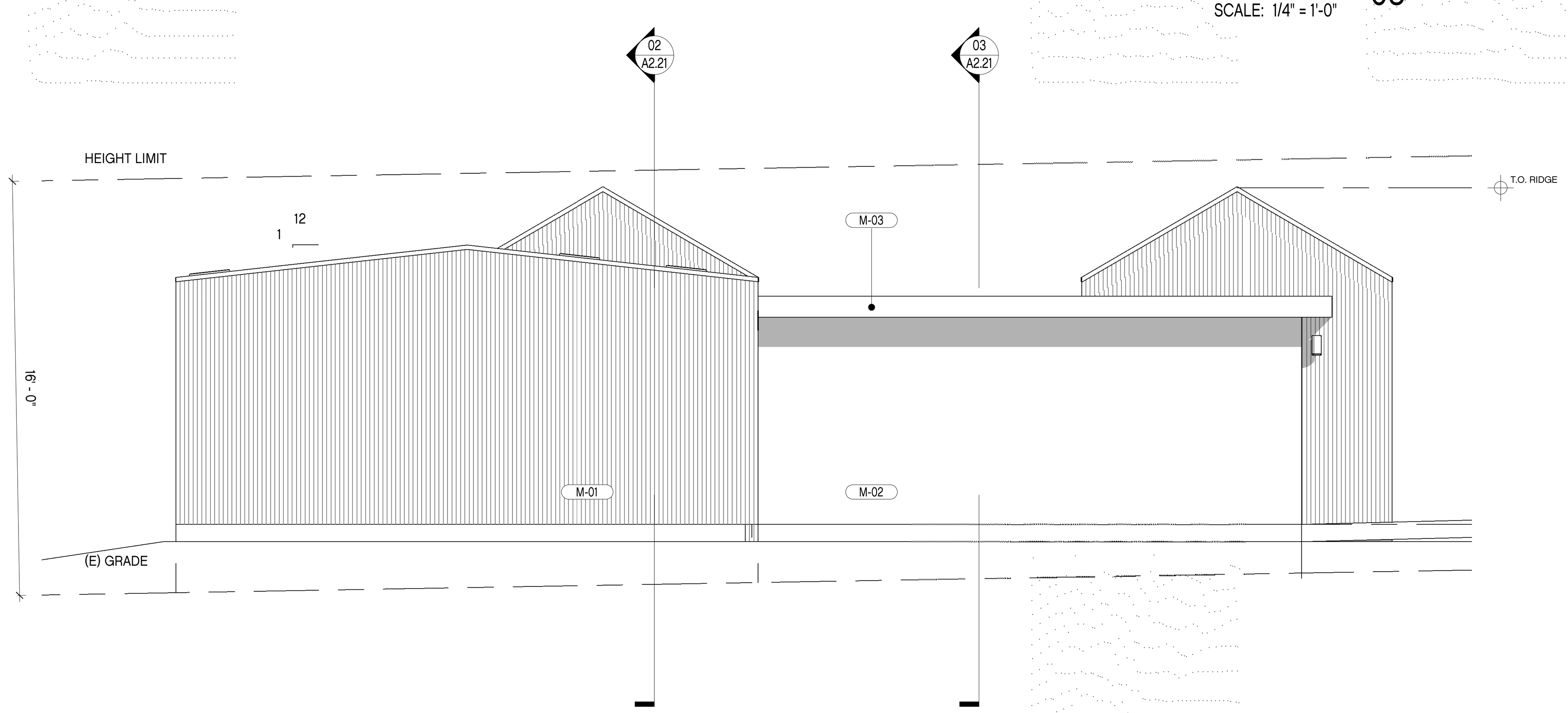
GUEST HOUSE WEST ELEVATION 04
SCALE: 1/4" = 1'-0"



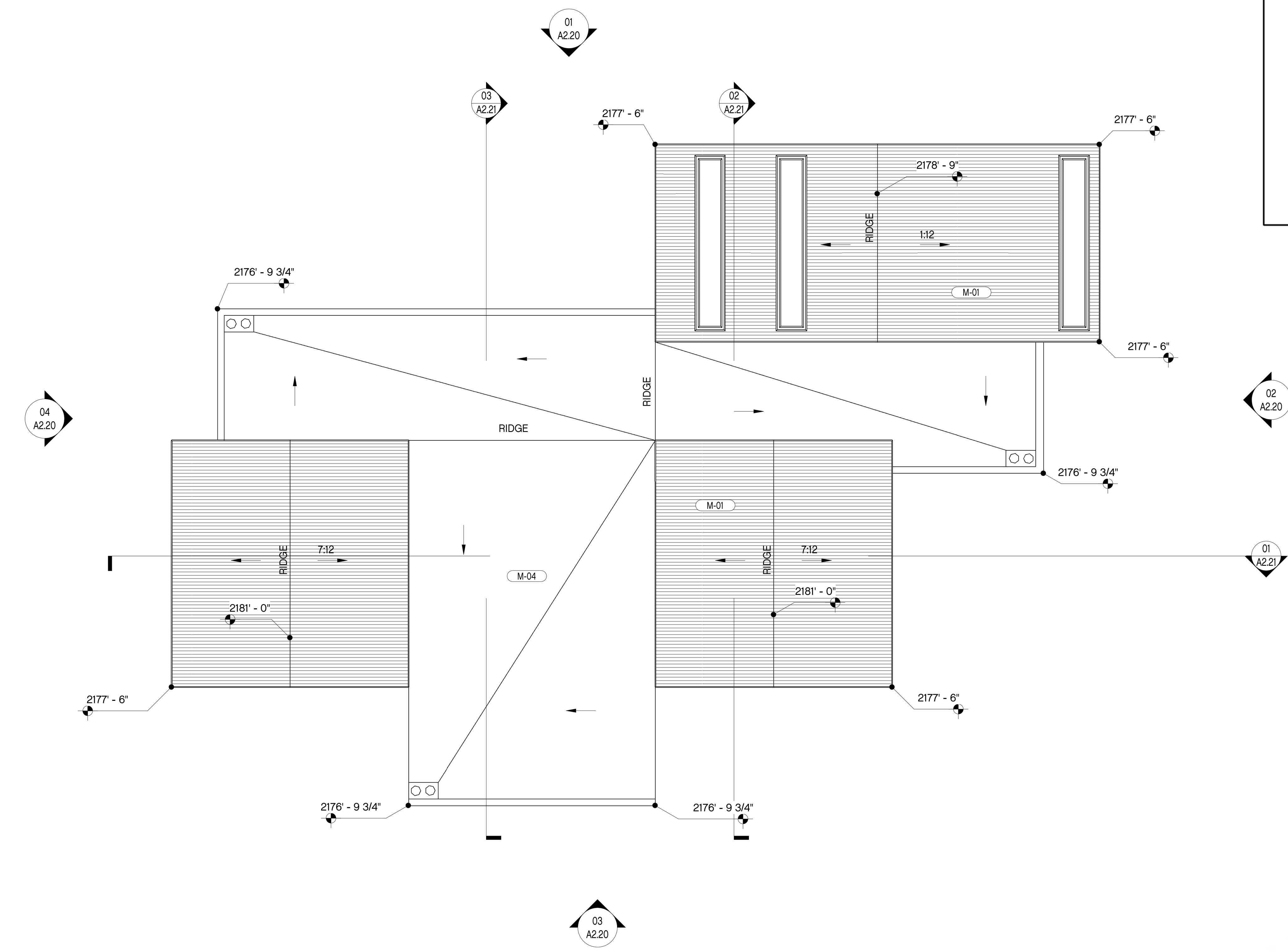
GUEST HOUSE EAST ELEVATION 02
SCALE: 1/4" = 1'-0"



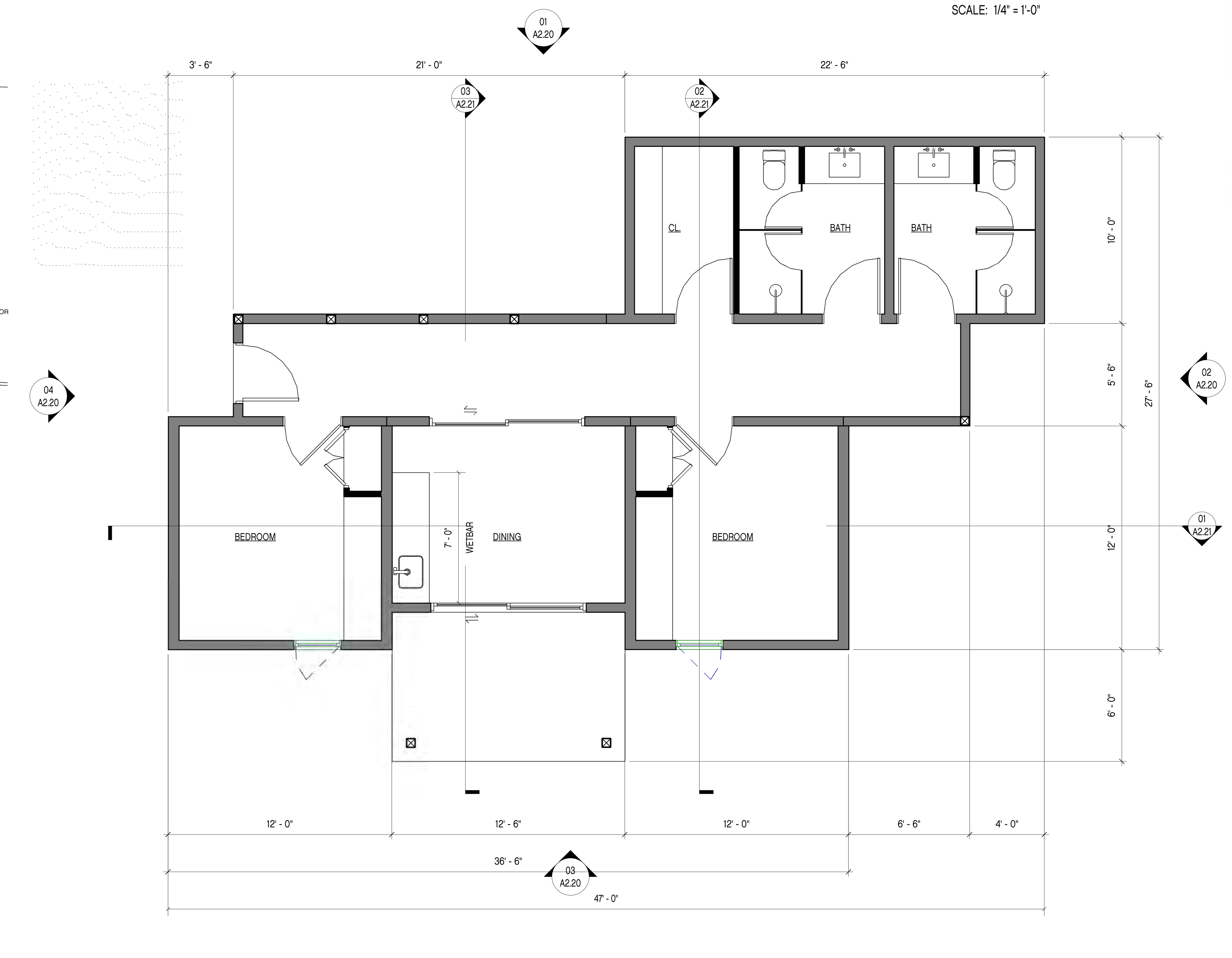
GUEST HOUSE SOUTH ELEVATION 03
SCALE: 1/4" = 1'-0"



GUEST HOUSE NORTH ELEVATION 01
SCALE: 1/4" = 1'-0"



GUEST HOUSE ROOF PLAN
SCALE: 1/4" = 1'-0"



GUEST HOUSE FLOOR PLAN
SCALE: 1/4" = 1'-0"

MATERIAL LEGEND

M-01	VERTICAL CORRUGATED METAL SIDING GRAY
M-02	T1-11 PANEL TO BE PAINTED GRAY TO MATCH METAL
M-03	METAL FASCIA - GRAY
M-04	TORCH DOWN ROOFING

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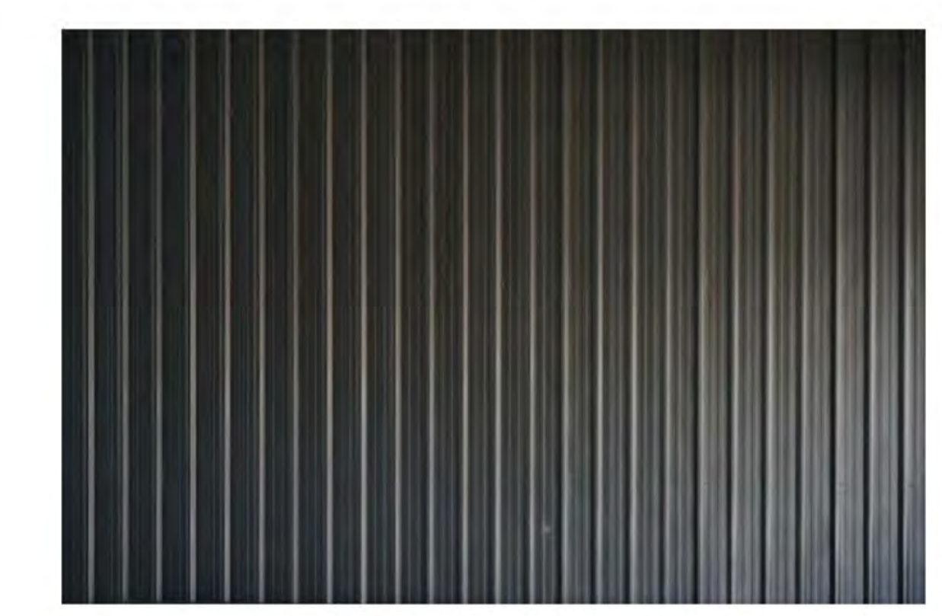
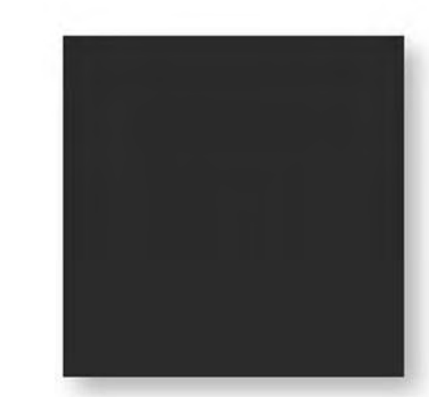
EXTERIOR LIGHT FIXTURE



M-01 = CORRUGATED METAL: GRAY



Black Bean

FRAME COLOR
MILGARD ULTRA SERIES C650
FIBERGLASS WINDOW AND PATIO DOORS

CONTACT
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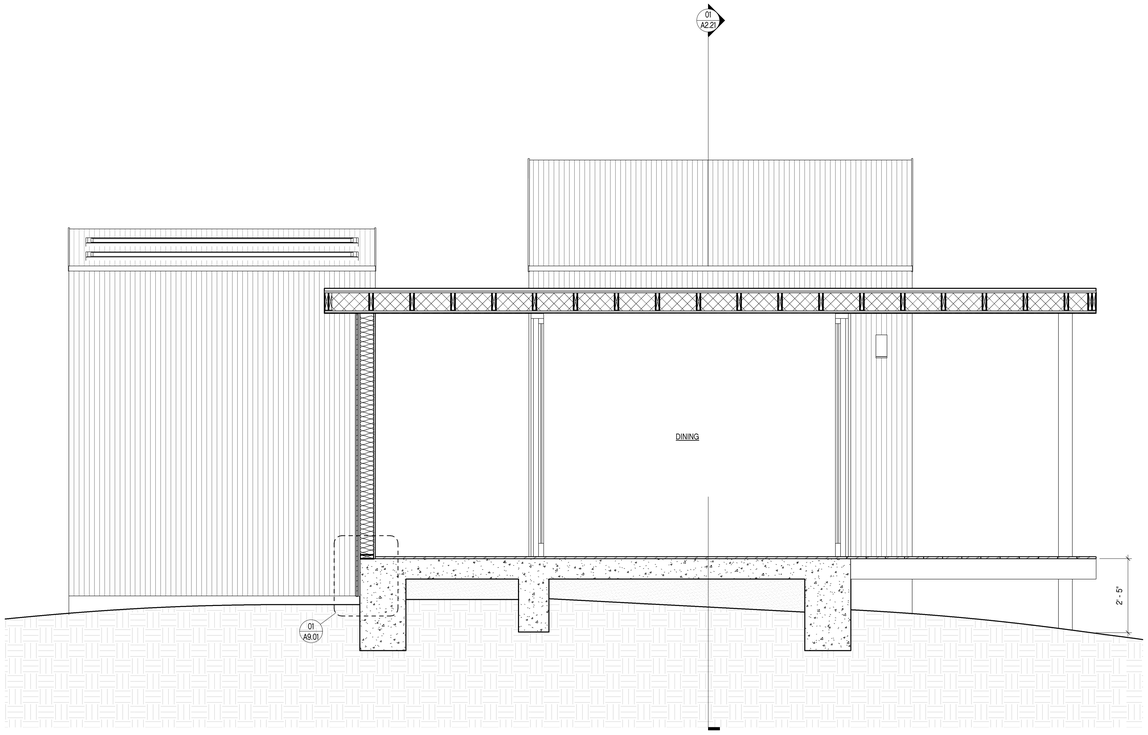
LICENSED ARCHITECT
ALAN MCLEOD
C-30890
11 / 2021
RENEWAL DATE
STATE OF CALIFORNIA

JOB NO. XXXX

PROJECT INFO
MOORE RANCH
081-040-044

SHEET NUMBER
A2.20

GUEST HOUSE PLANS & ELEVATIONS
SHEET NAME



GUEST HOUSE SECTION 2 03
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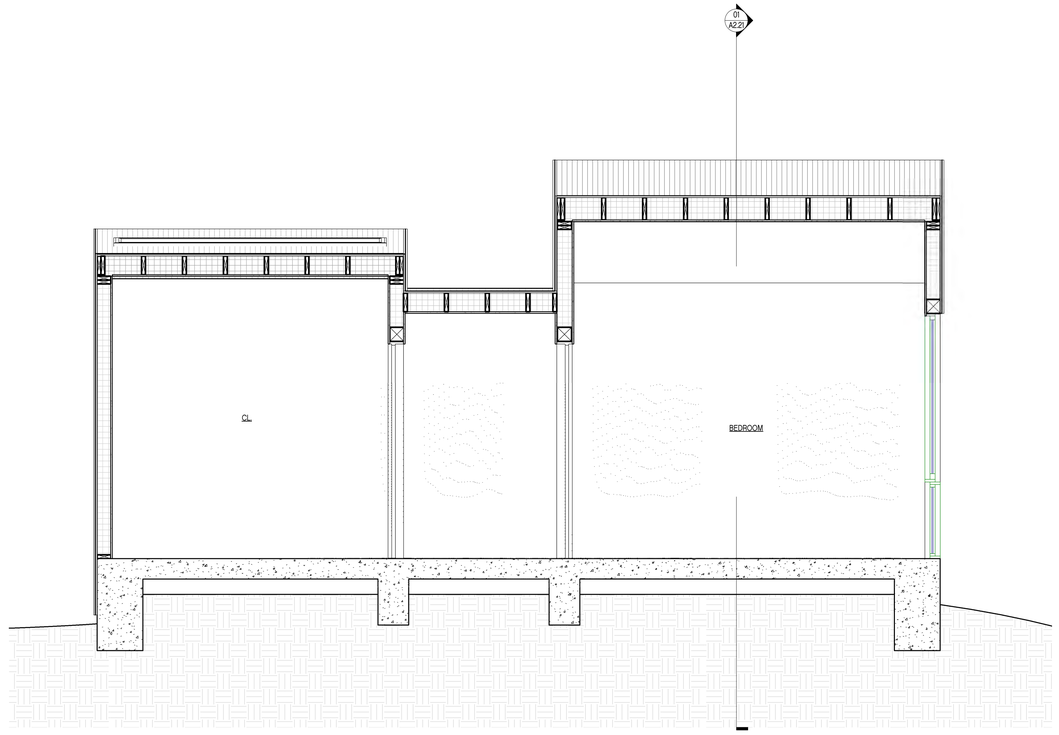

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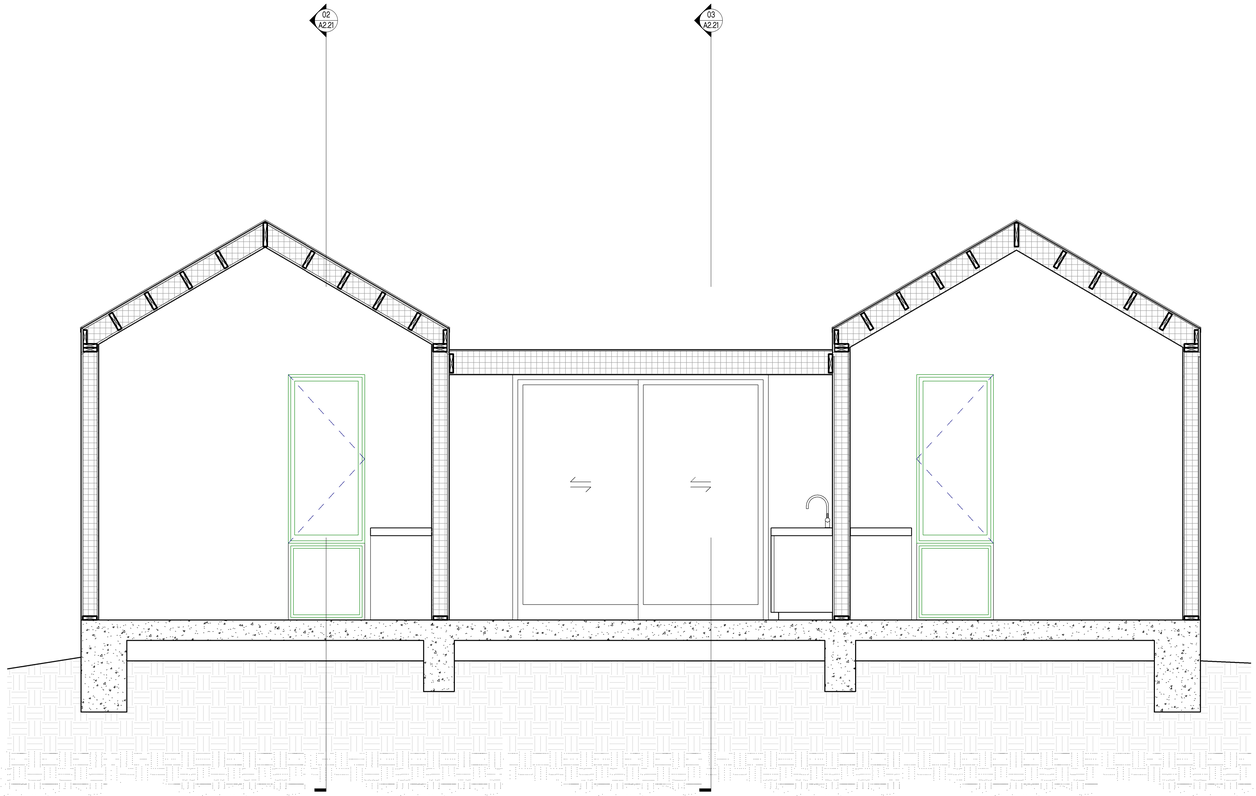

GUEST HOUSE SECTION 3 01
SCALE: 1/2" = 1'-0"

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STATE OF CALIFORNIA

JOB NO. XXXX

PROJECT INFO

MOORE RANCH

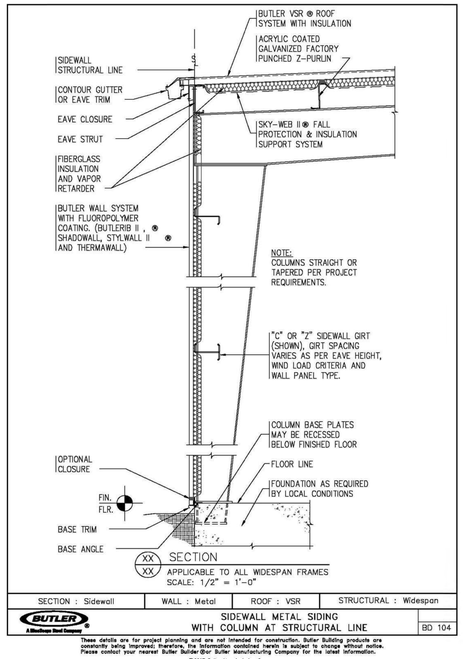
081-040-044

SHEET NUMBER

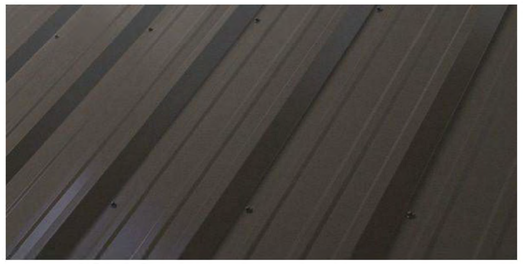
A2.21

SHEET NAME

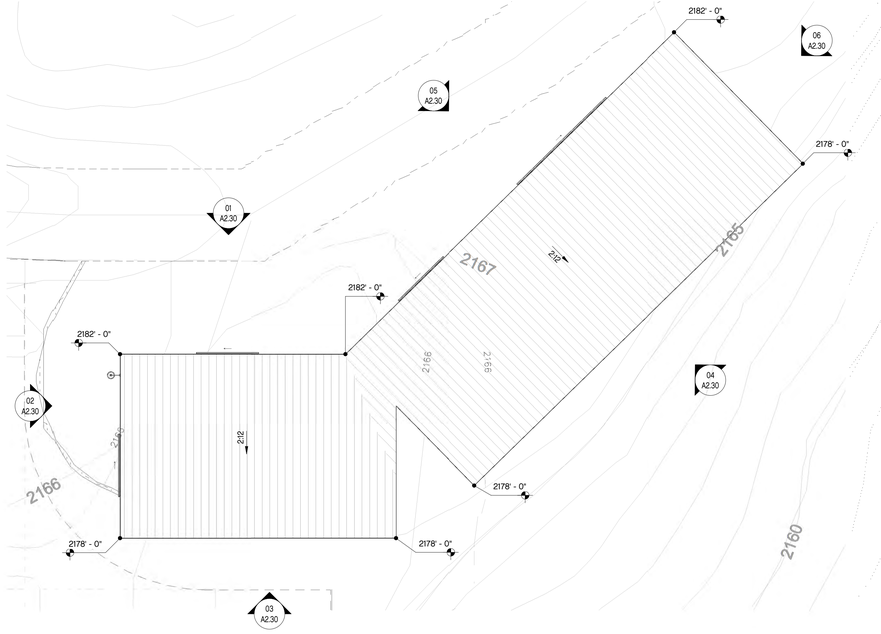
GUEST HOUSE
BUILDING SECTIONS



MARATHON LED GOOSENECK LIGHT
BARN LIGHT ELECTRIC COMPANY



BUTLER BLDG: RIBBED METAL PANELS - GRAY



STORAGE BARN ROOF PLAN
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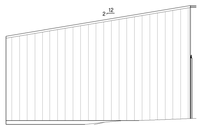

STORAGE BARN 1 NORTHEAST ELEVATION 06
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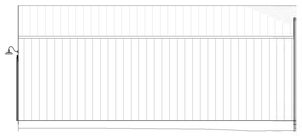

STORAGE BARN 1 SOUTH ELEVATION 03
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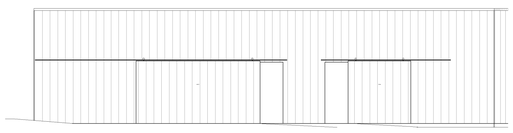

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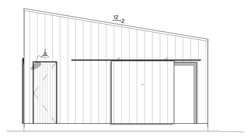

STORAGE BARN 1 WEST ELEVATION 02
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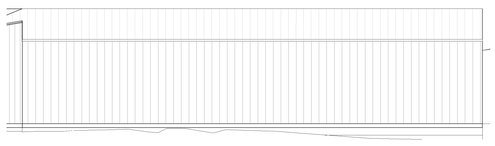

STORAGE BARN 1 SOUTHEAST ELEVATION 04
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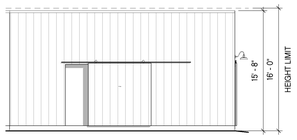

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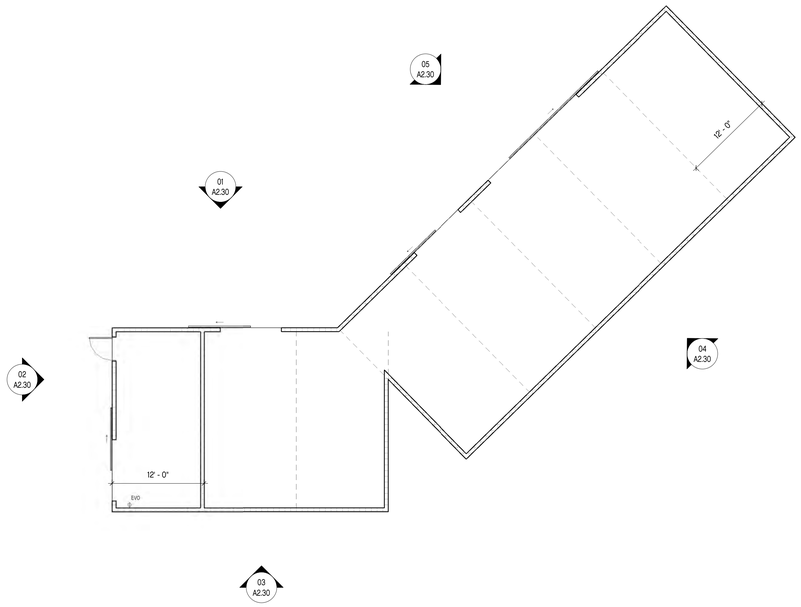

STORAGE BARN 1 FLOOR PLAN
SCALE: 1/8" = 1'-0"

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JOB NO. XXXX

PROJECT INFO

MOORE RANCH

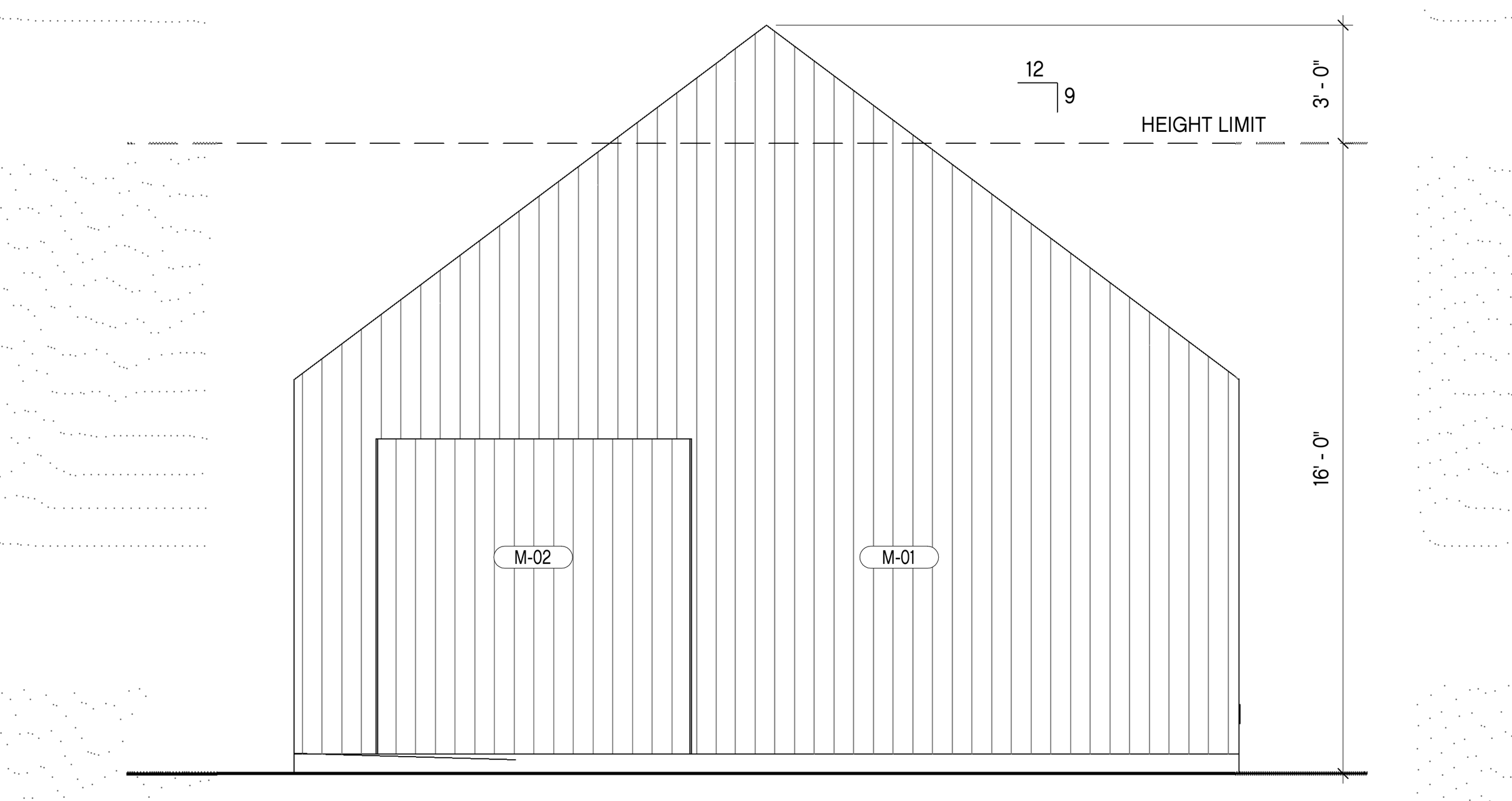
081-040-044

SHEET NUMBER

A2.30

STORAGE BARN 1
PLANS & ELEVATIONS

SHEET NAME



STORAGE BARN 2 SOUTHWEST ELEVATION 04
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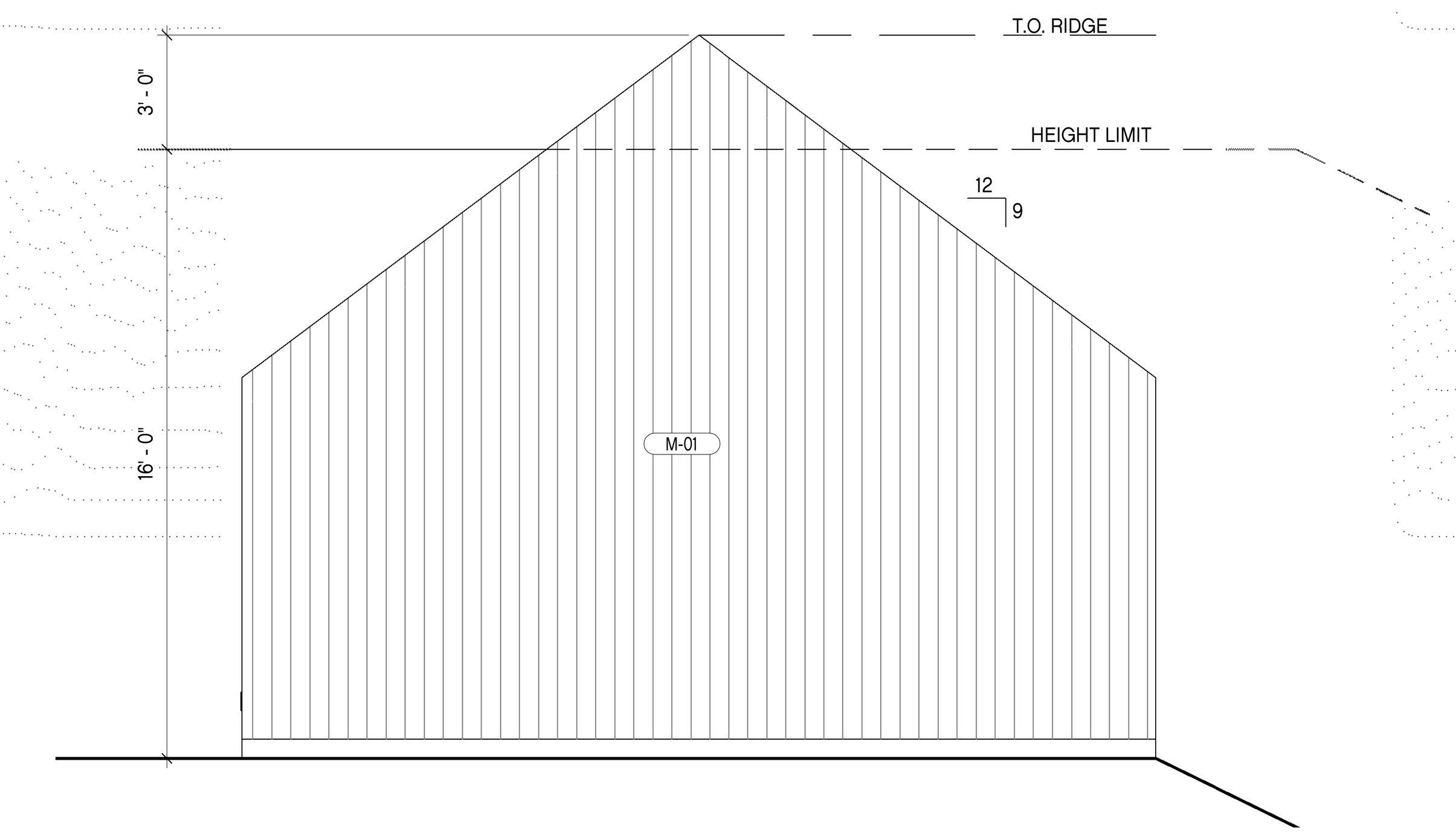

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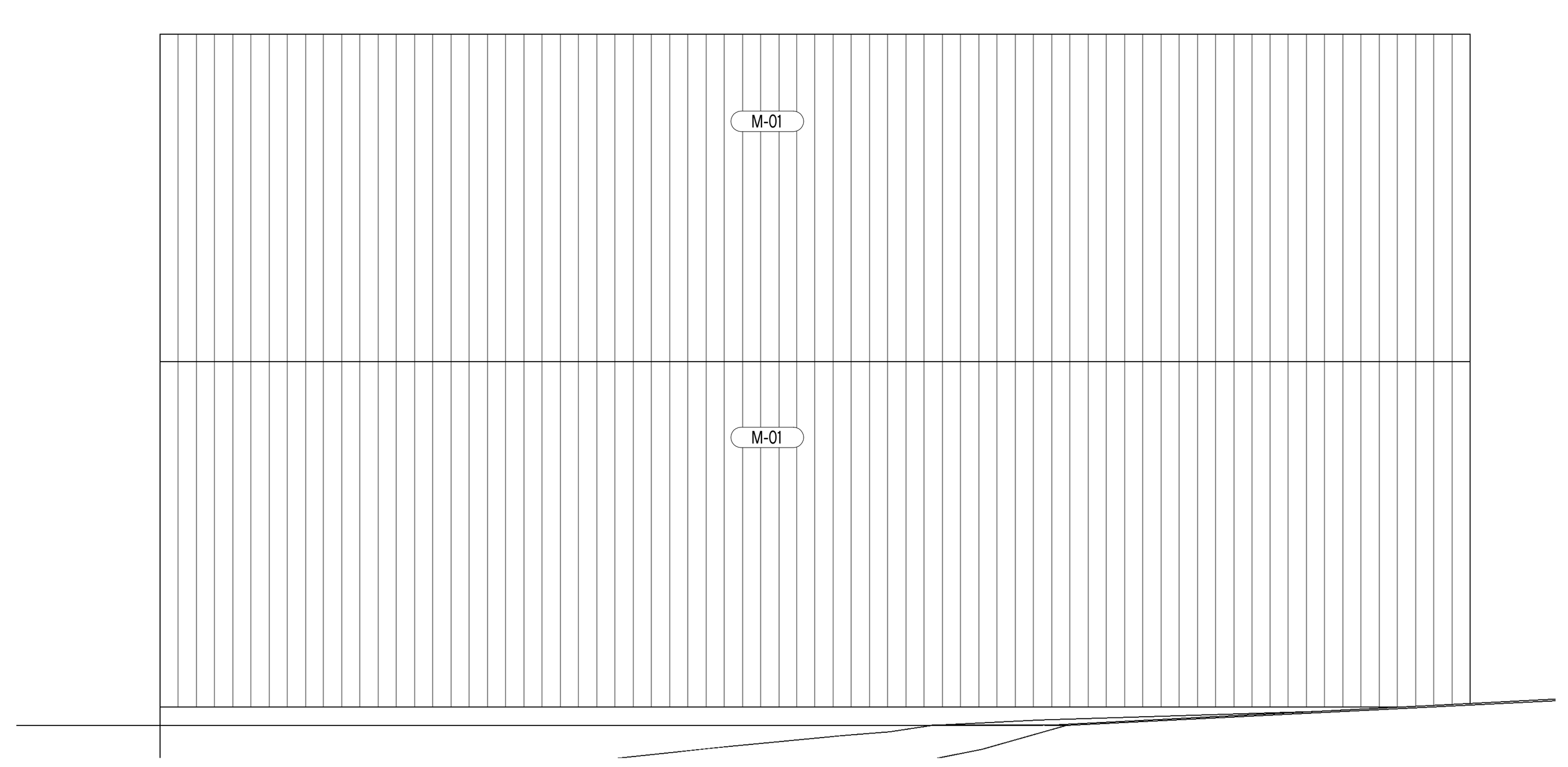

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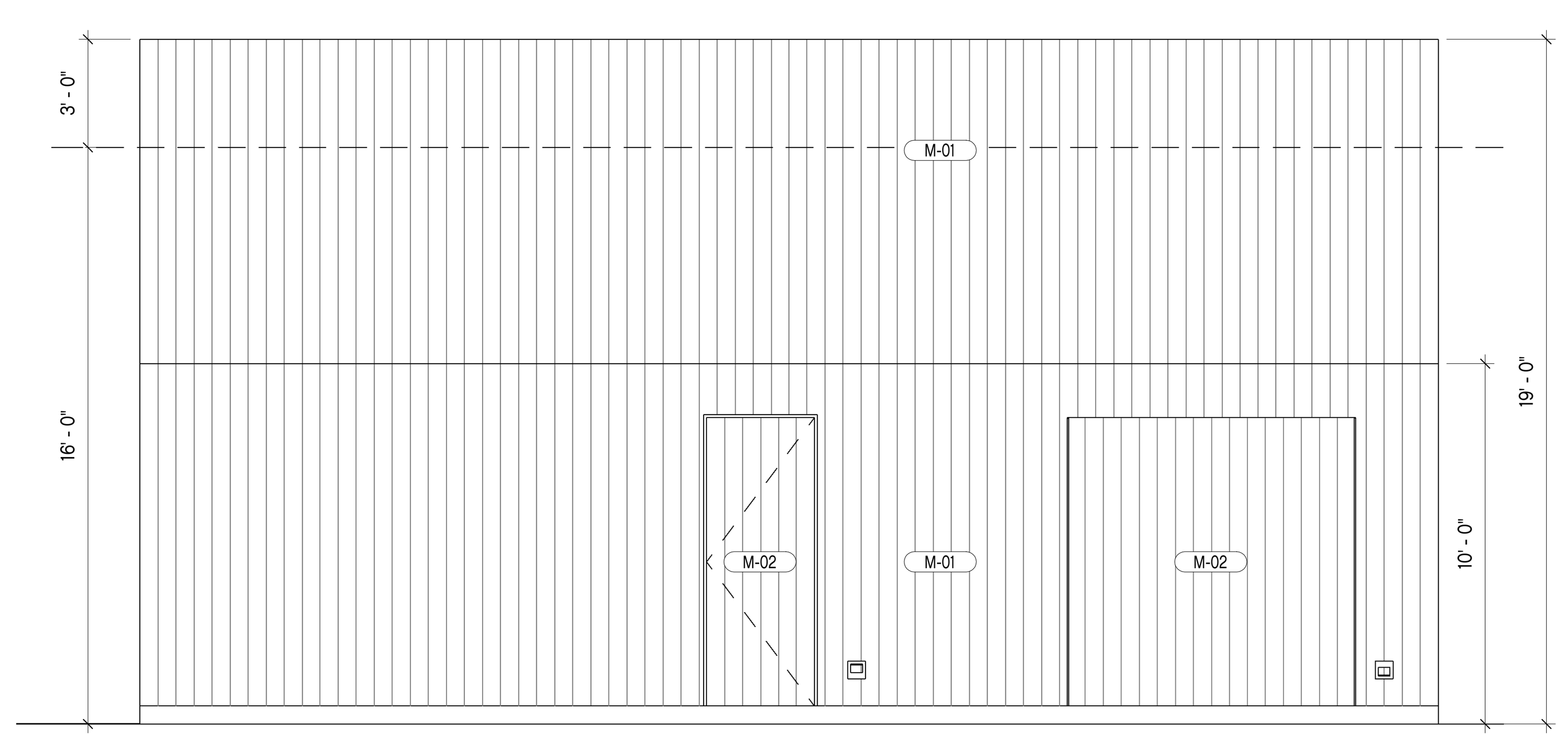

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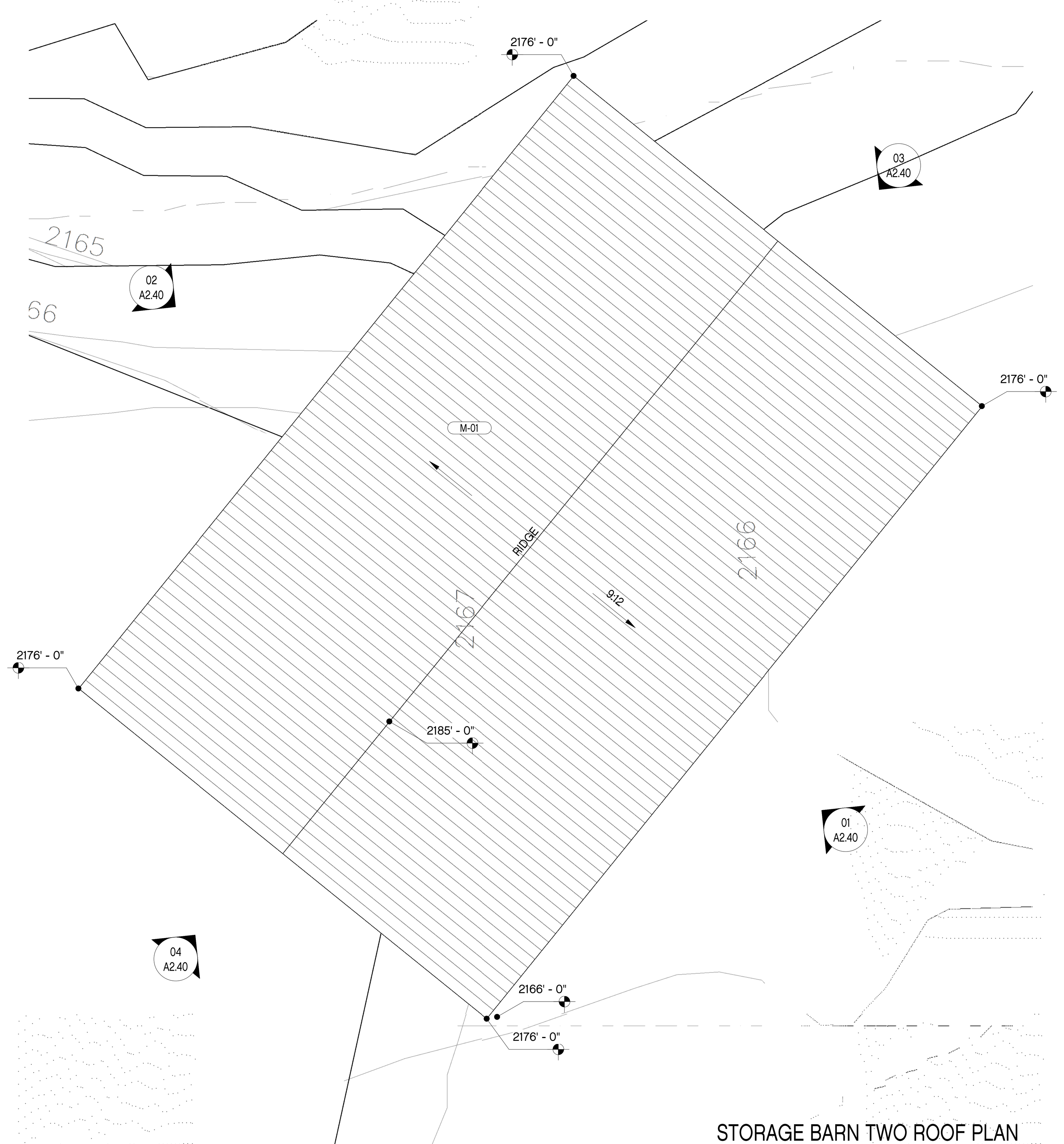

STORAGE BARN TWO ROOF PLAN
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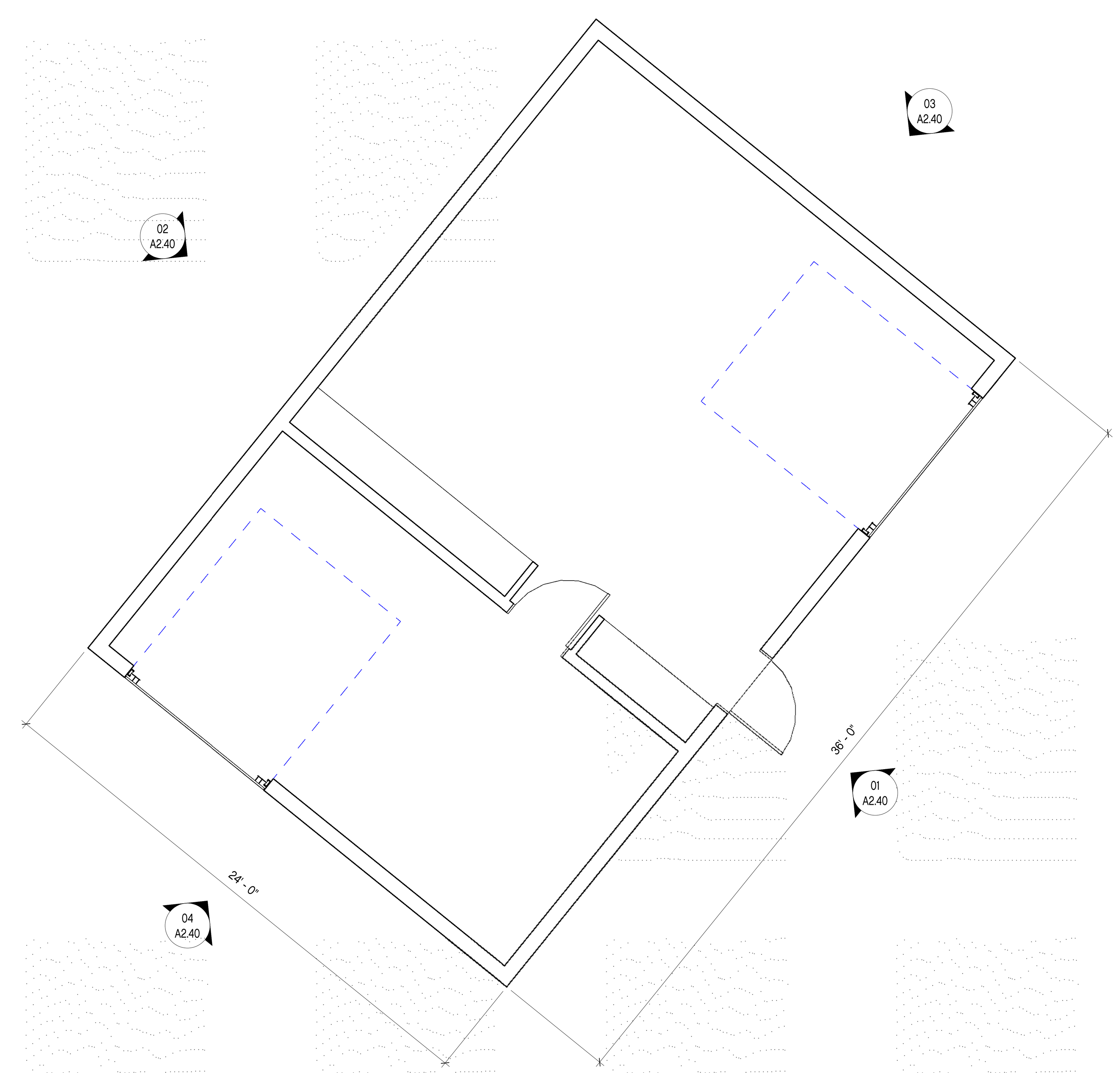

STORAGE BARN TWO FLOOR PLAN
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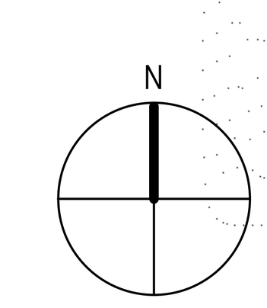

MATERIAL LEGEND

M-01	6" VERT. BOARD FORMED CONCRETE
M-02	6" VERTICAL WOOD WHITE CEDAR TO GO GRAY

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LED recessed wall - shielded

BEGA

Application
Designed for low mounting heights for interior and exterior locations, the shielded light distribution is ideal for the glare-free illumination of ground surfaces, building entrances, stairs, and footpaths.
Materials
Luminaire housing and faceplate constructed of die-cast marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
White safety glass
High temperature silicone gasket
Mechanically captive stainless steel fasteners
NRTL listed to North American Standards, suitable for wet locations
Protection class IP65
Weight: 2.2 lbs

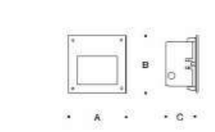
Electrical

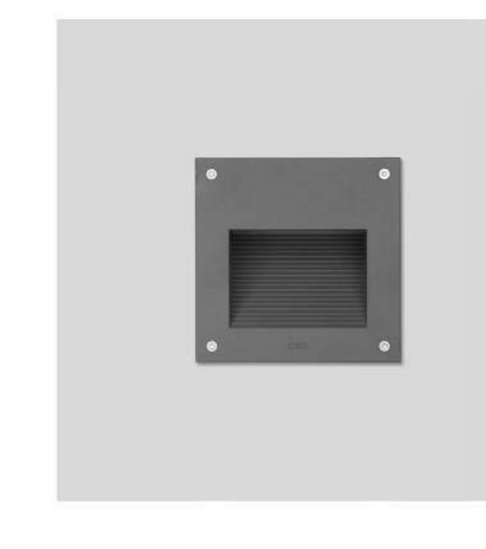
Operating voltage	120-277VAC
Minimum start temperature	-30°C
LED module wattage	3.9W
System wattage	6.0W
Controllability	0-10V dimmable
Color rendering index	Ra > 90
Luminaire lumens	159 lumens (3000K)
Lifetime at Ta = 15°C	>500,000 h (L70)
Lifetime at Ta = 45°C	172,000 h (L70)

LED color temperature
☐ 4000K - Product number + **K4**
☐ 3500K - Product number + **K35**
☐ 3000K - Product number + **K3 (*EXPRESS*)**
☐ 2700K - Product number + **K27**
☐ Amber - Product number + **AMB**
BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.
Available colors ☐ Black (BLK) ☐ White (WHT) ☐ RAL:
☐ Bronze (BRZ) ☐ Silver (SLV) ☐ CUS:

Type:
BEGA Product:
Project:
Modified:





LED recessed wall · shielded		LED	A	B	C
22272	ADA	3.9W	5⅞	5⅞	4⅛

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com
Due to the dynamic nature of lighting products and the associated technologies, luminaire data on this sheet is subject to change at the discretion of BEGA North America. For the most current technical data, please refer to bega-us.com
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M-01 = VERTICAL BOARD FORMED CONCRETE

M-02 = CEDAR DOORS

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C-30890
11 / 2023
RENEWAL DATE
STATE OF CALIFORNIA

JOB NO. XXXX
PROJECT INFO
MOORE RANCH MAIN HOUSE

2389 REFUGIO ROAD
GAVIOTA, CA 93117

SHEET NUMBER
A2.40

STORAGE BARN 2
PLANS & ELEVATIONS
SHEET NAME

VIEW FROM SOUTHWEST - DAYTIME

VIEW FROM SOUTHWEST - NIGHTTIME

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C-30890
11 / 2021
RENEWAL DATE
STATE OF CALIFORNIA

JOB NO. XXXX

PROJECT INFO

MOORE RANCH

081-040-044

SHEET NUMBER

A10.01

SHEET NAME

VISUALIZATIONS

VIEW FROM SOUTHEAST - DAYTIME

VIEW FROM SOUTHEAST - NIGHTTIME

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STATE OF CALIFORNIA

JOB NO. XXXX

PROJECT INFO

MOORE RANCH

081-040-044

SHEET NUMBER

A10.02

SHEET NAME

VISUALIZATIONS

ENTRY COURT VIEW - DAYTIME

ENTRY COURT VIEW - NIGHTTIME

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PROJECT INFO

MOORE RANCH

081-040-044

SHEET NUMBER

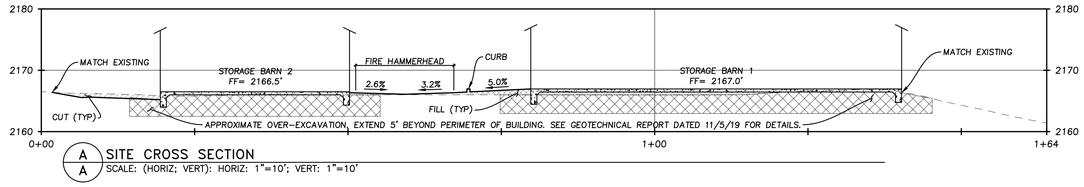
A10.03

VISUALIZATIONS

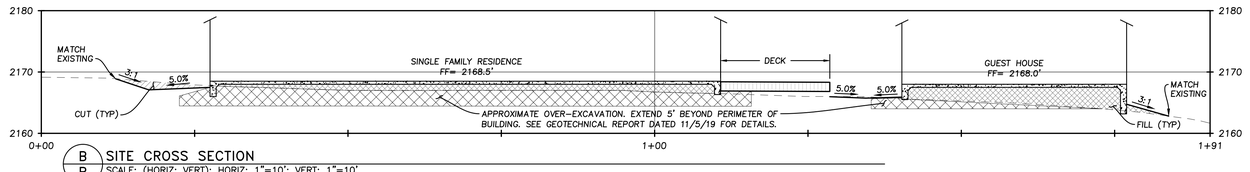
SHEET NAME

MOORE RANCH
SITE IMPROVEMENTS PLAN

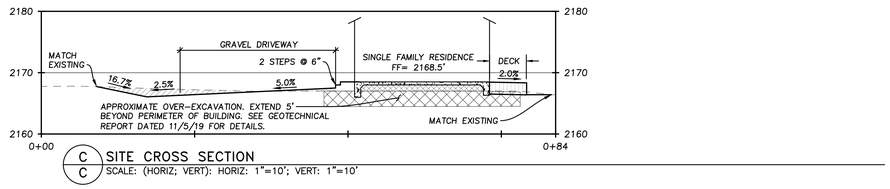
REFUGIO ROAD
GAVIOTA, CA 93117
APN: 081-040-044



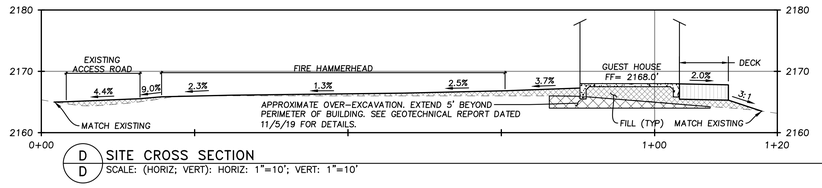
A SITE CROSS SECTION
A SCALE: (HORIZ; VERT): HORIZ: 1"=10'; VERT: 1"=10'



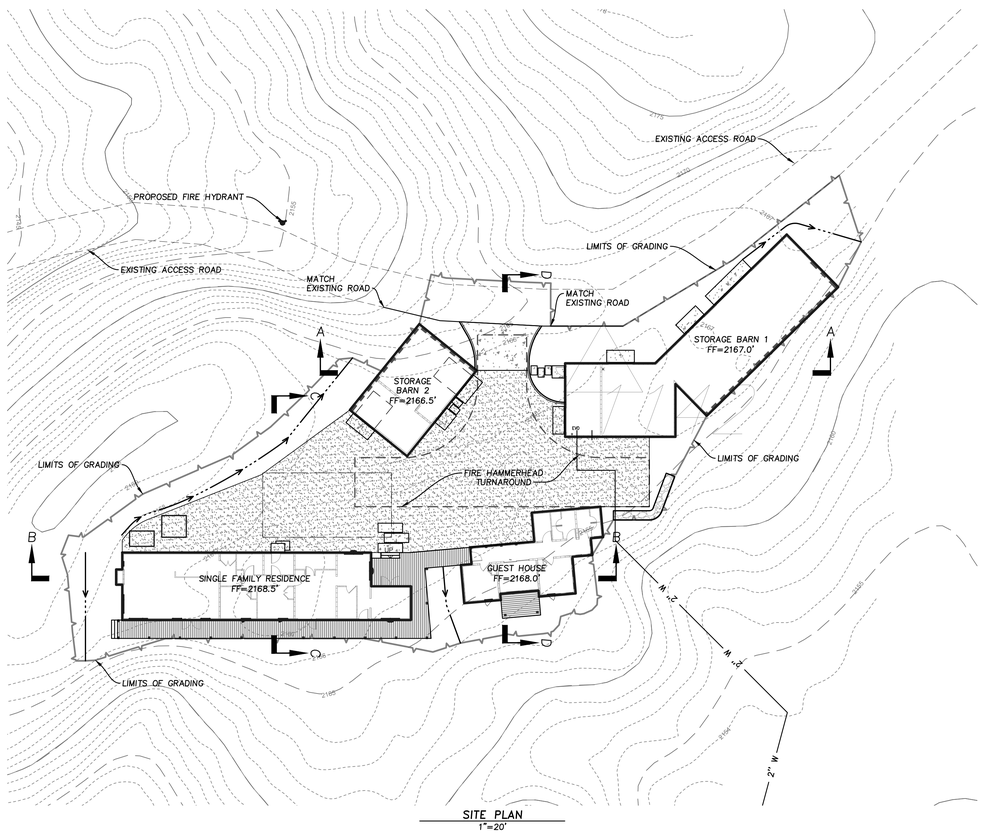
B SITE CROSS SECTION
B SCALE: (HORIZ; VERT): HORIZ: 1"=10'; VERT: 1"=10'



C SITE CROSS SECTION
C SCALE: (HORIZ; VERT): HORIZ: 1"=10'; VERT: 1"=10'



D SITE CROSS SECTION
D SCALE: (HORIZ; VERT): HORIZ: 1"=10'; VERT: 1"=10'



SITE PLAN
1"=20'

COUNTY OF SANTA BARBARA GENERAL GRADING NOTES

CURRENT NOTES CAN BE FOUND AT THE FOLLOWING WEBSITE (HTTP://SBCOUNTYPLANNING.ORG/BUILDING/GRADING.CFM).

1. ALL GRADING SHALL CONFORM TO SANTA BARBARA COUNTY CODE CHAPTER 14 AND STANDARDS AND REQUIREMENTS PERTAINING THERETO, THESE CONSTRUCTION DRAWINGS AND THE RECOMMENDATIONS OF THE SOILS ENGINEER AND ENGINEERING GEOLOGIST.

2. CONTRACTOR TO NOTIFY THE COUNTY GRADING INSPECTOR AND SOILS LABORATORY AT LEAST 48 HOURS BEFORE START OF GRADING WORK OR ANY PRE-CONSTRUCTION MEETING.

3. CONTRACTOR SHALL EMPLOY ALL LABOR, EQUIPMENT AND METHODS REQUIRED TO PREVENT HIS OPERATIONS FROM PRODUCING DUST IN AMOUNTS DAMAGING TO ADJACENT PROPERTY, CULTIVATED VEGETATION AND DOMESTIC ANIMALS OR CAUSING A NUISANCE TO PERSONS OCCUPYING BUILDINGS IN THE VICINITY OF THE JOB SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE CAUSED BY DUST FROM HIS GRADING OPERATION.

4. BEFORE BEGINNING WORK REQUIRING EXPORTING OR IMPORTING OF MATERIALS, THE CONTRACTOR SHALL OBTAIN APPROVAL FROM PUBLIC WORKS ROAD DIVISION FOR HAUL ROUTES USED AND METHODS PROVIDED TO MINIMIZE THE DEPOSIT OF SOILS ON COUNTY GRADING/ROAD INSPECTORS SHALL MONITOR THIS REQUIREMENT WITH THE CONTRACTOR.

5. THE GEOTECHNICAL ENGINEER SHALL PROVIDE OBSERVATION AND TESTING DURING GRADING OPERATIONS IN THE FIELD AND SHALL SUBMIT A FINAL REPORT STATING THAT ALL EARTH WORK WAS PROPERLY COMPLETED AND IS IN SUBSTANTIAL CONFORMANCE WITH THE REQUIREMENTS OF THE GRADING ORDINANCE.

6. AREAS TO BE GRADED SHALL BE CLEARED OF ALL VEGETATION INCLUDING ROOTS AND OTHER UNSUITABLE MATERIAL FOR A STRUCTURAL FILL, THEN SCARIFIED TO A DEPTH OF 6" PRIOR TO PLACING OF ANY FILL. CALL GRADING INSPECTOR FOR INITIAL INSPECTION.

7. A THOROUGH SEARCH SHALL BE MADE FOR ALL ABANDONED MAN-MADE FACILITIES SUCH AS SEPTIC TANK SYSTEMS, FUEL OR WATER STORAGE TANKS, AND PIPELINES OR CONDUITS. ANY SUCH FACILITIES ENCOUNTERED SHALL BE REMOVED AND THE DEPRESSION PROPERLY FILLED AND COMPACTED UNDER OBSERVATION OF THE GEOTECHNICAL ENGINEER.

8. AREAS WITH EXISTING SLOPES WHICH ARE TO RECEIVE FILL MATERIAL SHALL BE KEYED AND BENCHED. THE DESIGN AND INSTALLATION OF THE KEYWAY SHALL BE PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATION OR PER COUNTY STANDARD DETAIL NO. G-13.

9. FILL MATERIAL SHALL BE SPREAD IN LIFTS NOT EXCEEDING 6" IN COMPACTED THICKNESS, MOISTENED OR DRIED AS NECESSARY TO NEAR OPTIMUM MOISTURE CONTENT AND COMPACTED BY AN APPROVED METHOD. FILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 90% MAXIMUM DENSITY AS DETERMINED BY 1957 ASTM D - 1557 - 91 MODIFIED PROCTOR (AASHO) TEST OR SIMILAR APPROVED METHODS. SOME FILL AREAS MAY REQUIRE COMPACTION TO A GREATER DENSITY IF CALLED FOR IN THE CONSTRUCTION DOCUMENTS. SOIL TESTS SHALL BE CONDUCTED AT NOT LESS THAN ONE TEST FOR EACH 18" OF FILL AND/OR FOR EACH 500 CUBIC YARDS OF FILL PLACED.

10. CUT SLOPES SHALL NOT EXCEED A GRADE OF 1 ½ HORIZONTAL TO 1 VERTICAL. FILL AND COMBINATION FILL AND CUT SLOPES SHALL NOT EXCEED 2 HORIZONTAL TO 1 VERTICAL. SLOPES OVER THREE FEET IN VERTICAL HEIGHT SHALL BE PLANTED WITH APPROVED PERENNIAL OR TREATED WITH EQUALLY APPROVED EROSION CONTROL MEASURES PRIOR TO FINAL INSPECTION.

11. SURFACE DRAINAGE SHALL BE PROVIDED AT A MINIMUM OF 5% FOR 10 FEET AWAY FROM THE FOUNDATION LINE OR ANY STRUCTURE.

12. ALL TREES THAT ARE TO REMAIN ON SITE SHALL BE TEMPORARILY FENCED AND PROTECTED AROUND THE DRIP LINE DURING GRADING.

13. AN EROSION AND SEDIMENT CONTROL PLAN SHALL BE REQUIRED AS PART OF THE GRADING PLAN AND PERMIT REQUIREMENTS.

14. "BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES: ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ONSITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS MUST BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED AS A SOLID WASTE. TRASH AND CONSTRUCTION RELATED SOLID WASTE MUST BE DEPOSITED INTO A COVERED WASTE RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY SEDIMENTS AND OTHER MATERIAL MAY NOT BE TRACKED FROM TO THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITION MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO MINIMIZE EROSION BY WIND AND WATER."

15. IF GRADING OCCURS DURING NOV 1 THROUGH APR 15, NO GRADING SHALL OCCUR UNLESS APPROVED EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE. DISCHARGES OF SEDIMENT FROM THE PROJECT SITE MAY RESULT IN A STOP WORK ORDER".

16. ALL EARTHWORK ON HILLSIDES, SLOPING OR MOUNTAINOUS TERRAIN SHALL BE STABILIZED TO PROTECT AND PREVENT LOSS OF SOILS, AS NECESSARY, YEAR-ROUND.

TRENCHING AND BACKFILL NOTES:

1. ALL TRENCHING, BEDDING AND BACKFILL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS INCLUDING THE PIPE TRENCH DETAIL AND WITH THE PROJECT-SPECIFIC AND APPLICABLE STANDARD REQUIREMENTS OF THE COUNTY PUBLIC WORKS DEPARTMENT, INCLUDING ROADS DIVISION STANDARD DETAILS 1-020, 1-030 AND 1-040.

FOR ANY CONFLICT BETWEEN THESE PLANS AND THE REQUIREMENTS OF THE COUNTY PUBLIC WORKS DEPARTMENT, THE MORE STRINGENT PROVISIONS SHALL GOVERN.

2. WATER ENCOUNTERED IN TRENCH OR STRUCTURE EXCAVATION SHALL BE REMOVED BY THE CONTRACTOR TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER TO PROVIDE DRY CONDITIONS DURING CONSTRUCTION OF PIPE OR STRUCTURE.

3. TRENCH OR STRUCTURE EXCAVATION SUBGRADE SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF BEDDING MATERIAL OR FORMS.

WET OR UNSTABLE SOIL ENCOUNTERED IN THE BOTTOM OF THE EXCAVATION AND DEEMED BY THE GEOTECHNICAL ENGINEER TO BE INCAPABLE OF PROPERLY SUPPORTING THE PIPE OR STRUCTURE BEING CONSTRUCTED, SHALL BE REMOVED TO THE DEPTH RECOMMENDED BY THE GEOTECHNICAL ENGINEER AND THE EXCAVATION BACKFILLED TO THE BOTTOM OF THE PIPE OR STRUCTURE GRADE WITH SUITABLE MATERIAL RECOMMENDED BY THE GEOTECHNICAL ENGINEER.

4. BEDDING AND BACKFILL MATERIAL SHALL BE TESTED FOR COMPLIANCE WITH APPLICABLE REQUIREMENTS BY THE GEOTECHNICAL ENGINEER.

5. BEDDING AND PIPE ZONE BACKFILL MATERIAL SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DENSITY.

TRENCH BACKFILL INCLUDING THE UPPER 9" BELOW THE BASE OR SUB-BASE COURSE IN PAVED AND OTHER TRAFFIC AREAS AND THE UPPER 6" BELOW THE CONCRETE OR SAND COURSE IN WALKWAY AREAS SHALL BE COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DENSITY.

BACKFILL COMPACTION SHALL BE TESTED FOR COMPLIANCE WITH THESE REQUIREMENTS IN ACCORDANCE WITH A.S.T.M. STANDARD D-1557, LATEST REVISION, AND REPORTED BY THE GEOTECHNICAL ENGINEER.

COUNTY OF SANTA BARBARA REQUIRES TRENCH BACKFILL WITHIN PUBLIC ROAD RIGHT-OF-WAY TO BE 1-SACK CEMENT SLURRY BEGINNING 6 INCHES ABOVE TOP OF PIPE. THIS MAY CONFLICT WITH PIPE ZONE DIMENSION REQUIRED BY OWNER OF PIPELINE; CONTRACTOR SHALL CONFIRM LIMITS OF PIPE ZONE AND TRENCH ZONE AND RESOLVE ANY CONFLICTS IN ADVANCE OF CONSTRUCTION.

6. COMPACTION BY FLOODING OR JETTING IS NOT PERMITTED .

7. CLASS I OR CLASS II (TRENCH) BACKFILL SHALL NOT BE PLACED UNTIL BEDDING AND INITIAL (PIPE ZONE) BACKFILL HAVE BEEN OBSERVED, TESTED AND APPROVED.

8. ALL WORK INVOLVING EXCAVATION INCLUDING THAT FOR WATER, SEWER, STORM DRAIN AND UTILITY CONDUITS AND ALL SERVICE CONNECTIONS AND METER BOXES (NOT PERMITTED IN DRIVEWAYS) SHALL BE COMPLETED AND OBSERVED AND APPROVED BY THE AGENCY HAVING JURISDICTION AND THE STRUCTURAL BACKFILL OBSERVED AND TESTED FOR COMPACTION AND APPROVED BEFORE AGGREGATE BASE, PAVING AND OTHER PERMANENT SURFACE CONSTRUCTION MAY COMMENCE.

GENERAL REQUIREMENTS OF CONTRACTOR

1. CONTRACTOR SHALL MAINTAIN A COMPLETE AND ACCURATE RECORD OF ALL CHANGES OF CONSTRUCTION FROM THAT SHOWN IN THESE PLANS AND SPECIFICATIONS FOR THE PURPOSE OF PROVIDING A BASIS FOR CONSTRUCTION RECORD DRAWINGS. NO CHANGES SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER AND THE AGENCY HAVING JURISDICTION. UPON COMPLETION OF THE PROJECT, CONTRACTOR SHALL DELIVER THIS RECORD OF ALL CONSTRUCTION CHANGES TO THE ENGINEER ALONG WITH A LETTER WHICH DECLARES THAT OTHER THAN THESE NOTED CHANGES "THE PROJECT WAS CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS."

CAUTION: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THESE PLANS MUST BE APPROVED IN WRITING BY THE PREPARER.

2. CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER AND THE AGENCY HAVING JURISDICTION BY TELEPHONE AND IN WRITING UPON DISCOVERY OF, AND BEFORE DISTURBING, ANY PHYSICAL CONDITIONS DIFFERING FROM THOSE REPRESENTED BY APPROVED PLANS AND SPECIFICATIONS.

3. CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONALS HARMLESS FROM ALL LIABILITY AND CLAIMS, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONALS.

4. CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR PROTECTION OF PUBLIC AND PRIVATE PROPERTY IN THE VICINITY OF THE JOB SITE AND FURTHER AGREES TO, AT CONTRACTOR'S EXPENSE, REPAIR OR REPLACE TO ORIGINAL CONDITION ALL EXISTING IMPROVEMENTS WITHIN OR IN THE VICINITY OF THE JOB SITE WHICH ARE NOT DESIGNATED FOR REMOVAL AND WHICH ARE DAMAGED OR REMOVED AS A RESULT OF CONTRACTOR'S OPERATIONS.

5. EXISTING BURIED CONDUITS AND STRUCTURES KNOWN TO THE ENGINEER ARE SHOWN ON THESE PLANS. HOWEVER, ALL SUCH CONDUITS AND STRUCTURES MAY NOT BE SHOWN AND THE LOCATIONS OF THOSE SHOWN ARE APPROXIMATE ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE PREPARER OF THE PLANS. ELECTRICAL CONDUITS AND WIRING WHICH EXIST BETWEEN STREET AND TRAFFIC LIGHTS ARE NOT SHOWN ON THESE PLANS.

CONTRACTOR SHALL INDEPENDENTLY VERIFY THE PRESENCE OF BURIED CONDUITS AND STRUCTURES, BOTH ACTIVE AND ABANDONED-IN-PLACE AND, BEFORE COMMENCING WORK, CONTRACTOR SHALL DETERMINE THE EXACT LOCATION INCLUDING DEPTHS OF ALL EXISTING UNDERGROUND UTILITIES, CONDUITS AND STRUCTURES, INCLUDING SERVICE CONNECTIONS, WHICH MAY AFFECT OR BE AFFECTED BY HIS OPERATIONS. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, CONDUITS AND STRUCTURES.

UPON ENCOUNTERING EXISTING BURIED CONDUITS OR STRUCTURES NOT SHOWN OR LOCATED DIFFERENTLY THAN SHOWN ON THE PLANS, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND THE OWNER OF THE CONDUIT OR STRUCTURE BY TELEPHONE AND IN WRITING. IF SUCH CONDUIT OR STRUCTURE AFFECTS OR IS AFFECTED BY THE WORK, CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION AND DIRECTION BEFORE PROCEEDING WITH THE WORK, EXCEPTING THAT IN AN EMERGENCY AFFECTING SAFETY OF LIFE, WORK OR ADJACENT PROPERTY, CONTRACTOR SHALL ACT AT ONCE WITHOUT INSTRUCTIONS TO PREVENT INJURY OR LOSS.

6. SECTION 4215.5 THROUGH 4217 OF THE GOVERNMENT CODE OF THE STATE OF CALIFORNIA REQUIRES THAT, TWO WORKING DAYS PRIOR TO COMMENCING ANY EXCAVATION, "UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA" BE NOTIFIED BY PHONE, TOLL FREE 1-800-422-4133, FOR THE ASSIGNMENT OF AN INQUIRY IDENTIFICATION NUMBER.

NO EXCAVATION SHALL COMMENCE UNLESS THE CONTRACTOR HAS OBTAINED THE INQUIRY IDENTIFICATION NUMBER AND EACH UTILITY OR OTHER OWNER OF SUBSURFACE FACILITY HAS LOCATED AND PHYSICALLY MARKED THEIR SUBSURFACE FACILITIES IN THE AREA OF WORK.

BEFORE COMMENCING EXCAVATION, CONTRACTOR SHALL CONTACT THE COUNTY ROAD PERMITS OFFICE AND EACH UTILITY COMPANY OR OTHER OWNER OF SUBSURFACE FACILITIES WITHIN THE WORK SITE, SHALL VERIFY WHETHER OR NOT A REPRESENTATIVE WILL BE PRESENT BEFORE AND/OR DURING EXCAVATION, AND SHALL DETERMINE SITE-SPECIFIC REQUIREMENTS FOR EXCAVATION.

CONTRACTOR IS RESPONSIBLE FOR PRESERVATION AND/OR PERPETUATION OF ALL EXISTING MONUMENTS WHICH CONTROL SUBDIVISIONS, TRACTS, BOUNDARIES, EASEMENTS, STREETS, HIGHWAYS OR OTHER RIGHTS-OF-WAY, OR WHICH PROVIDE SURVEY CONTROL WHICH WILL BE DISTURBED OR REMOVED DUE TO CONTRACTOR'S WORK. PRIOR TO DISTURBANCE OR REMOVAL OF EXISTING MONUMENTS, CONTRACTOR SHALL CONTRACT WITH LICENSED LAND SURVEYOR TO RESET MONUMENTS OR PROVIDE PERMANENT WITNESS MONUMENTS AND FILE THE REQUIRED DOCUMENTATION WITH THE COUNTY SURVEYOR PURSUANT TO BUSINESS AND PROFESSIONS CODE SECTION 8771.

TRENCHING AND BACKFILL NOTES CONTINUED:

9. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH APPLICABLE HEALTH AND SAFETY LAWS, ORDINANCES, REGULATIONS, RULES, AND STANDARDS INCLUDING ALL REQUIREMENTS OF THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY AND OF CAL-OSHA.

10. CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN SUCH SHEETING, SHORING, BRACING, AND/OR OTHER PROTECTION AS IS NECESSARY TO PREVENT FAILURE OF TEMPORARY EXCAVATIONS AND EMBANKMENTS AND TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS, TEMPORARY IMPROVEMENTS, AND PARTIALLY COMPLETED PORTIONS OF THE WORK. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SUFFICIENCY OF SUCH SUPPORTS AND/OR OTHER PROTECTION.

11. BEFORE BEGINNING WORK, CONTRACTOR SHALL DETERMINE OR VERIFY THE LOCATION AND FLOWLINE ELEVATION OF ALL EXISTING WATER, SEWER, AND DRAINAGE STRUCTURES AND/OR CONDUITS TO BE JOINED BY NEW CONSTRUCTION.

BEFORE BEGINNING WORK, CONTRACTOR SHALL DETERMINE OR VERIFY THE LOCATION AND DEPTH OF ALL EXISTING STRUCTURES AND/OR CONDUITS WHICH CROSS OR OTHERWISE MAY CONFLICT WITH NEW CONSTRUCTION.

12. CONTRACTOR SHALL REVIEW THE GEOTECHNICAL REPORT(S) AND THE PROJECT WORK AREA AND VICINITY AND SHALL FAMILIARIZE HIMSELF WITH THE WORK AREA CONDITIONS.

CONTRACTOR SHALL MAKE HIS OWN DEDUCTIONS AND CONCLUSIONS AS TO HOW EXISTING SURFACE AND SUB-SURFACE CONDITIONS WILL AFFECT OR BE AFFECTED BY HIS CONSTRUCTION OPERATIONS, INCLUDING THE NATURE OF MATERIALS TO BE EXCAVATED, THE DEGREE OF DIFFICULTY ASSOCIATED WITH MAKING AND MAINTAINING THE REQUIRED EXCAVATIONS, AND THE DEGREE OF DIFFICULTY WHICH MAY ARISE FROM SUBSURFACE CONDITIONS INCLUDING GROUNDWATER, AND SHALL ACCEPT FULL RESPONSIBILITY THEREFOR.

Know what's below.
Call before you dig.

N

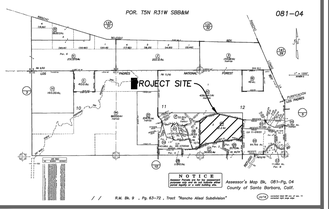
SCALE: 1"=20'
0 20 40 60

VICINITY MAP

N.T.S.

ASSESSORS PARCEL MAP

N.T.S.



PROJECT DATA

PROJECT ADDRESS:	REFUGIO ROAD GOLETA, CA 93117 APN: 081-040-044
CLIENT INFORMATION:	YOUNG AMERICA'S FOUNDATION 217 STATE STREET SANTA BARBARA, CA 93101
PROPOSED WORK:	THIS PROJECT PROPOSES A NEW 2,000 SF MAIN RESIDENCE, 800 SF GUEST HOUSE, 2,200 SF AND 864 SF STORAGE BARNS. NEW SEPTIC AND SOLAR SYSTEM. MINOR IMPROVEMENTS ON EXISTING DRIVEWAY PER FIRE.

GRADING STATISTICS

CUT	100	CY
FILL	240	CY
TOTAL GRADED AREA	18,200 0.42	SF ACRES

EARTHWORK QUANTITIES ARE RAW VOLUMETRIC ESTIMATES FOR PERMITTING ONLY. EARTHWORK VOLUMES ARE CALCULATED FROM THE EXISTING GROUND SURFACE TO THE PROPOSED FINISHED GRADE. CONTRACTOR SHALL PERFORM INDEPENDENT EARTHWORK ANALYSIS FOR PRICING OR PAY PURPOSES. QUANTITIES ABOVE DO NOT INCLUDE CLEARING, GRUBBING, SUBSIDENCE, SHRINKAGE OR EXPANSION FACTORS.

ABBREVIATIONS

BW	BACK OF WALK	LP	LOW POINT
C	COMMUNICATIONS	RIM	TOP OF STRUCTURE
CO	CLEANOUT	S	SEWER
E	ELECTRICAL	SD	STORM DRAIN
FF	FINISHED FLOOR	SL	SEWER LATERAL
FG	FINISHED GRADE	TC	TOP OF CURB
FL	FLOW LINE	TF	TOP OF FOOTING
FS	FINISHED SURFACE	TG	TOP OF GRATE
FW	FIRE WATER	TP	TOP OF PIPE
G	GAS	TW	TOP OF WALL
GFF	GARAGE FINISHED FLOOR	U	DRY UTILITIES
HP	HIGH POINT	W	WATER
INV	INVERT		

LEGEND

CUT
FILL
OVEREXCAVATION

SHEET INDEX

COAST
ENGINEERING & SURVEY, INC.
1110 CALIFORNIA BLVD.
SAN LUIS OBISPO, CA. 93401
PH: (805) 439-1920

REGISTERED PROFESSIONAL ENGINEER
TODD A. ROBINSON
No. 74756
CIVIL
STATE OF CALIFORNIA

PRELIMINARY

REVISIONS:	DESCRIPTION:
DATE:	
10/16/2020	REVISIONS PER FEEDBACK LETTER DATED 09/29/2020

DRAWN KMS
CHECKED TAR

LOCATION: REFUGIO ROAD GAVIOTA, CA 93117 APN: 081-040-044
PROJECT NO: 20021
CLIENT: YOUNG AMERICA'S FOUNDATION

MOORE RANCH
SITE IMPROVEMENTS PLAN
TITLE SHEET

SHEET: C1 OF: 3
DATE: AUGUST 6, 2020

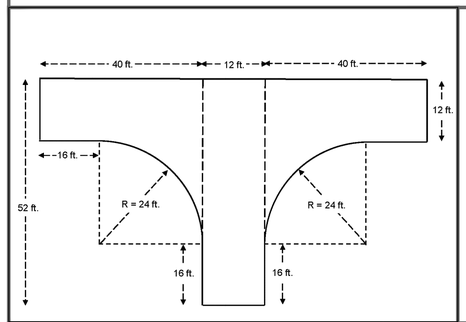
CONSTRUCTION NOTES

1. CONSTRUCT GRAVEL DRIVEWAY PER DETAIL 2, THIS SHEET.
2. CONSTRUCT 16' WIDE FIRE DEPARTMENT HAMMERHEAD TURNAROUND PER COUNTY OF SANTA BARBARA DEVELOPMENT STANDARDS #1. SEE DETAIL 1, THIS SHEET.
3. CONSTRUCT DECKING PER ARCHITECT'S PLANS.
4. CONSTRUCT RISERS PER ARCHITECT'S PLANS.
5. CONSTRUCT (3) 5,000 GALLON UNDERGROUND WATER STORAGE TANKS.
6. INSTALL NEW FIRE HYDRANT PER COUNTY OF SANTA BARBARA DEVELOPMENT STANDARDS #3.
7. CONSTRUCT UNDERGROUND PROPANE TANK.
8. CONSTRUCT (1) ABOVE GROUND STORAGE TANK DEDICATED TO FIRE WATER.
9. CONSTRUCT CONCRETE LANDING PER LANDSCAPE ARCHITECT'S PLAN.
10. CONSTRUCT EARTHEN SWALE, SLOPED AT A MIN OF 1%.
11. CONSTRUCT ENERGY DISSIPATION DEVICE.
12. CONSTRUCT GRAVITY BOULDER WALL. SEE DETAIL 4 THIS SHEET. MAX HEIGHT IS 3.0'
13. CONSTRUCT DEEPENED FOOTINGS PER STRUCTURAL ENGINEER.
14. CONSTRUCT CONCRETE DRIVEWAY PER DETAIL 5, THIS SHEET.
15. CONSTRUCT SANDSTONE CURB PER LANDSCAPE ARCHITECT'S PLAN.
16. CONSTRUCT ROCK LINED SWALE.

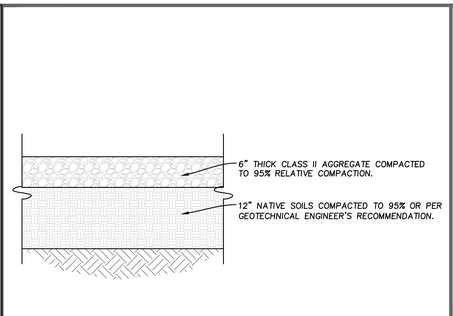
EXISTING ACCESS ROAD
LIMITS OF GRADING
MATCH TO EXISTING ROAD
STORAGE BARN 1 FF= 2167.0'
STORAGE BARN 2 FF= 2166.5'
SINGLE-FAMILY RESIDENCE FF= 2168.5'
GUEST HOUSE FF= 2168.0'
TOP OF STEPS
2 STEPS @ 6"
3 STEPS @ 6"
(TYP.)
THRESHOLD
EVO

GRADING AND DRAINAGE PLAN
SCALE: 1"= 10'

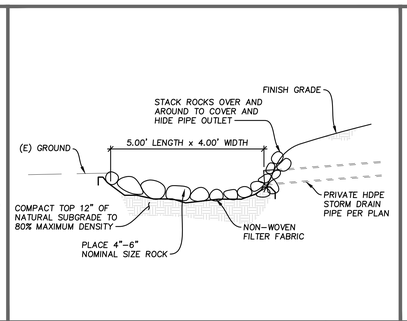
SCALE: 1"=10'
0 10 20 30



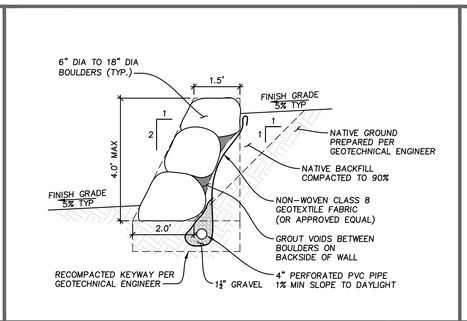
1 16' WIDE HAMMERHEAD TURNAROUND — SCALE N.T.S.



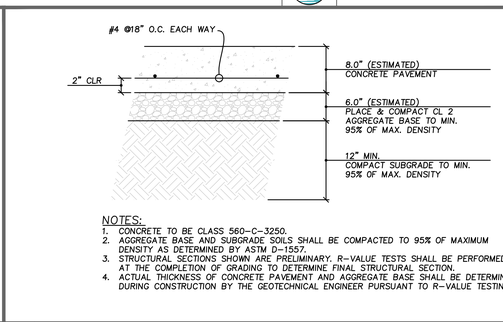
2 ALL WEATHER SECTION — SCALE N.T.S.



3 ENERGY DISSIPATION DEVICE — SCALE N.T.S.



4 GRAVITY BOULDER WALL — SCALE N.T.S.



NOTES:
1. CONCRETE TO BE CLASS 560-C-3250.
2. AGGREGATE BASE AND SUBGRADE SOILS SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557.
3. STRUCTURAL SECTIONS SHOWN ARE PRELIMINARY. R-VALUE TESTS SHALL BE PERFORMED AT THE COMPLETION OF GRADING TO DETERMINE FINAL STRUCTURAL SECTION.
4. ACTUAL THICKNESS OF CONCRETE PAVEMENT AND AGGREGATE BASE SHALL BE DETERMINED DURING CONSTRUCTION BY THE GEOTECHNICAL ENGINEER PURSUANT TO R-VALUE TESTING.

5 CONCRETE DRIVEWAY SECTION — SCALE N.T.S.

COAST ENGINEERING & SURVEY, INC.
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PH: (805) 439-1920

REGISTERED PROFESSIONAL ENGINEER TODD A. ROBINSON No. 71756 CIVIL STATE OF CALIFORNIA

PRELIMINARY

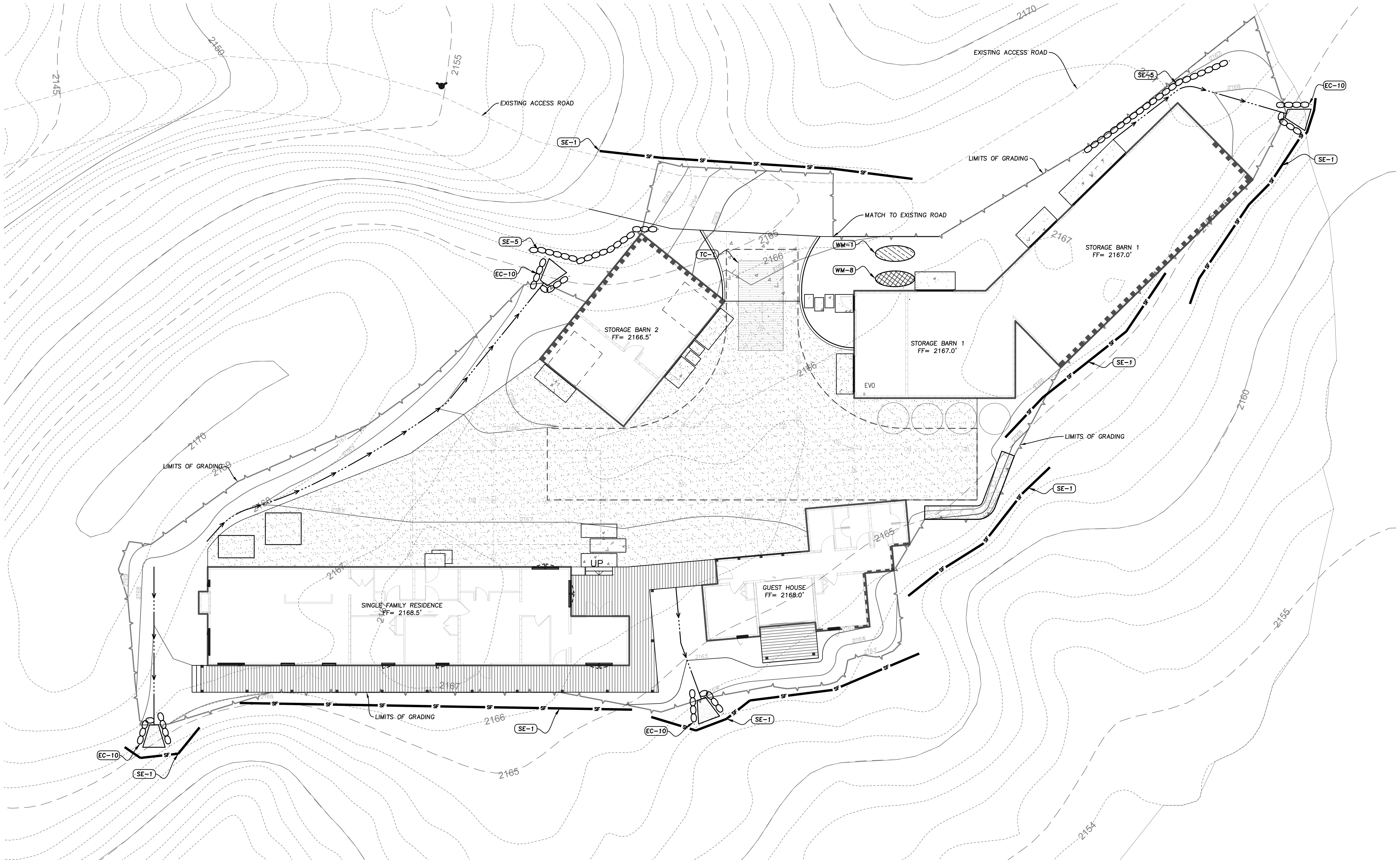
REVISIONS:
DATE: 10/16/2020
DESCRIPTION: REVISIONS PER FEEDBACK LETTER DATED 09/29/2020

DRAWN KMS
CHECKED TAR

LOCATION
REFUGIO ROAD
GAVIOTA, CA 93117
APN: 081-040-044
PROJECT NO.
20021
CLIENT
YOUNG AMERICA'S FOUNDATION

MOORE RANCH
SITE IMPROVEMENTS PLAN
PRELIMINARY GRADING AND DRAINAGE PLAN

SHEET: C2 OF: 3
DATE: AUGUST 6, 2020



EROSION AND SEDIMENT CONTROL PLAN
SCALE: 1"= 10'

CASQA CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (BMP'S)

TEMPORARY SOIL STABILIZATION
- EC1 – SCHEDULING
- EC2 – PRESERVATION OF EXISTING VEGETATION
- EC3 – HYDRAULIC MULCH
- EC4 – HYDROSEEDING
- EC5 – SOIL BINDERS
- EC6 – STRAW MULCH
- EC7 – GEOTEXTILES, PLASTIC COVERS, & EROSION CONTROL BLANKETS/MATS
- EC8 – WOOD MULCHING
- EC9 – EARTH DIKES/DRAINAGE SWALES & LINED DITCHES
- EC10 – OUTLET PROTECTION/VELOCITY DISSIPATION DEVICES
- EC11 – SLOPE DRAINS
- EC12 – STREAMBANK STABILIZATION
- EC13 – RESERVED
- EC14 – COMPOST BLANKET
- EC15 – SOIL PREPARATION/ROUGHENING
- EC16 – NON-VEGETATIVE STABILIZATION

NON-STORMWATER MANAGEMENT
- NS1 – WATER CONSERVATION PRACTICES
- NS2 – DEWATERING OPERATIONS
- NS3 – PAVING AND GRINDING OPERATIONS
- NS4 – TEMPORARY STREAM CROSSING
- NS5 – CLEAR WATER DIVERSION
- NS6 – ILLICIT CONNECTION/ILLEGAL DISCHARGE DETECTION AND REPORTING
- NS7 – POTABLE WATER/IRRIGATION
- NS8 – VEHICLE AND EQUIPMENT CLEANING
- NS9 – VEHICLE AND EQUIPMENT FUELING
- NS10 – VEHICLE AND EQUIPMENT MAINTENANCE
- NS11 – PILE DRIVING OPERATIONS
- NS12 – CONCRETE CURING
- NS13 – CONCRETE FINISHING
- NS14 – MATERIAL OVER WATER
- NS15 – DEMOLITION OVER WATER
- NS16 – TEMPORARY BATCH PLANTS

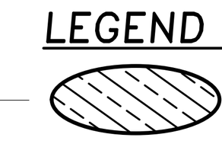
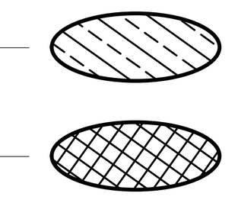
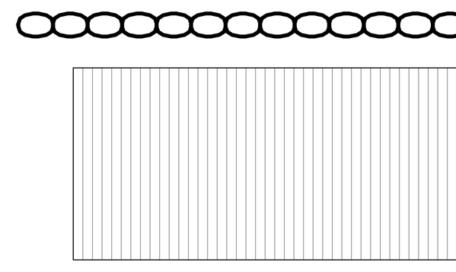
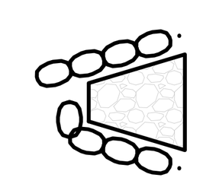
TEMPORARY SEDIMENT CONTROL
- SE1 – SILT FENCE
- SE2 – SEDIMENT/DESILTING BASIN
- SE3 – SEDIMENT TRAP
- SE4 – CHECK DAM
- SE5 – FIBER ROLLS
- SE6 – GRAVEL BAG BERM
- SE7 – STREET SWEEPING AND VACUUMING
- SE8 – SANDBAG BARRIER
- SE9 – STRAW BALE BARRIER
- SE10 – STORM DRAIN INLET PROTECTION
- SE11 – ACTIVE TREATMENT SYSTEMS
- SE12 – MANUFACTURED LINEAR SEDIMENT CONTROLS (MLSC)
- SE13 – COMPOST SOCKS AND BERMS
- SE14 – BIOFILTER BAGS

TRACKING CONTROL
- TC1 – STABILIZED CONSTRUCTION ENTRANCE/EXIT
- TC2 – STABILIZED CONSTRUCTION ROADWAY
- TC3 – ENTRANCE/OUTLET TIRE WASH

WIND EROSION CONTROL
- WE1 – WIND EROSION CONTROL

WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL
- WM1 – MATERIAL DELIVERY AND STORAGE
- WM2 – MATERIAL USE
- WM3 – STOCKPILE MANAGEMENT
- WM4 – SPILL PREVENTION AND CONTROL
- WM5 – SOLID WASTE MANAGEMENT
- WM6 – HAZARDOUS WASTE MANAGEMENT
- WM7 – CONTAMINATED SOIL MANAGEMENT
- WM8 – CONCRETE WASTE MANAGEMENT
- WM9 – SANITARY/SEPTIC WASTE MANAGEMENT
- WM10 – LIQUID WASTE MANAGEMENT

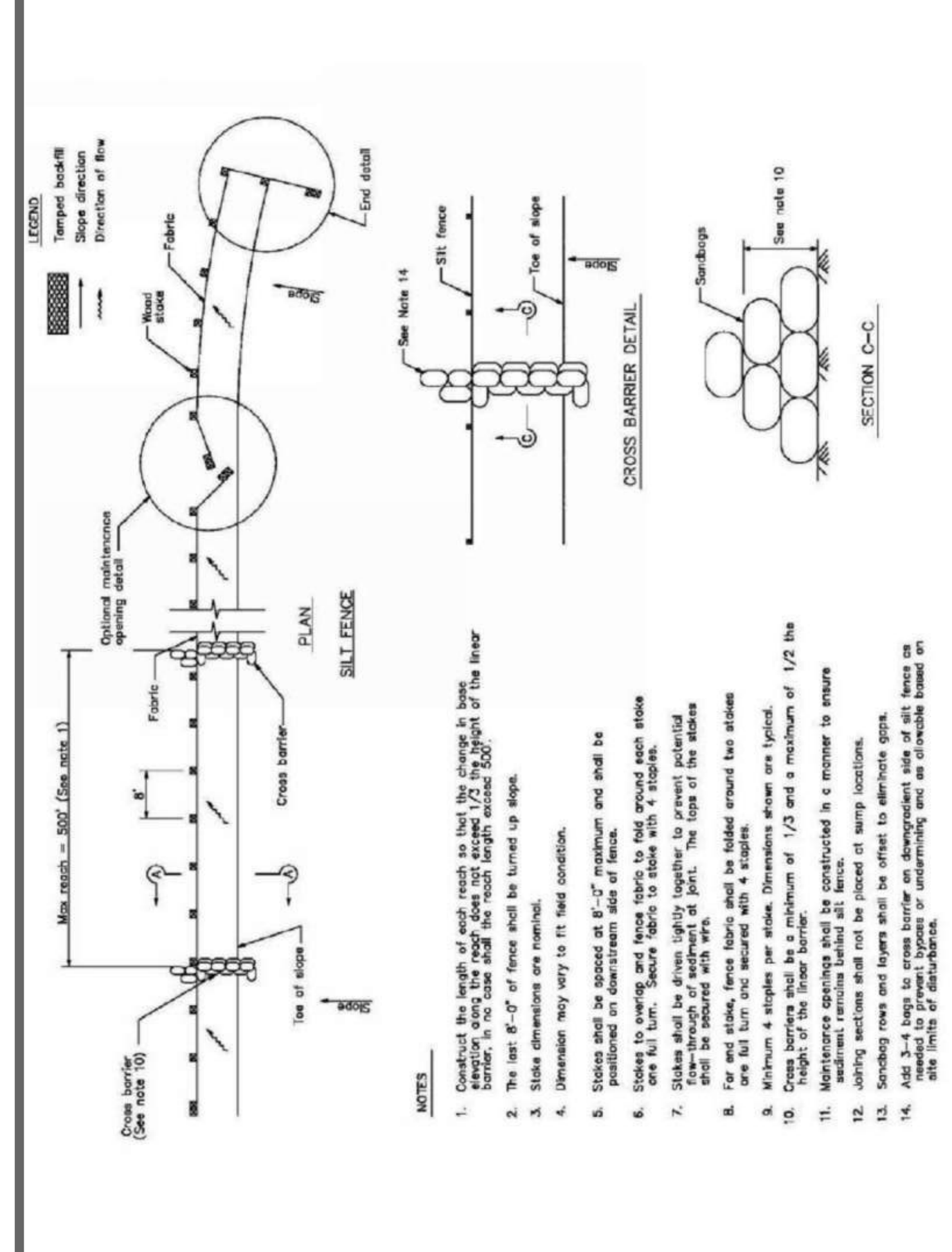
EROSION CONTROL NOTES / LEGEND

EROSION CONTROL NOTES	LEGEND
WM-1 MATERIAL DELIVERY AND STORAGE	
WM-8 CONSTRUCTION WASH-OUT AREA.	
SE-1 CONSTRUCTION SILT FENCE.	SF — SF
SE-5 FIBER ROLLS	
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT	
EC-10 OUTLET PROTECTION/VELOCITY DISSIPATION DEVICES	

EROSION CONTROL GENERAL NOTES

1. CONTRACTOR TO IMPLEMENT CONSTRUCTION BMP'S BELOW IN ACCORDANCE WITH THE CURRENT CASQA CONSTRUCTION BMP HANDBOOK AND WITH THE COUNTY OF SANTA BARBARA STANDARDS. SELECTED BMP'S ARE NOTED ABOVE.
2. BMP'S SHALL BE IMPLEMENTED BY THE CONTRACTOR(S) AS NECESSARY, WHETHER OR NOT SPECIFIED BY THESE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMPLEMENT BMP'S IN TIMELY MANNER.

Silt Fence SE-1



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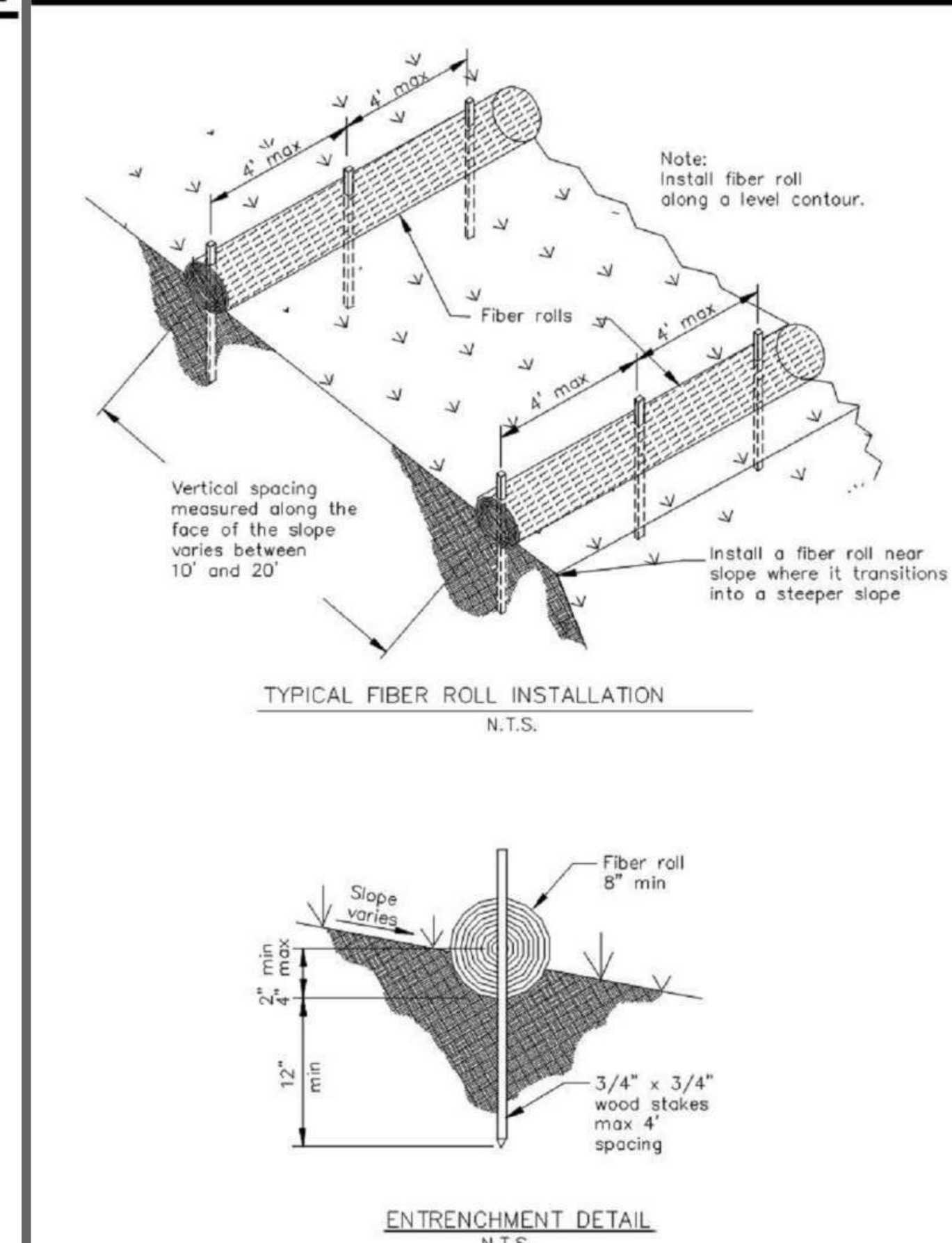
SE-1 SCALE N.T.S.

Fiber Rolls SE-5



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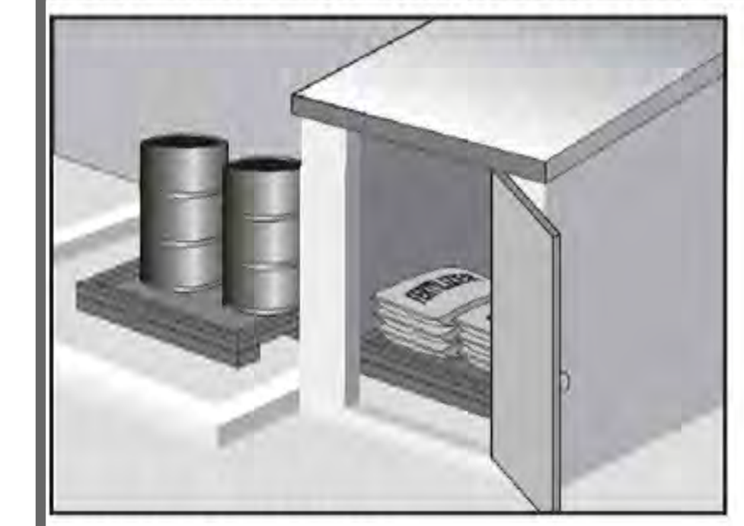
SE-5 SCALE N.T.S.

Material Delivery and Storage WM-1



Categories
- EC Erosion Control
- SE Sediment Control
- TC Tracking Control
- WE Wind Erosion Control
- NS Non-Stormwater Management Control
- WM Waste Management and Materials Pollution Control ☑

Legend:
☑ Primary Category
☒ Secondary Category

Description and Purpose

Prevent, reduce, or eliminate the discharge of pollutants from material delivery and storage to the stormwater system or watercourses by minimizing the storage of hazardous materials onsite, storing materials in watertight containers and/or a completely enclosed designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors.

This best management practice covers only material delivery and storage. For other information on materials, see WM-2, Material Use, or WM-4, Spill Prevention and Control. For information on wastes, see the waste management BMPs in this section.

Targeted Constituents
- Sediment ☑
- Nutrients ☑
- Trash ☑
- Metals ☑
- Bacteria
- Oil and Grease ☑
- Organics ☑

Potential Alternatives
None

Suitable Applications

These procedures are suitable for use at all construction sites with delivery and storage of the following materials:

- Soil stabilizers and binders
- Pesticides and herbicides
- Fertilizers
- Detergents
- Plaster
- Petroleum products such as fuel, oil, and grease

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CASQA

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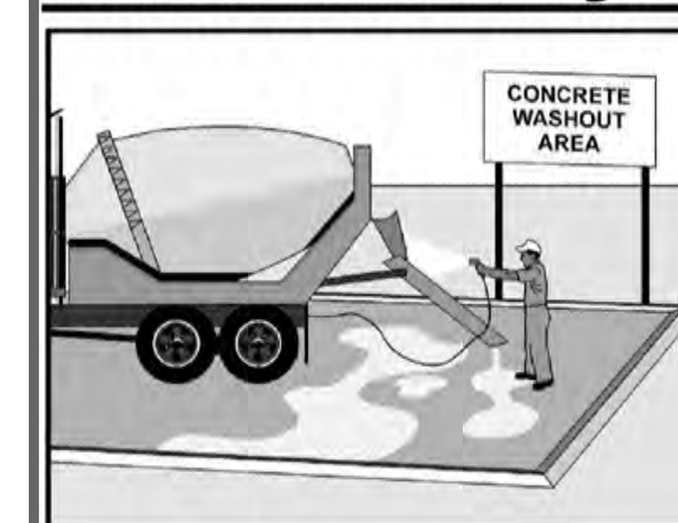
WM-1 SCALE N.T.S.

Concrete Waste Management WM-8



Categories
- EC Erosion Control
- SE Sediment Control
- TC Tracking Control
- WE Wind Erosion Control
- NS Non-Stormwater Management Control ☒
- WM Waste Management and Materials Pollution Control ☑

Legend:
☑ Primary Category
☒ Secondary Category

Description and Purpose

Prevent the discharge of pollutants to stormwater from concrete waste by conducting washout onsite or offsite in a designated area, and by employee and subcontractor training.

The General Permit incorporates Numeric Action Levels (NAL) for pH (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Many types of construction materials, including mortar, concrete, stucco, cement and block and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows and raising pH to levels outside the accepted range.

Targeted Constituents
- Sediment ☑
- Nutrients
- Trash
- Metals ☑
- Bacteria
- Oil and Grease
- Organics

Potential Alternatives
None

Suitable Applications

Concrete waste management procedures and practices are implemented on construction projects where:

- Concrete is used as a construction material or where concrete dust and debris result from demolition activities.
- Slurries containing portland cement concrete (PCC) are generated, such as from saw cutting, coring, grinding, grooving, and hydro-concrete demolition.
- Concrete trucks and other concrete-coated equipment are washed onsite.

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CASQA

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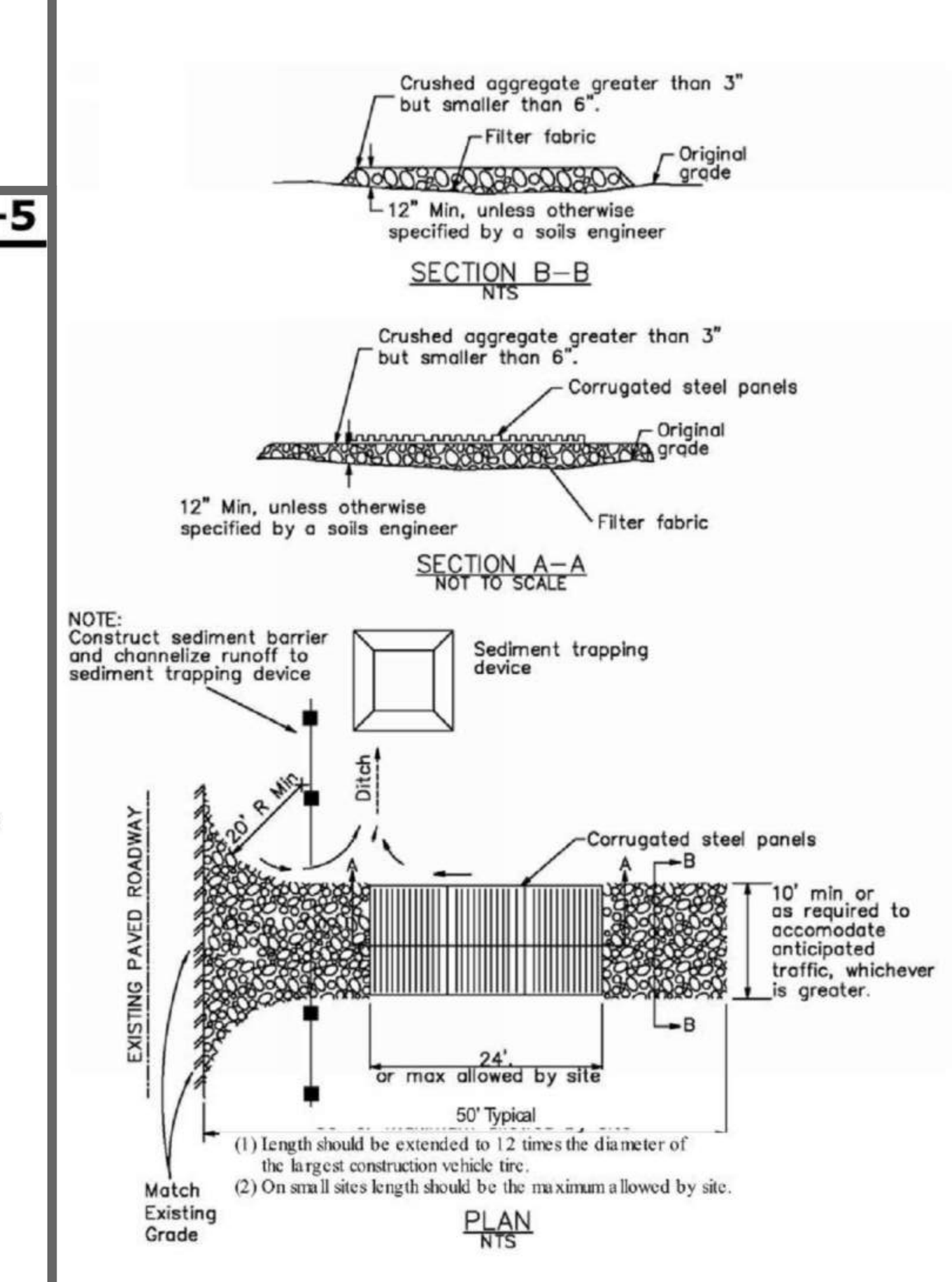
WM-8 SCALE N.T.S.

Stabilized Construction Entrance/Exit TC-1



July 2012 California Stormwater BMP Handbook Construction www.casqa.org 6 of 6

TC-1 SCALE N.T.S.

SCALE: 1"=10'
0 10 20 30

COAST ENGINEERING & SURVEY, INC.
1110 CALIFORNIA BLVD.
SAN LUIS OBISPO, CA. 93401
PH: (805) 439-1920

REGISTERED PROFESSIONAL ENGINEER
TODD A. ROBINSON
No. 75756
CIVIL
STATE OF CALIFORNIA
PRELIMINARY

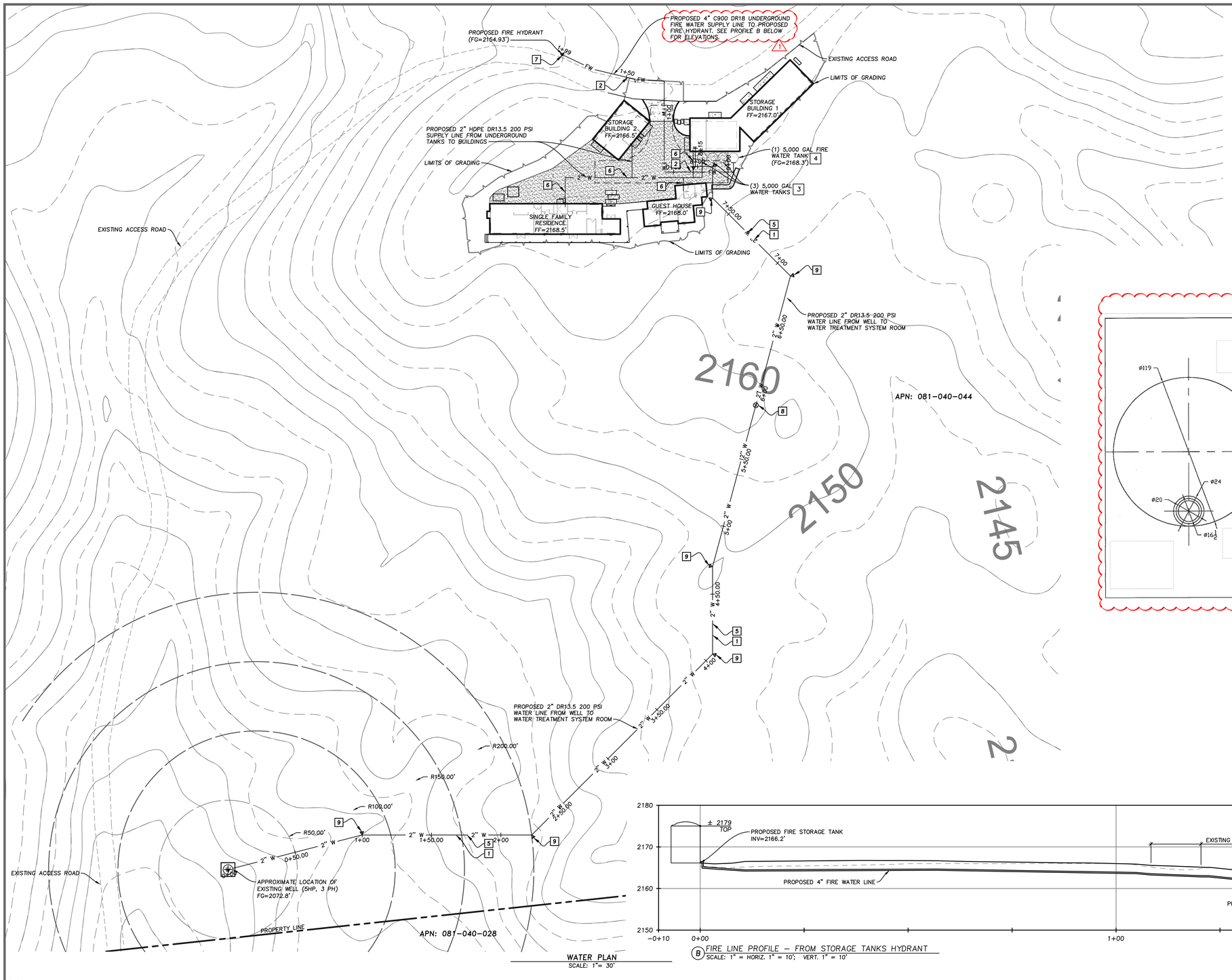
REVISIONS: DATE:	DESCRIPTION:
10/16/2020	REVISIONS PER FEEDBACK LETTER DATED 09/29/2020

LOCATION: REFUGIO ROAD, GAVIOTA, CA 93117
APN: 081-040-044
PROJECT NO. 20021
CLIENT: YOUNG AMERICA'S FOUNDATION
DRAWN: KMS
CHECKED: TAR

MOORE RANCH
SITE IMPROVEMENTS PLAN
EROSION AND SEDIMENT CONTROL PLAN

SHEET: C3 OF: 3

DATE: AUGUST 6, 2020



WATER PLAN
SCALE: 1"= 30'

WATER PLAN NOTES

1. CONSTRUCT 2" HDPE DR13.5 200 PSI SUPPLY LINE FROM WELL TO UNDERGROUND TANKS
2. CONSTRUCT 4" C900 DR18 UNDERGROUND FIRE WATER SUPPLY LINE TO PROPOSED FIRE HYDRANT PER COUNTY OF SANTA BARBARA DEVELOPMENT STANDARDS #2.
3. CONSTRUCT 3-5,000 GALLON UNDERGROUND TANKS PER ARCHITECT'S PLAN. (2,500 GAL FIRE WATER STORAGE PER BUILDING).
4. CONSTRUCT 1-5,000 GALLON ABOVE GROUND TANK DEDICATED FOR FIRE STORAGE PER DETAIL BELOW OR APPROVED EQUAL.
5. INSTALL CONCRETE TIE DOWN ALONG WATER LINE.
6. CONSTRUCT 2" HDPE DR13.5 200 PSI SUPPLY LINE FROM UNDERGROUND TANKS TO BUILDINGS.
7. INSTALL PROPOSED FIRE HYDRANT AND SHUT OFF VALVE PER PER COUNTY OF SANTA BARBARA DEVELOPMENT STANDARDS #3.
8. INSTALL TYPICAL AIR RELIEF VALVE AT HIGH POINT OF SUPPLY LINE.
9. INSTALL TYPICAL CONCRETE THRUST BLOCK.

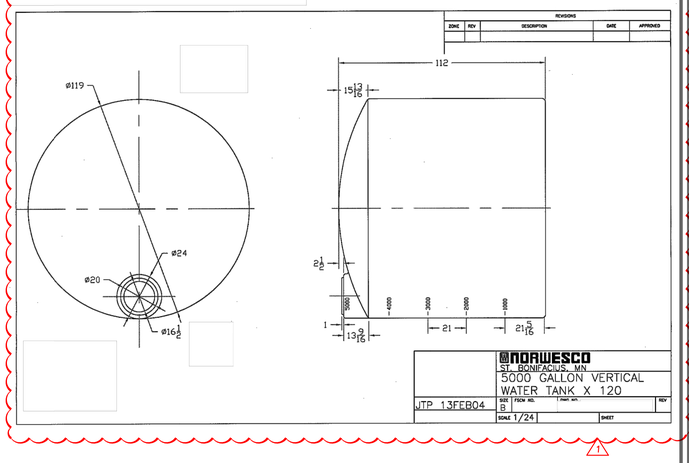
REQUIRED WELL SETBACKS

50' NO BUILDING, WASTE WATER LINE, SEWER MAIN OR SEPTIC TANK.

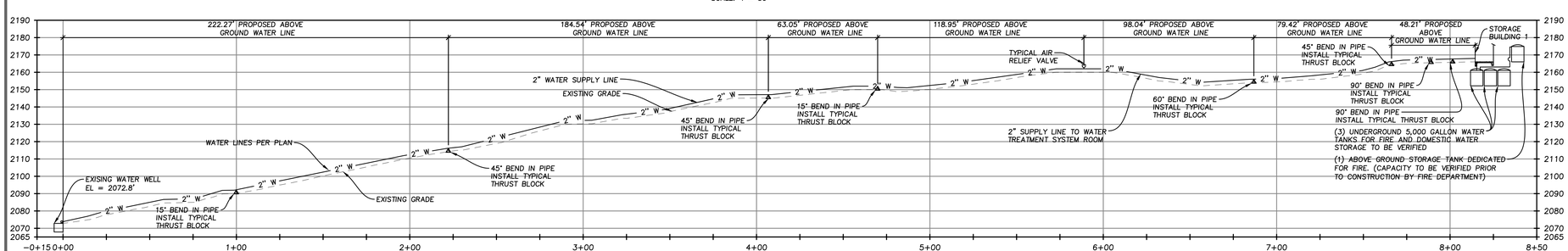
100' NO LEACH LINE, ANIMAL ENCLOSURE OR BELOW GROUND FUEL TANKS.

150' NO DRYWELLS OR EXPANSION FIELD.

200' NO OIL TRANSMISSION LINES.



B FIRE LINE PROFILE - FROM STORAGE TANKS HYDRANT
SCALE: 1" = HORIZ. 1" = 10'; VERT. 1" = 10'



A WATER LINE PROFILE - FROMWELL TO STORAGE TANKS
SCALE: 1" = HORIZ. 1" = 30'; VERT. 1" = 30'

N

SCALE: 1"=30'
0 30 60 90

COAST ENGINEERING & SURVEY, INC.
1110 CALIFORNIA BLVD.
SAN LUIS OBISPO, CA. 93401
PH: (805) 439-1926

REGISTERED PROFESSIONAL ENGINEER
TODD A. ROBINSON
No. 71756
CIVIL
STATE OF CALIFORNIA
PRELIMINARY

REVISIONS:
DATE: 10/16/2020
DESCRIPTION: REVISIONS PER FEEDBACK LETTER DATED 09/29/2020

DRAWN KMS
CHECKED TAR

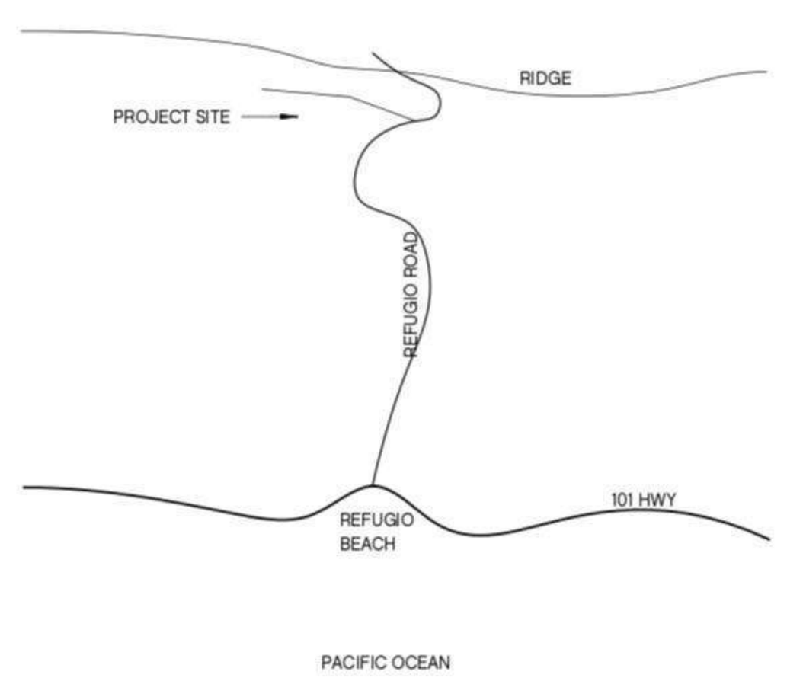
LOCATION
REFUGIO ROAD
GAVIOTA, CA 93117
APN: 081-040-044
PROJECT NO.
20021
CLIENT
YOUNG AMERICA'S FOUNDATION

MOORE RANCH
SITE IMPROVEMENTS PLAN
WATER PLAN

SHEET: C4 OF: 3
DATE: AUGUST 6, 2020

MOORE RANCH

Gaviota, CA 93117



Vicinity Map

Project Description

This Project Proposes A New 2,000 Sf Main Residence, 800 Sf Guest House, 2,200 Sf And 864 Sf Storage Barns. New Septic And Solar System. Minor Improvements On Existing Driveway Per Fire.

Project Details

Project Address: 0 Refugio Rd.
Gaviota, CA 93117

Owner: Young America's Foundation
217 State St.
Santa Barbara, CA 93101

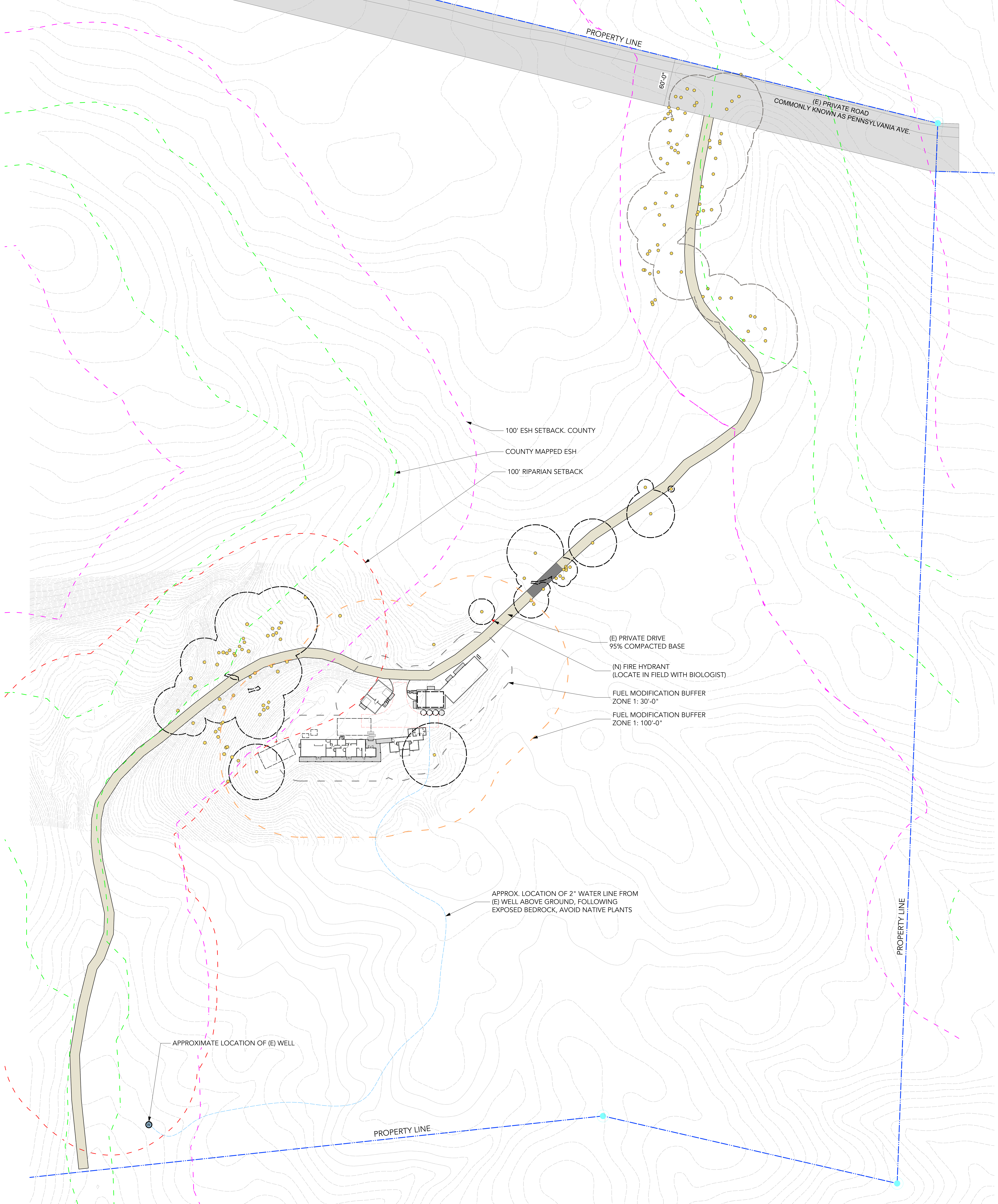
APN: 081-040-044

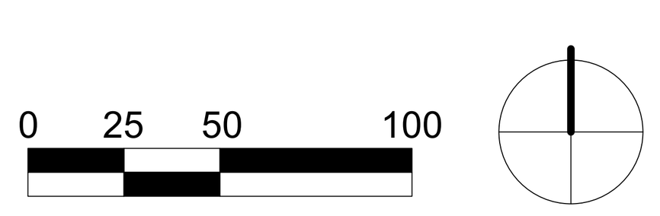
Consultants

Architect: A34 Studio
P.O. Box 4566
Santa Barbara, CA 93140
805.477.8829
lauren@a34studio.com

Landscape: Parryi Studio
133 E. De la Guerra #163
Santa Barbara, CA 93101
805.242.8327
chantal@parryi.com

Sheet Index





PARRYI STUDIO
LANDSCAPE ARCHITECTURE
133 E. De la Guerra #163
Santa Barbara, CA 93101
hello@parryi.com
www.parryi.com

SUBMITTALS

LICENSED LANDSCAPE ARCHITECT
KATIE KLEIN, Lic. No. 6253
Signature
Renewal Date
Date
STATE OF CALIFORNIA

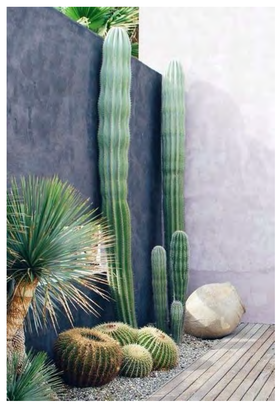
Project Manager:
Chantal Vo
805.242.8327
chantal@parryi.com

MOORE RANCH
0 Refugio Rd. Gaviota 93117
NOT FOR CONSTRUCTION

PROJECT:

SHEET CONTENTS
Cover Sheet

DATE	06/16/2021
SCALE	1" = 50'-0"
DRAWN	CV
JOB	20-11
SHEET	**L0.0**



3/8" BUELL FLAT
DRIVEWAY

3/4" BLUE FIELD STONE
ACCENT MULCH

"I HAVE COMPLIED WITH THE CRITERIA IN MWELO AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLAN."

Katie Klein, LA #6253 — Date

CERTIFICATE OF COMPLETION IN ACCORDANCE WITH MWELO SCTION 492.9 WILL BE SUBMITTED FOR REVIEW/ APPROVAL BY THE BUILDING AND SAFETY DIVISION PRIOR TO OCCUPANCY OF THE PROJECT.

THE CERTIFICATE OF COMPLETION SHALL CONTAIN, AT THE MINIMUM, THE FOLLOWING:

- Project information
- Certificate by either signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that the landscape project has been installed per the approved Landscape Documentation Package

Note: Where significant changes have been made in the field during installation, an "as-built" plan shall be included with the certification. A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes)
- Irrigation scheduling parameters used to set the controller (see MWELO Section 492.10)
- Landscape and irrigation maintenance schedule (see MWELO Section 492.11)
- Irrigation audit report (see MWELO SEction 492.12)
- Soil analysis report (if not previously submitted with Landscape Documentation Package)

FUEL MODIFICATION NOTES

ZONE 1
0-30 FEET

1. ALL EXISTING VEGETATION SHALL BE REMOVED COMPLETELY (WITH THE EXCEPTION OF A SMALL AMOUNT OF ANY EXISTING IDENTIFIED NATIVE SPECIES WITHIN THE 30' FUEL MODIFICATION SETBACK) AND REPLACED WITH APPROPRIATE LANDSCAPING FOR HIGH FIRE HAZARD AREAS.

2. ALL LANDSCAPING IN THIS ZONE WILL BE REGULARLY MAINTAINED.

3. NO NEW FLAMMABLE LANDSCAPING SHALL BE INSTALLED IN THIS ZONE.

4. LARGE TREES MAY OCCUPY THIS ZONE IF THEY ARE TRIMMED, WELL MAINTAINED AND FREE OF DISEASED, DEAD OR DYING MATERIAL.

5. ANY TREE OR SHRUB ADJACENT TO OR OVERHANGING A STRUCTURE SHALL BE WELL MAINTAINED, AND FREE OF DISEASED, DEAD OR DYING MATERIAL.

ZONE 2
30-100 FEET

1. EXISTING VEGETATION SHALL BE SELECTIVELY THINNED AS TO REDUCE PLANT-TO-PLANT, PLANT-TO-TREE, AND TREE-TO-TREE TRANSFER OF FIRE BOTH HORIZONTALLY AND VERTICALLY (FIRE LADDERS). SOME EXISTING VEGETATION TO BE REMOVED SHALL BE CUT AT THE BASE OF THE STUMP, ALLOW TO RE-SPROUT, THEN MAINTAINED AS A SMALL SHRUB BY PERIODIC TRIMMING.

2. EXISTING COASTAL SAGE SCRUB AND COYOTE BRUSH SCRUB SHALL REMAIN IN PLACE AND PROTECTED. NEW LANDSCAPING ADJACENT TO COASTAL SAGE SCRUB AND COYOTE BRUSH SCRUB SHALL BE SPACED ADEQUATELY TO PREVENT PLANT-TO-PLANT AND PLANT-TO-TREE OF FIRE BOTH HORIZONTALLY AND VERICALLY (FIRE LADDERS).

3. ALL VEGETATION REMOVED SHALL BE CHIPPED ON-SITE AND USED AS MULCH IN AREAS OF DISTURBED SOILS TO REDUCE EROSION.

ADDITIONAL REQUIREMENTS

1. BRUSH AND VEGETATION SHALL BE CLEARED 5 FEET FROM EDGES OF PROPOSED ACCESS DRIVE.

2. INSTALLATION OF WATER SYSTEM PRIOR TO COMMENCEMENT OF CONSTRUCTION.

3. ALL DEAD MATERIAL SHALL BE REMOVED WITHIN THE 100 FOOT FIRE ZONES.

4. NOXIOUS MATERIALS SHALL BE REMOVED WITHIN THE 100 FOOT FIRE ZONES.

PLANT PALETTE: USDA Zone - 9b

Botanic Name	Common Name	Size	Quantity	WUCOLS
Trees & Large Shrubs				
Olea europaea 'Swan Hill'	Fruitless Olive	24" box / multi	6	LOW
Quercus agrifolia	Coast Live Oak	24" box / multi	2	LOW
(E) to remain: Quercus agrifolia	Coast Live Oak	see Arborist Report	134 (117 protected)	LOW
(E) to remain: Arbutus menziesii	Pacific Madrone	see Arborist Report	11 (8 protected)	LOW
Cacti, Grasses, Shrubs				
Agave parryi	Parry's agave	5g	18	LOW
Agave attenuata	Foxtail Agave	15g	16	LOW
Agave 'Blue Glow'	Blue Glow Agave	5g	9	LOW
Agave tequiliana	Tequila Agave	15g	4	LOW
Muhlenberiga dubia	Pine Muhly	1g	56	LOW
Romneya coulteri	Matilija Poppy	5g	8	LOW
Festuca mairei	Atlas Fescue	1g	110	LOW
Sesleria autumnalis	Autumn Moor Grass	1g	23	MED
Opuntia ficus-indica 'Burbank Spineless'	Nopal	15g	7	LOW
Pachycereus marginatus	Mexican Fence Post	15g / multi	9	LOW
Echinocactus grusonii	Barrel Cactus	5g	13	LOW
Rhamnus 'Mound San Bruno'	Coffeeberry	5g	6	LOW
Groundcovers				
Leymus triticoides Lagunita	Lagunita Wild Rye	plugs	305 plugs @ 12" o.c.	LOW
Native Seed Mix	(From S&S Seed)	hydroseed	2,380 SF	LOW

PARRYI STUDIO
LANDSCAPE ARCHITECTURE
533 E. De la Guerra #163
Santa Barbara, CA 93101
hello@parryi.com
www.parryi.com

SUBMITTALS

LICENSED LANDSCAPE ARCHITECT
KATIE KLEIN, Lic. No. 6253
Signature
Renewal Date
Date
STATE OF CALIFORNIA

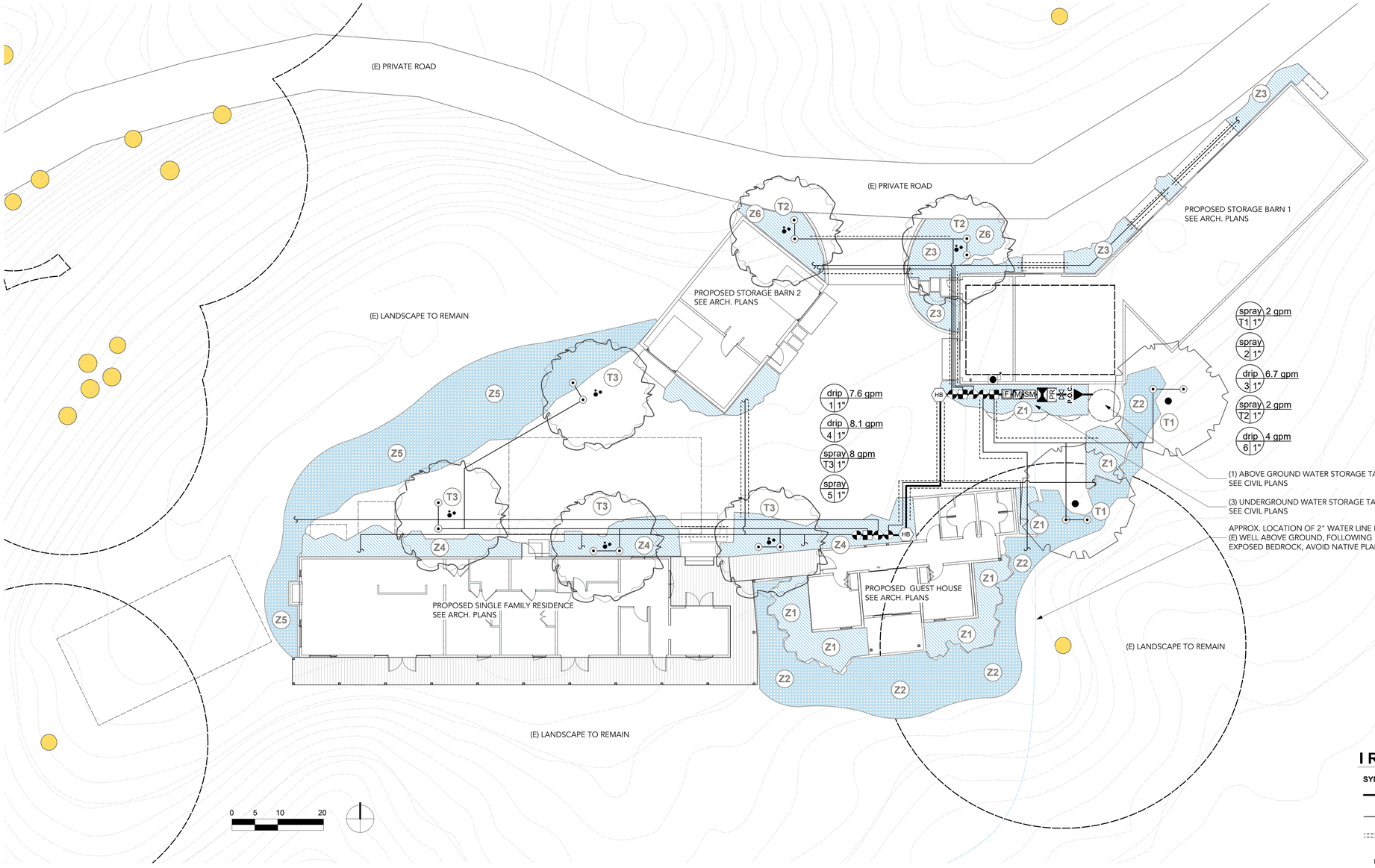
Project Manager:
Chantal Vo
805.242.8327
chantal@parryi.com

MOORE RANCH
0 Refugio Rd. Gaviota 93117
NOT FOR CONSTRUCTION

PROJECT:

SHEET CONTENTS: **Landscape / Planting Plan**

DATE	06/16/2021
SCALE	1" = 10'-0"
DRAWN	CV
JOB	20-11
SHEET	**L1.0**



IRRIGATION NOTES

1. THIS SYSTEM IS DIAGRAMMATIC. ALL PIPES, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE.

2. DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS INDICATED ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST AND SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR MUST ASSUME FULL RESPONSIBILITY FOR ALL REVISIONS NECESSARY.

3. IRRIGATION SYSTEM IS DESIGNED ASSUMING A STATIC WATER PRESSURE OF APPROXIMATELY 70 PSI AT POINT-OF-CONNECTION. PRIOR TO INSTALLATION OF IRRIGATION SYSTEM, CONTRACTOR SHALL VERIFY PRESSURE AT POINT-OF-CONNECTION.

4. IT IS THE INTENT OF THIS PLAN TO PROVIDE ADEQUATE IRRIGATION TO ALL PLANTING AREAS, PREVENT RUN-OFF, LOW HEAD DRAINAGE, OVERSPRAY, OR OTHER SIMILAR CONDITIONS WHERE IRRIGATION WATER FLOWS ONTO NON-TARGETED AREAS IN ACCORDANCE WITH MWELO SECTIONS 492.7(A)(1)(I) AND 492.7(A)(1)(U)

CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ANY AND ALL ADJUSTMENTS TO THE IRRIGATION SYSTEM NECESSARY TO ENSURE 100% IRRIGATION COVERAGE OF ALL PLANTING AREAS AND MWELO COMPLIANCE.

5. EMITTER SHALL BE LOCATED ON GRADE AND STAKED A MAXIMUM OF SIX INCHES FROM THE CENTER OF PLANT, OR EDGE OF ROOTBALL, WHICHEVER IS GREATER.

6. ALL PIPING INSTALLED UNDER PATHWAYS OR PAVED AREAS, THROUGH WALLS OR FOOTINGS SHALL BE PLACED INSIDE CLASS 60 SDR 26 SLEEVES OF ADEQUATE SIZE TO ALLOW FREE MOVEMENT OF THE PIPE AND ANY COUPLINGS IN THE SLEEVE. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION.

7. IRRIGATION LINES SHALL BE BURIED AT THE FOLLOWING MINIMUM DEPTHS: PVC PRESSURE MAINLINE:18" PVC LATERAL LINE:12"

8. IRRIGATION CONTRACTOR SHALL ADJUST FLOW CONTROL FOR PROPER PERFORMANCE AND VALVE LONGEVITY.

9. PRESSURE REGULATING DEVICES SHALL BE INSTALLED WHERE NECESSARY TO ENSURE THE DYNAMIC PRESSURE AT EACH EMISSION DEVICE IS WITHIN MANUFACTURER'S RECOMMENDED PRESSURE RANGE FOR OPTIMAL PERFORMANCE.

10. FLUSH VALVES SHALL BE INSTALLED AT THE ENDS OF ALL POLYETHYLENE DRIP TUBING IN ROUND VALVE BOXES WITH GRAVEL FILL.

11. CHECK VALVES SHALL BE INSTALLED AT LOW POINTS ON IRRIGATION LINE TO PREVENT LEAKAGE.

12. ALL PLANTING AREAS SHALL BE PROVIDED WITH A 3" THICKNESS OF MULCH, SAMPLES TO BE PROVIDED TO OWNER'S REPRESENTATIVE.

13. NO LAWN OR LANDSCAPE IRRIGATION WITH POTABLE WATER ALLOWED APART FROM THE HOURS OF 8:00PM AND 8:00AM. EXCEPT FOR HAND HELD HOSE EQUIPMENT WITH A POSITIVE SHUT-OFF NOZZLE.

14. IRRIGATION WATER SHALL NOT RUN OFF LANDSCAPED AREAS TO ADJACENT PROPERTY, ADJOINING STREETS, SIDEWALKS, OR OTHER PAVED AREAS DUE TO INCORRECTLY DIRECTED OR MAINTAINED SPRINKLERS OR EXCESSIVE WATERING.

15. ALL IRRIGATION EMISSION DEVICES WILL MEET THE CRITERIA SET FORTH BY MWELO SECTION 492.7(A)(1)(M) AND SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

16. A MANUAL INDICATING LAYOUT OF IRRIGATION SYSTEM AND MANUFACTURER INSTRUCTIONS FOR ALL EQUIPMENT AND PROCEDURES SHALL BE PROVIDED TO THE OWNER AT COMPLETION OF PROJECT.

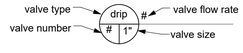
17. CERTIFCATE OF COMPLETION IN ACCORDANCE WITH MWELO SECTION 492.9 WILL BE SUBMITTED FOR REVIEW/APPROVAL BY THE BUILDING AND SAFETY DIVISION PRIOR TO FINAL OCCUPANCY.

18. LANDSCAPE CONSTRACTOR SHALL CLEAN UP ON A DAILY BASIS PER OWNER'S REPRESENTATIVE'S APPROVAL.

IRRIGATION LEGEND

SYMBOL	DESCRIPTION	MANUFACTURER / MODEL
	IRRIGATION MAINLINE	SEE MAINLINE SIZING, MINIMUM 1-1/4"
	IRRIGATION LATERAL	SEE LATERAL SIZING
	IRRIGATION SLEEVE	SEE IRRIGATION NOTES
P.O.C.	POINT OF CONNECTION	LOCATED AT ABOVE GROUND WATER STORAGE TANK *SEE CIVIL ENGINEERS' PLANS*
	BALL VALVE MAINLINE SHUT OFF IN VALVE BOX	SPEARS, TRUE UNION, WITH VITON O-RINGS, LINE SIZE
	IRRIGATION CONTROLLER	HUNTER A2C-1200-P 12-STATION BASE UNIT WITH CONTROLLER, EXPANDS TO 54 STATIONS, PLASTIC OUTDOOR WALL MOUNT HUNTER WSS-SEN WIRELESS SOLOR SYNC SENSOR, RECEIVER, AND GUTTER MOUNT CONFIRM LOCATION W/ OWNER PRIOR TO INSTALLATION INSTALL PER MFR SPECIFICATIONS.
PR	BACKFLOW PREVENTER + PRESSURE REDUCER PER CITY HEALTH CODE	1-1/2" FEBCO 825YA-QT RT OR APPROVED EQUAL 1-1/2" WILKINS SXL WYE STRAINER 1-1/2" WILKINS 500XL PRES. REDUCER, 1-1/2" BRASS UNIONS
SM	SUBMETER	HUNTER HC-150-FLOW, 1-1/2"
M	MASTER VALVE, NORMALLY CLOSED, IN VALVE BOX	HUNTER IBV-151G-FS, 1-1/2" BRASS GLOBE VALVE
F	FLOW SENSOR, IN VALVE BOX	HUNTER FCT-150, 1-1/2" SCHEDULE 40 SENSOR RECEPTACLE TEE
QC	QUICK COUPLER	HUNTER HQ44-LRC-AW
HB	HOSE BIB	3/4" BRASS HOSE BIB
	REMOTE CONTROL VALVE	HUNTER ICV-101G-FS W/ AS-ADJ, 1"
	DRIP REMOTE CONTROL VALVE	HUNTER ICZ-101-LF
#	DRIP IRRIGATION ZONES	HUNTER 1/2" PE SUPPLY TUBING W/ HUNTER POINT SOURCE EMITTERS, SEE EMITTER LEGEND
	ROOT WATERING SYSTEM	HUNTER RZWS AND MSBN, SEE EMITTER LEGEND FOR SIZE AND MODEL
#	TEMPORARY SPRAY IRRIGATION ZONES	HUNTER PRO-SPRAY PROS-06 -PRS40-CV WITH HUNTER MP ROTATOR NOZZLE (40PSI) TEMPORARY SPRAY IRRIGATION ZONES TO BE TERMINATED AFTER 2 YEAR ESTABLISHMENT PERIOD.

VALVE IDENTIFICATION



MAINLINE/LATERAL SIZING

0-4 gpm	1/2"	schedule 40
4-8 gpm	3/4"	schedule 40
8-12 gpm	1"	schedule 40
12-22 gpm	1 1/4"	schedule 40
22-30 gpm	1 1/2"	schedule 40
30-50 gpm	2"	class 315
50-70 gpm	2 1/2"	class 315
70-120 gpm	3"	class 315

EMITTER LEGEND

PLANT MATERIAL	EQUIPMENT
FLATTED GROUNDCOVER	MICROSPRAY EMITTERS
4" POT	2 - HE-20-B EMITTERS PER PLANT
1 GALLON	2 - HE-20-B EMITTERS PER PLANT
5 GALLON SHRUBS	3 - HE-20-B EMITTERS PER PLANT
15 GALLON SHRUBS	4 - HE-20-B EMITTERS PER PLANT
15 GALLON TREES	1 - RZWS-18-50-CV AND 1 - MSBN-50Q WITH PROS-04-PRS30 PER TREE
24" BOX TREES	1 - RZWS-18-50-CV AND 1 - MSBN-50Q WITH PROS-04-PRS30 PER TREE
36" BOX TREES	1 - RZWS-18-50-CV AND 1 - MSBN-50Q WITH PROS-04-PRS30 PER TREE
48" BOX TREES AND ABOVE	2 - RZWS-18-50-CV AND 2 - MSBN-50Q WITH PROS-04-PRS30 PER TREE
15 GALLON CITRUS	2 - SOLO-DRIP SD-B-STK MICRO SPRAY PER TREE
24" BOX CITRUS	2 - SOLO-DRIP SD-B-STK MICRO SPRAY PER TREE
36" BOX CITRUS	3 - SOLO-DRIP SD-B-STK MICRO SPRAY PER TREE

IRRIGATION VALVE LEGEND

VALVE/ZONE	DESCRIPTION	WATER USE	AREA
ZONE T1	TREES	LOW WATER	60 SF
ZONE T2	TREES	LOW WATER	60 SF
ZONE T3	TREES	LOW WATER	120 SF
ZONE 1	SHRUBS & GRASSES	LOW WATER	702 SF
ZONE 2	NATIVE SEED MIX (HYDROSEED)	LOW WATER *TEMPORARY IRRIGATION*	1,130 SF
ZONE 3	AGAVES, CACTI & GRASSES	LOW WATER	475 SF
ZONE 4	AGAVES, CACTI & GRASSES	LOW WATER	690 SF
ZONE 5	NATIVE SEED MIX (HYDROSEED)	LOW WATER *TEMPORARY IRRIGATION*	1,248 SF
ZONE 6	AGAVES, CACTI & GRASSES	LOW WATER	230 SF

"I HAVE COMPLIED WITH THE CRITERIA IN MWELO AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN."

Katie Klein, LA #6253 Date

CERTIFICATE OF COMPLETION IN ACCORDANCE WITH MWELO SCTION 492.9 WILL BE SUBMITTED FOR REVIEW/ APPROVAL BY THE BUILDING AND SAFETY DIVISION PRIOR TO OCCUPANCY OF THE PROJECT.

THE CERTIFICATE OF COMPLETION SHALL CONTAIN, AT THE MINIMUM, THE FOLLOWING:

- Project information
- Certificate by either signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that the landscape project has been installed per the approved Landscape Documentation Package

Note: Where significant changes have been made in the field during installation, an "as-built" plan shall be included with the certification. A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes)
- Irrigation scheduling parameters used to set the controller (see MWELO Section 492.10)
- Landscape and irrigation maintenance schedule (see MWELO Section 492.11)
- Irrigation audit report (see MWELO SEction 492.12)
- Soil analysis report (if not previously submitted with Landscape Documentation Package)

PARRYI STUDIO
LANDSCAPE ARCHITECTURE
510 E. De la Guerra #163
Santa Barbara, CA 93101
hello@parryi.com
www.parryi.com

SUBMITTALS

LICENSED LANDSCAPE ARCHITECT
KATIE KLEIN, Lic. No. 6253
Signature
Renewal Date
Date
STATE OF CALIFORNIA

Project Manager:
Chantal Vo
805.242.8327
chantal@parryi.com

PROJECT:
MOORE RANCH
0 Refugio Rd. Gaviota 93117
NOT FOR CONSTRUCTION

SHEET CONTENTS
Irrigation Plan

DATE 06/16/2021
SCALE 1" = 10'-0"
DRAWN CV
JOB 20-11
SHEET **L2.0**

HYDROZONE LEGEND

	HYDROZONE	DESCRIPTION	IRRIGATION METHOD	WATER USE	AREA
T1	ZONE T1	TREES	ROOT WATERING	LOW WATER	60 SF
T2	ZONE T2	TREES	ROOT WATERING	LOW WATER	60 SF
T3	ZONE T3	TREES	ROOT WATERING	LOW WATER	120 SF
	ZONE 1	SHRUBS & GRASSES	DRIP	LOW WATER	702 SF
	ZONE 2	NATIVE SEED MIX (HYDROSEED)	SPRAY *TEMPORARY IRRIGATION*	LOW WATER	1,130 SF
	ZONE 3	AGAVES, CACTI & GRASSES	DRIP	LOW WATER	475 SF
	ZONE 4	AGAVES, CACTI & GRASSES	DRIP	LOW WATER	690 SF
	ZONE 5	NATIVE SEED MIX (HYDROSEED)	SPRAY *TEMPORARY IRRIGATION*	LOW WATER	1,248 SF
	ZONE 6	AGAVES, CACTI & GRASSES	DRIP	LOW WATER	230 SF

WATER EFFICIENT LANDSCAPE WORKSHEET

Use drop down menus or type in values in white cells only. Results appear in Yellow or Red highlighted cells below.

Site Information

Site Name → *Moore Ranch* Ca

Site Type → Residential **Allowed ETAF:** 0.55

Annual Eto (inches/yr) → 46.3

Hydrozone or Planting Description	Plant Factor (PF)		Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Hydrozone Area (sqft.)	ETAF x Area	Estimated Total Water Use (gal./yr.)
Regular Landscape Areas								
T1	0.2	Low	Drip	0.81	0.2	60	15	425
T2	0.2	Low	Drip	0.81	0.2	60	15	425
T3	0.2	Low	Drip	0.81	0.2	120	30	851
1	0.2	Low	Drip	0.81	0.2	702	173	4,976
2	0.3	Low	Overhead Spray	0.75	0.4	1,130	452	12,975
3	0.2	Low	Drip	0.81	0.2	475	117	3,367
4	0.2	Low	Drip	0.81	0.2	690	170	4,891
5	0.3	Low	Overhead Spray	0.75	0.4	1,248	499	14,330
6	0.2	Low	Drip	0.81	0.2	230	57	1,630
					SUBTOTAL →	**4,715**	**1,528**	**43,870**
Special Landscape Areas								
NA					1		0	0
					SUBTOTAL →	**0**	**0**	**0**
						Estimated Total Water Use (ETWU) →		**43,870**
						Maximum Allowed Water Allowance (MAWA) →		**74,442**

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	1,528
Total Area	4,715
Average ETAF	0.32

All Landscape Areas

Total ETAF x Area	1,528
Total Area	4,715
Sitewide ETAF	0.32

Notes:

Adapted from California Code of Regulations Title 23, Division 2, Chapter 2.7. Model Water Efficient Landscape Ordinance

Calculator developed to meet code effective Dec. 1, 2015
This calculator is for estimating purposes only.
Hunter assumes no liability for application of this calculator.

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SUBMITTALS

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PROJECT:
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0 Refugio Rd. Gaviota 93117
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SHEET CONTENTS
Model Water Efficient Landscape Plan

DATE 06/16/2021
SCALE 1" = 10'-0"
DRAWN CV
JOB 20-11
SHEET **L3.0**

Attachment 3: Biological Assessment dated October 2021

Biological Assessment Report

for the

Moore Ranch

Prepared for:

Young America's Foundation
217 State Street
Santa Barbara, CA 93101
Contact: Brent Kilpper

Prepared by:

DUDEK
621 Chapala Street
Santa Barbara, California 93101
Contact: Dave Compton, Senior Wildlife Biologist
John Davis IV, Principal, Senior Ecologist

OCTOBER 2021

Printed on 30% post-consumer recycled material.

Table of Contents

APPENDICES

FIGURES

TABLES

1 Introduction

Dudek has prepared this Biological Assessment Report (report) for the Moore Ranch New Single-Family Dwelling project (project), Case No. 20LUP-00000-00040, to identify potential biological resources to occur within and adjacent to the project site. The project includes construction of a new single-family dwelling, guest house, and two storage barns. The report's primary intent is to support the Land Use Permit application and review process for the project. The report also provides recent observations and analyses that would be useful in future consultation and/or permit application review, *if required*, by applicable regulatory resource agencies, including the California Department of Fish and Wildlife (CDFW), the U.S. Army Corps of Engineers (USACE), the Central Coast Regional Water Quality Control Board (RWQCB), and the U.S. Fish and Wildlife Service (USFWS).

1.1 Project Location

The project is located within Assessor's Parcel Number (APN) 081-040-044, a 92.2-acre parcel in the Santa Ynez Mountains, near the Gaviota Coast of southern Santa Barbara County (Figure 1). The project parcel is located west of Refugio Road and south of Forest Route 5N 19. The property is one of several private inholdings within the Los Padres National Forest and is just south of the crest of the Santa Ynez Mountains between approximately 2,080 ft. above mean sea level (amsl) and approximately 2,250 ft. amsl.

1.2 Project Description

The project includes construction of an approximately 2,000 square-foot single-family residence, an 800 square-foot guest house, a 2,220 square-foot storage barn, and an 864 square-foot storage barn, for a total of 5,864 square feet. It would also include installation of a new septic system, use of an existing wellhead, and redesign of an existing unpermitted culvert where the existing access road crosses an unnamed ephemeral stream that is designated as Environmentally Sensitive Habitat (ESH) in the Gaviota Coast Plan (County 2016). Redesign would involve replacement of the single 18-inch culvert with two 18-inch culverts or converting of the stream crossing to a concrete Arizona crossing. Project construction would require minor earthwork to grade the existing road and building pad. Grading will include approximately 450 cubic yards of cut and 450 cubic yards of fill. The limits of grading for the project occur over approximately 0.46 acres. Access will be provided from the existing dirt road off Refugio Road that will be improved.

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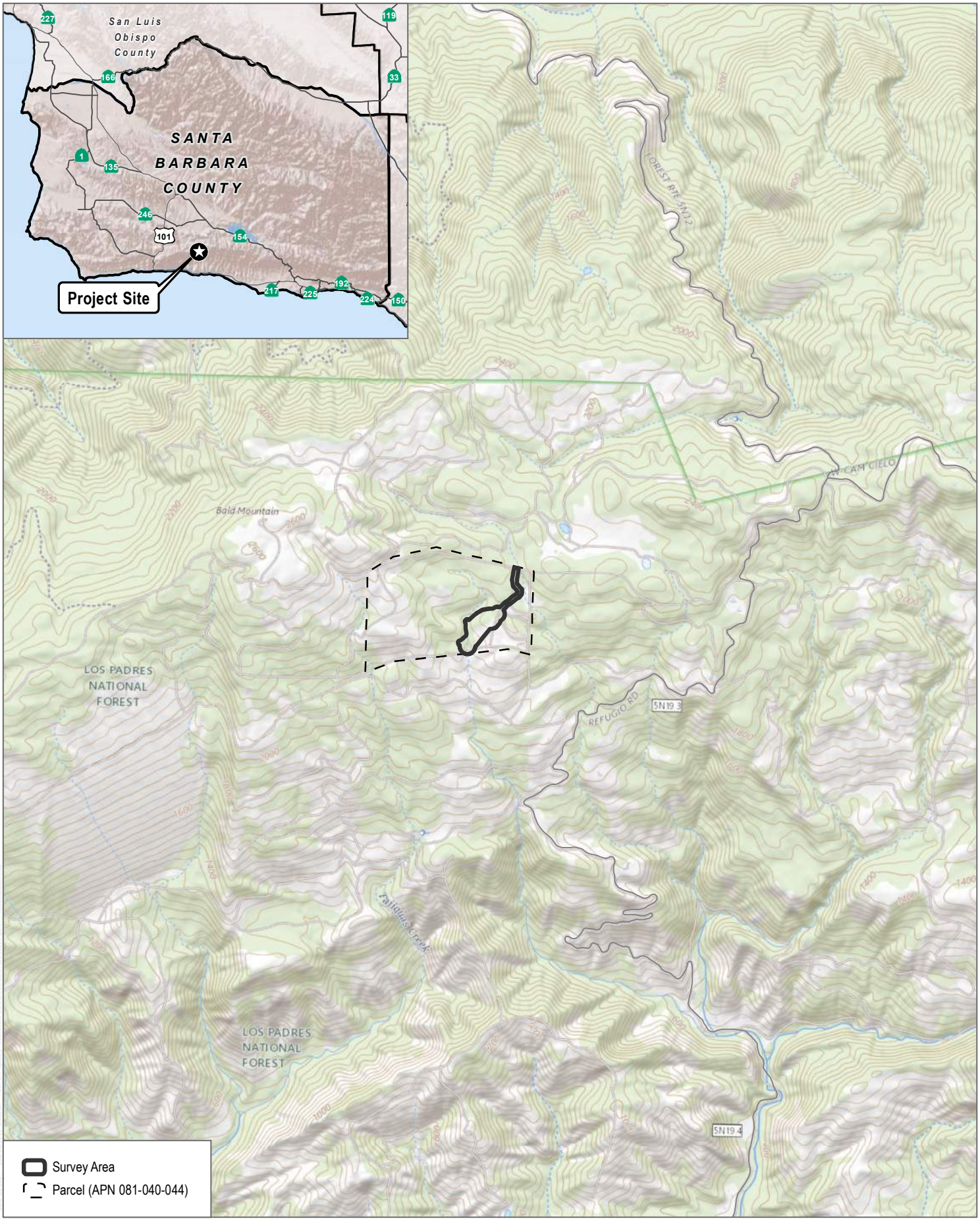

SOURCE: USGS 7.5-Minute Santa Ynez Quadrangle

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Moore Ranch

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2 Regulatory Setting

This section outlines the federal, state, and local regulations pertinent to the biological resources of the project site and immediate vicinity. Some of the biological resources that could be affected by the proposed project are regulated by resource agencies, which often overlap in jurisdiction. This section identifies and discusses the various programs regulating sensitive habitats, state- and/or federally listed threatened or endangered plants and wildlife, and jurisdictional aquatic/hydrological features, such as drainages, streambeds, riparian habitat, and wetlands.

2.1 Sensitive Vegetation Communities Defined

For the purpose of this Biological Assessment Report, sensitive vegetation communities and habitats include:

- Alliances on CDFW's California Natural Community List with a State rank of S1, S2, or S3 (CDFW 2020);
- Vegetation communities or habitats listed in the California Natural Diversity Database (CNDDB; CDFW 2021a); or
- Habitats considered locally sensitive under policies of the Gaviota Coast Plan (County 2016) or the Conservation Element of the Santa Barbara County Comprehensive Plan (County 2010).

2.2 Special-Status Plant and Wildlife Species Defined

For the purpose of this Biological Assessment, special-status plant and wildlife species are those:

- Designated as either rare, threatened, or endangered by CDFW, USFWS, or the National Marine Fisheries Service (NMFS) and protected under either the California Endangered Species Act (CESA) (Fish & Game Code, § 2050 et seq.) or federal Endangered Species Act (ESA) (16 U.S.C. § 1531 et seq.), or meet the CEQA definition for endangered, rare, or threatened (Cal. Code Regs., tit. 14, § 15380(b),(d));

Additional special-status wildlife species include those that are:

- California Species of Special Concern (SSC), as designated by CDFW (2021b); or
- Vertebrate species that are fully protected (FP) species, as described in Fish and Game Code; or

Additional special-status plant species include those that are:

- Candidate species being considered or proposed for listing under these same acts; or
- Of expressed concern to resource/regulatory agencies or local jurisdictions. This includes plants included on the CDFW *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2017c) as well as species with a California Rare Plant Ranking (CRPR) of 1, 2, 3, or 4 in the California Native Plant Society (CNPS) Inventory

of Rare and Endangered Plants of California (CNPS 2020a). Plants included on the CNPS Inventory are classified as follows:

- List 1A: plants presumed extinct in California;
- List 1B: plants rare, threatened, or endangered in California and elsewhere;
- List 2: plants rare, threatened, or endangered in California, but more common elsewhere;
- List 3: Plants about which we need more information – A review list; and
- List 4: plants of limited distribution – a watch list.

2.3 Endangered Species Acts

2.3.1 State of California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA) (Fish and Game Code), which prohibits the "take" of plant and animal species designated by the Fish and Game Commission as endangered or threatened in the state of California. Protections are also accorded "candidate" species, which include plant and animal species that are formally being considered for listing as endangered or threatened. Section 2081 of the Fish and Game Code provides for the application of an incidental take permit for take of species protected under CESA that occurs incidentally during otherwise lawful activities.

2.3.2 Federal Endangered Species Act

The federal Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 et seq.), as amended, is administered by the USFWS and the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. Under the provisions of Section 9(a)(1)(B) of the ESA (16 U.S.C. 1531 et seq.), it is unlawful to "take" any listed species.

In a case where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant or wildlife species, the property owner and agency are required to consult with USFWS or NMFS. Take permits are obtained either through a Biological Opinion, when the action being permitted involves another federal agency as described in Section 7 of the ESA, or a Habitat Conservation Plan, under Section 10 of the ESA.

2.4 Migratory Bird Protections

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource (16 U.S.C. 703–712). The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others. Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds.

The MBTA protects over 800 species of birds, which are listed in the Code of Federal Regulations (50 CFR 10.13). The MBTA prohibits the "take" of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, take is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so.

Pursuant to Section 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or destroy any birds of prey; or to take, possess, or destroy any nest or eggs of such birds. "Birds of prey" refer to species in the orders Falconiformes and Strigiformes [now also including the order Accipitriformes]. Active nests of all other native birds are similarly protected under Sections 3503 and 3513 of the Fish and Game Code. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. This statute does not provide for the issuance of an incidental take permit.

2.5 Jurisdictional Waters of the U.S./State, Including Wetlands

Three primary agencies regulate activities within coastal streams, wetlands, and riparian areas in California: the U.S. Army Corps of Engineers (USACE) Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act (CWA); the CDFW regulates activities under Sections 1600–1616 of the Fish and Game Code; and the California Regional Water Quality Control Board (RWQCB) regulates activities under the Porter-Cologne Water Quality Control Act and Section 401 of the CWA. In addition, Santa Barbara County regulates hydrologic features per their Environmental Thresholds and Guidelines Manual (County 2018). The following discussion provides information on each agency's regulatory program. In addition, Section IV, Appendix G (Environmental Checklist Form), of the *California Environmental Quality Act (CEQA) Statutes and Guidelines* (AEP 2008) requires an evaluation of impacts to "federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means."

2.6 Local Laws, Ordinances, Regulations, and Standards

In addition to the federal and state regulations identified above, the following local laws, ordinances, regulations, and standards apply to the environmental review of potential impacts on biological resources as a result of the proposed project.

2.6.1 Santa Barbara County Environmental Thresholds and Guidelines Manual

The County of Santa Barbara (2018) provides project design guildelines for woodlands and forests. Specific guidelines are provided by resource type in Section 5.

2.6.2 Gaviota Coast Plan

The Gaviota Coast Plan (County 2016) identifies natural resources stewardship policies and development standards to protect important sensitive habitat and special status species within the Gaviota Coast Plan area. Natural and

Cultural Resources Stewardship is included in Section 2 of the Gaviota Coast Plan. Relevant policies and development standards are provided by resource type in Section 5.

3 Methods

Dudek senior biologist Dave Compton made an initial site visit with Young American Foundation representative Brent Kilpper on June 17, 2019, for site familiarization and for purposes of preparing a strategy for assessing biological resources of the project site. Based on this initial visit, Dudek proposed to conduct a literature review and field surveys in preparation for the analysis in this report. This section describes the methods of the literature review and field surveys. In addition to biological surveys, a certified arborist conducted an inventory of all trees within or immediately adjacent to potential impact areas. The results of this survey, and proposed tree protection measures, are included in a separate Tree Protection Report (Dudek 2021).

3.1 Literature Review

The location of documented sensitive vegetation communities, special-status plant species, and special-status wildlife species present near the project site and that have potential to occur on-site were identified, in part, through a query of the California Natural Diversity Database (CNDDB) database for the area within five miles of the site (CDFW 2021a); USFWS Information for Planning and Consultation (IPaC) website (USFWS 2020a); California Native Plant Society's online Inventory of Rare and Endangered Plants (CNPS 2020a); and the on-line database Calflora: Information about California Plants for Education, Research and Conservation (Calflora 2020). Dudek also reviewed descriptions of biological resources in the region contained with the Gaviota Coast Plan (County 2016) and the Conservation Element of the County of Santa Barbara Comprehensive Plan (County 2010). In addition, Dudek reviewed the following available resources to assess the potential for biological and wetland resources within the Project site and vicinity:

- U.S. Geological Survey (USGS) National Hydrography Dataset (NHD; USGS 2020);
- USFWS National Wetlands Inventory (NWI; USFWS 2020b); and
- U.S. Department of Agriculture, Natural Resources Conservation Service Web Soil Survey (USDA-NRCS 2020).

In addition, Dudek consulted the Gaviota Coast Plan for relevant biological policies pertaining to the project site, as described in Section 2.6, and additional miscellaneous sources for information on occurrences of wildlife species.

3.2 Field Surveys

Dudek conducted an initial site visit, a biological reconnaissance survey, rare plant surveys, delineation of ordinary high water mark, and a California red-legged frog (*Rana draytonii*) assessment (Table 1). All surveys are described below.

Table 1. Survey Dates, Times, Conditions, and Personnel

Date/Time	Conditions	Biologist(s)	Survey Type
June 15, 2019 9:50 a.m. – 10:40 a.m.	100% cloud cover (cc), 60ºF, 0 mph winds,	Dave Compton	Initial visit

Table 1. Survey Dates, Times, Conditions, and Personnel

Date/Time	Conditions	Biologist(s)	Survey Type
July 25, 2019 9:20 a.m. – 1:30 p.m.	50% cc, 84–86°F, 0–4 mph winds	Dave Compton, Mackenzie Forgey	Bio recon survey
May 12, 2020 8:30 a.m. – 5:35 p.m.	0-90% cc, 55–59°F, 0–12 mph winds	Heather Moine	Special-status plant species survey
July 7, 2020 9:15 a.m. – 2:55 p.m.	0% cc, 70–74°F, 0–4 mph winds	Heather Moine	Special-status plant species survey, OHWM delineation
November 12, 2020 11:40 a.m. – 2:00 p.m.	0% cc, 60–65°F, 0–2 mph winds	Dave Compton	California red-legged frog assessment
August 31, 2021 10:00 a.m. – 2:00 p.m.	0% cc, 67–72°F, 0–2 mph winds	John Davis IV Noah Stamm	Assessment of Creek Crossing. Oak Tree Assessment

3.2.1 Biological Reconnaissance Survey

Dudek conducted the biological reconnaissance survey on July 25, 2019, to document biological resources occurring on the project site. As the project parcel extended well beyond the proposed building site location, the survey did not encompass the entire parcel. Although the exact locations of structures and ground disturbance associated with the project were not yet known, based on discussions with the Young America Foundation during the initial site visit, an approximate location for buildings associated with the project was known. Dudek surveyed an area large enough to encompass any potential direct construction impacts, as well as an area encompassing at least a 100-foot buffer, where any potential fuel modification impacts might occur. This "survey area" also included the access road leading from Forest Route 5N19 to the building site and from the building site to the wellhead, plus a 30-foot buffer from the access road and a 100-foot buffer from the wellhead (Figure 2). Dudek biologists Dave Compton and Mackenzie Forgey mapped vegetation communities, including any sensitive vegetation communities; identified any habitat for potentially occurring special-status plant and wildlife species; recorded all plant and wildlife species observed directly (visually or from vocalizations) or from sign, such as tracks, scat, or feathers; and recorded any potential aquatic resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE), the Central Coast Regional Water Quality Control Board (RWQCB), or the California Department of Fish and Wildlife (CDFW). Further details in relation to vegetation mapping, the habitat assessment for special-status wildlife species, and the identification of potential aquatic resources are provided below.

3.2.2 Vegetation Mapping

Vegetation mapping was conducted based on the California Natural Community List (NCL; CDFW 2019) and the web-based version of the *Manual of California Vegetation* (CNPS 2020b), which use the scientific name of the dominant species in that alliance as the alliance name. Both are based on the *Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009). The NCL and MCV2 focus on a quantified, hierarchical approach to vegetation classification that includes both floristic (plant species) and physiognomic (community structure and form) factors as currently observed (as opposed to predicting climax or successional stages). CNPS launched the web-based version of MCV2 in 2015 that provides up-to-date rankings and vegetation community descriptions (CNPS 2020).

Vegetation mapping was performed in the field during the biological reconnaissance survey (Table 1), through interpretation of field maps with a high quality aerial photographic base and/or delineation using a Trimble Geo XT Global Position System (GPS) unit capable of sub-meter accuracy for all sensitive vegetation, or areas where interpretation was more challenging. The GPS data was downloaded into GIS ArcView for placement onto an aerial figure. In combination with the GPS data, a GIS technician digitized the delineated vegetation boundaries from field maps using ARCVIEW to create the vegetation community map. A small part of the survey area shown on Figure 2, north and northeast of the building site and on either side of the access road, was not surveyed directly in the field. However, photographs and aerial images suggest communities in these areas are the same as adjacent areas.

3.2.3 Special-Status Species Habitat Assessment

The special-status species habitat assessment was conducted during the biological reconnaissance survey (Table 1). Dudek identified potentially occurring special-status plant and wildlife species for the project vicinity during the literature review. Based on the known habitat requirements for species potentially occurring, Mr. Compton and Ms. Forgey walked the entire survey area to identify vegetation communities and vegetation structure, soils, aquatic features, and other habitat features with the potential to support the species identified. Any special-status plants or wildlife identified during the survey were also recorded, and locations were mapped.

3.2.4 Potential Aquatic Resources

During the biological reconnaissance survey, Dudek identified aquatic features that would likely be subject to the jurisdiction of the USACE, RWQCB, CDFW, or the County of Santa Barbara (County). A formal wetland delineation and jurisdictional determination was not conducted; however, hydrologic features potentially regulated by the USACE acting under Section 404 of the Clean Water Act (CWA); the RWQCB acting under Section 401 of the CWA and the Porter-Cologne Act; the CDFW acting under Sections 1600-1607 of the California Fish and Game Code; CCC under the Coastal Zone Management Act and the CLUP (County 2014); or the County per the Environmental Thresholds and Guidelines Manual (County 2018) were noted as they were encountered. Boundaries of potential aquatic resources were mapped. Additional data relating to the ordinary high water mark (OHWM) of a stream present in the survey area and the limits of riparian vegetation were recorded in July 2020 (Table 1).

3.2.5 Rare Plant Survey

A Dudek botanist familiar with the target special-status plant species and general flora of Santa Barbara County, conducted floristic surveys (spring and early summer passes; Table 1) in accordance with the USFWS, CDFW, and CNPS guidelines (CDFG 2009; CNPS 2001; Cypher 2002). The botanist surveyed the survey area for special-status plant species by walking the site for 100 percent visual survey coverage, depending on topography and vegetative cover. The botanist meandered to ensure the entire survey area was completely surveyed. During the surveys, when a special-status species was observed, the location was mapped using Environmental Systems Research Institute (ESRI) Collector with Trimble R2 with sub-meter accuracy.

Native and naturalized plant species encountered during the surveys were identified and recorded. Scientific and common names for plant species with a California Rare Plant Rank (formerly CNPS List) follow the California Native Plant Society On-Line Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2020). For plant species without a California Rare Plant Rank, scientific names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2020) and common names follow the California Natural Community list (CDFW 2019) or the United States Department of Agriculture (USDA)

Natural Resources Conservation Service Plants Database (USDA 2019). The cumulative list of plants identified during both 2018 and 2019 surveys is included as Appendix A.

The rare plant surveys did not cover two small areas on either side of the access road that are shown as being part of the survey area, as these areas were outside the known impact area and expected fuel modification zone (FMZ) at the time of surveys. However, both are areas of dense, impenetrable chaparral that are highly unlikely to support rare plants, other than shrub species such as Refugio manzanita (*Actostaphyolos refugioensis*), which is prevalent in the area.

3.2.6 California Red-Legged Frog Assessment

The California red-legged frog assessment included a query of the California Natural Diversity Database (CNDDB) and other sources for information on occurrences of California red-legged frog in the vicinity, a desktop review of aerial imagery, and a field assessment conducted on November 12, 2020. The desktop review included not only the CNDDB query, but a review of the *California Amphibian and Reptile Species of Special Concern* (Thomson et al 2016) for specimen records of California red-legged frog, and a review of several online databases of specimen records, to ensure that no publicly available information on frog occurrences is omitted from the analysis. The review of aerial imagery included all Google Earth© images for the project vicinity, including at least one mile in any direction of the building site, since 1994. The purpose of this review was to identify areas of ponding that could potentially provide suitable aquatic breeding habitat for California red-legged frog. The field assessment consisted of walking the project site and vicinity within approximately 500 feet of proposed project impacts, where accessible, for evidence of ponding, and driving accessible areas within 1.0 mile of the site. As most of the area within 500 feet of the site is dense scrub and coast live oak woodland not supporting conditions for aquatic breeding habitat, the focus of the survey within this area was two unnamed ephemeral streams occurring in the area, one west and southwest of the building site and one adjacent to the east side of the access road at the entrance on the north edge of the property. Dudek's senior wildlife biologist Dave Compton walked the stream nearer to the building site, in all areas within 350 feet of proposed ground disturbances. A steep reach of the stream between approximately 350 and 500 feet from proposed ground disturbances was farther upstream, northwest of the building site. Mr. Compton viewed this reach from the bottom of the steep slope, as access in this area was unsafe. Dudek biologist Heather Moine previously walked the ephemeral stream within approximately 350 feet of the building site, on July 7, 2020, to map the ordinary high water mark (OHWM), and observed stream characteristics while doing so. A second ephemeral stream east and northeast of the building site was observed where it occurs adjacent to the access road, at the north edge of the property. Due to the steep slopes above this stream at this point, and the dense chaparral between the site and the stream farther south, Dudek's observations were limited to what could be observed from the access road.

SOURCE: CIRGIS 2017

DUDEK

0 75 150 Feet

FIGURE 2

Project Site

Moore Ranch

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4 Results

This section discussion results of vegetation community and land cover mapping, wild habitat observations, and focused special-status plant surveys, and assessments of the potential occurrence of special-status plants and wildlife as well as wildlife movement in the survey area.

4.1 Vegetation Communities and Land Covers

A total of 12 vegetation communities and land cover types were documented in the survey area (Figure 3, Table 2).

Table 2
Summary of Vegetation Communities and Land Cover Types in the Survey Area

Physiognomic Category	General Habitat	Vegetation Communities	Rarity Ranking Global/State/Local	Acres
Herbaceous Alliances and Stands (Upland)	Grassland	Purple Needle Grass Grassland	*G3/S3?/ESH*	*0.30*
			Herbaceous Alliances and Stands (Upland) Total	0.30
Forest and Woodland Alliances	Woodlands	Coast Live Oak Woodland Alliance (Upland)	*G5/S4/ESH*	*0.35*
		Coast Live Oak Woodland Alliance (Riparian)	*G5/S4[1]/ESH*	*0.66*
		Coast Live Oak – Madrone Woodland Association	*G5/S4/ESH*	*0.33*
		Coast Live Oak/Greenbark Ceanothus	*G5/S4/ESH*	*0.83*
			Forest and Woodland Alliances Total	2.17
Shrubland Alliances and Stands (Upland)	Scrub	Chamise Chaparral Alliance Shrubland Alliance	G5/S5	1.63
		Mixed Refugio Manzanita Chaparral	*- -/- -/ESH*	*0.38*
		Greenbark Ceanothus Shrubland Alliance	G4/S4	0.39
		Greenbark Ceanothus – Big Pod Ceanothus Shrubland Alliance	G4/S4	0.65
		Scrub Oak – Southern Mixed Chaparral Shrubland Association	G4/S4	0.94
		Scrub Oak – Chamise Chaparral Shrubland Alliance	G4/S4	0.34
			Shrubland Alliances and Stands (Upland) Total	4.33
Non-Vegetated Habitats	N/A	Disturbed	NA	0.66
			Non-Vegetated Habitats Total	0.66
			Grand Total	**7.46**

Sensitive Communities are in Italic

[1] CDFW requires a Lake and Streambed Permit for any disturbance to riparian habitat

[2] Comprised of a rare plant species, Regio manzanita; therefore, the vegetation community is also considered sensitive.

As shown on Figure 3, the open area including the proposed building site includes purple needle grass grassland, disturbed habitats, and the fringes of several areas mapped within scrub communities. Scrub communities dominate much of the survey area, but coast live oak woodland communities are found along the stream channel that transverses the western edge of the survey area and crosses the road well south of the proposed building site. In addition to the purple need grass grassland and disturbed habitat in the immediate area of the building site, several additional communities fall within 100 feet of the proposed building site. These include coast live oak/greenbark ceanothus, chamise chaparral, and scrub oak-southern mixed chaparral, in addition to both upland and riparian coast live oak woodland in the other portion of the 100-foot buffer. Each vegetation community and land cover type is described in detail below. Photographic documentation of the vegetation communities and land cover types is provided in Appendix C.

4.1.1 Purple Needle Grass Grassland

Purple needle grass grassland association is recognized by NCL when associated with *Bromus* spp and *Avena spp.* as G3/S3? (CDFW 2020). Locally, it is considered environmentally sensitive habitat (ESH) under the Gaviota Coast Plan (County 2016). Purple needle grass grassland includes the perennial bunchgrass purple needlegrass (*Stipa pulchra*) as a dominant or co-dominant grass. These communities are mid-height grasslands, typically up to 2 feet tall. According to Holland (1986), native and introduced annuals grow between bunches of purple needlegrass and often exceed it in cover. Trees or shrubs may also be present within the grassland (NatureServe 2009). Purple needle grass grassland occurs on deep soils that have a high clay content. Sites that are moist or waterlogged during winter and very dry during summer are favorable (Holland 1986). Under the County Environmental Thresholds and Guidelines Manual (County 2018), native grasslands, including purple needle grass grassland, are areas where native grasses exceed 10 percent or more relative cover.

In the survey area, sand-aster (*Corythrogne filaginifolia*) and deer weed (*Acmispon glaber*) are co-dominant with portions of the purple needlegrass. Other species occurring on-site that are associated in the purple needle grass grassland association are slender oat (*Avena barbata*), compact brome (*Bromus madritensis*), soft brome (*Bromus hordeaceus*), coast tarweed (*Madia sativa*), smooth cat's ear (*Hypochaeris glabra*), narrowleaf plantain (*Plantago lanceolata*), American bird's foot trefoil (*Acmispon americanus* var. *americanus*), and Maltese star-thistle (*Centaurea melitensis*) (Figure 3). Purple needle grass grassland occurs in a single patch within the proposed building site. Approximately 0.30 acres of purple needle grass grassland occurs within the survey area (Table 2).

4.1.2 Coast Live Oak Woodland

The coast live oak woodland alliance is recognized by NCL and MCV2 (CDFW 2020), as having a global rank of G5 and a state rank of S4. Although this indicated it is not sensitive, it is considered ESH under the Gaviota Coast Plan (County 2016).

Coast live oak woodland alliance communities include coast live oak as the dominant or codominant tree in the canopy. Coast live oak woodland has a continuous to open canopy less than 30 meters (98 feet) in height with a sparse to intermittent shrub canopy, and sparse or grassy ground layer (Sawyer et al. 2009). Species associated with the coast live oak woodland alliance include bigleaf maple (*Acer macrophyllum*), blue oak (*Quercus douglasii*), box-elder (*Acer negundo*), California bay (*Umbellularia californica*), Engelmann oak (*Quercus engelmannii*), California sycamore (*Platanus racemosa*), Southern California black walnut (*Juglans californica*), valley oak (*Quercus lobata*), arroyo willow (*Salix lasiolepis*), California black oak (*Quercus kelloggii*), and madrone (*Arbutus menziesii*) (Sawyer et al. 2009).

Within the survey area, species associated with coast live oak woodland include greenbark ceanother (*Ceanothus spinosus*), madrone (*Heteromeles arbutifolia*), and inland scrub oak (*Quercus berberidifolia*). Coast live oak woodland occurs in a relatively continuous patch west of the existing road and west and southwest of the proposed building site, in a smaller patch on the east side of the existing road and just north of the wellhead, and in another small patch in the northern part of the survey area.

On the project site, coast live oak woodland occurs in both upland and riparian settings. Oak woodland canopies provide resources for both nesting and foraging for migratory and resident birds. Specifically, oak woodlands are known to provide an important food and shelter resources for wildlife. Oak woodland growing within or providing canopy cover over the potential jurisdictional waters were classified as riparian, while the remainder of this vegetation community outside of the riparian corridor was classified as upland. Riparian oak woodland occurs west and southwest of the proposed building site, west of the existing road. Upland coast live oak woodland occurs in several patches, near the entrance, north of the proposed building site, and well southwest of the building site (Figure 3). There are approximately 0.35 acres of coast live oak woodland (upland) and 0.66 acres of coast live oak woodland (riparian) within the survey area (Table 3).

Most of this community occurs away from the proposed building site, with a small area overlapping the outer portion of the 100-foot fuel modification area. A portion of the coast live oak woodland in the survey area occurs within habitat mapped as ESH riparian habitat in the Gaviota Coast Plan (Figure 3). The survey area supports approximately 0.98 acres of coast live oak woodland (Table 2).

4.1.3 Coast Live Oak – Madrone Woodland

Coast live oak – madrone woodland is recognized by NCL as an association of coast live oak woodland (CDFW 2020). It possesses a global ranking of G5 and a state ranking of S4, so is not considered sensitive. However, as an association of coast live oak woodland alliance, it is typically considered ESH under the Gaviota Coast Plan. In Coast live oak – madrone woodland, coast live oak and madrone (*Arbutus menziesii*) are co-dominant in the tree canopy.

Within the survey area, coast live oak is relatively open under the tree canopy, supporting relatively little shrub cover. Coast live oak – madrone woodland occurs on both sides of the existing road near the entrance (Figure 3). The survey area supports approximately 0.33 acres of coast live oak – madrone woodland (Table 2).

4.1.4 Coast Live Oak/Greenbark Ceanothus Woodland

Coast live oak/greenbark ceanothus is recognized by NCL (CDFW 2020). It has a global rank of G5 and a state rank of S4, and, therefore, is not sensitive. It includes coast live oak as the dominant or co-dominant tree in the canopy and greenbark ceanothus as the dominant shrub. Other associated species within this community in the survey area include chamise, inland scrub oak, madrone, bush monkeyflower (*Diplacus aurantiacus*), creeping snowberry (*Symphoricarpos mollis*), hummingbird sage (*Salvia spathacea*), poison oak (*Toxicodendron diversilobum*), and wood balm (*Lepechinia calycina*). Some compact brome and deer weed occur at the fringes. The dominant species in this community are distributed unevenly where it was mapped. Adjacent to the proposed building site, a dense growth of greenbark ceanothus and other shrubs predominates. Coast live oaks predominated closer to the road and farther from the proposed building site. Dense scrub over dominates much of this community within the survey area, but vegetation is less dense under the canopy of the oaks. Coast live oak/greenbark ceanothus occurs in one

patch immediately west of the proposed building site (Figure 3). The survey area supports approximately 0.83 acres of coast live oak – greenbark ceanothus (Table 2).

4.1.5 Chamise Chaparral

The chamise chaparral shrubland alliance is recognized by NCL and MCV2 (CDFW 2020; CNPS 2020b), and has a global rank of G5 and a state rank of S5. This ranking indicates that globally and within California the alliance is widespread, abundant, and secure (CDFW 2020b). Chamise chaparral includes chamise (*Adenostoma fasciculatum*) as the dominant shrub (>50% in the shrub canopy layer) in an intermittent to continuous canopy less than 4 meters (13 feet) in height (CNPS 2020b). Species associated with the chamise chaparral alliance include redshank (*Adenostoma sparsifolium*), various manzanitas (*Arctostaphylos* spp.), ceanothus (*Ceanothus* spp.), bush monkeyflower, California buckwheat (*Eriogonum fascuculatum*), chaparral yucca (*Hesperoyucca whipplei*), toyon (*Heteromeles arbutifolia*), inland scrub oak, interior live oak (*Quercus wislizeni*), white sage (*Salvia apiana*), purple sage (*Salvia dorrii*), black sage (*Salvia mellifera*), and poison oak. Emergent trees may be present at low cover (CNPS 2019).

Within the survey area, associated species include bigberry manzanita (*Arctostaphylos gauca*) and Refugio manzanita. Chamise chaparral occurs in a larger patch south of the proposed building site and in several smaller patches just north of the building site and along the road in the northern part of the survey area (Figure 3). Approximately 1.63 acres of chamise chaparral occur within the survey area (Table 2).

4.1.6 Mixed Refugio Manzanita Chaparral

Mixed Refugio manzanita chaparral is not recognized by MCV2 or NCL, however, the dominant plant species within the scrub canopy is Refugio manzanita (*Arctostaphylos refugioensis*), a California Rare Plant Rank (CRPR) 1B.2, plant that is also noted as a species of particular value in the Conservation Element of the County Comprehensive Plan (County 2010). Therefore, this vegetation community is considered sensitive. This community occurs in a nearly pure stand in the survey area, with some inland scrub oak present.

Within the survey area, this community occurs along the existing road between the entrance and the proposed building site. Within the survey area, mixed Refugio manzanita chaparral (Figure 3). Approximately 0.38 acres of mixed Refugio manzanita chaparral occur within the BSA (Table 2).

4.1.7 Greenbark Ceanothus Shrubland

Greenbark ceanothus shrubland alliance is recognized by NCL (CDFW 2020) and has a global rank of G4 and a state rank of S4, and thus is not considered sensitive. Greenbark ceanothus shrubland includes greenbark ceanothus (*Ceanothus spinosus*) as the dominant species within the shrub canopy.

Species associated with greenbark ceanothus in the survey area include chamise, bigberry ceanothus, bush monkeyflower, and inland scrub oak. Greenbark ceanothus scrubland occurs in the far southwestern portion of the survey area, just west of the well and far from the proposed building site (Figure 3). The survey area supports approximately 0.39 acres of greenbark ceanothus shrubland (Table 2).

4.1.8 Greenbark Ceanothus – Bigpod Ceanothus Shrubland

Greenbark ceanothus shrubland is an association of greenbark ceanothus shrubland alliance that is recognized by NCL (CDFW 2020) and has a global rank of G4 and a state rank of S4, and thus is not considered sensitive. In greenbark ceanothus –bigpod ceanothus shrubland, greenbark ceanothus and bigpod ceanothus (*Ceanothus megacarpus*) are co-dominant in the shrub layer.

Species associated with greenbark ceanothus – bigpod ceanothus shrubland in the survey area include inland scrub oak, black sage, madrone, and chamise. This community occurs in the southern portion of the survey area, between the wellhead and the building site (Figure 3). The survey area supports approximately 0.65 acres of greenbark ceanothus – bigpod ceanothus shrubland (Table 2).

4.1.9 Scrub Oak – Southern Mixed Chaparral

The scrub oak – southern mixed chaparral is recognized by NCL as an association of scrub oak alliance but does not have a global or state rarity ranking (CDFW 2020). Within scrub oak alliance, scrub oak is dominant or co-dominant in the canopy layer. Shrubs are less than 6m (approximately 20 feet) in height and form a continuous canopy. The herbaceous layer is sparse. Associated species in the survey area include chamise and Refugio manzanita. Within the survey area, scrub oak – southern mixed chaparral occurs in a single patch east and northeast of the proposed building site and along the east side of the existing road (Figure 3). There are approximately 0.94 acres of scrub oak – southern mixed chaparral within the survey area (Table 2).

4.1.10 Scrub Oak – Chamise Chaparral Shrubland

Scrub oak – chamise chaparral shrubland alliance is recognized by NCL and MCV2 (CDFW 2020; CNPS 2020b). It has a global rank of G4 and a state rank of S4, therefore it is not considered sensitive. Scrub oak – chamise chaparral includes both scrub oak (*Quercus berberidifolia*) and chamise (*Adenostoma fasciculatum*) as having between 30% and 60% relative cover in the shrub canopy. It has an open to continuous canopy less than 6 meters (20 feet) in height with a sparse herbaceous layer. Emergent trees, including knobcone pine (*Pinus attenuata*), coast live oak, or Engelmann oak (*Quercus engelmannii*), may be present at low cover. Species associated with scrub oak – chamise chaparral include manzanita (*Arctostaphylos* spp.), hoary leaf ceanothus (*Ceanothus crassifolius*), cup leaf ceanothus (*Ceanothus perplexans*), chaparral whitethorn (*Ceanothus leucodermis*), birch leaf mountain mahogany (*Cercocarpus betuloides*), toyon (*Heteromeles arbutifolia*), hollyleaf redberry (*Rhamnus ilicifolia*), and mission manzanita (*Xylococcus bicolor*) (CNPS 2020b).

Scrub oak – chamise chaparral occurs at the southern end of the survey area, near the wellhead and more than 350 feet from the proposed building site (Figure 3). The survey area supports approximately 0.34 acres of Scrub oak – chamise chaparral (Table 2).

4.1.11 Disturbed Habitat

Disturbed habitat is an anthropogenic habitat that is not described in NCL or MCV2. Disturbed areas include those that display evidence of physical disturbance, such as from active maintenance or occasional ground disturbance. Areas mapped as this land cover in the survey area are mostly bare, but some support small amounts of weedy herbaceous vegetation, and an area of disturbed habitat near the wellhead supports significant cover of deer weed,

a native perennial herb that is tolerant of disturbance. Within the survey area, disturbed habitat is associated with the existing road and the area around the wellhead (Figure 3). The survey area supports approximately 0.66 acres of disturbed habitat (Table 2).

SOURCE: CIRGIS 2017

DUDEK

0 75 150 Feet

FIGURE 3

Vegetation

Moore Ranch

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4.2 General Wildlife

The survey area supports mostly oak woodland and chaparral communities, and wildlife observed in the survey area during surveys were those generally associated with those communities. The isolated patch of native grassland supports foraging habitat for some of the woodland and scrub-associated species that occur on the project site, but it is too limited in extent to support species strictly associated with grasslands. In addition, although a small amount of oak woodland that may be considered riparian occurs at the edge of the survey area, the wildlife observed in the survey area were limited to upland species. During surveys, biologists observed 29 species of wildlife either directly or through sign (tracks, scat, feathers, burrows, etc.), including 20 bird species, 4 mammal species, 2 reptile species, and 3 invertebrate species. Bird species were nearly all those associated with chaparral or oak woodland, such as spotted towhee (*Pipilo maculatus*), California thrasher (*Toxostoma redivivum*), blue-gray gnatcatcher (*Polioptila caerulea*), California scrub-jay (*Aphelocoma californica*), and Nuttall's woodpecker (*Dryobates nuttallii*). But note that several raptor and vulture species not specifically associated with these habitats, including red-tailed hawk (*Buteo jamaicensis*) and turkey vulture (*Cathartes aura*), were observed flying over the survey area. A subadult golden eagle (*Aquila chrysaetos*), a State fully protected species, was also observed during surveys. This observation is discussed further in Section 4.3.2, below. Common mammal species observed directly were brush rabbit (*Sylvilagus bachmani*) and western gray squirrel (*Sciurus griseus*), and these species are likely common in the area. Western fence lizard (*Sceloporus occidentalis*) was the most commonly observed reptile. All invertebrate species observed were common species in the region.

4.3 Special-Status/Regulated Resources

This section discusses the sensitive resources in the survey area, include special-status plants and wildlife, sensitive vegetation communities, and aquatic resources.

4.3.1 Special-Status Plants

The CNDDB, CNPS Rare and Endangered Plant Inventory, and USFWS queries identified 46 special-status plant species that have been documented within the region. The literature review determined that 30 species have the potential to occur, based habitat suitability and elevation of the survey area (Table 3). Species that were not detected during surveys, and that should have been readily identifiable if present, are considered "not expected to occur." One special-status plant species was observed during the initial rare plant survey pass: Refugio manzanita (*Artostaphylos refugioensis*). This species and Chaparral ragwort (*Senecio aphanactis*), considered to have a low potential to occur, are described in further detail below.

During the rare plant surveys and the reconnaissance survey, 122 plant species were observed, of which 88 species (72 percent) are native to the region and 34 species (28 percent) are non-native. The list of plant species identified during the survey is provided as Appendix A.

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Table 3. Special-Status Plant Species with Potential to Occur in the Survey Area

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Agrostis hooveri	Hoover's bent grass	None/None/1B.2	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Valley and foothill grassland; usually sandy/perennial herb/Apr–July/15–2000	Not expected to occur. The nearest known occurrence is approximately 9.5 miles north northwest of the survey area (CDFW 2021a). Although suitable grassland and chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Amsinckia douglasiana	Douglas' fiddleneck	None/None/4.2	Cismontane woodland, Valley and foothill grassland; Monterey shale, dry/annual herb/Mar–May/0–6400	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a). Although suitable woodland and chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Arctostaphylos purissima	La Purisima manzanita	None/None/1B.1	Chaparral (sandy), Coastal scrub/perennial evergreen shrub/Nov–May/195–1820	Not expected to occur. The nearest known occurrence is from approximately 7.3 miles west of the survey area. This species is identifiable at all seasons, and while other manzanita species were detected during surveys, none of this species were detected.
Arctostaphylos refugioensis	Refugio manzanita	None/None/1B.2	Chaparral (sandstone)/perennial evergreen shrub/Dec–Mar(May)/895–2690	Present. Surveys identified stands of this species adjacent to the existing road between the entrance and the proposed building site, and also identified isolated shrubs east and southwest of the building site.
Calandrinia breweri	Brewer's calandrinia	None/None/4.2	Chaparral, Coastal scrub; sandy or loamy, disturbed sites and burns/annual herb/(Jan)Mar–June/30–4005	Not expected to occur. The nearest known occurrence is from approximately 0.7 miles east of the survey area. Although suitable chaparral habitat occurs in the survey area, this species was not identified during surveys conducted during its blooming period.
Calochortus catalinae	Catalina mariposa lily	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial bulbiferous herb/(Feb)Mar–June/45–2295	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a). Although suitable woodland, grassland, and chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Calochortus clavatus var. clavatus	club-haired mariposa lily	None/None/4.3	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area

Table 3. Special-Status Plant Species with Potential to Occur in the Survey Area

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
			grassland; usually serpentinite, clay, rocky/perennial bulbiferous herb/(Mar)May–June/245–4265	(CDFW 2021a). Although suitable woodland, grassland, and chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Calochortus fimbriatus	late-flowered mariposa lily	None/None/1B.3	Chaparral, Cismontane woodland, Riparian woodland; often serpentinite/perennial bulbiferous herb/June–Aug/900–6250	Not expected to occur. The nearest known occurrence is approximately 0.4 miles southeast of the survey area (CDFW 2021a). Although suitable woodland and chaparral habitats occur in the survey area, this species was not identified during the rare plant surveys, which were conducted during its blooming period.
Calochortus palmeri var. palmeri	Palmer's mariposa lily	None/None/1B.2	Chaparral, Lower montane coniferous forest, Meadows and seeps; mesic/perennial bulbiferous herb/Apr–July/2325–7840	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a; CNPS 2020a). Although suitable chaparral habitat occurs in the survey area, this species was not identified during surveys conducted during its blooming period.
Calystegia collina ssp. venusta	South Coast Range morning-glory	None/None/4.3	Chaparral, Cismontane woodland, Valley and foothill grassland; serpentinite or sedimentary/perennial rhizomatous herb/Apr–June/1390–4890	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a). Although suitable woodland, grassland, and chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Caulanthus amplexicaulis var. barbarae	Santa Barbara jewelflower	None/None/1B.1	Closed-cone coniferous forest, Chaparral, Cismontane woodland; serpentinite/annual herb/May–July/1540–4005	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a; CNPS 2020a). Although suitable woodland and chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Clinopodium mimuloides	monkey-flower savory	None/None/4.2	Chaparral, North Coast coniferous forest; streambanks, mesic/perennial herb/June–Oct/1000–5905	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a). Although suitable chaparral habitat occurs in the survey area, this species was not

Table 3. Special-Status Plant Species with Potential to Occur in the Survey Area

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				identified during the rare plant surveys conducted during its blooming period.
Convolvulus simulans	small-flowered morning-glory	None/None/4.2	Chaparral (openings), Coastal scrub, Valley and foothill grassland; clay, serpentinite seeps/annual herb/Mar–July/95–2430	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a). Although suitable woodland and chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Deinandra paniculata	paniculate tarplant	None/None/4.2	Coastal scrub, Valley and foothill grassland, Vernal pools; usually vernally mesic, sometimes sandy/annual herb/(Mar)Apr–Nov(Dec)/80–3085	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a). Although suitable grassland habitat occurs in the survey area, this species was not identified during surveys conducted during its blooming period.
Delphinium umbraculorum	umbrella larkspur	None/None/1B.3	Chaparral, Cismontane woodland/perennial herb/Apr–June/1310–5250	Not expected to occur. The nearest known occurrence is approximately 1.5 miles north of the survey area. Although suitable chaparral habitat occurs in the survey area, this species was not identified during surveys conducted during its blooming period.
Eriodictyon capitatum	Lompoc yerba santa	FE/SR/1B.2	Coastal bluff scrub, Closed-cone coniferous forest, Chaparral (maritime); sandy/perennial evergreen shrub/May–Sep/130–2955	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a; CNPS 2020a). Although suitable chaparral habitat occurs in the survey area, this species was not identified during surveys conducted during its blooming period.
Eriogonum elegans	elegant wild buckwheat	None/None/4.3	Cismontane woodland, Valley and foothill grassland; Usually sandy or gravelly, often washes, sometimes roadsides/annual herb/May–Nov/655–5005	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a). Although suitable woodland and grassland habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Fritillaria ojaiensis	Ojai fritillary	None/None/1B.2	Broadleafed upland forest (mesic), Chaparral, Cismontane woodland, Lower montane coniferous forest;	Not expected to occur. The nearest known occurrence is from approximately 1.5 miles north of the survey area (CDFW 2021a). Although suitable woodland and

Table 3. Special-Status Plant Species with Potential to Occur in the Survey Area

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
			rocky/perennial bulbiferous herb/Feb–May/735–3275	chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Horkelia cuneata var. puberula	mesa horkelia	None/None/1B.1	Chaparral (maritime), Cismontane woodland, Coastal scrub; sandy or gravelly/perennial herb/Feb–July(Sep)/225–2655	Not expected to occur. The nearest known occurrence is from approximately 9.0 miles west of the survey area (CDFW 2021a). Although suitable woodland and chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Juncus luciensis	Santa Lucia dwarf rush	None/None/1B.2	Chaparral, Great Basin scrub, Lower montane coniferous forest, Meadows and seeps, Vernal pools/annual herb/Apr–July/980–6695	Not expected to occur. The nearest known occurrence is from approximately 7.5 miles east of the survey area (CDFW 2021a). Although suitable chaparral habitat occurs in the survey area, this species was not identified during surveys conducted during its blooming period.
Layia heterotricha	pale-yellow layia	None/None/1B.1	Cismontane woodland, Coastal scrub, Pinyon and juniper woodland, Valley and foothill grassland; alkaline or clay/annual herb/Mar–June/980–5595	Not expected to occur. The nearest known occurrence is from approximately 6.5 miles northeast of the survey area (CDFW 2021a). Although suitable woodland and grassland habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Lonicera subspicata var. subspicata	Santa Barbara honeysuckle	None/None/1B.2	Chaparral, Cismontane woodland, Coastal scrub/perennial evergreen shrub/May–Aug(Dec–Feb)/30–3280	Not expected to occur. The nearest known occurrence is from approximately 1.3 miles south of the survey area (CDFW 2021a). Although suitable woodland and chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Micropus amphibolus	Mt. Diablo cottonweed	None/None/3.2	Broadleafed upland forest, Chaparral, Cismontane woodland, Valley and foothill grassland; rocky/annual herb/Mar–May/145–2705	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a). Although suitable woodland, grassland, and chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.

Table 3. Special-Status Plant Species with Potential to Occur in the Survey Area

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Monardella hypoleuca ssp. hypoleuca	white-veined monardella	None/None/1B.3	Chaparral, Cismontane woodland/perennial herb/(Apr)May–Aug(Sep–Dec)/160–5005	Not expected to occur. The nearest known occurrence is from approximately 1.2 miles south of the survey area (CDFW 2021a). Although suitable woodland and chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Mucronea californica	California spineflower	None/None/4.2	Chaparral, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland; sandy/annual herb/Mar–July(Aug)/0–4595	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a). Although suitable woodland, grassland, and chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Phacelia hubbyi	Hubby's phacelia	None/None/4.2	Chaparral, Coastal scrub, Valley and foothill grassland; gravelly, rocky, talus/annual herb/Apr–July/0–3280	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a). Although suitable grassland and chaparral habitats occur in the survey area, this species was not identified during surveys conducted during its blooming period.
Ribes amarum var. hoffmannii	Hoffmann's bitter gooseberry	None/None/3	Chaparral, Riparian woodland/perennial deciduous shrub/Mar–Apr/15–3905	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a). Although suitable woodland and chaparral habitats occur in the survey area, this species was not identified during surveys, although it should be identifiable at all times of year.
Senecio aphanactis	chaparral ragwort	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub; sometimes alkaline/annual herb/Jan–Apr(May)/45–2625	Low potential to occur. The nearest known occurrence is from approximately 1.0 mile northeast of the survey area. Although suitable woodland and chaparral habitats occur in the survey area, this species was not identified during surveys. The initial survey was conducted late in the species' blooming period.
Senecio astephanus	San Gabriel ragwort	None/None/4.3	Coastal bluff scrub, Chaparral; rocky slopes/perennial herb/May–July/1310–4920	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a). Although suitable chaparral habitat occurs in the survey area, this species was not

Table 3. Special-Status Plant Species with Potential to Occur in the Survey Area

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				identified during surveys conducted during its blooming period.
Thermopsis macrophylla	Santa Ynez false lupine	None/SR/1B.3	Chaparral (sandy, granitic, disturbed areas)/perennial rhizomatous herb/Apr–June/1390–4595	Not expected to occur. The nearest known occurrence is from approximately 5.0 miles east of the survey area (CDFW 2021a). Although suitable chaparral habitat occurs in the survey area, this species was not identified during surveys conducted during its blooming period.

Status Legend:

FE: Federally listed as endangered
SE: State listed as endangered
SR: State Rare
CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
CRPR 2B: Plants rare, threatened, or endangered in California but more common elsewhere
CRPR 3: Review List: Plants about which more information is needed
CRPR 4: Watch List: Plants of limited distribution
.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

4.3.1.1 Chaparral Ragwort

Chaparral ragwort (*Senecio aphanactis*) is an annual herb in the aster family (Asteraceae) that is included on the CDFW list as a rank S2 species (imperiled) and identified as a CNPS CRPR 2B.2 (rare, threatened, or endangered in California, but more common elsewhere). Chaparral ragwort occurs in chaparral, cismontane woodland, and coastal scrub, sometimes in alkaline soils, between 45 and 2,625 feet amsl (CNPS 2020a). The chaparral ragwort is known from one generally mapped occurrence approximately 1.0 mile northeast of the survey area (CDFW 2021a). The initial survey was conducted late in the potential blooming period for this species (January to April or May). Therefore, although the species was not detected during surveys, it has a low potential to occur in the survey area.

4.3.1.2 Refugio Manzanita

Refugio manzanita (*Arctostaphylos refugioensis*) is a perennial evergreen shrub in the heath family (Ericaceae) that is included on the CDFW list as a rank S3 species (vulnerable) and is identified as a CNPS CRPR 1B.2 (rare, threatened, or endangered in California and elsewhere). Refugio manzanita is also cited in the Comprehensive Plan Conservation Element as a species "of particular value" that occurs in the Refugio Pass region of the county (County 2010). CNDDB includes three occurrences within a mile of the survey area, and additional occurrences within 5.0 miles (CDFW 2021a). Refugio manzanita occurs in chaparral growing in sandstone between 895 and 2,690 feet amsl, and blooms from December to March, and as late as May (CNPS 2020a). The reconnaissance survey and rare plant surveys identified stands of this species adjacent to the existing road between the entrance and the proposed building site, and also identified isolated shrubs east and southwest of the building site (Figure 4). The area occupied by mixed Refugio manzanita within the survey area is approximately 0.38 acres, in which more than 150 Refugio manzanita shrubs were counted.

4.3.2 Special-Status Wildlife

The literature review identified a total of 29 special-status wildlife species occurring in the vicinity and meeting the definition of a special-status wildlife species in Section 2.2. Of these, 5 were strictly of coastal distribution and therefore have no potential to occur in the survey area. The remaining 24 species are discussed in Table 4. Only 3 of these species have at least a moderate potential to occur in the survey area: Blainville's horned lizard (Phrynosoma blainvillii), coast patch-nosed snake (*Salvadora hexalepis virgultea*), and San Diego desert woodrat (*Neotoma lepida intermedia*). These are discussed below in greater detail. In addition, California red-legged frog (*Rana draytonii*), a federally threatened species for which critical habitat has been designated in the area, is discussed, although it has a very low potential to occur.

Table 4. Special-Status Wildlife Species with Potential to Occur in the Survey Area

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Invertebrates				
Danaus plexippus pop. 1	monarch	None/None	Wind-protected tree groves with nectar sources and nearby water sources	Not expected to winter. Although the nearest CNDDB occurrence is only 2.5 miles south of the survey area, along Tajiguas Creek (CDFW 2021a), no suitable roosting trees groves are present. The survey area is farther from the coast and at higher elevation than this species typically winters.
Fishes				
Oncorhynchus mykiss irideus pop. 1	Southern steelhead – southern California DPS	FE/None	Clean, clear, cool, well-oxygenated streams; needs relatively deep pools in migration and gravelly substrate to spawn	Not expected to occur. Although the species occurs in perennial and intermittent streams in the vicinity, and critical habitat occurs nearby in downslope portions of Refugio Creek (70 FR 52488-52627), no perennial or intermittent streams occur in the survey area.
Amphibians				
Rana boylii	foothill yellow-legged frog	None/SSC, SE	Rocky streams and rivers with open banks in forest, chaparral, and woodland	Not expected to occur. The nearest CNDDB occurrence is one regarded as "extirpated" approximately 4.2 miles south of the survey area, at Refugio Creek near U.S. 101 (CDFW 2021a). No suitable stream occurs in the vicinity of the survey area.
Rana draytonii	California red-legged frog	FT/SSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	Low potential to occur. The nearest CNDDB occurrences are in Alisal Creek on the north side of the Santa Ynez Mountains 1.8 miles north of the survey area, and in Refugio Creek 2.6 miles south of the survey area (CDFW 2021a). Also, the survey area is located within federally designated critically habitat (75 FR 12816-12959). However, no suitable aquatic is known to occur in the vicinity.
Taricha torosa	California newt	None/SSC	Wet forests, oak forests, chaparral, and rolling grassland	Not expected to occur. CNDDB includes two occurrences within 2.0 miles of the survey area, including one downslope in Refugio Creek (CDFW 2021a). Although suitable vegetation communities occur throughout the area, no suitable aquatic habitats are known in the area.
Reptiles				
Actinemys pallida	Southwestern pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites;	Not expected to occur. CNDDB includes several occurrences within 5.0 miles in Alisal Creek on the north side of the Santa Ynez Mountains, and one as

Table 4. Special-Status Wildlife Species with Potential to Occur in the Survey Area

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
			adjacent uplands used for nesting and during winter	near as 3.8 miles southwest of the survey area on the south side of the mountains (CDFW 2021a). However, no suitable aquatic habitats occur on or near the site.
Phrynosoma blainvillii	Blainville's horned lizard (=coast horned lizard)	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	Moderate potential to occur. CNDDB includes an occurrence along Refugio Road, probably within about 1.0 mile of survey area. (CDFW 2021a) Soils may not be suitable to support this species, and scrub vegetation is generally denser than in optimal habitat. But the species may have potential to occur in the open parts of the survey area.
Salvadora hexalepis virgultea	coast patch-nosed snake	None/SSC	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	Moderate potential to occur. The nearest CNDDB occurrence is approximately 6.0 miles to the west (CDFW 2021a). Few mammal burrows were observed on the site, but suitable vegetation occurs throughout the area.
Thamnophis hammondii	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Not expected to occur. The nearest CNDDB occurrence is approximately 1.7 miles southeast of the survey area, along Refugio Creek (CDFW 2021a). No suitable stream or riparian habitat occurs on or near the project survey area.
Birds				
Aquila chrysaetos (nesting & wintering)	golden eagle	BCC/FP	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	Not expected to nest. The nearest CNDDB occurrence is approximately 10.0 mile northeast of the surveys area (CDFW 2021a). Suitable nesting trees are largely absent, and no suitable nesting cliffs are present. However, a subadult of this species was observed over the site on July 25, 2019. The species may nest in several locations in the Santa Ynez Mountains, but it is generally scarce in densely vegetated areas such as the project site, because it needs more open habitats for foraging.
Ardea herodias (nesting colony)	great blue heron	None/None	Nests in large trees or snags; forages in wetlands, water bodies, watercourses, and opportunistically in uplands, including pasture and croplands	Not expected to occur while nesting or foraging. No current or historic rookeries are known nearer than approximately 7.0 miles to the surveys area (CDFW 2021a; Lehman 2020). No suitable wetlands or aquatic

Table 4. Special-Status Wildlife Species with Potential to Occur in the Survey Area

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
				habitats, and no trees suitable for nesting, are present in the area. Low potential to occur during dispersal.
Athene cunicularia (burrow sites & some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Not expected to occur. CNDDB includes no occurrences within 10.0 miles of the survey area (CDFW 2021a). Very limited open habitats occur on or near the survey area.
Elanus leucurus (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	Not expected to nest. The nearest CNDDB occurrence is approximately 10.0 miles southwest of the survey area (CDFW 2021a). Limited suitable open habitats for foraging occur on or near the project site. This species has a low potential to occur during dispersal.
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur. The nearest occurrences are along the Santa Ynez River near Buellton (CDFW 2021a; Lehman 2020). No suitable riparian habitat occurs near the project site, and the nearest known occurrences are along the Santa Ynez River, near Buellton.
Falco mexicanus (nesting)	prairie falcon	BCC/None	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Not expected to nest. Very low potential to occur during dispersal, and not expected to forage in the survey area. CNDDB includes an occurrence mapped very generally to a 15' USGS quadrangle, for an observation from the 1970s (CNDDB 2020). Suitable nesting cliffs and open areas for foraging are absent from the surveys area and vicinity.
Haliaeetus leucocephalus (nesting & wintering)	bald eagle	FDL, BCC/FP, SE	Nests in forested areas adjacent to large bodies of water, including seacoasts, rivers, swamps, large lakes; winters near large bodies of water in lowlands and mountains	Not expected to occur for nesting or wintering. This species is known to nest near Lake Cachuma and has also nested approximately 4.0 miles northeast of the survey area, near Solvang (CDFW 2021a; Lehman 2020). No suitable aquatic foraging habitats, and no open habitats with suitable mammalian prey for wintering, are present in the project vicinity. Low potential to fly over the site during migration.
Progne subis (nesting)	purple martin	None/SSC	Nests and forages in woodland habitats including riparian, coniferous, and valley foothill and montane woodlands; in the	Not expected to nest. The nearest CNDDB occurrence is approximately 4.0 miles northwest, near Solvang (CDFW 2021a; Lehman 2020). No suitable large trees

Table 4. Special-Status Wildlife Species with Potential to Occur in the Survey Area

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
			Sacramento region often nests in weep holes under elevated freeways	with cavities adjacent to open space occur on the site. Low potential to occur on occasion during migration.
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Not expected to occur. The nearest known occurrences from lowlands along the Santa Ynez river near Buellton, more than 8.0 miles northwest of the survey area (Lehman 2020). Suitable riparian habitats are absent from the project site and vicinity.
Mammals				
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Not expected to occur while roosting. CNDDB includes no definite occurrences in the vicinity, although the species likely occurs nearer to the survey area than the records reflect (CDFW 2021a). However, no suitable roosting habitat is present.
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	Not expected to occur while roosting. CNDDB includes several occurrences within 10.0 miles of the survey area (CDFW 2021a). However, caves, mine shafts, and other suitable roosting habitats are absent on the site.
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	High potential to occur. Although CNDDB includes no occurrences for this species, the survey area is within the known range of the species. Suitable habitat occurs throughout the project site, and several middens of uknown woodrat species were identified during surveys.
Puma concolor	Mountain lion	None/SC	Occurs in a variety of scrub and forested habitats.	Moderate potential to occur. The dense scrub within the project site is not suitable habitat. However, this species may occasionally occur in oak woodland in the vicinity.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. The nearest CNDDB occurrence is approximately 4.0 miles south and 4.5 miles southeast from the survey area (CDFW 2021a). No suitable open habitats occur onsite, and dense chaparral surrounds the site in most directions.

Status Abbreviations

FE: Federally Endangered
FT: Federally Threatened

PFE: Proposed Federally Endangered
PFT: Proposed Federally Threatened
FC: Federal Candidate
FDL: Federally Delisted
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
SSC: California Species of Special Concern
FP: California Fully Protected Species
SE: State Endangered
ST: State Threatened
SC: State Candidate
PSE: Proposed State Endangered
PST: Proposed State Threatened
SDL: State Delisted

4.3.2.1 California Red-Legged Frog

The California red-legged frog (CRLF) is federally listed as threatened and is a California species of special concern. It occurs on the coastal slope of southern California, in the Coast Ranges and immediate coast from central California north to Mendocino County, and in the foothills of the Sierra Nevada and the Cascade Range bordering the Central Valley. CRLF can survive in a variety of habitat types, including various aquatic, riparian, and upland habitats, but they are sensitive to high salinity. Preferred aquatic habitat of the CRLF is characterized by dense shrubby, or emergent riparian vegetation, such as arroyo willows, cattails (*Typha* spp.), and bulrushes (*Schoenoplectus* spp.), associated with deep (greater than two feet), still or slow-moving water. The CRLF will also utilize ephemeral ponds, intermittent streams, seasonal wetlands, springs, seeps, permanent ponds, perennial creeks, manmade aquatic features, marshes, dune ponds, lagoons, riparian corridors, blackberry thickets, nonnative annual grasslands, and oak savannas (USFWS 2002). CRLF sometimes wander away from streamside habitats, but are generally inactive in late summer and early fall. They may take shelter in burrows or other refugia at all times of year as far as 100 meters (approximately 330 feet) from aquatic habitat (USFWS 2005).

The species occurs widely at suitable elevations in Santa Barbara County. The nearest CNDDB occurrences are in in Refugio Creek, 1.6 miles south of the survey area, and in Alisal Creek on the north side of the Santa Ynez Mountains, 1.8 miles north of the survey area (CDFW 2021a). Also, the survey area is located within federally designated critically habitat (75 FR 12816-12959).

During the field assessment, no evidence was observed that ponding of any duration occurs within the two streams closest to the project site. The site itself and surrounding areas are otherwise occupied by chaparral and to a lesser extent by upland oak woodland. Beyond 500 feet from the site, aerial images and NWI and NHD data suggest several areas may be suitable for California red-legged frog, but none of these areas is closer than 800 feet. An area on the north side of Camino Cielo and approximately 800 feet northeast of the proposed building site does appear to support periodic pooling. But even this distant site does not appear to support ponding for sufficient duration to support breeding. Although available aerial images of sufficient quality to identify pooling are limited mostly to drought years, the absence of water in any image outside winter months in any year, including April 2011 (a year of relatively high rainfall prior to the drought), suggest this location is not suitable. Two perennial ponds occur approximately 0.3 mile northeast and approximately 0.5 mile east northeast of the building site. All three of these features are included in the National Wetland Inventory (NWI). Although Dudek did not have access to the two perennial ponds during the assessment or any of biological surveys, Dudek viewed the site of occasional ponding from the property line on November 12, 2020. NWI and NHD data include additional features within 1.0 mile, the closest of which is approximately 0.4 miles to the south of the site. Surface water is not visible at this location on available aerials, but differences in vegetation suggest it is hydrologically connected with a nearby stream mapped with an NHD flowline.

As the nearest potentially suitable aquatic breeding habitat to the project site is approximately 0.3 mile away, and the site itself and areas within 500 feet are confirmed to support no suitable aquatic breeding habitat, California red-legged frog is unlikely to occur there.

4.3.2.2 Blainville's Horned Lizard

The Blainville's (coast) horned lizard (*Phrynosoma blainvillii*) is a California species of special concern found throughout the Central Valley, the coast ranges, and the Pacific Slope of Southern California. It occurs in a wide variety of habitats, most commonly in lowlands and coastal scrub communities, along sandy scattered low bushes in washes. It requires open areas for sunning, shrubs for cover, patches of loose soil for burial, and an abundant supply of native ants and other insects. The survey area supports extensive scrub habitats, and some open space

that may be suitable for foraging. However, the density of the scrub communities and the limited amount of open habitat available for foraging probably limit the potential for this species to occur. Therefore, it is assume to have a moderate potential to occur in the survey area.

4.3.2.3 Coast Patch-nosed Snake

The coast patch-nosed snake (*Salvadora hexalepis virgultea*) is a California species of special concern that ranges in California from San Luis Obispo County south through San Diego County. It occurs in a variety of scrub habitats, including coastal scrub and chaparral, and requires small mammal burrows for shelter and overwintering. This species is active in mornings and late afternoons in spring and summer, particularly during May and June. It is a generalist in its diet, preying on a wide variety of small vertebrates. The survey area supports suitable habitat for this species, which has a moderate potential to occur there.

4.3.2.4 San Diego Desert Woodrat

The desert woodrat (*Neotoma lepida*) is widespread throughout central and Southern California and the Great Basin, Mojave, and Colorado deserts. The San Diego desert woodrat (*N. l. intermedia*) occurs in San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties (CDFW 2021a). More recent analysis has identified San Diego desert woodrat as a subspecies of Bryant's woodrat (*N. bryanti intermedia*) occupying a range extending northward to Alameda County (Patton et al. 2007), but CDFW considers the subspecies occurring in the project region as San Diego desert woodrat, a species of special concern.

Desert woodrats are found in a variety of shrub and desert habitats and are primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth. San Diego desert woodrats are common in open chaparral, and occur occasionally in mature chaparral (Quinn 1990). Desert woodrats are noted for their opportunistic and flexible behavior in using various materials, such as twigs and other debris (sticks, rocks, dung) to build elaborate dens or "middens," which typically include several chambers for nesting and food as well as several entrances. The desert woodrat is a relatively sedentary species. It has a moderate potential to occur in oak woodland and chaparral in the survey area. Three woodrat middens of unknown species were observed during surveys.

4.3.3 Sensitive Vegetation Communities

Three vegetation communities that meet the criteria for ESH under the Gaviota Coast Plan, and thus meet the criteria for sensitive vegetation communities, occur in the survey area: purple needle grass grassland, coast live oak woodland, and mixed Refugio manzanita chaparral (Figure 4). The sections below discuss these communities with regard to their sensitivity and potential for supporting special-status species. Coast live oak – oak madrone woodland, an associations of coast live oak woodland, is discussed under that community.

4.3.3.1 Purple Needle Grass Grassland

Purple needlegrass grassland alliance is ranked G4/S4 by CDFW. As a native grassland community, this community is considered sensitive under the Gaviota Coast Plan. A patch of approximately 0.30 acres occurs within and immediately surrounding the proposed building site (Figure 4). This patch is highly isolated from any other native grassland, or any grassland community of any kind. Therefore, its value for most grassland wildlife species is limited.

However, it may supply foraging habitat for species relying on nearby scrub for cover, such as Blainville's horned lizard.

4.3.3.2 Coast Live Oak Woodland

Coast live oak woodlands have a CDFW rank of G5/S4, meaning this community is apparently secure worldwide. Although this rank is lower than typically required to qualify as a sensitive community, coast live oak woodland is typically considered ESH under the Gaviota Coast Plan, therefore is considered a sensitive vegetation community here (County 2016). Within the survey area, both riparian and non-riparian versions of this community occur (Figure 4). The more sensitive, riparian version of this community is limited to those areas where coast live oak woodland provides canopy cover for the intermittent stream in the western portion of the survey area. This community provides habitat for a relatively wide variety of wildlife species.

Coast live oak-madrone within the survey area would also be considered sensitive. This association where it occurs in the survey area resembles coast live oak woodland - upland, supporting an understory of similar density and enough space beneath the canopy to support movement by larger mammal species. Coast live oak-madrone occurs only near the entrance, on both sides of the road, far from the proposed building site.

4.3.3.3 Mixed Refugio Manzanita Chaparral

Mixed Refugio manzanita chaparral does not have a state or global ranking, and is not a recognized community under NCL or MCV2. It was mapped in the survey area based on the dominance of Refugio manzanita, a rare plant species, in the shrub canopy (Figure 4). Because of the sensitivity of the dominant shrub species in this community, it is considered sensitive here. However, the density of this community within the survey area may limit the potential for special-status plant species and may support a relatively low diversity of wildlife species.

4.3.4 Aquatic Resources

The literature review identified one feature within the survey area, an intermittent "Stream/River," as shown in the National Hydrology Dataset (NHD) (Figure 4). This stream and associated riparian vegetation are also included in Gaviota Coast Plan mapped riparian ESH-GAV overlay. Dudek mapped the ordinary high water mark (OHWM) of the stream as well as associated coast live oak riparian vegetation (Figure 4). The stream is ephemeral and subject to periodic rapid flows during rain and immediately after rain events. No water was observed here in June or July 2019; May, July, or November 2020, or April or August 2021. The stream was heavily silted, with deposits obscuring the OHWM in places. The width of the stream as measured at the OHWM averaged approximately 2 feet, ranging from 1 to 3 feet over its course. The stream is located entirely more than 120 feet from the proposed building site. It enters the survey area northwest of the proposed building site, where it is nearest the site. It flows southeast and south, before crossing the existing road via a culvert that is largely silted in, approximately 350 feet southwest of the proposed building site. The natural stream course below this crossing is located on the east side of the road, within coast live oak woodland and scrub oak-chamise chaparral, to the south edge of the survey area and project parcel. However, as observed in July 2020, more recent flows were over the surface of the existing road (Figure 4), resulting in severe erosion of the road in this area. Flows were likely diverted out of the stream bed at the site of the road crossing and largely blocked culvert, where they followed the road before rejoining the natural stream bed at the southern end of the survey area, south of the well (Figure 4).

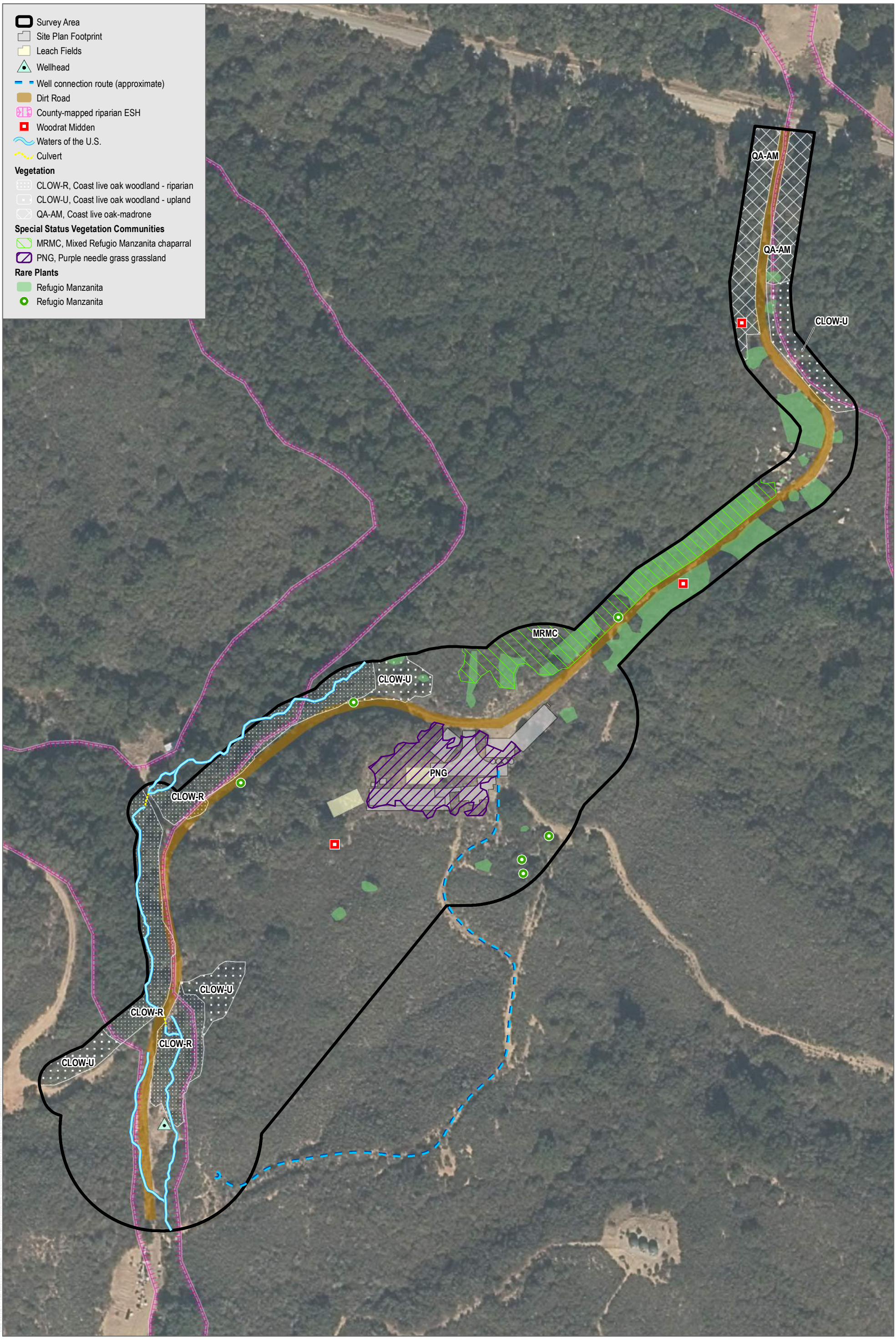
Riparian vegetation, in the form of coast live oak woodland – riparian, occurs along most of the length of the stream in the survey area. Approximately 0.66 acres of riparian vegetation occurs in the survey area, mostly west of the existing road, with a small amount on the east side of the road below the crossing and on the east side of the existing well. At its nearest point, riparian vegetation is 100 feet from the proposed building site.

Both the stream and the riparian vegetation are aquatic resources that would be under the jurisdiction of resource agencies. The stream, as mapped below the OHWM, would be under the jurisdiction of the USACE as Waters of the U.S. The survey area supports approximately 1,077 linear feet and 0.04 acres of Waters of the U.S. The stream and adjacent riparian vegetation would be under the jurisdiction of both the RWQCB, as Waters of the State, and CDFW, as streambed and riparian. The survey area supports approximately 0.68 acres of Waters of the State and CDFW streambed and riparian.

4.4 Wildlife Corridors and Movement

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for dispersal or migration of animals and dispersal of plants (e.g., via wildlife vectors). Wildlife corridors contribute to population viability by assuring continual exchange of genes between populations, which helps maintain genetic diversity. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation.

Because the survey area is located within a largely undeveloped area with scattered inholdings of the Los Padres National Forest, the natural habitats that occur there are part of a larger habitat area in the Santa Ynez Mountains supporting wildlife use and wildlife movement, and it is not part of an isolated corridor or linkage between more suitable habitats. For movement within the area, wildlife are able to rely on the survey area as well as abundant natural habitats occurring in the area. For many smaller species, the survey area is part of a relatively unbroken stretch of habitat that permits local movement and uninterrupted gene flow. For larger species, landforms and vegetation structure may limit movement to certain areas. The density of scrub habitats, as well as the coast live oak/greenbark ceanothus habitat, makes movement difficult for species such as mule deer (*Odocoileus hemionus*) and mountain lion (*Puma concolor*). But these species may move within more open oak woodland associations and along stream courses. They also likely use the existing road and other roads in the area while moving within the vicinity.



SOURCE: CIRGIS 2017; County of Santa Barbara Planning and Development 2020

DUDEK

0 50 100 Feet

FIGURE 4

Sensitive Biological Resources

Moore Ranch

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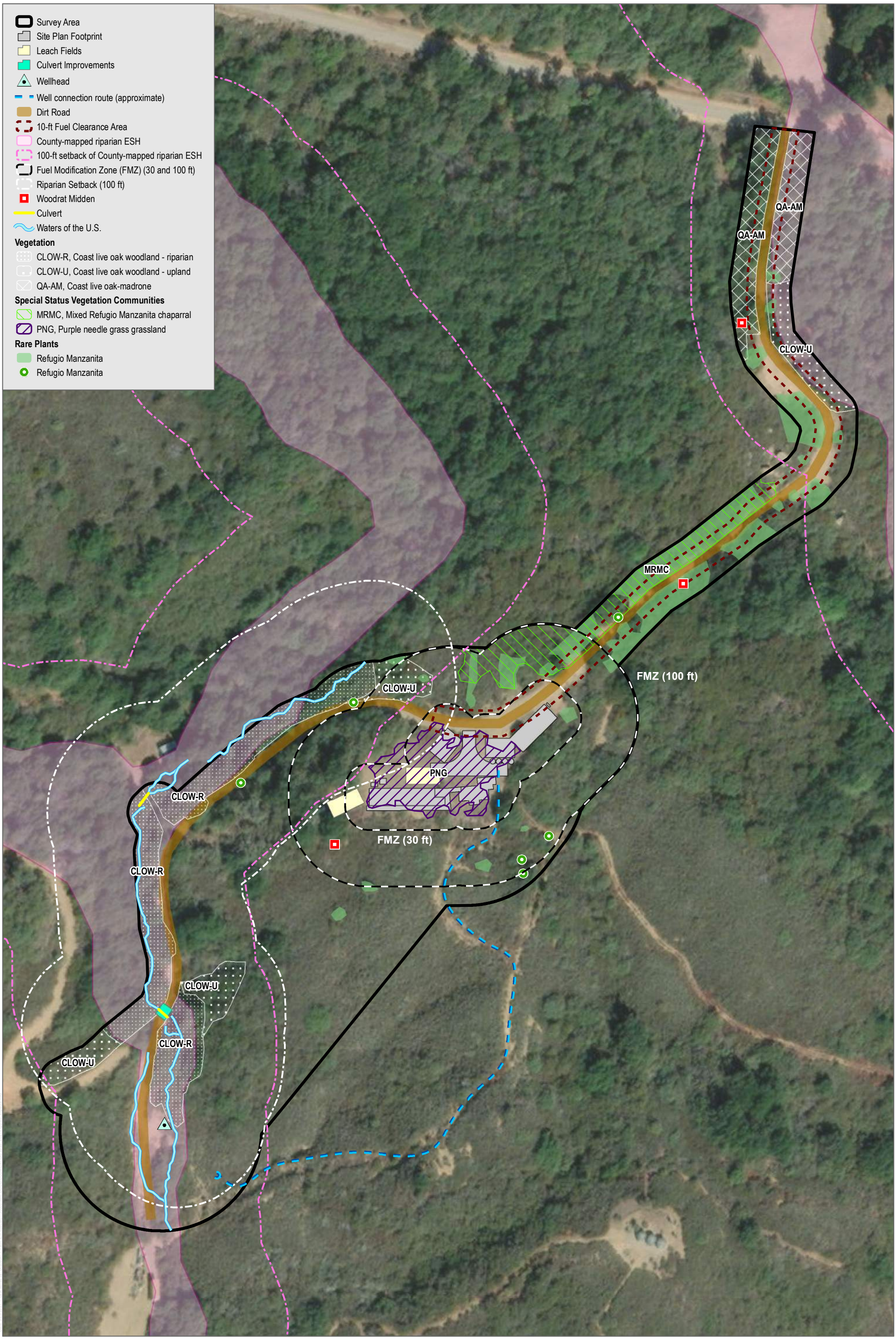

SOURCE: Esri World Imagery 2020; County of Santa Barbara Planning and Development 2020

DUDEK

0 50 100 Feet

FIGURE 5

Impacts

Moore Ranch

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5 Impacts

This section analyzes potential impacts, including direct and indirect impacts, from activities associated with project implementation. It also includes recommended measures to avoid, minimize, and mitigate those impacts.

The proposed building site is located within an undeveloped area along an existing unpaved road that leads past the site to an existing wellhead. The footprint of the development on the building site is 0.24 acre. In addition to construction at the proposed building site, the project would include pavement of the existing road. It would also include vegetation clearance for fuel modification purposes, in accordance with Santa Barbara County Fire Department regulations:

- 10 feet of vegetation clearance along both sides of roadways;
- 0–30 feet from structures: irrigated landscaping and complete removal of existing vegetation;
- 30–100 feet from structures: mosaic clearing of vegetation (the local fire district may allow some variance).

This analysis assumes that all scrub and herbaceous vegetation within 30 feet of the buildings will be removed. Trees may be left standing. Between 30 feet and 100 feet from structures, the analysis assumes such measures as creating space between shrubs and trees, removing taller grasses, and removing dead branches and other debris will be required. However, selective removal of vegetation may limit impacts within this area. The entire fuel modification zone (FMZ) of 100 feet of defensible space around the structures would be approximately 2.10 acres. Clearance along the existing road would result in disturbance of an additional 0.59 acre. Figure 5 includes the outer boundary of the entire FMZ and the 10-foot road clearance area. The project, as currently described, includes no activities in the vicinity of the existing wellhead. If any activities are identified associated with the well, additional impact analysis will be necessary.

Potential impacts related to the construction and fuel modification may include both direct and indirect impacts, along with short-term (construction related) or long-term effects. Direct impacts may include the direct removal of native vegetation or direct impacts (e.g., mortality or injury) to wildlife or special-status plants within the construction zone. As no jurisdictional aquatic features occur within the proposed building site, no direct impacts would occur to any aquatic resources. Indirect impacts may include inadvertent spills of concrete, oil/gas, or other chemicals from construction activities. Accidental pollutant/chemical spills or discharge of material may involve both temporary and permanent impacts (depending on the extent of impact). Temporary, indirect impacts (noise, ground vibrations, human presence) may affect wildlife species occupying habitats near the construction site, potentially including species within riparian habitat associated with the ESH stream west of the proposed building site. Further analysis and recommended measures are presented below by biological category. This analysis also addresses project consistency with setbacks described for sensitive resources in the Gaviota Coast Plan (County 2016), the Conservation Element of the Comprehensive Plan (County 2010), the County's Environmental Thresholds and Guidelines Manual (County 2018), and biological thresholds in Appendix G of the *California Environmental Quality Act (CEQA) guidelines* (AEP 2008). Note that, while this section of the biological assessment report addresses impacts from removal of native trees and proposed mitigation for these impacts, it does not address Indirect impacts to native trees or impacts from excessive pruning for fuel modification purposes. These impacts are assessed in a separate arborist's report, which addresses all impacts to native trees and includes tree protection measures. Figure 5, in addition to showing the locations of the sensitive resources discussed in the sections below,

shows the location of all communities including native trees, including coast live oak/greenback ceanothus, which includes several coast live oak trees.

5.1 Impact Analysis and Recommended Measures

This section describes County policies, development standards, and project design guidelines for specific biological resources issues; potential projects impacts and consistency with County policy; and recommended measures to avoid, minimize, and mitigation potential impacts.

5.1.1 Sensitive Vegetation Communities and Habitats

Several polices and development standards from the Gaviota Coast Plan (County 2016), as well as project design guidelines in the County Environmental Thresholds and Guidelines Manual (County 2018), relating to sensitive vegetation communities, are applicable to the project.

Gaviota Coast Plan

> *Policy NS-2: Natural Resources Protection.* Environmentally Sensitive Habitat (ESH) areas and important or sensitive biological and natural resources shall be protected to the maximum extent feasible. Where special-status plant and animal species are found pursuant to the review of a discretionary project, the habitat in which the sensitive species is located shall be preserved to the maximum extent feasible. Within the Coastal Zone, Environmentally Sensitive Habitat (ESH) areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. Development in areas adjacent to ESH areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.
>
> *Policy NS-4: ESH Criteria and Habitat Types.* The following criteria are used in determining which habitats in the Gaviota Coast Plan area warrant the Environmentally Sensitive Habitat Area overlay designation:
>
> 1) Unique, rare, or fragile communities which should be preserved to ensure their survival in the future, e.g., dune vegetation, native grasslands.
>
> 2) Rare and endangered species habitats that are also protected by Federal and State laws, e.g., harbor seal rookeries and haul out areas.
>
> 3) Plant community ranges that are of significant scientific interest because of extensions of range, or unusual hybrid, disjunct, and relict species.
>
> 4) Sensitive wildlife habitats which are vital to species survival, e.g., White-tailed Kite habitat, butterfly trees.
>
> 5) Outstanding representative natural communities that have values ranging from a particularly rich flora and fauna to an unusual diversity of species.
>
> 6) Areas with outstanding educational values that should be protected for scientific research and educational uses now and in the future, e.g., Naples Reef.

8) Areas that are structurally important in protecting natural landforms and species, e.g., dunes which protect inland areas, riparian corridors that protect stream banks from erosion and provide shade, kelp beds which provide cover for many species.

Specific biological habitats are considered environmentally sensitive and shall be subject to the provisions of the Environmentally Sensitive Habitat (ESH) and Environmentally Sensitive Habitat Gaviota (ESH GAV) Overlays including qualifying habitat that exists outside of the mapped ESH and ESH GAV overlays. A general guideline for inclusion is those plant communities that have a California Natural Diversity Database (CNDDB) rarity ranking of G1, S1, G2, S2, G3, or S3. Two habitat types have been included due to their sensitive nature within the county, although they do not meet the rarity ranking criterion (i.e., Coast Live Oak Woodlands and Western rush marshes). Additional sensitive wildlife habitats are also listed. The list includes, but is not limited to:

1) Native Forests and Woodlands including, but not limited to: madrone forest, tanoak forest, black cottonwood forest, Bishop pine forest, California sycamore woodlands, coast live oak woodland, Valley oak, red willow thickets, and California bay forest;

2) Rare Native Chaparral and Coastal Scrub Habitats, including, but not limited to: Burton Mesa shrubland chaparral, central maritime chaparral, wart leaf ceanothus chaparral, giant Coreopsis scrub, bush monkeyflower scrub, California brittle bush scrub, sawtooth goldenbush scrub, silver dune lupine-mock heather scrub, lemonade berry scrub, and white sage scrub;

3) Rare Native Grassland and Herbaceous vegetation, including, but not limited to: Dune mats, Western rush marshes, meadow barley patches, giant wildrye grassland, creeping ryegrass turfs, foothill needlegrass grasslands, purple needlegrass grasslands;

6) Monarch butterfly habitat;

7) Raptor nesting and breeding areas; and

8) Special status species habitats.

Policy NS-7: Riparian Vegetation. Riparian vegetation shall be protected to the maximum extent feasible. Riparian vegetation shall not be removed except where clearing is necessary for the maintenance of existing roads and/or free flowing channel conditions, the removal of invasive exotic species, stream/creek restoration, or the provision of essential public services. Any unavoidable riparian vegetation removal conducted in compliance with the activities identified by this policy shall be conducted in compliance with the Environmentally Sensitive Habitat and resource protection policies and provisions of the Gaviota Coast Plan, the Comprehensive Plan, and the Local Coastal Program.

Policy NS-10: Habitat Buffers. Buffer policies should be flexible and consider the purpose, ecological benefit, and context of the buffer as well as the use of the land next to the buffer.

Policy NS-11: Restoration. Biological impacts shall be avoided to the maximum extent feasible. In cases where adverse impacts to biological resources cannot be avoided after impacts have been minimized, restoration shall be required. A minimum replacement ratio shall be required to compensate for the destruction of native habitat areas or biological resources. The area or units to be restored, acquired, or dedicated for a permanent protective easement shall exceed the biological value of that which is destroyed.

Where on-site restoration is infeasible or not beneficial with regard to long-term preservation of habitat, an off-site easement and/or alternative mitigation measures that provide adequate quality and quantity of habitat and will ensure long-term preservation shall be required.

Dev Std NS-2: ESH Setbacks and Buffers. (INLAND) Mapped riparian ESH-GAV overlay areas shall have a development area setback buffer of 100 feet from the edge of either side of the top-of-bank of creeks or the existing edge of riparian vegetation, whichever is further. Development within other ESH areas shall be required to include setbacks or undeveloped buffer zones from these areas as part of the proposed development, except where setbacks or buffers would preclude reasonable use of the parcel. In determining the location, width and extent of setbacks and/or buffer areas, the County's biological resources and/or vegetation maps and other available data shall be used (e.g., maps, studies, or observations). Appropriate public recreational trails may be allowed within setbacks or buffer areas.

Required buffers for ESH-GAV may be adjusted upward or downward on a case-by-case basis but shall not preclude reasonable use of a parcel. The buffer shall be established based on an investigation of the following factors and, when appropriate, after consultation with the Department of Fish and Wildlife and Regional Water Quality Control Board, if required, in order to protect the biological productivity and water quality of streams:

- Demonstration of a net environmental benefit;
- Existing vegetation, soil type and stability of stream corridors;
- How surface water filters into the ground;
- Slope of the land on either side of the stream;
- Location of the 100 year flood plain boundary; and
- Consistency with adopted Gaviota Coast Plan and Comprehensive Plan policies.

Environmental Thresholds and Guidelines Manual

Riparian Impact Assessment Guidelines. The following types of project-related impacts may be considered significant:

(1) Direct removal of riparian vegetation.

(2) Disruption of riparian wildlife habitat, particularly animal dispersal corridors and or understory vegetation.

(3) Intrusion within the upland edge of the riparian canopy (generally within 50 feet in urban areas, within 100 feet in rural areas, and within 200 feet of major rivers listed in the previous section), leading to potential disruption of animal migration, breeding, etc. through increased noise, light and glare, and human or domestic animal intrusion.

(4) Disruption of a substantial amount of adjacent upland vegetation where such vegetation plays a critical role in supporting riparian-dependent wildlife species (e. g., amphibians), or where such vegetation aids in stabilizing steep slopes adjacent to the riparian corridor, which reduces erosion and sedimentation potential.

(5) Construction activity which disrupts critical time periods (nesting, breeding) for fish and other wildlife species.

Native Grassland Habitat Impact Assessment Guidelines:

(1) For purposes of resource evaluation in Santa Barbara County, a native grassland is defined as an area where native grassland species comprise 10 percent or more of the total relative cover.

(2) Removal or severe disturbance to a patch or patches of native grasses less than one-quarter acre, which is clearly isolated and is not a part of a significant native grassland or an integral component of a larger ecosystem, is usually considered insignificant.

Impact Assessment Guidelines for Woodlands and Forest Habitat Areas.

Project-created impacts may be considered significant due to changes in habitat value and species composition such as the following:

(1) Habitat fragmentation.

(2) Removal of understory.

(3) Alteration to drainage patterns.

(4) Disruption of the canopy

(5) Removal of a significant number of trees that would cause a break in the canopy or disruption in animal movement in and through the woodland

Construction of the proposed project would result in direct removal of one sensitive habitat: purple needle grass grassland (Figure 5, Table 5). Other communities may potentially be affected by either fuel modification to provide defensible space or by fuel clearance activities along the existing road, or may be subject to habitat setbacks.

Table 5. Impacts to Vegetation Communities and Land Covers

Vegetation Community	Survey Area Total	Construction Related	Fuel Clearance				Total Impacts
			0-30 FMZ	30-100 FMZ	10-ft Road	Fuel mod Total	
*Purple Needle Grass Grassland	0.30	0.17	0.12	0.01	–	0.13	0.30
*Coast Live Oak-Riparian	0.66	–	–	–	–	–	–
*Coast Live Oak – Upland	0.35	–	–	0.06	0.04	0.10	0.10
*Coast Live Oak - Madrone	0.33	–	–	–	0.10	0.10	0.10
Chamise Chaparral	1.63	0.02	0.15	0.50	0.06	0.72	0.74
*Mixed Refugio Manzanita	0.38	–	–	0.18	0.08	0.26	0.26
Coast Live Oak/Greenbark Ceanothus	0.83	<0.01	0.02	0.31	–	0.34	0.34
Greenbark Ceanothus	0.39	–	–	–	–	–	–
Greenbark Ceanothus – Big Pod Ceanothus	0.65	–	–	–	–	–	–
Scrub Oak – Southern Mixed Chaparral	0.94	0.04	0.14	0.50	0.09	0.72	0.76
Scrub Oak – Chamise	0.34	–	–	–	–	–	–
Disturbed Habitat	0.66	0.02	0.06	0.04	0.22	0.32	0.34
Totals	**7.46**	**0.26**	**0.49**	**1.61**	**0.59**	**2.69**	**2.95**

* - Sensitive community

5.1.1.1 Purple Needle Grass Grassland

Purple needlegrass grassland was established as a biological constraint in August 2019. However, the area supporting this community is the only level area devoid of significant scrub habitat and oaks trees in the vicinity and required land clearing and grading for building should be minimal compared with other locations nearby on the parcel. Through direct habitat removal and establishment of the FMZ, project implementation will result in the removal of all 0.30 acre of purple needle grass grassland within and adjacent to the proposed building site (Figure 5). As a native grassland, this community is considered ESH in under *Policy NS-4* of the Gaviota Coast Plan (County 2016), and replacement of this community would be necessary to mitigate for the loss of this habitat. Per the County Environmental Thresholds and Guidelines Manual (County 2018), removal of less than 0.25 acre of native grassland that "is clearly isolated and is not a part of a significant native grassland or an integral component of a larger ecosystem, is usually considered insignificant." The native grassland that would be removed by project implementation meets the criteria of being clearly isolated, as all surrounding habitats are scrub or woodland communities. It is not a part of a significant native grassland, as no other native grassland, or grassland of any type, occurs within the survey area. An examination of aerial photos shows that only scrub habitats, woodland habitats, and dirt roads occur within 600 feet of the proposed building site. In addition, the grassland is small (0.30 acre) and does not provide the level of ecological function of a large, more connected system of grassland that would support populations of vertebrate grassland species or significant foraging by raptors dependent on open space to access terrestrial prey species. The grassland does not the fall under the threshold of being less than a quarter

acre for determining removal of a native grassland to be "insignificant." Therefore, removal of this grassland would not be consistent with County policies protecting native grasslands, specifically, Gaviota Coast Plan *Policy NS-2*, unless mitigation is provided to compensate for this loss, as specified under *Policy NS-11* (County 2016). However, given the small size of this native grassland and its complete isolation form other grasslands, the replacement ratio for its removal grassland should be the lowest level permitted, likely 2:1 replacement to impact.

Recommended mitigation for purple needlegrass grassland and other sensitive habitats includes **BIO-1**, **BIO-2**, and **BIO-3**.

BIO-1 Habitat Restoration. The applicant shall provide for creation of habitat to replace purple needle grass grassland, mixed Refugio manzanita, and individual Refugio manzanita shrubs removed due to project construction and fuel modification activities. In accordance with Policy NS-11 of the Gaviota Coast Plan, habitat creation shall occur onsite (within the project parcel). Purple needle grass grassland shall be replaced at a ratio of 2:1. Mixed Refugio manzanita chaparral shall be replaced at a ratio of 3:1. Individual Refugio manzanita shrubs shall be replaced at a ratio of 3:1. To determine the number of manzanita being removed, prior to construction, a qualified biologist shall count all Refugio manzanita shrubs within the proposed building site or the fuel modification zone, as well as all Refugio manzanita shrubs expected to be removed as part of vegetation clearance along the existing road.

In addition, a qualified restoration specialist shall prepare a Habitat Mitigation and Monitoring Plan, which shall include, at minimum:

- Acreage of purple needle grass grassland and mixed Refugio manzanita chaparral required to mitigate impacts at the required ratios.
- The minimum number of Refugio manzanita shrubs required to be planted under the above-cited ratio.
- Defined attainable and measurable goals and objectives to be achieved through the habitat restoration program.
- A restoration work plan that details methodologies, a restoration schedule, plant materials, and implementation strategies.
- Defined performance standards for the purple needle grass habitat creation and the Refugio manzanita habitat creation.
- A monitoring plan that includes methods and analysis of results, goals for success, and an adaptive management plan and suggestions for failed restoration efforts.
- A five-year maintenance and monitoring period.
- Submittal of annual reports to the County of Santa Barbara.

BIO-2 Worker Environmental Awareness Program (WEAP) Training. All construction personnel attend a WEAP training by a qualified biologist prior to commencement of construction activities. The training will include a description of a special-status species potentially present in the area, jurisdictional habitats present proximate to the project site, information on sensitive habitats to be avoided, and specific measures that are being

implemented to protect special-status species and the boundaries within which the project may be accomplished.

BIO-3 Biological Monitoring and Reporting. The project shall retain a qualified biologist to monitor construction and compliance of all recommended mitigation measures. Monitoring and reporting shall be on a weekly basis. A final monitoring report shall be prepared after construction, or after all project activities have been completed by the contractor.

5.1.1.2 Riparian ESH-GAV Overlay

The project would not result in direct removal of County-mapped riparian ESH-GAV overlay. In addition, the ESHA overlay occurs entirely outside the FMZ (Figure 5). *Dev Std NS-2* of the Gaviota Coast Plan states that, in determining the location, width, and extent of development setbacks, "the County's biological resources and/or vegetation maps and other available data shall be used (e.g., maps, studies, or observations)." Because firsthand observations identified the stream course and riparian vegetation (coast live oak – riparian) occurring outside the mapped riparian ESH-GAV overlay, these observations determine the locations of setbacks. However, the ESH stream bank occurs entirely outside 100 feet of the project footprint (approximately 120 feet at its nearest), more than 100 feet from any structures, and more than 100 feet from any leach fields (Figure 5). Therefore, the project would not result in impacts to the ESH-GAV overlay or ESH based on firsthand observations, and it would be consistent with *Dev Std NS-2*.

Although no impacts are expected to riparian ESH, to ensure that the project does not result in incidental impacts to ESH, **BIO-4** is recommended.

BIO-4 Protection of Riparian ESH. All construction-related activities, including, but not limited to construction, storage areas, and staging areas, shall be located at a maximum distance away from mapped ESHA and riparian habitat associated with potential jurisdictional aquatic features. If any impacts occur to riparian vegetation, coordinate with the California Department of Fish and Wildlife with regard to obtaining a Streambed Alteration Agreement pursuant to Section 1600 of the California Fish and Game Code and coordinate with the Regional Water Quality Control Board with regard to obtaining a Clean Water Certification pursuant to Section 401 of the Clean Water Act.

In accordance with the Gaviota Coast Plan (County 2016) *Dev Std NS-2*, mapped riparian ESH overlay areas shall have a development area setback buffer of 100 feet from the edge of either side of the top-of-bank of creeks or the existing edge of riparian vegetation, whichever is further. In locations where the construction activities encroach within this buffer, it is important to provide further protection to riparian vegetation and aquatic habitats to the greatest extent possible.

A. The Contractor shall establish a temporary barrier around staging areas to delineate work boundaries and prevent entrance into non-impact areas. The temporary barrier shall use highly visible construction fencing to ensure that trees and other vegetation outside of work areas are avoided during construction.

B. When sizeable construction equipment is working within the setback, it is highly encouraged that flaggers are utilized to assist in equipment positioning to avoid impacts to the setback area during construction.

5.1.1.3 Coast Live Oak – Upland

In addition to coast live oak woodland – riparian occurring in the vicinity of project activities, discussed above in relation to the riparian ESH-GAV overlay, coast live oak – upland occurs in the survey area. No direct impacts from construction would occur to coast live oak – upland, and none of this community occurs closer than approximately 50 feet from the proposed structures (Figure 5). The nearest area of coast live oak woodland is north of the proposed building site, on the opposite side of the established road, 50 feet from the proposed structures. Although two isolated coast live oaks within the proposed building site would be removed (see Section 5.1.2), these trees are outside the boundaries of the coast live oak woodland. Approximately 0.06 acre of coast live oak – upland occurs within the FMZ and would be subject to fuel modification activities. Although this area is adjacent to much more sensitive coast live oak woodland – riparian, it is relatively low quality as woodland habitat, with a discontinuous canopy and a high amount of shrub cover. It is also very limited in extent. No oaks would be removed due to fuel modification. Under project design suggestions in Appendix A of the County Thresholds and Guidelines Manual (County 2018) impacts from removal of understory in woodlands and forest "may be considered significant." However, because the area is small and removal of scrub within this area would not significantly disrupt the value of adjacent riparian woodland, and it would be consistent with County policies and guidelines.

An additional area of 0.04 acre of coast live oak woodland – upland would be subject to clearance around the existing road (Figure 5). However, no oak trees would be removed as part of this activity, and the alteration of this habitat from removal of a small amount of brush would not substantially change the character of adjacent woodland and would be consistent with County policies and guidelines.

Recommended mitigation for coast live oak woodland (upland) includes **BIO-2** and **BIO-3.**

5.1.1.4 Coast Live Oak - Madrone

Clearance along the road would also result in disturbance of 0.10 acre of coast live oak – madrone woodland, an association of coast live oak woodland with similar habitat structure and values (Figure 5). Removal of coast live oak or madrone trees would not be required, and impacts would be mostly limited to removal of a narrow strip of undergrowth along the road. The disturbance of brush and grasses within this community would be a minor impact and would be consistent with County policies.

Recommended mitigation for coast live oak woodland – madrone includes **BIO-2** (WEAP training) and **BIO-3** (biological monitoring and reporting).

5.1.1.5 Mixed Refugio Manzanita Chaparral

Although no mixed Refugio Manzanita chaparral would be removed directly due to construction at the proposed building site, approximately 0.18 acre of the community would occur within the 30-100 ft FMZ, and an additional 0.08 acre would be subject to removal within the 10-foot clearance area along the road, for a total of 0.26 acre (Figure 5). Without compensatory mitigation as described under Gaviota Coast Plan *Policy NS-11* (County 2016), removal of this habitat would not be consistent with *Policy NS-2*, to protect sensitive habitats. Mitigation for loss of mixed Refugio manzanita chaparral should be completed in conjunction with mitigation for loss of Refugio manzanita as a special-status plant species. Therefore, it should consist of creation of mixed Refugio manzanita as a community that is similar in species composition and habitat value to that removed, and should compensate for the overall loss of Refugio manzanita shrubs at a suitable ratio.

As noted above, encroachment within the 100-foot setback from riparian ESH-GAV overlay and fuel modification within this area would not be consistent with Gaviota Coast Plan Dev Std NS-2 (County 2016) and project design guidelines for the removal of riparian vegetation in the Environmental Thresholds and Guidelines Manual (County 2016), if these restrictions to not preclude reasonable use of the parcel. Also, impacts from fuel modification within coast live oak woodland – upland involving removal is not consistent with Environmental Thresholds and Guidelines Manual recommendations in relation to removal of understory in woodlands, if this. As compensation for the loss of sensitive plant communities, the following measures are recommended.

Recommended mitigation for Refugio manzanita chapparal includes **BIO-1** (habitat restoration), **BIO-2** (WEAP training), and **BIO-3** (biological monitoring and reporting).

5.1.2 Native Trees

Several policies, development standards, and guidelines from the County Oak Tree Protection Program and Appendix A, Grading Ordinance Guidelines for Native Oak Tree Removal (County 2003), relating to relating to native trees, specifically oak trees, are applicable to the project.

Oak Tree Protection Program

> *Oak Tree Protection Policy 1.* See Section 5.1.1, Native oak trees, native oak woodlands, and native oak savannas shall be protected to the maximum extent feasible in the County's rural and/or agricultural lands. Regeneration of oak trees shall be encouraged. Because of the limited range and increasing scarcity of valley oak trees, valley oak woodland and valley oak savanna, special priority shall be given to their protection and regeneration.
>
> *Oak Tree Protection Development Standard 1: Protection of all species of mature oak trees.* All development shall avoid removal of or damage to mature oak trees, to the maximum extent feasible. Mature oak trees are considered to be live oak trees six inches or greater diameter at breast height and blue oak trees four inches or greater diameter at breast height, or live and blue oaks six feet or greater in height. Native oak trees that cannot be avoided shall be replanted on site. When replanting oak trees on site is not feasible, replanting shall occur on receiver sites known to be capable of supporting the particular oak tree species, and in areas contiguous with existing woodlands or savannas where the removed species occurs. Replanting shall conform to the County's Standard Conditions and Mitigation Measures.

Appendix A, Grading Ordinance Guidelines for Native Oak Tree Removal, Attachment 3

> 1.c.(2) Protected oak trees (greater than 8 inches dbh) that are removed shall be compensated at a 10:1 ratio by replacement planting, or protection of naturally occurring oak trees between six (6) inches and six (6) feet tall on the lot.

Per the Tree Protection Report (Dudek 2021), the project would result in removal of two protected coast live oak trees and direct impacts from pruning, due to fuel modification and road clearance activities, to an additional 35 oak trees that would not be removed. In some cases, pruning may result in loss of trees or worsened health or vigor. The Tree Protection Plan includes measures to minimize impacts to these 35 trees, and additional trees that may be subject to indirect impacts during and after construction, according to County standards.

To address potential impacts from loss of or damage to coast live oak trees, the following measure, **BIO-5** (oak tree replacement) is recommended.

BIO-5 Native Tree Replacement. To mitigate for the removal of two oak trees and potential loss or damage to oak and madrone trees from excessive pruning, the Applicant shall submit, for Santa Barbara County Planning and Development (P&D) approval, a Native Tree Replacement Plan (Plan) prepared by a P&D-approved arborist or biologist. Under the Plan, the two Coast live oak (*Quercus agrifolia*) trees to be removed during construction shall be replaced at a 10:1 ratio, or 20 trees total. Coast live oak trees or madrones (*Arbutus menziesii*) lost or that suffer worsened health or vigor due to excessive pruning for fuel modification or establishment of 10-foot road clearance shall be replaced at a 5:1 ratio. For replacement of the trees planned for removal, the Plan shall include the following:

a. Replacement trees shall be of coast live oak trees planted at a similar density of site conditions.

    i. Trees shall be from locally grown seed stock, in 5-gallon containers

    ii. Trees shall be stored away from the construction area and boxed for replanting. Planting locations for the 20 trees shall be shown on plans.

b. The trees shall be gopher-fenced

c. The trees shall be drip-irrigated on a timer, until established (the establishment period determined by the approved P&D arborist or biologist).

d. The trees shall be weaned off irrigation over two to three years.

e. No irrigation shall occur within the dripline of any naturally occurring coast live oak, madrone, or other native tree.

f. If tree replacement cannot be accommodated on site, the Applicant shall submit a plan for P&D approval for replacement trees to be planted off site.

g. All trees shall be protected from wildlife and domestic animals and from human interference by use of staked, chain-link fencing and gopher fencing during the maintenance period.

The Plan shall also include the following provisions, to ensure mitigation for trees lost or suffering worsened health or vigor because of pruning for fuel modification or road clearance purposes:

a. Where pruning exceeds 20% of the canopy, each affected tree shall be monitored annually for a period of not less than five years. An annual monitoring report shall be submitted to the County by the applicant for each of the five years, concurrent with the submittal of the monitoring report for planted mitigation trees. Should any of these trees be lost or suffer worsened health or vigor as a result of the proposed development, the applicant shall mitigate the impacts at a 5:1 ratio with seedling sized trees.

b. Replacement trees shall be of the same species (coast live oak or madrone) lost or damaged, at a density similar to site conditions.

c. Trees shall be seedling trees obtained from locally grown stock.

d. Mitigation planting shall occur annually, if necessary, based on the results of the annual monitoring reports.

e. Mitigation trees planted for tree losses occurring during the five-year monitoring period shall also be monitored for five years, with annual reporting to the County on tree health/survival.

f. Items b. through g. above, for trees replacing those planned for removal, shall also apply to trees replacing those suffering worsened health and vigor.

Plans shall be submitted prior to issuance of a grading permit. The Applicant shall post a performance security to ensure installation prior to Final Building Inspection Clearance and maintenance for five years. The Applicant shall demonstrate to P&D monitoring staff that all required components of the approved plans are in place as required prior to Final Inspection Clearance. P&D compliance monitoring staff signature is required to release the installation security upon satisfactory installation of all items in approved plans and maintenance security upon successful implementation of the Tree Replacement Plan.

5.1.3 Hydrology / Aquatic Habitat

Several polices and development standards from the Gaviota Coast Plan (County 2016), as well as project design guidelines in the County Environmental Thresholds and Guidelines Manual (County 2018), relating to aquatic resources, are applicable to the project.

Gaviota Coast Plan

Policy NS-4: ESH Criteria and Habitat Types. See Section 5.1.1, Sensitive Vegetation Communities and Habitats, above.

Policy NS-5: Wetlands. The County shall seek opportunities and create incentives for restoration of degraded wetlands.

Policy NS-7: Riparian Vegetation. See Section 5.1.1, Sensitive Vegetation Communities and Habitats, above.

Policy NS-11: Restoration. See Section 5.1.1, Sensitive Vegetation Communities and Habitats, above.

Policy NS-9: Natural Stream Channels. With the exception of local, state, or federal resource agency permitted activities, natural stream channels and conditions shall be maintained in an undisturbed state to the maximum extent feasible in order to protect banks from erosion, enhance wildlife passageways, and provide natural greenbelts.

Dev Std NS-5: Wetlands. If potentially jurisdictional wetlands or waters are found on or adjacent to a project site in the Plan Area and have potential to be impacted by implementation of the project, a formal wetlands delineation of the project site, focused on the area to be disturbed and/or affected by the project, shall be completed following the methods outlined in the United States Army Corps of Engineers (USACE) 1987 Wetlands Delineation Manual and the Regional Supplement to the USACE Delineation Manual for the Arid West Region (USACE 2008). A determination of the presence/absence and boundaries of any Waters of

the U.S. and Waters of the State shall also be completed following the appropriate USACE guidance documents for determining Ordinary High Water Mark boundaries. The limits of any riparian habitats on-site under the sole jurisdiction of California Department of Fish and Wildlife shall also be delineated, as well as any special aquatic sites that may not be within the USACE jurisdiction under the Clean Water Act or meet federal jurisdictional criteria but are regulated by Federal Endangered Species Act, California Endangered Species Act, Regional Water Quality Control Board, and/or California Coastal Commission (CCC). In the Coastal Zone, jurisdictional waters and ESH areas as defined by CCC will also be delineated.

Mitigation for unavoidable impacts to wetlands and waters shall be based on the impacted type of wetland and project design. Mitigation should prevent any net loss of wetland functions and values of the impacted wetland. Plan Policy NS-11 requires a replacement ratio to compensate for the destruction of native habitat and biological resources that exceeds the biological value of that which is destroyed. However, the resource agencies may require higher mitigation ratios depending on the type and quality of resource impacted. Mitigation ratios for impacts to wetlands and riparian habitat are typically around 2:1 or 3:1, but can be as high as 8:1 for especially rare or valuable wetland types such as vernal pools.

Environmental Thresholds and Guidelines Manual

Riparian Impact Assessment Guidelines. See Section 5.1.1, Sensitive Vegetation Communities and Habitats.

No jurisdictional aquatic resources occur in or immediately adjacent to the proposed building site. At their nearest points, structures would be 100 feet from riparian vegetation under the jurisdictions of CDFW and RWQCB, and approximately 120 feet from the ephemeral streambed (Figure 5). Clearance within the FMZ for the proposed project would not result in impacts to these resources.

Replacement of the culvert and improvement of the access road stream crossing would result in approximately 224 square feet (0.005 acre) of direct impacts to the ephemeral stream. Because the existing culvert is unpermitted, its replacement is considered a permanent impact. These impacts would result in removal of silt from the stream channel and increase stream capacity, and therefore would result in an improvement of stream function over current conditions. The proposed installation of two 18-inch culverts would accommodate runoff from a 25-year storm event (Coast Engineering 2021). An alternative proposal to install a concrete Arizona crossing would result in the same area of permanent impacts to an ephemeral stream as the proposed culvert installation, and would not result in a reduction of stream capacity.

Potential indirect impacts could occur to the stream located in the western and southern portion of the survey area as a result of construction site runoff. These impacts may include accidental pollutant/chemical spills or discharge of materials from the use of concrete, oil/gas, water runoff, or on-site fueling stations.

To address potential impacts to aquatic resources in the project vicinity, the following measures, **BIO-2** (WEAP training), **BIO-3** (biological monitoring and reporting, and **BIO-4** (protection of riparian ESH) are recommended:

BIO-6 Erosion and Sediment Control Plan (ESCP). Due to the project impact of less than 1 acre, the Applicant shall prepare an ESCP to minimize the potential for discharge of pollutants during construction activities. The ESCP shall be designed to meet the local requirements and County permitting process (e.g., grading or building permit). The ESCP shall include both structural and non-structural best management practices, including straw

wattles around storm drains, silt fencing and or other physical controls to divert flows from exposed soil, spill prevention methods, and clean housekeeping methods for storing and refueling machinery.

As part of the ESCP, the Contractor shall include specifications, installation requirements, and locations of appropriate best management practices to control sediment, coarse particles, concrete, and other materials exposed during construction and drilling, to protect aquatic and riparian habitats adjacent to construction site. Erosion control measures shall be implemented to prevent runoff of these materials into potential jurisdictional aquatic features. Silt fencing, straw bales, and/or sandbags should be used in conjunction with other methods to prevent turbid waters from entering the potential jurisdictional aquatic features.

During construction activities, washing of concrete or equipment shall occur only in areas where polluted water and materials can be contained for subsequent removal from the site. Washing shall not be allowed in locations where the tainted water could enter potential jurisdictional aquatic features.

BIO-7 Formal Aquatic Resources Delineation and Regulatory Permitting. In accordance with Gaviota Coast Plan Development Standard Dev Std NS-5, conduct a formal delineation of aquatic resources in the vicinity of the unpermitted culvert, for submittal to the California Department of Fish and Wildlife, Regional Water Quality Control Board, and U.S. Army Corps of Engineers. Mitigation for the impacts associated with improvements related to the unpermitted culvert shall be based on agency permits, and the biological value of the mitigation site shall exceed the biological value of the area of ephemeral stream where impacts occur. If off-site mitigation is not feasible, an alternative mitigation strategy that will provide adequate quality and quantity of habitat may be considered, as long as the strategy also meets agency requirements.

5.1.4 Special-Status Plant Species

Several polices and development standards from the Gaviota Coast Plan (County 2016) relating to special-status plant species are applicable to the project.

Gaviota Coast Plan

Policy NS-2: Natural Resources Protection. See Section 5.1.1, Sensitive Vegetation Communities and Habitats.

Policy NS-4: ESH Criteria and Habitat Types. See Section 5.1.1, Sensitive Vegetation Communities and Habitats.

Policy NS-11: Restoration. See Section 5.1.1, Sensitive Vegetation Communities and Habitats.

Dev Std NS-3: Rare Plants. Where appropriate and feasible, as determined by County staff, if potentially suitable habitat exists for sensitive plant species, prior to approval of Coastal Development or Land Use Permits for any projects in the Gaviota Coast Plan Area, rare plant surveys focused on the area to be disturbed and/or affected by the project shall be conducted during the appropriate time of year to optimize detection of potentially occurring rare plants. Surveys shall be conducted in accordance with the County's Environmental Thresholds and Guidelines Manual and applicable resource agency survey protocols to determine the potential for impacts resulting from the project on these species.

As discussed in Section 4.3, more than 150 Refugio manzanita shrubs occur in the survey area, over an area of approximately 0.53 acre (Figure 5). Of these, more than 20 occur in the FMZ and an unknown number occur within the 10-foot road clearance area. In all, approximately 0.29 acre of Refugio manzanita shrubs would be removed. With replacement of the removed Refugio manzanita shrubs at a suitable ratio, the project would remain consistent with County policies. Impacts to Refugio manzanita can be minimized and mitigated with implementation of the measure below and measure **BIO-1** (habitat restoration).

BIO-8 Delimiting Construction Area. Prior to initiation of vegetation removal, grading, or equipment mobilization, the Applicant shall implement the following measures to protect natural resources adjacent to construction areas:

- Install temporary fencing or equivalent form of demarcation along the perimeter of defined construction areas to protect natural resources.
- All construction-related activities shall be confined to the designated construction areas within the fenced/demarcated areas.
- Fencing/demarcation shall be maintained during the duration of construction, including repairing or replacing downed fence.
- Fencing/demarcation shall remain in place for the duration of construction until all project activities are complete and County sign-off has occurred.
- A qualified biological monitor shall monitor the condition of the fence, to ensure avoidance of impacts to surrounding resources.

5.1.5 Special-Status Wildlife Species

Several polices and development standards from the Gaviota Coast Plan relating to special-status wildlife species are applicable to the project.

Gaviota Coast Plan

Policy NS-2: Natural Resources Protection. See Section 5.1.1, Sensitive Vegetation Communities and Habitats.

Dev Std NS-4: Sensitive Wildlife Species. Where appropriate and feasible, as determined by County staff, if potentially suitable habitat or critical habitat exists for sensitive wildlife species on or adjacent to a project site, prior to approval of Coastal Development or Land Use Permits for any projects in the Gaviota Coast Plan Area, presence/absence surveys focused on the area to be disturbed and/or affected by the project shall be conducted in accordance with the County's Environmental Thresholds and Guidelines Manual to determine the potential for impacts resulting from the project on these species.

As discussed in Section 4.3, several special-status wildlife species have the potential to occur in the project vicinity, and the project could result in impacts to these species. These include California red-legged frog, Blainville's horned lizard, coast patch-nosed snake, and San Diego desert woodrat.

5.1.4.1 California Red-Legged Frog

The California red-legged frog, a federally threatened species and an SSC, is unlikely to occur in and adjacent to the proposed building site. As described in Section 4.3, no suitable aquatic habitat occurs within 800 feet of the building site, and likely a much greater distance. However, because California red-legged frog is federally listed, any unpermitted incidental take of this species, in the unlikely event that it occurs on the site, would constitute a violation of the ESA. If it does occur on the site during dispersal between aquatic and upland habitats, construction activities could result in injury or mortality to California red-legged frog. In addition, if the project results in inadvertent discharge of pollutants or chemicals into the nearby ESH stream, impacts could occur to water quality downstream, potentially resulting in impacts to California red-legged frog. To ensure that no impacts occur to California red-legged frog, implementation of the measure below and of **BIO-2** (WEAP training), **BIO-3** (biological monitoring and reporting), and **BIO-8** (delimiting construction area) is recommended:

BIO-9 Preconstruction Surveys for Special-Status Wildlife Species. No more than 7 days prior to construction, a qualified biologist shall conduct a focused special-status wildlife survey on site. The survey will include the potential project footprint as well as the surrounding habitat potentially supporting special-status wildlife species. Should special-status wildlife be identified within the potential project footprint, species-specific protection measures shall be employed to avoid impacts to these species.

For California red-legged frogs, the survey shall include a search for suitable aquatic habitat in all accessible areas within 100 meters (approximately 330 feet) of the project footprint. If any California red-legged frogs are observed, the U.S. Fish and Wildlife Service shall be contacted and appropriate avoidance and minimization measures shall be implemented, as determined by the qualified biologist and approved by County Planning and Development, to ensure protection of the frogs.

Measures may include establishment of avoidance buffers through installation of exclusionary fencing no less than 100 feet around aquatic habitat and 50 feet around riparian habitat prior to construction, to prevent California red-legged frogs from entering the construction area; installation of orange construction fencing to demarcate the site perimeter to ensure construction activities do not encroach on California red-legged frog habitat; and installation of BMPs, such as straw wattles and sandbags along the exclusionary fencing to prevent construction water or any potential pollutants from entering aquatic habitat.

Surveys for other potentially occurring special-status species (Blainville's horned lizard, coast patch-nosed snake, San Diego desert woodrat) shall be conducted on the project footprint and within 50 feet, and along the existing road between the entrance and the project footprint. Methods shall be those that are appropriate for detecting these species. If Blainville's horned lizard or coast patch-nosed snake is encountered during the survey or during construction, the qualified biologist shall capture the animal and move it out of harm's way.

If any woodrat middens are encountered within the proposed building site, the fuel modification zone, or the 10-foot road clearance area, the biologist shall dismantle the midden and move the materials to the nearest suitable location out of harm's way, so that the woodrats may have the opportunity to re-establish their nest nearby.

5.1.4.2 Blainville's Horned Lizard

Blainville's horned lizard, a California species of species concern, has moderate potential to occur in and adjacent to the proposed building site. Construction activities could result in mortality and injury to this species. To minimize

potential impacts to this species, implementation of **BIO-4** (biological monitoring and reporting), **BIO-8** (delimiting construction area), and **BIO-9** (preconstruction wildlife species surveys) is recommended.

5.1.4.3 Coast Patch-nosed Snake

The coast patch-nosed snake, a California species of special concern, has a moderate potential to occur in and adjacent to the proposed building site. Construction activities could result in mortality and injury to this species. To minimize potential impacts to this species, implementation of **BIO-4** (biological monitoring and reporting), **BIO-8** (delimiting construction area), and **BIO-9** (preconstruction wildlife species surveys) is recommended.

5.1.4.4 San Diego Desert Woodrat

The San Diego desert woodrat, a California species of special concern, has a high potential to occur in and adjacent to the proposed building site. Construction activities or fuel modification could result in mortality and injury to this species. To minimize potential impacts to this species, implementation of **BIO-4** (biological monitoring and reporting), **BIO-8** (delimiting construction area), and **BIO-9** (preconstruction wildlife species surveys) is recommended.

5.1.6 Nesting Birds

Project construction and clearance within the FMZ has the potential to impact nesting birds on and adjacent to the site, including within County-mapped ESH and coast live oak woodland, which is typically considered sensitive under the Gaviota Coast Plan (County 2016). Impacts could include direct destruction of nests or disturbance of nesting activities in adjacent areas, leading to nest abandonment and nest failure. Bird nests with eggs or young of all migratory bird species are protected under the Migratory Bird Treaty Act and the California Fish and Game Code. The potential loss of an active nest resulting from construction activities would be in conflict with these regulations. Nesting birds species occurring within and adjacent to the proposed building site may include, but would not be limited to, Nuttall's woodpecker, California thrasher, canyon wren, dark-eyed junco (*Junco hyemalis*), and California scrub-jay.

To avoid impacts to native nesting birds protected under the Migratory Bird Treaty Act and the California Fish and Game Code, the following avoidance and minimization measures, as well as **BIO-8** (delimiting construction area), are highly recommended:

BIO-10 Pre-construction Nesting Bird Survey. Avoid initiating construction during the nesting bird season for native birds (February 15 to August 31). If construction must begin within the nesting bird season, a qualified biologist shall conduct a pre-construction survey to determine if active nests of special-status birds, or common bird species protected by the Migratory Bird Treaty Act and the California Fish and Game Code, are present in the construction zone or within 100 feet (300 feet for raptors) of the construction zone for the project site. The survey should occur no less than one week prior to construction or site preparation activities.

BIO-11 Nesting Bird Buffers and Requirements. If active nests are found, a no-construction buffer of 100-feet shall be established (this distance may be greater depending on the bird species and construction activity, as determined by the biologist) around the nest site where it overlaps with work areas. Clearing and construction within no-construction buffers shall be postponed or halted, at the discretion of the biologist, until the nest is vacated, young have fledged and are no longer dependent on the nest site, and there is no evidence of a second

attempt at nesting. In addition, the qualified biologist shall map all active nests with a GPS unit and provide the locations and 100-foot buffers shown on aerial-based maps of the project vicinity. The biologist shall regularly update maps to inform the Contractor of areas to avoid. A County-appointed biologist should also serve as a construction monitor during the breeding season to ensure that no inadvertent impacts occur to nesting birds.

5.1.7 Wildlife Corridors and Movement

Several polices and development standards from the Gaviota Coast Plan, as well as guidelines in the County Environmental Thresholds and Guidelines Manual (County 2018), relating to wildlife corridors and movement, are applicable to the project.

Gaviota Coast Plan

> *Policy NS-6: Wildlife Corridors.* Development shall avoid to the maximum extent feasible and otherwise minimize disruption of identified wildlife travel corridors.
>
> *Dev Std NS-1*: Wildlife Corridors. Environmental review of development proposals shall evaluate and mitigate for the significant effects on wildlife movement caused by fencing, roads, lighting, and siting.

Environmental Thresholds and Guidelines Manual

> **Project Design Suggestions for Woodlands and Forests.**
>
> (a) Retain contiguous blocks of habitat area particularly where adjacent to offsite habitat areas.
>
> (b) Retain animal migration corridors to other habitat areas.
>
> (c) Retain understory.

The removal of 0.26 acres of vegetation at the proposed building site, and fuel modification practices within an additional 2.69 acres, would remove or modify a small amount of habitat available for wildlife movement and may deter some larger or medium-size mammals from using the road to move through the area, particularly during daytime hours. However, the concentration of development and human activity within a small area would leave a large surrounding area undeveloped, including approximately 90 acres of the project parcel. Wildlife would remain free to use these areas. In addition, no permanent fencing would be erected that would block passage along the best available wildlife movement corridors within the nearby oak woodland to the west or along the existing road. Any wildlife that, because of human presence, may cease to use the open space along the existing road for north-south movements through the area, would still be able to travel within oak woodland west of the existing road to access the upper elevations of the Santa Ynez Mountains to the north and Refugio Creek to the south. Therefore, the proposed project is consistent with County policies regarding wildlife corridors and movement to avoid or minimize impacts to this resource without any additional measures.

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Appendix A

Plant Species Observed

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PLANT SPECIES

FERNS AND FERN ALLIES

***DENNSTAEDTIACEAE*—BRACKEN FAMILY**

Pteridium aquilinum—western brackenfern

***PTERIDACEAE*—BRAKE FAMILY**

Pentagramma triangularis—goldback fern

MONOCOTS

***JUNCACEAE*—RUSH FAMILY**

Juncus balticus—no common name

***LILIACEAE*—LILY FAMILY**

Calochortus albus—white fairy-lantern

***POACEAE*—GRASS FAMILY**

* Aira caryophyllea—silver hairgrass
* *Avena barbata*—slender oat
* *Brachypodium distachyon*—purple false brome
* *Briza minor*—little quakinggrass
* *Bromus diandrus*—ripgut brome
* *Bromus hordeaceus*—soft brome
* *Bromus madritensis*—compact brome
* *Cynodon dactylon*—Bermudagrass
* *Cynosurus echinatus*—annual dogtails
Elymus glaucus—blue wildrye
Festuca microstachys—small fescue
* *Festuca myuros*—rat-tail fescue
* *Festuca perennis*—perennial rye grass
* *Gastridium phleoides*—nit grass
* *Lamarckia aurea*—goldentop grass
Melica imperfecta—smallflower melicgrass
* *Stipa miliacea*—no common name
Stipa pulchra—purple needlegrass

***THEMIDACEAE*—BRODIAEA FAMILY**

Bloomeria crocea var. *crocea*—common goldenstar

EUDICOTS

ANACARDIACEAE—SUMAC OR CASHEW FAMILY

Toxicodendron diversilobum—poison oak

APIACEAE—CARROT FAMILY

* *Anthriscus caucalis*—bur chervil
Sanicula crassicaulis—Pacific blacksnakeroot
* *Torilis arvensis*—spreading hedgeparsley

ASTERACEAE—SUNFLOWER FAMILY

Achillea millefolium—common yarrow
Agoseris grandiflora var. *grandiflora*—bigflower agoseris
Artemisia californica—California sagebrush
Artemisia douglasiana—Douglas' sagewort
Baccharis pilularis—coyote brush
* *Carduus pycnocephalus*—Italian plumeless thistle
* *Centaurea melitensis*—Maltese star-thistle
Cirsium occidentale—cobwebby thistle
Corethrogyne filaginifolia—sand-aster
Deinandra fasciculata—clustered tarweed
Erigeron concinnus var. *concinnus*—Navajo fleabane
Eriophyllum confertiflorum var. *confertiflorum*—golden-yarrow
Gamochaeta ustulata—featherweed
Hazardia squarrosa var. *squarrosa*—sawtooth goldenbush
* *Hypochaeris glabra*—smooth cat's ear
Isocoma menziesii—Menzies’s golden bush
* *Lactuca serriola*—prickly lettuce
Logfia filaginoides—California cottonrose
Madia gracilis—grassy tarweed
Madia sativa—coast tarweed
Pseudognaphalium californicum—ladies' tobacco
* *Pseudognaphalium luteoalbum*—Jersey cudweed
Psilocarphus tenellus—slender woollyheads
Rafinesquia californica—California plumeseed
* *Sonchus asper* ssp. *asper*—spiny sowthistle
* *Sonchus oleraceus*—common sowthistle
Uropappus lindleyi—Lindley's silverpuffs

***BORAGINACEAE*—BORAGE FAMILY**

Cryptantha micromeres—pygmyflower cryptantha

***BRASSICACEAE*—MUSTARD FAMILY**

* *Hirschfeldia incana*—shortpod mustard

Thysanocarpus curvipes—sand fringepod

***CAPRIFOLIACEAE*—HONEYSUCKLE FAMILY**

Lonicera subspicata var. *denudata*—Santa Barbara honeysuckle

Symphoricarpos mollis—creeping snowberry

***CARYOPHYLLACEAE*—PINK FAMILY**

* *Silene gallica*—common catchfly

***CISTACEAE*—ROCK-ROSE FAMILY**

Crocanthemum scoparium—no common name

***CRASSULACEAE*—STONECROP FAMILY**

Crassula connata—sand pygmyweed

***CUCURBITACEAE*—GOURD FAMILY**

Marah fabacea—California man-root

***ERICACEAE*—HEATH FAMILY**

Arbutus menziesii—madrone

Arctostaphylos glauca—bigberry manzanita

Arctostaphylos refugioensis—Refugio manzanita

***EUPHORBIACEAE*—SPURGE FAMILY**

Croton setiger—dove weed

***FABACEAE*—LEGUME FAMILY**

Acmispon americanus—Spanish clover

Acmispon glaber—deer weed

Lupinus bicolor—miniature lupine

Pickeringia montana var. *montana*—chaparral pea

* *Trifolium hirtum*—rose clover

* *Vicia villosa* ssp. *varia*—winter vetch

***FAGACEAE*—OAK FAMILY**

Quercus agrifolia—coast live oak
Quercus berberidifolia—Inland scrub oak

***GERANIACEAE*—GERANIUM FAMILY**

* *Erodium botrys*—longbeak stork's bill
* *Erodium cicutarium*—redstem stork's bill

***GROSSULARIACEAE*—GOOSEBERRY FAMILY**

Ribes malvaceum var. *malvaceum*—chaparral currant

***LAMIACEAE*—MINT FAMILY**

Clinopodium douglasii—yerba buena
Lepechinia calycina—woodbalm
Salvia mellifera—black sage
Salvia spathacea—hummingbird sage
Stachys bullata—California hedgenettle

***LAURACEAE*—LAUREL FAMILY**

* *Laurus nobilis*—sweet bay
Umbellularia californica—California bay

***MALVACEAE*—MALLOW FAMILY**

Malacothamnus fasciculatus—bush mallow
Sidalcea malviflora ssp. *californica*—California checkerbloom
Sidalcea malviflora—dwarf checkerbloom

***MONTIACEAE*—MONTIA FAMILY**

Claytonia perfoliata ssp. *perfoliata*—miner's lettuce

***MYRSINACEAE*—MYRSINE FAMILY**

* Lysimachia arvensis—scarlet pimpernel

***ONAGRACEAE*—EVENING PRIMROSE FAMILY**

Clarkia purpurea—winecup clarkia

***OROBANCHACEAE*—BROOM-RAPE FAMILY**

Pedicularis densiflora—Indian warrior

***PHRYMACEAE*—LOPSEED FAMILY**

Diplacus aurantiacus—bush monkeyflower

***PLANTAGINACEAE*—PLANTAIN FAMILY**

Collinsia heterophylla—purple Chinese houses
Keckiella cordifolia—heartleaf keckiella
Plantago erecta—dwarf plantain
* *Plantago lanceolata*—narrowleaf plantain

***POLEMONIACEAE*—PHLOX FAMILY**

Navarretia atractyloides—hollyleaf pincushionplant

***POLYGONACEAE*—BUCKWHEAT FAMILY**

Chorizanthe staticoides—Turkish rugging
Pterostegia drymarioides—woodland pterostegia
* *Rumex acetosella*—common sheep sorrel
* *Rumex crispus*—curly dock

***PRIMULACEAE*—PRIMROSE FAMILY**

Primula clevelandii—no common name

***RANUNCULACEAE*—BUTTERCUP FAMILY**

Ranunculus californicus—California buttercup

***RHAMNACEAE*—BUCKTHORN FAMILY**

Ceanothus megacarpus—bigpod ceanothus
Ceanothus spinosus—greenbark ceanothus
Frangula californica—California coffee berry
Rhamnus ilicifolia—hollyleaf redberry

***ROSACEAE*—ROSE FAMILY**

Adenostoma fasciculatum—chamise
Cercocarpus betuloides—birch leaf mountain mahogany
Drymocallis glandulosa var. *wrangelliana*—sticky cinquefoil
Fragaria vesca—woodland strawberry
Heteromeles arbutifolia—toyon
Horkelia cuneata var. *cuneata*—wedgeleaf horkelia
Rubus ursinus—California blackberry

***RUBIACEAE*—MADDER FAMILY**

Galium andrewsii—phloxleaf bedstraw
Galium angustifolium—narrowleaf bedstraw

Galium aparine—stickywilly
Galium nuttallii—climbing bedstraw

***SOLANACEAE*—NIGHTSHADE FAMILY**
Solanum sp.—Nightshade
Solanum xanti—Purple nightshade

***VERBENACEAE*—VERVAIN FAMILY**
Verbena lasiostachys—western vervain

* – non-native naturalized species

Appendix B

Wildlife Species Observed

INTENTIONALLY LEFT BLANK

VERTEBRATES

BIRD

BUSHTITS

***AEGITHALIDAE*—LONG-TAILED TITS & BUSHTITS**

Psaltriparus minimus—bushtit

FINCHES

***FRINGILLIDAE*—FRINGILLINE & CARDUELINE FINCHES & ALLIES**

Spinus psaltria—lesser goldfinch

FLYCATCHERS

***TYRANNIDAE*—TYRANT FLYCATCHERS**

Empidonax difficilis—Pacific-slope flycatcher

HAWKS

***ACCIPITRIDAE*—HAWKS, KITES, EAGLES, & ALLIES**

Accipiter cooperii—Cooper's hawk

Aquila chrysaetos—golden eagle

Buteo jamaicensis—red-tailed hawk

JAYS, MAGPIES & CROWS

***CORVIDAE*—CROWS & JAYS**

Aphelocoma californica—California scrub-jay

MOCKINGBIRDS & THRASHERS

***MIMIDAE*—MOCKINGBIRDS & THRASHERS**

Toxostoma redivivum—California thrasher

NEW WORLD QUAIL

***ODONTOPHORIDAE*—NEW WORLD QUAIL**

Callipepla californica—California quail

NEW WORLD VULTURES

***CATHARTIDAE*—NEW WORLD VULTURES**

Cathartes aura—turkey vulture

OLD WORLD WARBLERS & GNATCATCHERS

***POLIOPTILIDAE*—GNATCATCHERS**

Polioptila caerulea—blue-gray gnatcatcher

SWIFTS

***APODIDAE*—SWIFTS**

Aeronautes saxatalis—white-throated swift

WOODPECKERS

***PICIDAE*—WOODPECKERS & ALLIES**

Colaptes auratus—northern flicker

Dryobates nuttallii—Nuttall's woodpecker

WRENS

***TROGLODYTIDAE*—WRENS**

Catherpes mexicanus—canyon wren

Thryomanes bewickii—Bewick's wren

NEW WORLD SPARROWS

***PASSERELLIDAE*—NEW WORLD SPARROWS**

Junco hyemalis—dark-eyed junco

Melozone crissalis—California towhee

Pipilo maculatus—spotted towhee

TYPICAL WARBLERS, PARROTBILLS, WRENTIT

***SYLVIIDAE*—SYLVIID WARBLERS**

Chamaea fasciata—wrentit

MAMMAL

HARES & RABBITS

***LEPORIDAE*—HARES & RABBITS**

Sylvilagus bachmani—brush rabbit

SQUIRRELS

***SCIURIDAE*—SQUIRRELS**

Sciurus griseus—western gray squirrel

Tamias merriami—Merriam's chipmunk

RATS, MICE, & VOLES

***CRICETIDAE*—RATS, MICE, & VOLES**

Neotoma sp.—woodrat

REPTILE

LIZARDS

***PHRYNOSOMATIDAE*—IGUANID LIZARDS**

Sceloporus occidentalis—western fence lizard

***TEIIDAE*—WHIPTAIL LIZARDS**

Aspidoscelis tigris—tiger whiptail

INVERTEBRATES

BUTTERFLIES

***PAPILIONIDAE*—SWALLOWTAILS**

Papilio rutulus—western tiger swallowtail

BEES

***APIDAE*—HONEY BEES, BUMBLEBEES, STINGLESS BEES, AND ORCHID BEES**

Bombus vosnesenskii—Vosnesensky's bumblebee

Apis mellifera—European honey bee

Appendix C

Photos

Photo 1. From proposed building site, looking toward existing road. July 25, 2019.

Photo 2. Proposed building site, looking east. July 25, 2019.

Photo 3. Purple needle grass grassland at proposed building site, looking southeast. July 25, 2019.

Photo 4. Looking northeast from building site toward property entrance. July 6, 2020.

Photo 5. Refugio manzanita (*Manzanita refugioensis*), along existing road. July 25, 2019.

Photo 6. Looking toward property entrance through coast live oak-madrone woodland. July 25, 2019.

Photo 7. Looking southwest to dense chaparral bordering west edge of proposed building site. July 6, 2020

Photo 8. ESH stream where nearest the site, looking southeast. July 6, 2019.

Attachment 4: Tree Protection Report dated October 2021

DUDEK
621 CHAPALA STREET
SANTA BARBARA, CALIFORNIA 93101
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October 6, 2021 11960

Young America Foundation
Brent Kilpper
217 State Street
Santa Barbara, California 93101

Subject: Tree Protection Report for Moore Ranch, Goleta, California

Dear Mr. Kilpper:

On July 6, 2020, Dudek's International Society of Arboriculture (ISA) Certified Arborists conducted an inventory and assessment of all trees located on or immediately adjacent to the property located at 3333 Refugio Road in Goleta, California (Figure 1). A second site visit by an ISA Certified Arborist occurred on August 31, 2021, to conduct a second assessment of the property and analyze the direct and indirect encroachment impacts to the Tree Protection Zone (TPZ) of the protected and nonprotected trees from both the development of the proposed structures and emergency vehicle 13 feet 6 inches vertical clearance pruning requirements along an access road. This Tree Protection Report addresses tree inventory and evaluation techniques, a summary of the site's tree resources, and an evaluation of impacts anticipated from proposed development on the Moore Ranch Project (project) site. Further, this report outlines tree protection and mitigation measures associated with direct and potential impacts associated with the proposed site development.

A total of 145 individual trees were inventoried and evaluated within or immediately adjacent to the proposed project footprint. Of the 145 trees inventoried, 125 are considered protected by Santa Barbara County (County). Based on a review of proposed site plans, it is anticipated that two (2) of the protected coast live oak (*Quercus agrifolia)* trees on site will be directly impacted by development and require removal. It is also anticipated that 35 additional retained trees on the periphery of the proposed development area and along the driveway access road may incur residual root or canopy impacts due to Tree Protection Zone (TPZ) encroachment from both the development of the proposed structures and the 13 feet 6-inch vertical clearance requirement along an emergency vehicle access road. As such, and in order to minimize the effects of potential impacts, we have included site-specific tree protection measures recommended for implementation before, during, and following construction.

1 Project Location and Description

The project site is located at 3333 Refugio Road (Assessor's Parcel Number 081-040-044) in Goleta, in the Santa Ynez Mountains, near the Gaviota Coast of southern Santa Barbara County (Figure 1). The 92.2-acre site is currently vacant, with native shrubs and trees growing throughout the project boundary. The project includes construction of an approximately 2,000-square-foot single-family residence, 800-square-foot guest house, a 2,220-square-foot storage barn, and an 864-square-foot storage barn. It would also include installation of a new septic system, use of an existing wellhead, and redesign of an existing unpermitted culvert where the existing access road crosses an unnamed ephemeral stream. Construction would require minor earthwork to grade the driveway and building pad.

Grading will include approximately 1,500 cubic yards of cut and 1,500 cubic yards of fill. Access will be provided from an existing driveway off Refugio Road that will be improved. The project site is bordered by open space in all cardinal directions.

2 Methods

Dudek mapped and collected tree attribute information for all trees within and immediately adjacent to the tree survey area meeting the County's definition of a "protected native tree," which includes native and heritage trees that have a minimum diameter of 6 inches at 4.6 feet above the natural grade. The cumulative diameter of multi-stemmed trees was calculated using the sum of the squares method (the cumulative diameter at breast height for multi-stemmed trees is found by taking the square root of the sum of all squared trunk stem diameters at breast height). The location of each individual native tree was mapped using a Trimble Pathfinder Pro XH GPS receiver, which has a horizontal accuracy of 1 meter (1 sigma) using differential code positioning techniques. Since tree canopies can sometimes cause loss of satellite lock by blocking the line-of-sight to satellites, an electronic compass and reflectorless electronic distance measuring device was also used in mapping tree locations. The electronic distance measuring device/compass combination operates in concert with the Pathfinder GPS system to position offsets, and offset information is automatically attached to the global positioning system (GPS) position data string. Protected trees were tagged in the field with an aluminum tree tag bearing a unique identification number. The tags were placed on the trunk of each inventoried tree and tag numbers correspond with the individual tree data presented in Appendix A, Tree Information Matrix. GPS locations of each tree are presented in Appendix B, Tree Survey Field Map.

Concurrent with tree mapping efforts, Dudek arborists collected tree attribute data including species, quantity of individual trunks, individual trunk diameters, overall height, canopy extent, and general health and structural conditions. Trunk diameter measurements were collected at 4.6 feet above the ground along the trunk axis. Tree height measurements were ocular estimates made by experienced field arborists. Tree canopy diameters were typically estimated by pacing off the measurement based on the investigator's knowledge of his stride length or by visually estimating the canopy width. The tree crown diameter measurements were made along an imaginary line intersecting the tree trunk that best approximated the average canopy diameter.

Pursuant to the Guide for Plant Appraisal (CTLA 2000), tree health and structure were evaluated with respect to five distinct tree components: (1) roots, (2) trunk(s), (3) scaffold branches, (4) small branches, and (5) foliage. Each component of the tree was assessed with regard to health factors such as insect, fungal, or pathogen damage; fire damage; mechanical damage; presence of decay; presence of wilted or dead leaves; and wound closure. Components were graded as good, fair, poor, critical, and dead, with "good" representing no apparent problems and "dead" representing a dying and/or dead tree. This method of tree condition rating is comprehensive and results in ratings that are useful for determining the status of trees based on common standards. Trees in natural settings have important habitat value, as evidenced by numerous cavity nesters and insects that thrive on and within oak trees, even when they are considered in poor structural or health condition. However, this assessment focuses on tree condition with regards to health and structure for purposes of analyzing potential tree health issues.

Upon completion of field data collection and mapping, raw GPS data were post-processed using GPS Pathfinder Office (version 5.10), and individual tree location data were compiled and updated in a geographic information system. The digital tree locations were linked to individual tree identification numbers and associated tree attribute data. This data set was then evaluated using ArcGIS (version 10.1) software to determine the position of individual

trees related to the proposed project development areas. Data resulting from this analysis were utilized to evaluate the individual tree impact totals presented in this report.

2.1 Scope of Work Limitations

No root crown excavations or investigations or internal probing were performed during the tree assessment. Therefore, the presence or absence of internal decay or other hidden inferiorities in individual trees could not be confirmed. It is recommended that any large tree proposed for preservation or relocation in an urban setting be thoroughly inspected for internal and subterranean decay by a qualified arborist before finalizing preservation or relocation plans.

3 Observations

There is a total of 145 trees located within the project survey area, representing two tree species, of which 125 are considered protected trees. In general, the trees are in good (18 trees) to fair (96 trees) overall condition, with 31 trees exhibiting poor health. None of the surveyed trees were found to be dead. The trees on site have structural ratings that range from fair to poor, with 114 trees exhibiting fair structure and 31 trees exhibiting poor structure. No pests and/or pathogens were observed on site. Table 1 provides a summary of the two species mapped and evaluated within the survey area.

Trees within the tree survey area vary in size and stature according to species and available growing space. The site's trees are composed of single-stemmed and multi-stemmed trees, with single-stemmed trunk diameters that range from 1 to 29 inches and multi-stemmed trunk diameters that range from 1 to 21 inches. Tree heights vary from 6 feet to 50 feet. Tree canopy extents range from 4 feet to approximately 45 feet.

Table 1. Summary of Tree Species on the 651 Stoddard Lane Project Site

Scientific Name	Common Name	Number of Trees
Quercus agrifolia	Coast live oak	134 (117*)
Arbutus menziesii	Pacific madrone	11 (8*)
	Total	**145**

Note:
* Indicates total number of protected trees.

Appendix B presents the location of trees documented and assessed on the property.

4 Impact Analysis

Dudek utilized a geographic information system to conduct impact analysis for the site's trees. Dudek incorporated tree location data in combination with field survey data into a comprehensive exhibit illustrating the mapped locations of each tree. Impacts to trees can be classified as direct or indirect. Direct impacts to trees related to site development are typically the result of physical injuries or changes caused by machinery involved with the development process. Direct impacts may include tree removal, root damage, soil excavation and compaction, grade changes, loss of canopy, and trunk wounds, among others. Indirect impacts to trees are the result of changes to the site that may cause tree decline, even when the tree is not directly injured. Indirect impacts may include alterations to stream flow rates,

diversion of groundwater flow, introduction of exotic plant species, and alterations to disturbance regimes. Wider-scale alterations to the area near trees, as well as specific changes that occur around the trees, are important considerations. In general, there is a great deal of variation in tolerance to construction impacts among tree species, ages, and conditions. It is important to know how a certain tree, based on its species, age, and condition, would respond to different types of disturbance. The trees on the project site are of varying ages and conditions. Mature specimens are typically more sensitive to root disturbance and grade changes. In general, healthy trees will respond better to changes in their growing environment. Trees of poor health or stressed conditions may not be vigorous enough to cope with direct or indirect impacts from construction activities.

Impact totals analyzed in this report are based on conceptual disturbance limits and proposed project development plans as of the date of this protected tree report. As such, the actual number of trees subject to direct and indirect impacts may change as the detailed site planning process proceeds. Actual tree impacts and removals may be less than anticipated in this protected tree report once detailed grading plans are developed. Measures to further reduce impacts to encroached protected trees beyond the refined mitigation measures proposed here are encouraged and would be implemented in the field during grading operations.

4.1 Direct Tree Impacts

For the purposes of this Protected Tree Report, direct impacts are those associated with tree removal or encroachment within the tree-protected zone (canopy dripline plus 5 feet or 15 feet from trunk, whichever is greater). Pruning within protected tree canopies located along the project's driveway access road in order to achieve the emergency vehicle vertical clearance requirement height of 13 feet 6-inches has the potential to directly impact all of trees along the access road due to the potential encroachment within the tree-protection zone. Tree removal is expected to be required when the trunk is located inside or within 5 feet of the proposed limits of grading. Encroachment is expected when soil, roots, and/or the canopies are disturbed within the tree protected zone.

Direct tree impacts would result in the removal of two (2) coast live oak protected trees located within the building/construction footprint of the Project site. An additional 35 protected trees have the potential for direct encroachment within the tree canopies due to vertical clearance pruning requirements for emergency vehicle access along the driveway access road. For these tree's, direct impact determinations are dependent upon the percentage of pruning required within the tree protection zone of the trees within the development footprint and along the driveway access road in order to achieve 13 feet 6-inches of vertical clearance for emergency vehicle access, and impacts to tree health and stability. Direct tree impacts are divided into five categories and are determined by approximate percentage of the tree's crown that will be pruned to obtain the required 13 feet 6-inch vertical clearance requirement: very low (approximately less than 5 percent pruning), low (approximately 5 to 10 percent pruning), moderate (approximately 10 to 15 percent pruning), high (approximately 20 to 35 percent pruning), and very high (more than 40 approximately percent pruning). Trees that will be directly impacted and require more than 40 percent of the tree's crown be pruned, will require removal; the additional trees with very low to high designations should be preserved and protected by measures identified in Appendix C to lessen the impacts to tree health and promote long-term survivability. Table 2 summarizes the number of trees by species that are expected to be directly impacted by construction within the buildable lot and along the driveway access road and the locations of directly impacted trees represented by impact type on the map in Appendix B.

Table 2. Summary of Direct Impact Trees on the 651 Stoddard Lane Project Site

Scientific Name	Common Name	Direct Impact (Very Low)	Direct Impact (Low)	Direct Impact (Moderate)	Direct Impact (High)	Direct Impact (Very High - Remove)
Quercus agrifolia	Coast live oak	13	6	10	4	2
Arbutus menziesii	Pacific madrone	1	1	0	0	0

Based on this analysis, it is anticipated that two (2) protected coast live oak trees located within the proposed project development will require removal for construction purposes. In addition, construction activity is expected to encroach within the TPZs of 35 protected trees which will require a varying amount of pruning. All 35 trees are expected to be preserved in place. The recommendations provided in the following section of this report and the tree protection measures included in Appendix C are intended to minimize potential impacts to trees experiencing TPZ encroachment.

Quercus species do not require regular pruning. Pruning should only be completed to maintain clearance and remove broken, dead, or diseased branches. Pruning should only take place following a recommendation by an ISA Certified Arborist and performed under the supervision of an ISA Certified Arborist. No more than 20 to 25 percent of the crown should be removed at any one time. All pruning shall conform to American National Standards Institute (ANSI) A-300 pruning standards.

4.2 Indirect Tree Impacts

Indirect impacts to trees are the result of changes to the site that may cause tree decline, even when the tree is not directly injured. In general, changes that could indirectly affect trees include diverting runoff and stormwater, creating retention and detention ponds, relocating streams or making improvements to streams, lowering or raising water tables, altering the capacity for soil moisture recharge, removing vegetation, or damming underground water flow (Matheny and Clark 1998). For the purposes of this Tree Protection Report, the remaining 108 trees on the property are not considered impacted, although impacts may be realized if site grading or other disturbances occur within the area just outside the driplines or within the driplines of these trees, or if significant alterations to the site's drainage results in excessive surface or subsurface runoff through the trees' root zones. Table 3 summarizes the number of indirect tree impacts within the buildable lot and along the driveway access road. Individual tree impact or preservation status is presented in Appendix A, and tree protection measures for preserved trees adjacent to the proposed development area are presented in Appendix C.

Table 3. Summary of Indirect Tree Impacts

Scientific Name	Common Name	Protected Trees
Quercus agrifolia	coast live oak	99
Arbutus menziesii	Pacific madrone	9
	Total	**108**

4.3 Tree Impacts Summary

In summary, two (2) trees would be directly impacted by development of the residential custom-home lots on the Project site and are conservatively anticipated to require removal; 35 additional protected trees are expected to encounter encroachment within the TPZs, requiring a varying amount of pruning. All 35 trees are expected to be preserved in place; and a total of 108 trees throughout the Project area would be indirectly impacted by the project, all of which are considered to be protected tree species. A summary of direct and indirect impacts is presented in Table 4. A map of the Individual tree locations and their impacts can be found in Appendix B and tree protection measures in Appendix C.

Table 4. Summary Direct and Indirect Tree Impacts

Scientific Name	Common Name	Direct Impacts (Removals)	Direct Impacts (Pruning)	Indirect Impacts
Quercus agrifolia	coast live oak	2	33	99
Arbutus menziesii	Pacific madrone	0	2	9
Total		**2**	**35**	**108**

5 Tree Protection/Mitigation

Santa Barbara County Planning and Development requires protection and retention of oaks on a property to the maximum extent feasible and encourages oak regeneration efforts. According to Appendix A of the County Grading Ordinance, Grading Ordinance Guidelines for Native Oak Tree Removal (County 2003), which is incorporated into Chapter 14 of the County Code, protected live oak trees that are removed shall be compensated at a 10:1 ratio by replacement planting or protection of naturally occurring oak trees between six inches and six feet on the lot. Excessive pruning or topping or severing an oak tree's roots enough to lead to the death of a tree, would also be considered oak tree removal. Where pruning exceeds 20% of the canopy, each affected tree shall be monitored annually for a period of not less than five years. An annual monitoring report shall be submitted to the County by the applicant for each of the five years, concurrent with the submittal of the monitoring report for planted mitigation trees. Should any of these trees be lost or suffer worsened health or vigor as a result of the proposed development, the applicant shall mitigate the impacts at a 5:1 ratio with seedling sized trees. Mitigation planting shall occur annually, if necessary, based on the results of the annual monitoring reports. Mitigation trees planted for tree losses occurring during the five-year monitoring period shall also be monitored for five years, with annual reporting to the County on tree health/survival.

Appendix B presents the location of the two coast live oak trees that require removal, 35 protected trees subject to direct TPZ impact due to construction-related encroachment, thus requiring pruning, and the trees to be retained on site. The following recommendations address site-specific tree protection standards designed to minimize impacts to retained trees. Additional details regarding tree mitigation can be found in Appendix A, Grading Ordinance Guidelines for Native Oak Tree Removal (County 2003).

Recommendations

The following recommendations are provided to mitigate the loss of trees from the property and enhance the survivability of those trees designated for retention on the project site.

1. There are two (2) coast live oak trees located within the proposed construction activity area that will be directly impacted and require removal. Removal of these two oak trees will require replacement at a 10:1 ratio as described in Appendix A, Grading Ordinance Guidelines for Native Oak Tree Removal.

2. All remaining trees shall be saved and protected in place. There are 35 oak and madrone trees located within the proposed building area and along the driveway access road to the building to which the TPZ's will be directly impacted and require some degree of pruning. Additionally, there are 108 oak and madrone trees located in close proximity to the proposed construction activity area and along the driveway access road that will be indirectly impacted. The 35 directly impacted trees that will require pruning and 108 indirectly impacted trees (total of 143 trees) shall be temporarily fenced with chain link or other material satisfactory to Planning and Development throughout all grading and construction activities. The fencing shall be installed 6 feet outside of the dripline of each native tree (or edge of canopy for cluster of trees) and shall be staked every 6 feet.

3. 35 Oak and Madrone trees will likely to require pruning to accommodate construction of the driveway and/or to gain emergency vehicle and large vehicle vertical clearance. As such, it is recommended that all pruning be conducted under the supervision of an ISA-Certified Arborist who specializes in oak trees. Furthermore, all pruning shall adhere to ANSI A-300 pruning and ISA pruning standards.

4. Where pruning exceeds 20% of the canopy, each affected tree shall be monitored annually for a period of not less than five years. An annual monitoring report shall be submitted to the County by the applicant for each of the five years, concurrent with the submittal of the monitoring report for planted mitigation trees. Should any of these trees be lost or suffer worsened health or vigor as a result of the proposed development, the applicant shall mitigate the impacts at a 5:1 ratio with seedling sized trees.

5. During excavation of utility trenches, any roots encountered that are 1 inch in diameter or larger shall be cleanly cut at right angles to avoid root tearing. Any trenching or construction completed within the TPZ shall be accomplished by hand tools or other methods that avoid damage to tree roots, such as directional drilling, air-spade excavation, or others.

6. No permanent irrigation shall occur within the dripline of any existing oak tree.

7. The project arborist should monitor all activities within the TPZ, including demolition, excavation, and driveway installation. This will require the project agent and/or contractor to notify the project arborist well in advance of scheduled work adjacent to protected trees. A pre-construction conference with the arborist and contractor should occur prior to commencement of demolition. Documentation of inspections should be submitted to the County Planner within 3 days of inspection or immediately if violations occur.

8. Any damage that occurs to trees or sensitive habitats resulting from construction activities shall be mitigated in a manner approved by Planning and Development.

9. *Quercus* species do not require regular pruning. Pruning should only be completed to maintain clearance and remove broken, dead, or diseased branches. Pruning should only take place following a recommendation by an ISA Certified Arborist and performed under the supervision of an ISA Certified Arborist. No more than 20 t0 25 percent of the crown should be removed at any one time. All pruning shall conform to American National Standards Institute (ANSI) A-300 pruning standards.

In addition to the recommendations outlined above, the tree protection measures included in Appendix C of this report are intended for use before, during, and following construction activities on site.

6 Project Manager Authorization

This report provides conclusions and recommendations based on an examination of the trees and surrounding site by an ISA Certified Arborist. Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees.

Arborists cannot detect every condition that could possibly lead to the failure of a tree. Trees are living organisms that fail in ways not fully understood. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. There are no guarantees that a tree's condition will not change over a short or long period due to weather, cultural, or environmental conditions. Trees can be managed but not controlled. To live near trees is to accept some degree of risk.

If you have any questions or comments regarding the content of this letter, please do not hesitate to contact me by telephone at 760-642-8379 or e-mail at nstamm@dudek.com.

Sincerely,

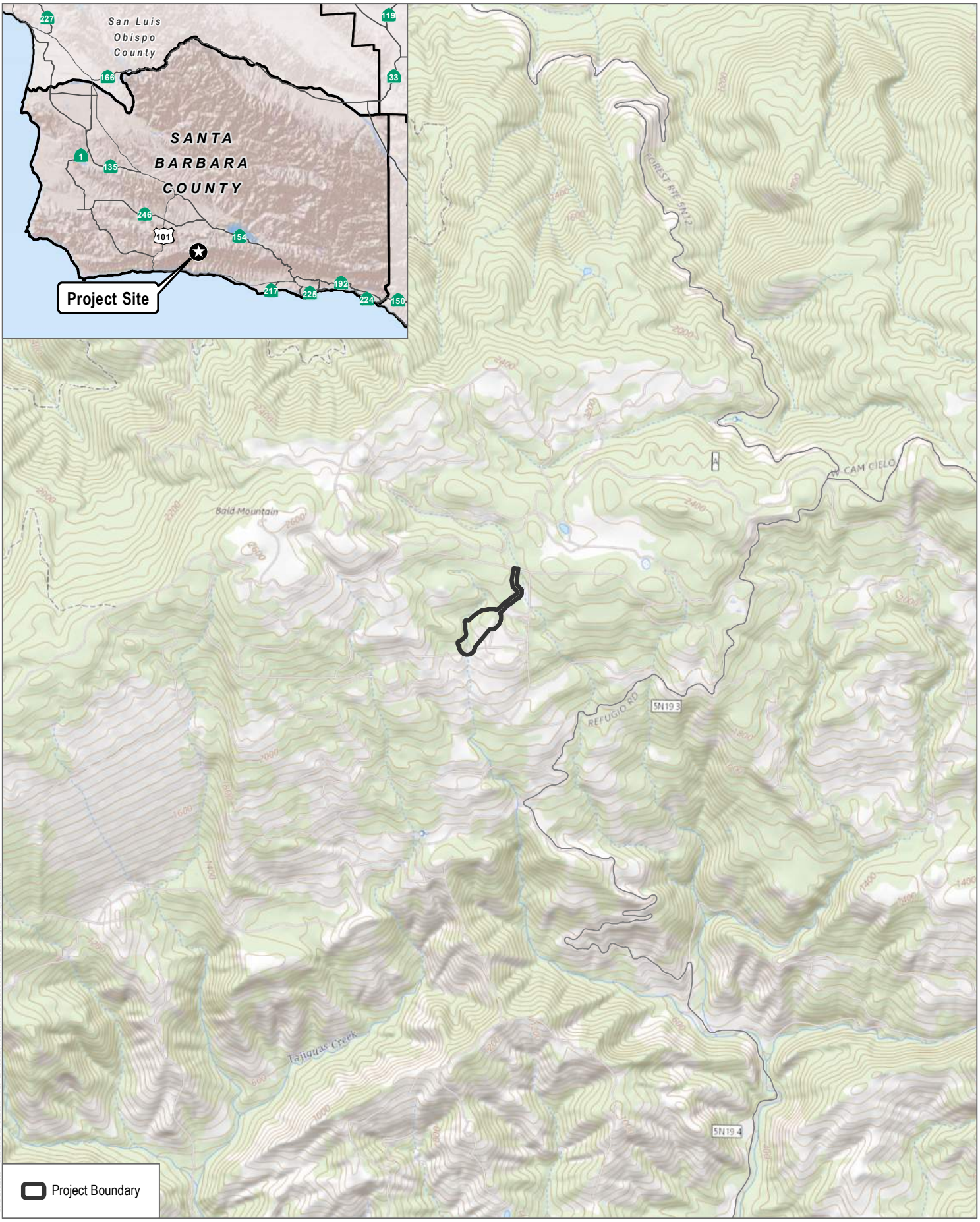
Noah Stamm
ISA Certified Arborist (#WE - 11995A)
Tree Risk Assessment Qualified

Att: *Figure 1*
Appendix A: Tree Information Matrix
Appendix B: Tree Location Map
Appendix C: Tree Protection Measures

7 References

CTLA (Council of Tree and Landscape Appraisers). 2000. *Guide for Plant Appraisal.* 10th ed. International Society of Arboriculture.

Matheny N., and J.R. Clark. 1998. *Trees and Development: A Guide to Preservation of Trees During Land Development*. Champaign, Illinois: International Society of Arboriculture.



SOURCE: USGS 7.5-Minute Santa Ynez Quadrangle

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Moore Ranch

Appendix A
Tree Information Matrix

Moore Ranch - Tree Information Matrix																		
Tree No.	Botanical name	Common name	Number of Stems	Individual Stems (in.)						Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Disposition	Notes	X	Y
				S1	S2	S3	S4	S5	S6									
1	*Quercus agrifolia*	Coast Live Oak	3	14	10	9	0	0	0	25	16	Good	Fair	Yes	Direct	Low; Approx. 5-10% crown prunning	-120.079	34.52753
2	*Quercus agrifolia*	Coast Live Oak	1	1	0	0	0	0	0	6	4	Fair	Fair	No	Indirect		-120.08	34.52741
3	*Quercus agrifolia*	Coast Live Oak	2	10	9	0	0	0	0	20	12	Fair	Poor	Yes	Direct	Moderate; Approx. 10-15% prunning	-120.08	34.52742
4	*Quercus agrifolia*	Coast Live Oak	2	4	5	0	0	0	0	10	6	Fair	Poor	Yes	Indirect		-120.08	34.52744
5	*Quercus agrifolia*	Coast Live Oak	4	23	2	7	5	0	0	30	30	Fair	Poor	Yes	Direct	Very low; Approx. 5% crown prunning	-120.08	34.52743
6	*Quercus agrifolia*	Coast Live Oak	1	8	0	0	0	0	0	26	15	Fair	Poor	Yes	Indirect		-120.08	34.52743
7	*Quercus agrifolia*	Coast Live Oak	1	11	0	0	0	0	0	30	15	Fair	Fair	Yes	Indirect		-120.08	34.52746
8	*Quercus agrifolia*	Coast Live Oak	1	6	0	0	0	0	0	15	4	Poor	Poor	Yes	Indirect		-120.08	34.52746
9	*Quercus agrifolia*	Coast Live Oak	3	24	17	3	0	0	0	30	45	Fair	Fair	Yes	Indirect		-120.08	34.52748
10	*Quercus agrifolia*	Coast Live Oak	3	26	15	10	0	0	0	35	40	Fair	Poor	Yes	Indirect		-120.08	34.52756
11	*Quercus agrifolia*	Coast Live Oak	1	2	0	0	0	0	0	15	10	Fair	Fair	No	Indirect		-120.08	34.5275
12	*Quercus agrifolia*	Coast Live Oak	2	15	13	0	0	0	0	35	35	Fair	Poor	Yes	Direct	Moderate; Approx. 10-15% prunning	-120.08	34.52738
13	*Quercus agrifolia*	Coast Live Oak	2	20	13	0	0	0	0	40	30	Fair	Fair	Yes	Indirect		-120.08	34.52739
14	*Quercus agrifolia*	Coast Live Oak	2	10	1	0	0	0	0	30	15	Fair	Fair	Yes	Indirect		-120.08	34.52741
15	*Quercus agrifolia*	Coast Live Oak	1	7	0	0	0	0	0	30	13	Fair	Fair	Yes	Indirect		-120.08	34.52738
16	*Quercus agrifolia*	Coast Live Oak	1	8	0	0	0	0	0	30	13	Fair	Fair	Yes	Indirect		-120.08	34.52742
17	*Quercus agrifolia*	Coast Live Oak	3	21	20	17	0	0	0	45	40	Fair	Fair	Yes	Indirect		-120.08	34.52747
18	*Quercus agrifolia*	Coast Live Oak	1	7	0	0	0	0	0	25	12	Fair	Fair	Yes	Indirect		-120.08	34.52738
19	*Quercus agrifolia*	Coast Live Oak	1	8	0	0	0	0	0	35	15	Fair	Fair	Yes	Direct	Very low; Approx. 5% crown prunning	-120.08	34.52736
20	*Quercus agrifolia*	Coast Live Oak	1	19	0	0	0	0	0	45	27	Fair	Fair	Yes	Indirect		-120.08	34.52737
21	*Quercus agrifolia*	Coast Live Oak	1	7	0	0	0	0	0	25	15	Fair	Fair	Yes	Indirect		-120.08	34.52733
22	*Quercus agrifolia*	Coast Live Oak	1	6	0	0	0	0	0	20	10	Fair	Poor	Yes	Indirect		-120.08	34.52737
23	*Quercus agrifolia*	Coast Live Oak	1	9	0	0	0	0	0	18	8	Poor	Poor	Yes	Indirect		-120.08	34.52737
24	*Quercus agrifolia*	Coast Live Oak	2	12	10	0	0	0	0	35	20	Fair	Fair	Yes	Indirect		-120.08	34.52737
25	*Quercus agrifolia*	Coast Live Oak	1	28	0	0	0	0	0	45	30	Fair	Fair	Yes	Indirect		-120.08	34.52734
26	*Quercus agrifolia*	Coast Live Oak	1	19	0	0	0	0	0	40	25	Fair	Poor	Yes	Indirect		-120.081	34.52725
27	*Quercus agrifolia*	Coast Live Oak	1	10	0	0	0	0	0	30	15	Poor	Fair	Yes	Indirect		-120.081	34.52728
28	*Quercus agrifolia*	Coast Live Oak	1	24	0	0	0	0	0	30	30	Fair	Poor	Yes	Direct	Low; Approx. 5-10% crown prunning	-120.081	34.52717
29	*Quercus agrifolia*	Coast Live Oak	2	11	12	0	0	0	0	22	16	Poor	Fair	Yes	Indirect		-120.081	34.52713
30	*Quercus agrifolia*	Coast Live Oak	1	21	0	0	0	0	0	40	30	Poor	Poor	Yes	Indirect		-120.08	34.52721
31	*Quercus agrifolia*	Coast Live Oak	1	15	0	0	0	0	0	30	18	Fair	Fair	Yes	Indirect		-120.08	34.52718
32	*Quercus agrifolia*	Coast Live Oak	2	14	9	0	0	0	0	30	20	Fair	Poor	Yes	Indirect		-120.08	34.52722
33	*Quercus agrifolia*	Coast Live Oak	2	5	7	0	0	0	0	30	18	Poor	Fair	Yes	Indirect		-120.08	34.52713
34	*Quercus agrifolia*	Coast Live Oak	3	3	4	5	0	0	0	25	15	Poor	Fair	Yes	Indirect		-120.08	34.52713
35	*Quercus agrifolia*	Coast Live Oak	2	5	9	0	0	0	0	20	15	Fair	Fair	Yes	Indirect		-120.08	34.52711
36	*Quercus agrifolia*	Coast Live Oak	3	9	7	2	0	0	0	32	20	Poor	Fair	Yes	Indirect		-120.08	34.5271
37	*Quercus agrifolia*	Coast Live Oak	1	16	0	0	0	0	0	20	18	Fair	Fair	Yes	Indirect		-120.08	34.52708
38	*Quercus agrifolia*	Coast Live Oak	2	10	17	0	0	0	0	25	25	Fair	Poor	Yes	Indirect		-120.08	34.52706
39	*Quercus agrifolia*	Coast Live Oak	2	7	9	0	0	0	0	30	15	Fair	Fair	Yes	Indirect		-120.08	34.52705
40	*Quercus agrifolia*	Coast Live Oak	3	15	8	5	0	0	0	22	30	Fair	Poor	Yes	Indirect		-120.08	34.52705
41	*Quercus agrifolia*	Coast Live Oak	1	4	0	0	0	0	0	15	6	Fair	Fair	No	Indirect		-120.08	34.52702
42	*Quercus agrifolia*	Coast Live Oak	3	8	7	7	0	0	0	20	20	Fair	Poor	Yes	Indirect		-120.08	34.52701
43	*Quercus agrifolia*	Coast Live Oak	7	18	8	8	5	6	5	18	18	Poor	Poor	Yes	Indirect	3in	-120.08	34.527
44	*Quercus agrifolia*	Coast Live Oak	3	16	13	17	0	0	0	30	35	Fair	Fair	Yes	Direct	High; Approx. 30% crown prunning	-120.08	34.52696
45	*Quercus agrifolia*	Coast Live Oak	3	10	10	13	0	0	0	20	27	Fair	Fair	Yes	Indirect		-120.08	34.52693
46	*Quercus agrifolia*	Coast Live Oak	3	11	15	11	0	0	0	40	30	Poor	Fair	Yes	Direct	Very low; Approx. 5% crown prunning	-120.08	34.52716
47	*Quercus agrifolia*	Coast Live Oak	1	4	0	0	0	0	0	15	6	Poor	Fair	No	Indirect		-120.08	34.52718
48	*Quercus agrifolia*	Coast Live Oak	1	9	0	0	0	0	0	35	15	Fair	Fair	Yes	Indirect		-120.08	34.52718
49	*Quercus agrifolia*	Coast Live Oak	6	9	7	5	6	4	9	20	20	Fair	Poor	Yes	Indirect		-120.08	34.5272
50	*Quercus agrifolia*	Coast Live Oak	1	5	0	0	0	0	0	20	10	Fair	Fair	No	Indirect		-120.08	34.52719
51	*Quercus agrifolia*	Coast Live Oak	1	11	0	0	0	0	0	25	15	Fair	Fair	Yes	Indirect		-120.08	34.52729
52	*Quercus agrifolia*	Coast Live Oak	1	12	0	0	0	0	0	30	15	Poor	Fair	Yes	Indirect		-120.08	34.52731
53	*Quercus agrifolia*	Coast Live Oak	4	11	7	7	6	0	0	25	25	Fair	Poor	Yes	Direct	Moderate; Approx. 10-15% prunning	-120.08	34.52733
54	*Quercus agrifolia*	Coast Live Oak	2	12	10	0	0	0	0	30	30	Poor	Poor	Yes	Indirect		-120.08	34.52731
55	*Quercus agrifolia*	Coast Live Oak	1	4	0	0	0	0	0	15	6	Fair	Fair	No	Indirect		-120.08	34.52735
56	*Quercus agrifolia*	Coast Live Oak	5	17	8	5	16	15	0	30	40	Good	Fair	Yes	Direct	Moderate; Approx. 10-15% prunning	-120.08	34.52704
57	*Quercus agrifolia*	Coast Live Oak	5	3	3	7	4	3	0	15	15	Good	Poor	Yes	Direct	Remove tree	-120.079	34.52731
58	*Quercus agrifolia*	Coast Live Oak	2	6	9	0	0	0	0	20	20	Good	Fair	Yes	Direct	Remove tree	-120.079	34.52727
59	*Quercus agrifolia*	Coast Live Oak	1	16	0	0	0	0	0	30	22	Good	Fair	Yes	Direct	Low; Approx. 5-10% crown prunning	-120.079	34.52757
60	*Quercus agrifolia*	Coast Live Oak	1	6	0	0	0	0	0	20	10	Good	Poor	Yes	Indirect		-120.079	34.52756
61	*Quercus agrifolia*	Coast Live Oak	3	3	2	1	0	0	0	10	9	Fair	Fair	No	Direct	Very low; Approx. 5% crown prunning	-120.079	34.52761
62	*Quercus agrifolia*	Coast Live Oak	1	4	0	0	0	0	0	11	6	Fair	Fair	No	Direct	Very low; Approx. 5% crown prunning	-120.079	34.52765

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				S1	S2	S3	S4	S5	S6									
63	*Quercus agrifolia*	Coast Live Oak	1	12	0	0	0	0	0	27	15	Good	Fair	Yes	Direct	Very low; Approx. 5% crown prunning	-120.079	34.52769
64	*Quercus agrifolia*	Coast Live Oak	1	6	0	0	0	0	0	18	14	Fair	Fair	Yes	Indirect		-120.079	34.52768
65	*Quercus agrifolia*	Coast Live Oak	1	6	0	0	0	0	0	15	8	Fair	Fair	Yes	Indirect		-120.079	34.52766
66	*Quercus agrifolia*	Coast Live Oak	1	6	0	0	0	0	0	20	10	Poor	Fair	Yes	Indirect		-120.079	34.52765
67	*Quercus agrifolia*	Coast Live Oak	1	3	0	0	0	0	0	15	5	Fair	Fair	No	Indirect		-120.079	34.52769
68	*Quercus agrifolia*	Coast Live Oak	1	3	0	0	0	0	0	15	5	Fair	Fair	No	Indirect		-120.079	34.5277
69	*Quercus agrifolia*	Coast Live Oak	1	2	0	0	0	0	0	10	5	Fair	Fair	No	Indirect		-120.079	34.52769
70	*Quercus agrifolia*	Coast Live Oak	1	29	15	0	0	0	0	35	30	Fair	Poor	Yes	Direct	Moderate; Approx. 10-15% prunning	-120.079	34.52777
71	*Quercus agrifolia*	Coast Live Oak	3	16	15	16	0	0	0	30	30	Fair	Poor	Yes	Direct	Very low; Approx. 5% crown prunning	-120.079	34.52788
72	*Quercus agrifolia*	Coast Live Oak	1	2	0	0	0	0	0	9	4	Fair	Poor	No	Indirect	Tree knocked over during road grading	-120.079	34.52796
73	*Quercus agrifolia*	Coast Live Oak	2	11	13	0	0	0	0	20	20	Fair	Fair	Yes	Direct	Moderate; Approx. 10-15% prunning	-120.078	34.52848
74	*Quercus agrifolia*	Coast Live Oak	2	10	14	0	0	0	0	35	30	Fair	Fair	Yes	Direct	Very low; Approx. 5% crown prunning	-120.078	34.52851
75	*Quercus agrifolia*	Coast Live Oak	2	20	21	0	0	0	0	45	40	Fair	Fair	Yes	Indirect		-120.078	34.52856
76	*Quercus agrifolia*	Coast Live Oak	1	17	0	0	0	0	0	45	30	Fair	Fair	Yes	Indirect		-120.078	34.52856
77	*Quercus agrifolia*	Coast Live Oak	2	17	20	0	0	0	0	45	40	Fair	Fair	Yes	Indirect		-120.078	34.52852
78	*Quercus agrifolia*	Coast Live Oak	1	16	0	0	0	0	0	35	40	Fair	Fair	Yes	Indirect		-120.078	34.52847
79	*Quercus agrifolia*	Coast Live Oak	3	8	8	5	0	0	0	30	30	Fair	Fair	Yes	Indirect		-120.078	34.52862
80	*Quercus agrifolia*	Coast Live Oak	1	15	0	0	0	0	0	30	20	Fair	Fair	Yes	Indirect		-120.078	34.52862
81	*Quercus agrifolia*	Coast Live Oak	2	10	4	0	0	0	0	15	11	Fair	Fair	Yes	Direct	Low; Approx. 5-10% crown prunning	-120.078	34.52862
82	*Quercus agrifolia*	Coast Live Oak	1	3	0	0	0	0	0	15	4	Fair	Fair	No	Indirect		-120.078	34.52865
83	*Arbutus menziesii*	Pacific madrone	2	10	5	0	0	0	0	30	15	Good	Fair	Yes	Indirect		-120.079	34.52891
84	*Quercus agrifolia*	Coast Live Oak	2	12	13	0	0	0	0	27	18	Poor	Fair	Yes	Direct	Very low; Approx. 5% crown prunning	-120.079	34.5289
85	*Quercus agrifolia*	Coast Live Oak	1	20	0	0	0	0	0	45	20	Poor	Fair	Yes	Indirect		-120.078	34.52894
86	*Quercus agrifolia*	Coast Live Oak	2	6	8	0	0	0	0	30	20	Fair	Fair	Yes	Indirect		-120.078	34.52892
87	*Quercus agrifolia*	Coast Live Oak	1	12	0	0	0	0	0	22	12	Poor	Poor	Yes	Indirect		-120.078	34.52892
88	*Quercus agrifolia*	Coast Live Oak	1	20	0	0	0	0	0	45	30	Fair	Fair	Yes	Direct	Very low; Approx. 5% crown prunning	-120.078	34.529
89	*Quercus agrifolia*	Coast Live Oak	1	10	0	0	0	0	0	30	10	Poor	Fair	Yes	Indirect		-120.078	34.52904
90	*Arbutus menziesii*	Pacific madrone	8	12	12	7	11	10	12	45	40	Good	Poor	Yes	Direct	13&10";Very low; Approx. 5% prunni	-120.078	34.5291
91	*Quercus agrifolia*	Coast Live Oak	1	16	0	0	0	0	0	45	25	Fair	Fair	Yes	Indirect		-120.078	34.52916
92	*Quercus agrifolia*	Coast Live Oak	1	8	0	0	0	0	0	18	8	Fair	Fair	Yes	Direct	High; Approx. 20-30% crown prunning	-120.078	34.52913
93	*Quercus agrifolia*	Coast Live Oak	1	12	0	0	0	0	0	40	15	Fair	Fair	Yes	Indirect		-120.078	34.52915
94	*Quercus agrifolia*	Coast Live Oak	2	15	11	0	0	0	0	45	22	Fair	Fair	Yes	Indirect		-120.078	34.52916
95	*Quercus agrifolia*	Coast Live Oak	1	23	0	0	0	0	0	50	40	Fair	Fair	Yes	Indirect		-120.078	34.52918
96	*Quercus agrifolia*	Coast Live Oak	2	17	16	0	0	0	0	45	45	Fair	Fair	Yes	Direct	Very low; Approx. 5% crown prunning	-120.078	34.52927
97	*Quercus agrifolia*	Coast Live Oak	1	5	0	0	0	0	0	6	5	Poor	Poor	No	Indirect		-120.078	34.52929
98	*Quercus agrifolia*	Coast Live Oak	2	16	18	0	0	0	0	35	25	Fair	Fair	Yes	Direct	Very low; Approx. 5% crown prunning	-120.078	34.52931
99	*Quercus agrifolia*	Coast Live Oak	1	16	0	0	0	0	0	30	14	Fair	Fair	Yes	Indirect	Did not tag, located on a separate property	-120.078	34.52938
100	*Quercus agrifolia*	Coast Live Oak	1	5	0	0	0	0	0	12	9	Fair	Fair	No	Direct	Low; Approx. 5-10% crown prunning	-120.079	34.52933
101	*Arbutus menziesii*	Pacific madrone	1	7	0	0	0	0	0	30	12	Good	Fair	Yes	Indirect		-120.079	34.52933
102	*Arbutus menziesii*	Pacific madrone	1	7	0	0	0	0	0	30	10	Good	Fair	Yes	Indirect		-120.079	34.5293
103	*Quercus agrifolia*	Coast Live Oak	1	8	0	0	0	0	0	25	10	Poor	Fair	Yes	Indirect		-120.079	34.52926
104	*Quercus agrifolia*	Coast Live Oak	3	14	10	11	0	0	0	30	20	Poor	Fair	Yes	Indirect		-120.079	34.5293
105	*Quercus agrifolia*	Coast Live Oak	1	26	0	0	0	0	0	40	35	Poor	Fair	Yes	Indirect		-120.079	34.52929
106	*Arbutus menziesii*	Pacific madrone	3	13	18	11	0	0	0	30	30	Poor	Fair	Yes	Indirect		-120.079	34.52928
107	*Arbutus menziesii*	Pacific madrone	3	5	4	4	0	0	0	30	15	Good	Fair	Yes	Indirect		-120.079	34.52925
108	*Quercus agrifolia*	Coast Live Oak	1	8	0	0	0	0	0	20	10	Fair	Fair	Yes	Indirect		-120.079	34.52927
109	*Quercus agrifolia*	Coast Live Oak	1	8	0	0	0	0	0	27	9	Poor	Fair	Yes	Indirect		-120.079	34.52925
110	*Quercus agrifolia*	Coast Live Oak	1	15	0	0	0	0	0	45	25	Poor	Fair	Yes	Indirect		-120.079	34.52925
111	*Quercus agrifolia*	Coast Live Oak	1	10	0	0	0	0	0	27	12	Fair	Fair	Yes	Indirect		-120.079	34.52923
112	*Quercus agrifolia*	Coast Live Oak	1	9	0	0	0	0	0	17	12	Poor	Poor	Yes	Indirect		-120.079	34.52919
113	*Quercus agrifolia*	Coast Live Oak	1	11	0	0	0	0	0	18	12	Poor	Poor	Yes	Indirect		-120.079	34.52923
114	*Quercus agrifolia*	Coast Live Oak	2	16	17	0	0	0	0	40	30	Fair	Fair	Yes	Indirect		-120.079	34.52917
115	*Quercus agrifolia*	Coast Live Oak	1	19	0	0	0	0	0	40	35	Fair	Fair	Yes	Indirect		-120.079	34.52914
116	*Arbutus menziesii*	Pacific madrone	2	4	3	0	0	0	0	18	8	Good	Fair	No	Indirect		-120.079	34.52915
117	*Arbutus menziesii*	Pacific madrone	6	2	2	2	2	2	2	12	12	Good	Fair	No	Indirect		-120.079	34.52913
118	*Quercus agrifolia*	Coast Live Oak	1	18	0	0	0	0	0	45	25	Fair	Fair	Yes	Indirect		-120.079	34.52911
119	*Arbutus menziesii*	Pacific madrone	7	10	8	7	6	7	2	40	30	Good	Fair	Yes	Indirect	2in	-120.079	34.52912
120	*Quercus agrifolia*	Coast Live Oak	3	9	11	12	0	0	0	30	25	Fair	Fair	Yes	Direct	High; Approx. 30% crown prunning	-120.079	34.52908
121	*Quercus agrifolia*	Coast Live Oak	1	11	0	0	0	0	0	40	18	Fair	Poor	Yes	Indirect		-120.079	34.52908
122	*Quercus agrifolia*	Coast Live Oak	1	10	0	0	0	0	0	27	10	Poor	Fair	Yes	Indirect		-120.079	34.52909

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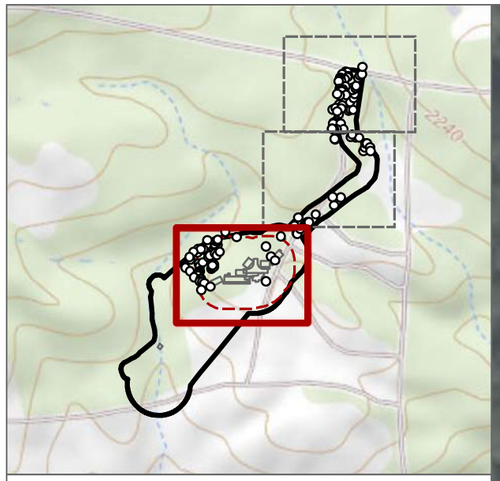
				S1	S2	S3	S4	S5	S6									
123	*Quercus agrifolia*	Coast Live Oak	1	18	0	0	0	0	0	45	25	Fair	Fair	Yes	Indirect		-120.079	34.52897
124	*Quercus agrifolia*	Coast Live Oak	2	25	15	0	0	0	0	45	40	Fair	Fair	Yes	Indirect		-120.079	34.52892
125	*Quercus agrifolia*	Coast Live Oak	2	12	13	0	0	0	0	35	20	Fair	Fair	Yes	Indirect		-120.079	34.52894
126	*Quercus agrifolia*	Coast Live Oak	1	10	0	0	0	0	0	35	10	Poor	Fair	Yes	Direct	Moderate; Approx. 10-15% prunning	-120.079	34.52897
127	*Arbutus menziesii*	Pacific madrone	13	13	4	4	3	13	4	50	35	Good	Fair	Yes	Direct - low	4in,6in,4in,9in,7in,18in,10in	-120.079	34.52893
128	*Quercus agrifolia*	Coast Live Oak	1	10	0	0	0	0	0	25	14	Poor	Fair	Yes	Direct	Moderate; Approx. 10-15% prunning	-120.079	34.52887
129	*Quercus agrifolia*	Coast Live Oak	2	18	15	0	0	0	0	50	40	Fair	Fair	Yes	Indirect		-120.079	34.5289
130	*Quercus agrifolia*	Coast Live Oak	1	23	0	0	0	0	0	40	25	Fair	Fair	Yes	Direct	Moderate; Approx. 10-15% prunning	-120.079	34.5288
131	*Quercus agrifolia*	Coast Live Oak	3	3	4	8	0	0	0	30	20	Fair	Fair	Yes	Indirect		-120.079	34.52878
132	*Quercus agrifolia*	Coast Live Oak	2	21	15	0	0	0	0	40	30	Fair	Fair	Yes	Indirect		-120.079	34.52877
133	*Quercus agrifolia*	Coast Live Oak	1	10	0	0	0	0	0	30	10	Fair	Fair	Yes	Indirect		-120.079	34.52876
134	*Quercus agrifolia*	Coast Live Oak	1	4	0	0	0	0	0	17	10	Fair	Fair	No	Direct	Moderate; Approx. 10-15% prunning	-120.079	34.52877
135	*Quercus agrifolia*	Coast Live Oak	6	19	16	4	12	14	13	45	35	Fair	Fair	Yes	Direct	Low; Approx. 5-10% crown prunning	-120.079	34.52871
136	*Quercus agrifolia*	Coast Live Oak	1	7	0	0	0	0	0	27	13	Fair	Fair	Yes	Indirect		-120.079	34.5287
137	*Quercus agrifolia*	Coast Live Oak	1	12	0	0	0	0	0	37	13	Fair	Fair	Yes	Indirect		-120.079	34.5287
138	*Quercus agrifolia*	Coast Live Oak	1	16	0	0	0	0	0	30	15	Fair	Fair	Yes	Indirect		-120.079	34.52871
139	*Arbutus menziesii*	Pacific madrone	2	4	3	0	0	0	0	18	15	Fair	Fair	No	Indirect		-120.079	34.52871
140	*Quercus agrifolia*	Coast Live Oak	2	9	10	0	0	0	0	30	18	Poor	Fair	Yes	Indirect		-120.079	34.52861
141	*Quercus agrifolia*	Coast Live Oak	2	11	12	0	0	0	0	30	18	Fair	Fair	Yes	Indirect		-120.079	34.52859
142	*Quercus agrifolia*	Coast Live Oak	1	4	0	0	0	0	0	18	6	Fair	Fair	No	Indirect		-120.079	34.5286
143	*Quercus agrifolia*	Coast Live Oak	3	5	4	1	0	0	0	15	10	Fair	Fair	Yes	Direct	High; Approx. 30-40% crown prunning	-120.079	34.52797
144	*Quercus agrifolia*	Coast Live Oak	1	28	0	0	0	0	0	40	35	Good	Fair	Yes	Direct	Very low; Approx. 5% crown prunning	-120.079	34.52773
145	*Quercus agrifolia*	Coast Live Oak	1	6	0	0	0	0	0	27	10	Good	Fair	Yes	Indirect		-120.079	34.52765

Appendix B
Tree Location Map



Project Boundary

Site Plan Footprint

Dirt Road

25-Ft Footprint Buffer

Canopy within Buffers

10-Ft Road Buffer

Tree Species

Coast Live Oak, *Quercus agrifolia*

Tree Disposition

Indirect

Direct, Very Low (5% crown pruning)

Direct, Low (5-10% crown pruning)

Direct, Moderate (10-15% crown pruning)

Direct, High (20%+ crown pruning)

Direct, Remove tree

SOURCE: AERIALI-CIRGIS 2017

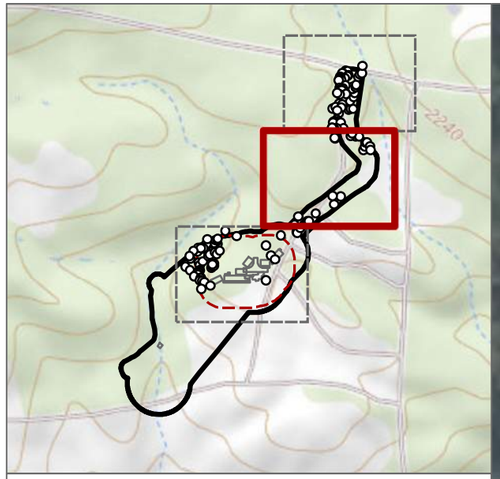
DUDEK

0 20 40 Feet

APPENDIX B - VIEW 1

Tree Survey Field Map

Moore Ranch



Project Boundary

Dirt Road

Canopy within Buffers

10-Ft Road Buffer

Tree Species

Coast Live Oak, *Quercus agrifolia*

Tree Disposition

Indirect

Direct, Very Low (5% crown pruning)

Direct, Low (5-10% crown pruning)

Direct, Moderate (10-15% crown pruning)

Direct, High (20%+ crown pruning)

SOURCE: AERIALI-CIRGIS 2017

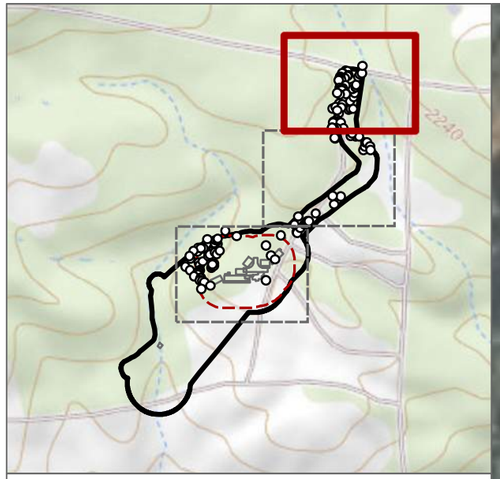
DUDEK

0 20 40 Feet

APPENDIX B - VIEW 2

Tree Survey Field Map

Moore Ranch



Project Boundary

Dirt Road

Canopy within Buffers

10-Ft Road Buffer

Tree Species

Coast Live Oak, *Quercus agrifolia*

Pacific madrone, *Arbutus menziesii*

Tree Disposition

Indirect

Direct, Very Low (5% crown pruning)

Direct, Low (5-10% crown pruning)

Direct, Moderate (10-15% crown pruning)

Direct, High (20%+ crown pruning)

SOURCE: AERIALI-CIRGIS 2017

DUDEK

0 20 40 Feet

APPENDIX B - VIEW 3

Tree Survey Field Map

Moore Ranch

Appendix C
Tree Protection Measures

Recommended Tree Protection Measures Prior to Construction

The active construction area should be fenced so that trees outside the area are not inadvertently damaged by construction activities. Some areas will not require fencing, due to existing fencing, such as the extreme southern property line. All contractors should be made aware of the tree protection measures.

Fencing. A 4-foot-high, orange-webbing, polypropylene barricade fence with tree protection signs should be erected so that preserved trees are not impacted. The protective fence should be installed a minimum of 12 feet from preserved trees to prevent root damage by grading or other construction equipment. An International Society of Arboriculture (ISA) Certified Arborist may be required on site if grading activities will occur within the 12-foot radius. The fencing would delineate the tree protection area and prevent unwanted activity in and around the trees in order to reduce soil compaction in the root zones of the trees and other damage from heavy equipment. The fence webbing should be secured to 6-foot, heavy-gauge t-bar line posts, pounded in the ground a minimum of 18 inches and spaced 8 feet on center. Attach fence webbing to t-bar posts with minimum 14-gauge wire fastened to the top, middle, and bottom of each post. Tree protection signs should be attached to every fourth post. The contractor should maintain the fence to keep it upright, taut, and aligned at all times. Fencing should be removed only after all construction activities are complete.

Pre-Construction Meeting. A pre-construction meeting should be held between all contractors (including grading, tree removal/pruning, builders, etc.) and the arborist. The arborist will instruct the contractors on tree protection practices and answer any questions. All equipment operators and spotters, assistants, or those directing operators from the ground should provide written acknowledgment that they received tree protection training. This training should include information on the location and marking of protected trees, the necessity of preventing damage, and the discussion of work practices that will accomplish such.

Protection and Maintenance during Construction

Once construction activities have begun, the following measures should be adhered to:

Equipment Operation and Storage. Avoid heavy equipment operation around the trees. Operating heavy machinery around the root zones of trees will increase soil compaction, which decreases soil aeration and subsequently reduces water penetration in the soil. All heavy equipment and vehicles should, at minimum, stay out of the fenced tree protection zone, unless where specifically approved in writing and under the supervision of a Certified Arborist.

Storage and Disposal. Do not store or discard any supply or material, including paint, lumber, or concrete overflow, within the protection zone. Remove all foreign debris within the protection zone; it is important to leave the duff, mulch, chips, and leaves around the retained trees for water retention and nutrients. Avoid draining or leakage of equipment fluids near retained trees. Fluids such as gasoline, diesel, oils, hydraulics, brake and transmission fluids, paint, paint thinners, and glycol (anti-freeze) should be disposed of properly. Keep equipment parked at least 50 feet away from retained trees to avoid the possibility of leakage of equipment fluids into the soil. The effect of toxic equipment fluids on the retained trees could lead to decline and death.

Grade Changes. Grade changes, including adding fill of any kind, are not permitted within the tree protection zone (the area beneath tree canopies) without special written authorization and under supervision by a Certified Arborist. Lowering the grade within this area will necessitate cutting main support and feeder roots, jeopardizing the health

and structural integrity of the trees. Adding soil, even temporarily, on top of the existing grade will compact the soil further, and decrease both water and air availability to the trees' roots.

Moving Construction Materials. Be careful when moving equipment or supplies near the trees, especially overhead. Avoid damaging the trees when transporting or moving construction materials and working around the trees (even outside of the fenced tree protection zone). Aboveground tree parts that could be damaged (e.g., low limbs and trunks) should be flagged with high-visibility flagging, such as fluorescent red or orange. If contact with the tree crown is unavoidable, prune the conflicting branches using ISA standards.

Root Pruning. Except where specifically approved in writing, all trenching should be outside of the fenced protection zone. Roots primarily extend in a horizontal direction forming a support base to the tree similar to the base of a wineglass. Where trenching is necessary in areas that contain tree roots, prune the roots using a Dosko root pruner or equivalent. All cuts should be clean and sharp to minimize ripping, tearing, and fracturing of the root system. Root damage caused by backhoes, earthmovers, dozers, or graders is severe and may result in tree loss. The trench should be made no deeper than necessary.

Irrigation. Trees that have been substantially root-pruned (30% or more of their root zone) will require irrigation for the first 12 months. The first irrigation should be within 48 hours of root pruning. They should be deep watered every 2 weeks during the summer and once a month during the winter (adjust accordingly with rainfall). One irrigation cycle should thoroughly soak the root zones of the trees to a depth of 3 feet. The soil should dry out between watering; avoid keeping a consistently wet soil. Designate one person to be responsible for irrigating (deep watering) the trees. Check soil moisture with a soil probe before irrigating. Irrigation is best accomplished by installing a temporary aboveground microspray system that will distribute water slowly (to avoid runoff) and evenly throughout the fenced protection zone.

Root Stimulant. With the first irrigation (within 48 hours after root pruning), add the liquid root stimulant "Root Concentrate." This product helps the tree to regenerate root growth. Root Concentrate can be purchased from Target Specialty Products Inc., located in Santa Fe Springs, California, 562.802.2238. Application of this product is best achieved in a dilute state via the use of a water truck. Follow Root Concentrate label instructions.

Pruning. Do not prune any of the trees until all construction is completed, unless standard pruning would reduce conflict between canopy and equipment. This will help protect the tree canopies from damage. All pruning should be completed under the direction of an ISA Certified Arborist and using ISA guidelines.

Washing. During construction, wash foliage of adjacent trees with a strong water stream every 2 weeks in early hours before 10:00 a.m. to control mite and insect populations.

Inspection. An ISA Certified Arborist should inspect the impacted trees on a monthly basis during construction. A report comparing tree health and condition to the original pre-construction baseline should be submitted following each inspection. Photographs of each tree are to be included in the report on a minimum annual basis.

Maintenance after Construction

Once construction is complete the fencing may be removed and the following measures performed to sustain and enhance the vigor of the trees.

Mulch. Maintain the natural duff layer under all trees and add organic mulch to a depth of 4 inches, where possible. This will stabilize soil temperatures in root zones, conserve soil moisture, and reduce erosion. Mulch should be kept clear of the trunk base to avoid creation of pathogen-friendly soil conditions in this susceptible region.

Pruning. The trees will not require regular pruning. Pruning should *only* be done to maintain clearance and remove broken, dead, or diseased branches. Pruning should only take place following a recommendation by an ISA Certified Arborist and performed under the supervision of an ISA Certified Arborist. No more than 15% of the canopy should be removed at any one time. All pruning should conform to ISA standards.

Watering. The trees should not require regular irrigation, other than the 12 months following substantial root pruning. However, soil probing will be necessary to accurately monitor moisture levels. Especially in years with low winter rainfall, supplemental irrigation for the trees that sustained root pruning and any newly planted trees may be necessary.

Watering Adjacent Plant Material. All plants near the trees should require moderate to low levels of water. The surrounding plants should be watered infrequently with deep soaks and allowed to dry out in between, rather than frequent light irrigation. The soil should not be allowed to become saturated or stay continually wet. Irrigation spray should not hit the trunk of any tree. A 30-inch dry zone should be maintained around all tree trunks. An aboveground microspray irrigation system is recommended over typical underground pop-up sprays.

Washing. Periodic washing of the foliage is recommended during construction once every 2 weeks. Washing should include the upper and lower leaf surfaces and the tree bark. This should continue beyond the construction period but less frequently. This should be completed twice a year (early June and late August) with a high-powered hose only in the early morning hours. Washing will help control dirt/dust buildup that can lead to mite and insect infestations.

Chemical Applications. If the trees are maintained in a healthy state, regular spraying for insect or disease control should not be necessary. If a problem does develop, an ISA Certified Arborist should be consulted; the trees may require application of insecticides to prevent the intrusion of bark-boring beetles and other invading pests. All chemical spraying should be performed by a licensed applicator under the direction of a licensed pest control advisor

Attachment 5: Geotechnical Report dated November 2019

Pacific
Materials
Laboratory
of Santa Barbara, Inc.

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E-mail: pml@pml.sbcoxmail.com

PRELIMINARY GEOTECHNICAL INVESTIGATION

Proposed Ranch Manager's Residence, Temporary Worker Residence, Barn, and Archival Building

Reagan Ranch

3333 Refugio Road

County of Santa Barbara

California

CLIENT
The Reagan Ranch Center
Attn: Brent Kilpper
217 State Street
Santa Barbara, CA 93101

November 5, 2019
Lab No: 128852-2
File No: 19-11443-2

TABLE OF CONTENTS

INTRODUCTION

This report presents the results of a preliminary geotechnical investigation performed at the Reagan Ranch, 3333 Refugio Road in the County of Santa Barbara, California. Presently the site is undeveloped, except that previous grading has created a level pad by cutting soil from the north side of the pad and placing it as fill on the south side of the pad. The depth of the fill appears to be 3 to 4 feet. Beyond the pad, the terrain slopes gently to the south.

SCOPE OF WORK

It is the purpose of this investigation to classify the soil disclosed by the exploratory borings and excavations by observation and tests on selected samples. In addition, this study includes laboratory tests to evaluate soil strength, the effect of moisture variation on the soil-bearing capacity, compressibility, liquefaction, and expansiveness. Based upon this information, we will provide preliminary grading and foundation recommendations for the proposed ranch manager's residence, temporary worker residence, barn, and archival building.

The scope of this investigation does not include the analysis of the corrosive potential of the soil, previous site construction, or analysis of geologic structures and their associated features, such as faults, fractures, bedding planes, strike and dip angles, ancient landslides, potential for earth movement in undisturbed or natural soil formations sloped or level, or other sources of potential instability which relate to the geologic conditions, as these items should be addressed by a qualified Engineering Geologist.

This exploration was conducted in accordance with presently accepted geotechnical engineering procedures currently applied in the local community in order to provide the appropriate geotechnical design characteristics of the foundations soils and of the proposed fill soils in order to properly evaluate the proposed structure with respect to differential settlement based upon the anticipated soil characteristics at the time of construction.

LIMITATIONS

This Laboratory's basic assumption is that the soil trenches presented herein are representative of the entire footprint of the proposed development, however, no warranty is implied. If, during the course of construction, soil conditions are encountered which vary from those presented herein, please contact this Laboratory immediately so appropriate field modifications may be expeditiously proposed.

It is your responsibility to contact our office, providing at least 48 hours of notice for grading or footing excavation observations and testing. The observation of excavations during the construction phase represents an opportunity by our firm to either confirm soil conditions estimated by the exploratory borings or to discover soil conditions which have not been addressed. When such undisclosed conditions are encountered, opinions and recommendations addressing these conditions will be rendered at that time.

This report is considered preliminary and no person should consider the recommendations or soil conditions described herein as conclusive. The recommendations and conclusions of this report are considered preliminary until all excavations have been observed during the construction phase, after which a final report will be issued stating that the grading and foundation works accomplished and installed are appropriate for the soil conditions encountered.

FIELD INVESTIGATION

The subsurface soil conditions were explored by three backhoe excavated trenches, which were excavated to depths of up to 16 feet, supplemented by one field density test. The locations of the trenches were selected as appropriate and representative. Representative, relatively "undisturbed" tube soil samples were obtained during the excavation operation by the thin-walled sampling tube method (ASTM D-1587). Laboratory tests and analysis of representative soil samples, obtained during the excavation operation, were performed to estimate the engineering properties and determine the soil classification. The locations of the trenches are shown on Plate 1; these locations are approximate and have not been located by surveyed measurements. The trench log data is presented in Appendix A, "Field Investigation", while the results of the laboratory tests are provided in Appendix B, "Laboratory Tests".

SOIL CONDITIONS

1. No groundwater was encountered in the exploratory trenches that extended to depths of up to 16 feet. It should be recognized that water table elevations, even seasonal perched water tables, might fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

2. The soil profile consists of a light brown shale, which is found to have a very low potential for expansion based on ASTM D-4829. The Consolidation Test (ASTM D-2435) indicates the shale will swell when subjected to increased moisture content. The soil is judged to have a medium potential for expansion based on ASTM D-4318.

3. The soil profile at this site is judged to be stiff soil corresponding to a Site Class D as specified in Section 1613.3.2 of the 2016 California Building Code (CBC). This estimate is based on the trench excavations, which encountered the geologic formation known as the Sacate Shale, which is widely regarded as a Type D soil profile since the Standard Penetration Resistance typically results in blow counts having a range of between 15 to 50.

4. The potential for liquefaction is considered to be very low.

This report is considered preliminary and no person should consider the recommendations or soil conditions described herein as conclusive. The recommendations and conclusions of this report are considered preliminary until all excavations have been observed during the construction phase, after which a final report will be issued stating that the grading and foundation works accomplished and installed are appropriate for the soil conditions encountered.

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4. The potential for liquefaction is considered to be very low.

PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS

It is the opinion of this Laboratory the proposed grading and construction are feasible from a soil-engineering perspective provided the recommendations contained in this soil engineering report are incorporated into the design and implemented during construction.

It is the understanding of this Laboratory the proposed ranch manager's residence, temporary worker residence, barn, and archival building will be a one-story wood frame structures with concrete slab-on-grade floors. Based upon this understanding, we present the following preliminary recommendations:

GRADING

1. The area to be graded shall be cleared of surface vegetation, including roots and root structures.

2. If, during the removal and scarification process, excessive root structures are encountered, these areas shall be deep ripped in two directions to the depth of the root structure, after which the disturbed soils and the roots shall be completely removed, and the resulting cavities shall be scarified and processed to receive fill in accordance with recommendations contained in this section.

3. If, during the grading operations, previously placed undocumented fill material is encountered, this fill material shall be removed under the direction of this Laboratory prior to commencement of the filling operations.

4. The footings of the proposed structures shall be supported completely by a **uniform** thickness of compacted soil. **The structures shall not be supported over a cut/fill transition.**

5. Beneath the proposed structures and for a minimum distance of 5 feet beyond the exterior perimeters, the loose topsoil and compressible surface soils shall be removed and observed by a representative of our firm. Upon approval of excavation, the exposed ground surface shall be scarified an additional 6 to 8 inches, moistened or dried to near the optimum moisture content, and compacted to 90% of the relative compaction. We anticipate the depth of the surface soil removal to be from 36 to 48 inches below the existing grade. The minimum depth of removal shall be at least 12 inches below the bottom of the proposed footings.

6. The removed surface soils and/or imported approved fill may then be placed in loose lifts of approximately 6 inches, thoroughly mixed, moistened or dried to near optimum moisture content, and compacted to a minimum of 90% relative compaction.

7. Rocks greater than 6 inches in size shall be removed from the soil being spread for compaction.

8. All fill slopes which are created during the grading operation shall be properly shaped to a maximum slope angle of 3 horizontal to 1 vertical, and compacted by rolling the sheepsfoot roller or similar compaction equipment over the slope face at vertical lift intervals of 30 inches or less.

9. Import soils, if required for compacted fill, shall be granular, non-expansive soils which are equal to, or superior in quality to, the on-site soils as determined by this Laboratory prior to importation of the fill material to the site. This is not referring to retaining wall backfill. See the RETAINING WALLS section of this report for retaining wall backfill requirements.

10. The compaction standard shall be the latest adoption of the ASTM D-1557 method of compaction.

11. Positive surface drainage shall direct water away from all slopes and away from the foundation system of the proposed structure.

FOUNDATIONS

The supporting soils are considered to be expansive. Expansive soil requires the foundation be designed in compliance with Section 1808.6.2 of the CBC. Based on this understanding, we recommend the following:

1. A mat foundation shall be designed to conform to Section 1808.6.2, using the Wire Reinforcement Institute (WRI) Method.

2. The foundation recommendations which follow are recommended minimums. The actual foundation may exceed these minimums depending on the results of the design using the WRI Method.

3. All continuous exterior footings of the structure shall extend a minimum of 36 inches and all continuous interior footings shall extend a minimum distance of 24 inches below the compacted pad grade. These footings must attach to a concrete slab with interior tie beams. A raised wood floor may be built over the slab foundation if the plan specifies a raised wood floor. The raised wood floor shall not eliminate the concrete slab.

4. Due to the expansion potential of the soil, the Project Structural Engineer shall utilize Section 1808.6.2 of the CBC for the design of the concrete slab-on-grade floor, foundation, and the interior tie beams using the WRI Method. The effective Plasticity Index (P.I. x C_S x C_0) shall be assumed to be 20. As a minimum, a network of tie beams shall be placed in two directions, perpendicular to each other and at a spacing of approximately 12 feet on center each way, or less. The tie beams shall be a minimum of 20 inches deep below the top of the concrete slab-on-grade floor and shall be a minimum of 12 inches wide, with horizontal rebar placed near the top and near the bottom of the tie beam. The tie beam shall be doweled into the concrete slab-on-grade floor with a minimum of No. 3 rebar at 18 inches on center.

5. All footings shall contain a minimum of two No. 4 horizontal rebar; one placed in the base and one in the stem of the footing. The Project Civil or Structural Engineer shall specify the foundation steel reinforcement based on either the WRI method and/or as required to resist the imposed loads.

6. Interior isolated spread footings may not be utilized unless connected on four sides (where possible) to tie beams. These footings shall extend a minimum of 24 inches below pad grade on the interior and 36 inches below the lowest adjacent ground surface on the exterior.

7. As a minimum, concrete slabs on grade shall be a full 6 inches thick and shall contain No. 3 rebar spaced 18 inches on center each way. The steel reinforcement shall be placed near the center of the slab. The slab shall be underlain with a minimum 4-inch coarse, washed concrete sand layer. A 10-mil or heavier impervious membrane shall be placed over the sand layer, and directly below the concrete slab. These concrete slab-on-grade requirements shall be modified as needed by the designers for surcharge loads, wheel loads, concentrated loads, or for moisture control. The floor covering supplier or manufacturer should be contacted for their specifications for design features, which will result in a successful bond between the concrete slab and floor covering. Floor flatness and shrinkage crack control must be addressed by a competent contractor experienced in the skill of concrete placement. The owners or their agents shall inform those designing, building, and installing the concrete slab on grade and flooring of the performance and aesthetics expected.

8. Concrete slabs on grade shall be doweled into all adjacent footings and the tie beams using No. 3 rebar spaced 18 inches on center.

9. Based upon compliance with the above recommendations, an allowable soil bearing value for compacted soil 2,000 psf for 24-inch-deep footings and 2,500 psf for 36-inch-deep footings, with a one-third increase when considering wind or seismic forces, may be assumed.

10. Floor elevations located lower than the surrounding exterior grades are recommended to be protected from moisture intrusion. Please consult the building designer for details, such as waterproofing and French drains.

11. The Geotechnical Engineer shall be requested to observe the footing excavations after the compaction tests are completed and prior to placement of the rebar reinforcing.

While these recommendations are intended to provide satisfactory foundation performance, it should be noted the concrete foundation will be in contact with an expansive soil. Changes over time may alter the foundation's ability to remain level (i.e. broken water lines, droughts, non-symmetrical irrigation practices and altered drainage grades). In addition, associated features, such as porches, patios, driveways, sidewalks, and curbs, will be subject to differential movement. Porches and patios of concrete slab-on-grade construction are recommended to be attached to the perimeter foundation of the proposed structures such that

an equivalent elevation is maintained at the joints. All concrete features shall be reinforced with continuous horizontal steel and doweled cold joints. Over the life of the structure, maintenance or replacement of sections of the associated features and appurtenances damaged by the expansive soils may be required.

RESISTANCE TO LATERAL LOADS

Lateral loads may be resisted by frictional resistance along the foundation base and passive earth pressures along the foundation sides. An allowable friction coefficient of 0.35 may be used. The passive pressures of 350 pcf of footing may be used. A triangular distribution should be used. The frictional resistance and the passive pressure may be combined without reduction. The resistance may be increased by one-third for wind or seismic loading.

RETAINING WALLS

Cantilevered - For cantilevered retaining walls, such as site walls and garden walls, which do not form part of the structure, we recommend the following:

1. The cantilevered retaining wall shall be designed assuming an active soil pressure equivalent to a fluid (EFP) whose weight is 35 pcf for level backfill conditions and 52 pcf for backfill slopes, which are constructed at an angle of up to 27 degrees. These values are based on Coulomb's Equation and the following assumed backfill soil values: internal angle of friction equal to 34 degrees, cohesion equal to 0, and a total unit weight of soil equal to 125 pcf. The EFP value does not include surcharge loads and is based on a free-draining condition. The free-draining condition must be created by placing the backfill specified in this section of the report.

2. The decision to include a seismic soil lateral force is the purview of the Project Structural Engineer. The magnitude of the load and the method to determine that load are the purview of the Project Structural Engineer. The Project Structural Engineer may consider the following estimated seismic soil lateral force: Retaining walls may be designed using pseudostatic analyses based on a modified[1] Seed Whitman (1970) approach. The need to apply the lateral seismic load is to be determined by the Project Structural Engineer or by the building code. We have estimated the seismic earth pressures using the modified Seed Whitman (1970) method, assuming a horizontal peak ground acceleration of 1.022g, and assuming drained backfill conditions. The peak horizontal ground acceleration (PGA) was determined in accordance with Section 1803.5.12 of the 2016 CBC, Paragraph 2.2. The seismic earth pressure (ΔP_{AE}), resulting from seismic loads acting on retaining walls, may be estimated as $\Delta P_{AE} = 30.8H^2$, in pounds per lineal foot of wall, for a triangular pressure distribution (analogous to

[1] Marshal Lew and Nicolas Sitar, et al, "Seismic Earth Pressures on Deep Building Basements", SEAOC 2010 Convention Proceedings

that used to represent static earth pressures) with the resultant force acting 0.33H above the base of the wall[2]. Kh equals 0.685.

3. The bottom of the retaining wall footing shall extend a minimum distance of 24 inches below the lowest adjacent undisturbed natural grade or 12 inches into firm, undisturbed original ground (whichever is deeper) and shall be designed assuming an allowable soil bearing value of 2,000 psf. For footings placed on slopes, the base of the toe or keyway placed at the toe shall extend to such a depth that there exists 10 horizontal feet between the bottom of the footing and the daylight line of the adjacent slope. It should be noted the key may be placed adjacent to the downhill edge of the retaining wall footing in order to attain the recommended downhill grade footing embedment. The slope setback required by the CBC, Figure 1808.7.1, shall also apply.

4. A passive soil pressure equivalent to a fluid whose weight is 350 pcf and a coefficient of friction against sliding of 0.35 may be assumed for the footing excavation described in the recommendation above.

5. The use of equipment to compact soil within the wedge of backfill defined by a 1:1 line projected up from behind the retaining wall to the surface shall be limited to handheld rammer plate compactors, such as a Wacker BS 45Y. A string line shall be placed along the top of the wall to monitor possible rotation of the wall due to the compaction surcharge. If the wall begins to bow or lean away from the backfilling operations, the compaction process shall stop and the Geotechnical Engineer shall be notified immediately such that modified compaction recommendations can be given at that time.

6. The finish covering on the face of the wall, such as stucco or paint, may be adversely affected by moisture intrusion from the backfill through the back of the wall. To prevent this, you should consider waterproofing the back of the wall and footing. All waterproofing and application of waterproofing shall be in accordance with the specifications of the product supplier.

7. Retaining wall backfill shall be a clean, coarse sand or gravel wrapped in a filter fabric. The gravel shall be separated from adjacent native soil by a filter fabric, such as Mirafi 140N™. The retaining wall shall be serviced by appropriately placed weep holes or a perforated drain. This drainage feature must include at least 2 cubic feet of gravel wrapped in filter fabric. Lower quality native backfill material may be utilized outside the triangular wedge, which extends upwards from the inside edge of the retaining wall and is a minimum width of 60% of the wall height at ground surface. The sand between the wall and native soil shall have a Sand Equivalent of 20 or greater and an Expansion Index equal to 0. To avoid excessive amounts of sand and gravel backfill, do not allow the excavation contractor to cut a vertical excavation 2 to 4 feet beyond the back of the retaining

[2] Linda Al Atik, M. ASCE and Nicholas Sitar, M. ASCE, "Seismic Earth Pressures on Cantilever Retaining Structures", Journal of Geotechnical and Geoenvironmental Engineering, October 2010

wall footing or stem. Cut only to the point needed to install the drainpipe and slope the excavation back as specified.

8. It is assumed that the rough grade excavation behind the retaining wall is to be cut at a temporary slope angle of 1 horizontal to 1 vertical in order to comply with Cal-OSHA safety requirements.

9. All soil backfill shall be compacted to a minimum of 90% relative compaction. It should be noted, retaining walls designed assuming active soil conditions are anticipated to deflect seasonally. In addition, surface features which obtain their support from retaining wall backfill materials are anticipated to express differential movement with respect to the retaining wall as the wall may be resting upon a thinner depth of fill or undisturbed original ground, and the surface features may be resting upon a considerable thickness of compacted fill, which has settlement characteristics differing from that of original ground. The differential movement between the wall and slab patio may be undesirable. In order to hide or prevent such differential movement, an alternate design may be required, such as, but not limited to, placing a planter between the wall and slab, or connecting the slab to the wall, creating a retaining wall which is pinned at the top, not cantilevered.

Partially Restrained - For restrained or partially restrained retaining walls or cantilevered retaining walls which form a portion of the foundation system of the structure, we recommend the wall be designed as a braced wall utilizing at-rest pressures in accordance with the following recommendations:

1. The retaining wall shall be designed assuming an at-rest soil pressure equivalent to a fluid (EFP) whose weight is 60 pcf for level backfill conditions and 73 pcf for backfill slopes, which are constructed at an angle of up to 27 degrees. These values are based on the same assumed conditions stated in Recommendation No. 1 under the Cantilevered section. The at-rest condition for a level backfill is based on the following equation: $EFP=K_0\gamma$ where $K_0=1-\sin\phi$, γ is the total unit weight of soil, and ϕ is the internal angle of friction.

2. The decision to include a seismic soil lateral force is the purview of the Project Structural Engineer. The magnitude of the load and the method to determine that load are the purview of the Project Structural Engineer. The Project Structural Engineer may consider the following estimated seismic soil lateral force: Retaining walls may be designed using pseudostatic analyses based on the Seed Whitman (1970) approach modified by the footnotes for Recommendation No. 2 for RETAINING WALLS Cantilevered. The need to apply the lateral seismic load is to be determined by the Project Structural Engineer or by the building code. We have estimated the seismic earth pressures using the modified Seed Whitman method, assuming a peak horizontal ground acceleration of 1.022g, and assuming drained backfill conditions. The peak horizontal ground acceleration (PGA) was determined in accordance with Section 1803.5.12 of the 2013 CBC, Paragraph 2.2. The seismic earth pressure

(ΔP_{AE}), resulting from seismic loads acting on retaining walls, may be estimated as $\Delta P_{AE} = 30.8H^2$, in pounds per lineal foot of wall, for a triangular pressure distribution (analogous to that used to represent static earth pressures) with the resultant force acting 0.33H above the base of the wall. Kh equals 0.685.

3. The retaining wall footing shall conform to the FOUNDATIONS recommendations and may be designed assuming an allowable soil bearing value of 2,000 psf. For footings placed on or adjacent to slopes, the base of the toe or keyway placed at the toe shall extend to such a depth that there exists 10 horizontal feet between the bottom of the footing and the daylight line of the adjacent slope.

4. A passive soil pressure equivalent to a fluid whose weight is 350 pcf and a coefficient of friction against sliding of 0.35 may be assumed for the footing excavation described in the recommendation above.

5. The retaining wall shall be serviced by a perforated drain which is located a minimum of 12 inches below top of the adjacent interior concrete slab-on-grade floor.

6. Walls, foundations, and connections between walls and foundations forming interior finished rooms of the structure shall be waterproofed by the proper application of a moisture barrier. All waterproofing products should be applied in strict conformance with the manufacturer's recommendations. The selection of a waterproofing product and the observation of proper installation will not involve Pacific Materials Laboratory. We recognize the need for waterproofing; however, it is not in our purview to know the optimum product for application to the retaining wall or to confirm proper installation.

7. It is assumed that the rough grade excavation behind the retaining wall is to be cut at a temporary slope angle of 1 horizontal to 1 vertical in order to comply with Cal-OSHA safety requirements.

8. Footings located near the retaining wall stem and in the zone of the granular backfill material shall extend through the retaining wall backfill, shall be supported on the firm underlying undisturbed ground, and below a 1 horizontal to 1 vertical line projected upward from the base of the wall; whichever is deeper. As an alternative, the footing can be designed to span across the backfill area and be supported by footings able to receive the reaction load of the spanning member. This may include tying into the retaining wall for support, if that portion of the retaining wall has been designed to receive the additional load.

9. Retaining wall backfill shall include 2 cubic feet per linear foot of wall of 3/8- to 1-inch gravel placed around a 4-inch perforated rigid PVC drainpipe. The perforations of the pipe shall be placed down at the positions of 5 and 7 o'clock. A filter fabric shall separate the gravel from the other backfill soils.

10. Retaining wall backfill above the drainpipe shall be a clean, coarse sand or gravel, creating an inverted triangular wedge. Lower quality native backfill material may be utilized outside the triangular wedge which extends upwards from the outside edge of the pipe/gravel at the base of the retaining wall and is a minimum width of 60% of the wall height at ground surface. Clean, course sand is acceptable when the Sand Equivalent is greater than 20 and the Expansion Index equals 0. To avoid excessive amounts of sand and gravel backfill, do not allow the excavation contractor to cut a vertical excavation 2 to 4 feet beyond the back of the retaining wall footing or stem. Cut only to the point needed to install the drainpipe and slope the excavation back as specified.

11. The use of equipment to compact soil within the wedge of backfill defined by a 1:1 line projected up from behind the retaining wall to the surface shall be limited to handheld rammer plate compactors, such as a Wacker BS 45Y. A string line shall be placed along the top of the wall to monitor possible rotation of the wall due to the compaction surcharge. If the wall begins to bow or lean away from the backfilling operations, the compaction process shall stop and the Geotechnical Engineer shall be notified immediately such that modified compaction recommendations can be given at that time.

12. The engineer designing the retaining wall shall address the following conditions:

    A. When a retaining wall is backfilled without a top restraint, such as a wood floor diaphragm, the stem of the retaining wall acts as a cantilever.

    B. Depending on the rigidity of the top restraint, the wall may act as a beam spanning between the top and bottom points, reversing the tension side of the stem to the front of the wall as opposed to the back as in the case of a cantilever condition.

    C. Structure members deflect when loaded. The users guide to the widely used computer program RetainPro recommends the deflection of the wall be checked because the program does not calculate deflection. Refer to Section 9 titled "Related Design Considerations" in the manual titled "Basics of Retaining Wall Design", Page 50. As an estimate, the Concrete Reinforcing Steel Institute (CRSI) manual estimates concrete reinforced stems of cantilevered retaining walls will deflect a horizontal distance at the top of the wall equal to the height of the wall divided by 240. We recommend the appropriate deflection equation and values corresponding to load, condition, and material be employed to determine the deflection corresponding to the lateral loads recommended herein such that appropriate connections, tiebacks, bracing, or construction joints can be placed within the structural design to properly account for the deflection. The total deflection may not occur during the backfilling operation, but rather sometime after the frame structure is built over and adjacent to the retaining wall.

PAVEMENT

1. In the areas to be paved, we recommend the top loose surface soils be removed from below the proposed final soil subgrade elevation, moistened or dried to at or near the optimum moisture content, and compacted to 90% relative compaction with the top 9 inches being compacted to 95% relative compaction where pavement will be subject to vehicle travel or parking. The subgrade area shall be check rolled in order to detect isolated soft spots. Any areas found to be yielding under the wheel loads of the equipment shall be stabilized by removal and compaction.

2. The Class 2 aggregate base shall be recompacted to a minimum of 95% relative compaction in accordance with the ASTM D-1557 test method. Asphalt concrete shall be placed only after the Class 2 aggregate base has been demonstrated to be firm and unyielding.

3. If asphalt pavement is selected for the finished pavement surface, we recommend an R-Value of the subgrade soil be performed by this Laboratory in order to provide appropriate thickness of Class 2 aggregate base and asphalt concrete.

4. Maintenance to assist in reducing the potential for rapid deterioration of the asphalt paved areas shall include surface treatment approximately six months to one year after construction and approximately three years from the first treatment. Pavement conditions should be reviewed at least once a year for cracks, puddling of surface water, and overall appearance. If possible, this review should be done in the fall such that cracks may be repaired which may otherwise allow moisture to pass through the pavement and weaken the subgrade.

ADJACENT LOADS

Where footings are placed at varying elevations, the effect of adjacent loads may be calculated using the widely published Formulas for Stresses in Semi-infinite Elastic Foundations or the Boussinesq figures and equations for both vertical and horizontal surcharge loads.

SETTLEMENT

It is the intent of the recommendations contained in this report to achieve angular distortions[3] of approximately 1/480. A total settlement of approximately 1 inch or less is anticipated for foundations supported on the undisturbed native soil and approximately 1% to 1.5% of the fill height is the anticipated total settlement at areas where compacted fill soil is placed in accordance with the GRADING recommendations provided in this soil engineering report. The soil bearing values and estimated settlements contained in this report are

[3] Angular distortion is the ratio of the vertical differential settlement divided by the horizontal distance over which the vertical differential is measured.

preliminary and may need to be modified after the foundation and grading plans are substantially complete.

CONSTRUCTION OBSERVATION

The owner or his agent shall request the Project Geotechnical Engineer to observe all excavations prior to placement of compacted soil, gravel backfill, or rebar and concrete.

PLAN REVIEW

We request the grading and foundation plans be submitted to our office for a general review to verify substantial compliance to the recommendations contained in this report.

CLOSURE

The recommendations contained herein are for the sole use of our client and are based upon this Laboratory's understanding of the project which has been described herein. If the project scope, location, or conceptual design is subsequently altered, this Laboratory shall be requested to modify, as necessary, the recommendations contained herein as is appropriate for the new development concept. If the recommendations of this report are not implemented within one year, we recommend an update and review of the contents of this report be performed by this Laboratory.

The recommendations contained herein are based upon the assumption that Pacific Materials Laboratory shall be requested to perform the testing and observation services which will be required during the grading and foundation operations in order to verify that the actual soil conditions encountered and the construction procedures are consistent with the recommendations contained herein. If this service is performed by others, only the technical correctness of the actual analytical soil tests described here is attested to by this Laboratory.

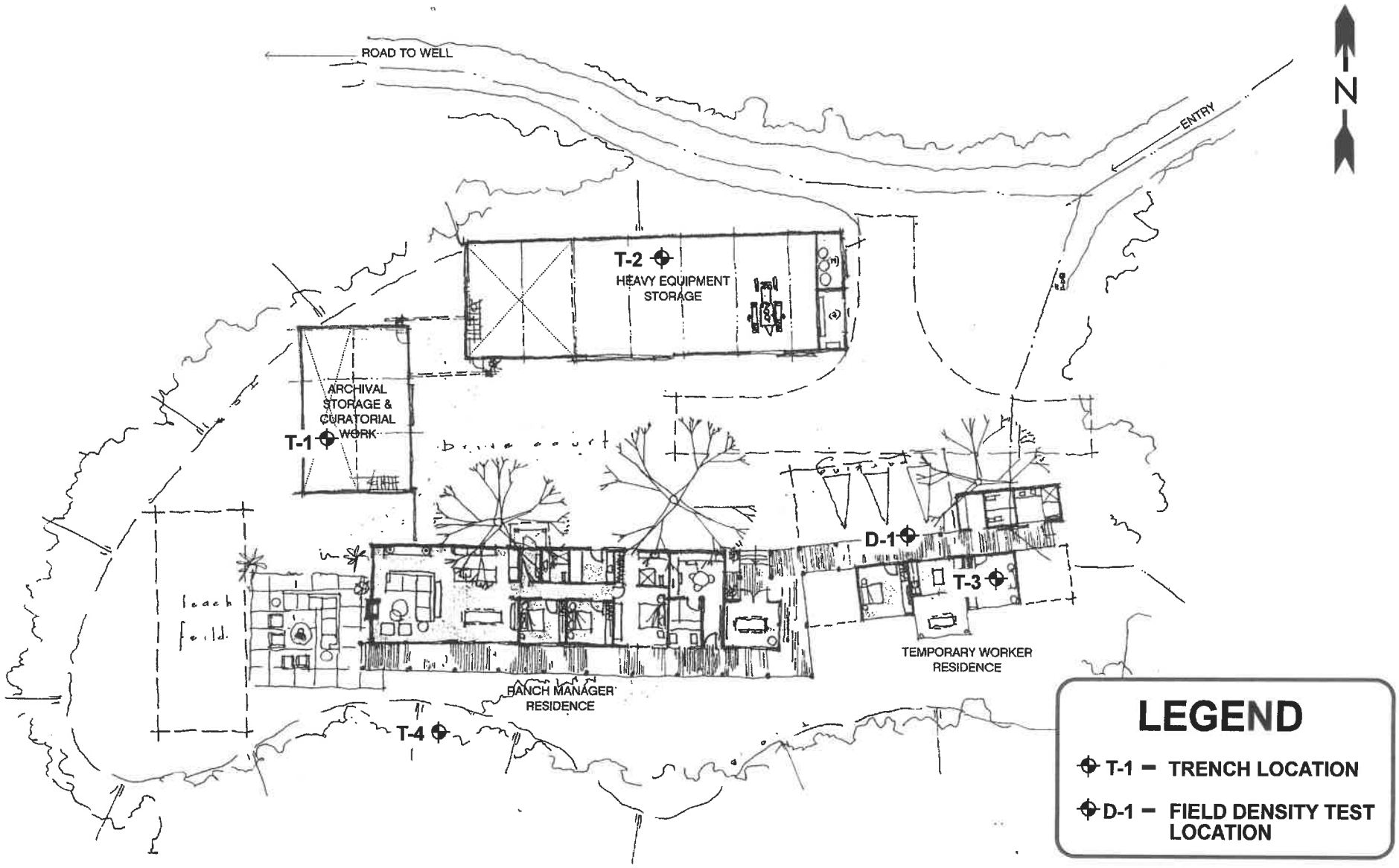
Thank you for the opportunity of providing this service. If you have any questions regarding this matter, please do not hesitate to call.

Respectfully submitted,

PACIFIC MATERIALS LABORATORY, INC.

Ronald J. Pike
Geotechnical Engineer, G. E. 2291

RJP:vlh
cc: A34 Studio, Attn: Alan McLeod, Email: alan@A34studio.com
The Reagan Ranch Center, Attn: Brent Kilpper, Email: BrentK@reaganranch.org.



LEGEND

- T-1 – TRENCH LOCATION
- D-1 – FIELD DENSITY TEST LOCATION

SITE PLAN

Reagan Ranch
3333 Refugio Road
Santa Barbara, California

Pacific Materials Laboratory, Inc.

Scale: none	Plate 1 Lab No: 128852-2 File No: 19-11443-2 November 5, 2019

APPENDIX A

FIELD INVESTIGATION

November 5, 2019

Lab No: 128852-2

File No: 19-11443-2

Lab No: 128852-2
File No: 19-11443-2

TRENCH LOG DATA

TRENCH NO. T-1

Technician: Hooten Date Excavated: September 5, 2019

Dry Density (pcf)	Moisture Content (%)	Depth (ft)	Soil Log	Soil Description
		0		Light brown Sacate SHALE, dry
	5.9	3		
	4.1	5		
		16		

LEGEND
- Thin-Walled Tube Sample ASTM D-1587

Lab No: 128852-2
File No: 19-11443-2

TRENCH LOG DATA

TRENCH NO. T-2

Technician: Hooten Date Excavated: September 5, 2019

Dry Density (pcf)	Moisture Content (%)	Depth (ft)	Soil Log	Soil Description
		0		Light brown Sacate SHALE, dry
	4.9	3		
	6.3	5		
		16		

LEGEND
- Thin-Walled Tube Sample ASTM D-1587

Lab No: 128852-2
File No: 19-11443-2

TRENCH LOG DATA

TRENCH NO. T-3

Technician: Hooten Date Excavated: September 5, 2019

Dry Density (pcf)	Moisture Content (%)	Depth (ft)	Soil Log	Soil Description
		0		Light brown Sacate SHALE, dry
	5.4	3		
	4.8	5		
		16		

LEGEND
- Thin-Walled Tube Sample ASTM D-1587

November 5, 2019 -A.4- Lab No: 128852-2
File No: 19-11443-2

TRENCH LOG DATA

TRENCH NO. T-4

Technician: Hooten Date Excavated: September 5, 2019

Dry Density (pcf)	Moisture Content (%)	Depth (ft)	Soil Log	Soil Description
		0		Light brown Sacate SHALE, dry
		1		
		2		
		3		
		4		
		5		
		6		
		7		
		8		
		9		
		10		
		11		
		12		
		13		
		14		
		15		
		16		

LEGEND
- Thin-Walled Tube Sample ASTM D-1587

NOTE: No groundwater encountered in the explorary trench

APPENDIX B

LABORATORY TESTS

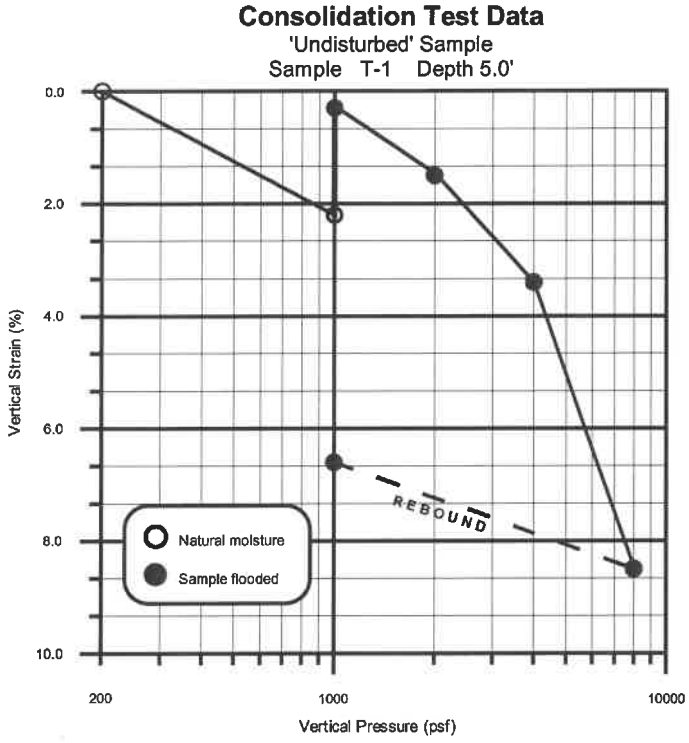
November 5, 2019

Lab No: 128852-2

File No: 19-11443-2

CONSOLIDATION TEST (ASTM D 2435)

One consolidation test was performed on a representative in-place tube soil sample in both the natural field and at increased moisture contents. The results of the consolidation test is presented graphically below.



EXPANSION TEST (ASTM D 4829)

The Expansive Soil Index was determined by the present ASTM D 4829 Expansion Test Method. The results are tabulated below:

SAMPLE LOCATION	DEPTH (ft.)	DRY DENSITY (pcf)	MOISTURE CONTENT (%)	EXPANSION INDEX	POTENTIAL FOR EXPANSION
D-1	0.5	96.1	13.9	3	Very low

ATTERBERG LIMITS (ASTM D 4318)

SAMPLE LOCATION	DEPTH (ft.)	SOIL TYPE	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	DEGREE OF EXPANSION
D-1	0.5	SM-SC	41	23	18	Medium
T-3	5.0	SM-SC	37	19	18	Medium

MOISTURE DENSITY DETERMINATIONS (ASTM D 1557)

Maximum Density-Optimum Moisture data were determined in the laboratory from soil samples using the ASTM D-1557 Method of Compaction. The results of the Maximum Density-Optimum Moisture tests are tabulated below:

SOIL TYPE	SOIL DESCRIPTION	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE (%)
I	Light brown SHALE	121.5	11.5

Curve Points: (119.2 @ 13.3) (121.4 @ 11.0) (117.9 @ 9.0) (118.1 @ 10.0)

FIELD DENSITY SUMMARY (Sand Cone Method ASTM D 6938)

SAMPLE LOCATION	DEPTH (in.)	SOIL TYPE	FIELD MOIST. CONTENT (%)	DRY DENSITY (pcf)	% OF MAX. DRY DENSITY
D-1	0.5	I	3.8	94.7	77.9

MECHANICAL ANALYSES (Values in Percent Passing ASTM D 422)

SIEVE SIZE	D-1 @ 0.5'	T-3 @ 5'
3/4 Inch	100.0	100.0
1/2 Inch	93.5	100.0
3/8 Inch	91.6	100.0
No. 4	82.1	86.5
No. 8	65.6	62.3
No. 16	53.9	46.9
No. 30	48.0	39.8
No. 50	45.2	37.1
No. 100	43.2	35.7
No. 200	41.4	34.9

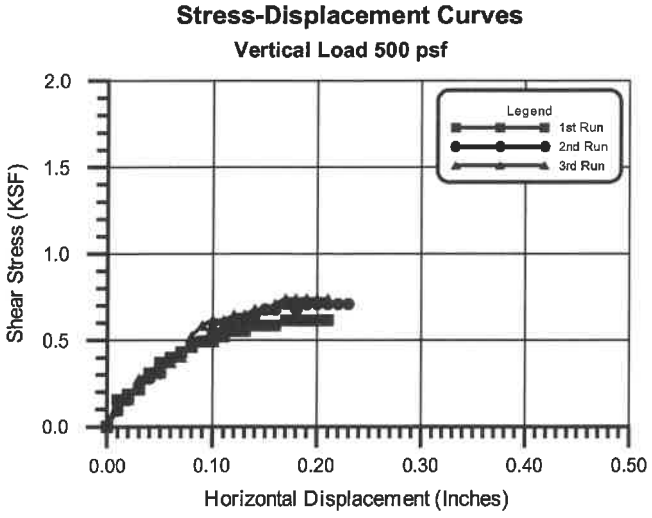
SAND-SILT-CLAY (By Hydrometer ASTM D 422)

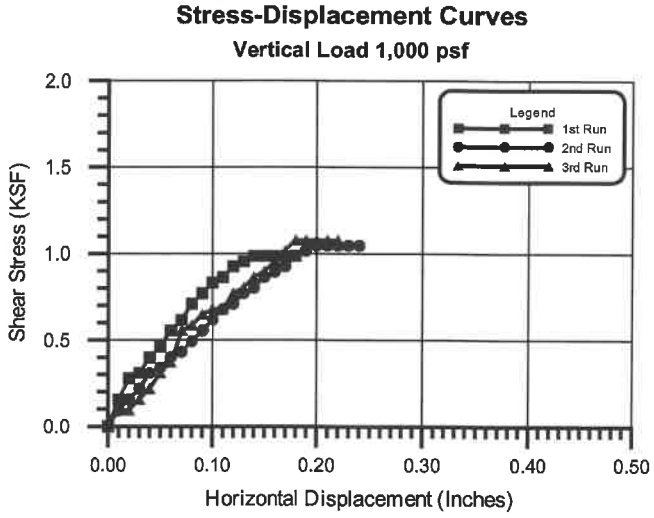
SAMPLE LOCATION	DEPTH (ft.)	SAND %	SILT %	CLAY %	SOIL DESCRIPTION
D-1	0.5	22	36	42	Sandy silty CLAY
T-3	5.0	34	22	44	Sandy silty CLAY

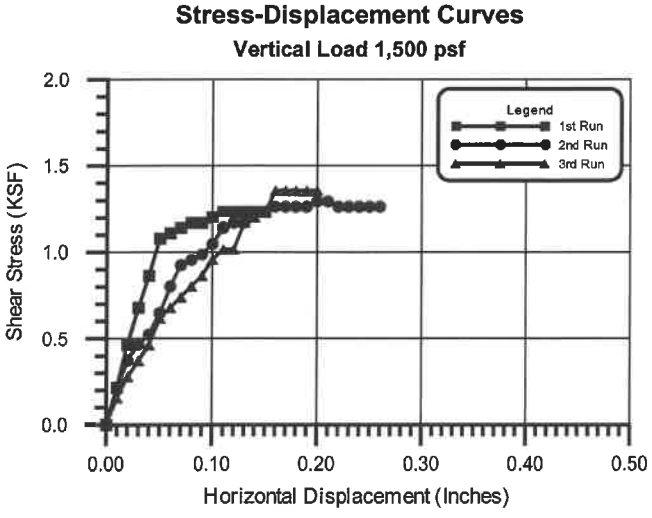
DIRECT SHEAR TEST (ASTM D 3080)

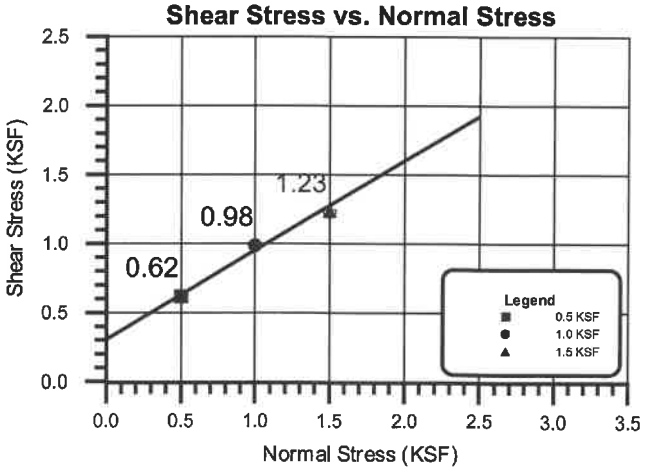
One direct shear test was performed on a representative "undisturbed" soil sample which was 2.365 inches in diameter and 1 inch thick. The test was performed under flooded conditions. The results are tabulated below:

SAMPLE LOCATION	DEPTH (ft.)	INTERNAL ANGLE OF FRICTION (degrees)	COHESION (psf)
T-3	5.0	33	300









Attachment 6: Hydrology Memo dated September 2021

COAST ENGINEERING & SURVEY, INC

San Luis Obispo P.O. Box 13127, CA 93406
Santa Barbara P.O. Box 1261, CA 93116

To: County of Santa Barbara
Flood Control

Date: September 28, 2021

Subject: Moore Ranch
Culvert Analysis

RE: **Hydrology Memorandum - Moore Ranch Culvert Analysis**

Project Description

An existing, unpermitted culvert was constructed at Moore Ranch, located off of Refugio Road in Goleta, CA. The existing culvert is located at the intersection of the two existing access roads as shown in the figure below.

The existing culvert must have the capacity to convey runoff from a 25-year storm event per county of Santa Barbara Flood Control Standard Conditions.

Objectives

1. Determine the peak runoff from a 25-year storm event.
2. Determine the capacity of the existing 18" culvert.
3. Determine required size of culvert, if existing does not meet county standards.

Hydrologic Analysis

To determine the peak runoff from a 25-year storm event, the rational method will be used.

$$Q = CIA$$

$$Q = peak\ runoff\ (cubic\ feet\ per\ second)$$

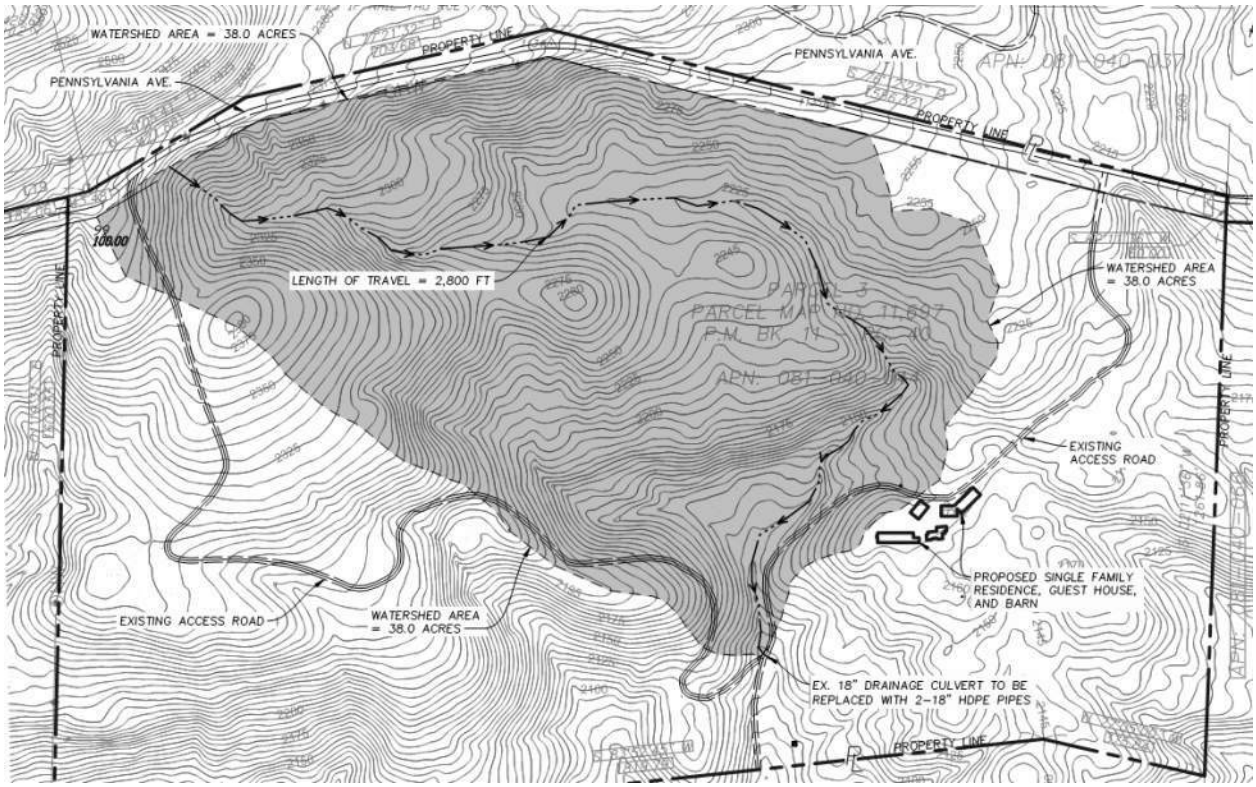
$$C = runoff\ coefficient$$

$$I = rainfall\ intensity\ (in/hr)$$

$$A = Tributary\ Area\ (Acres)$$

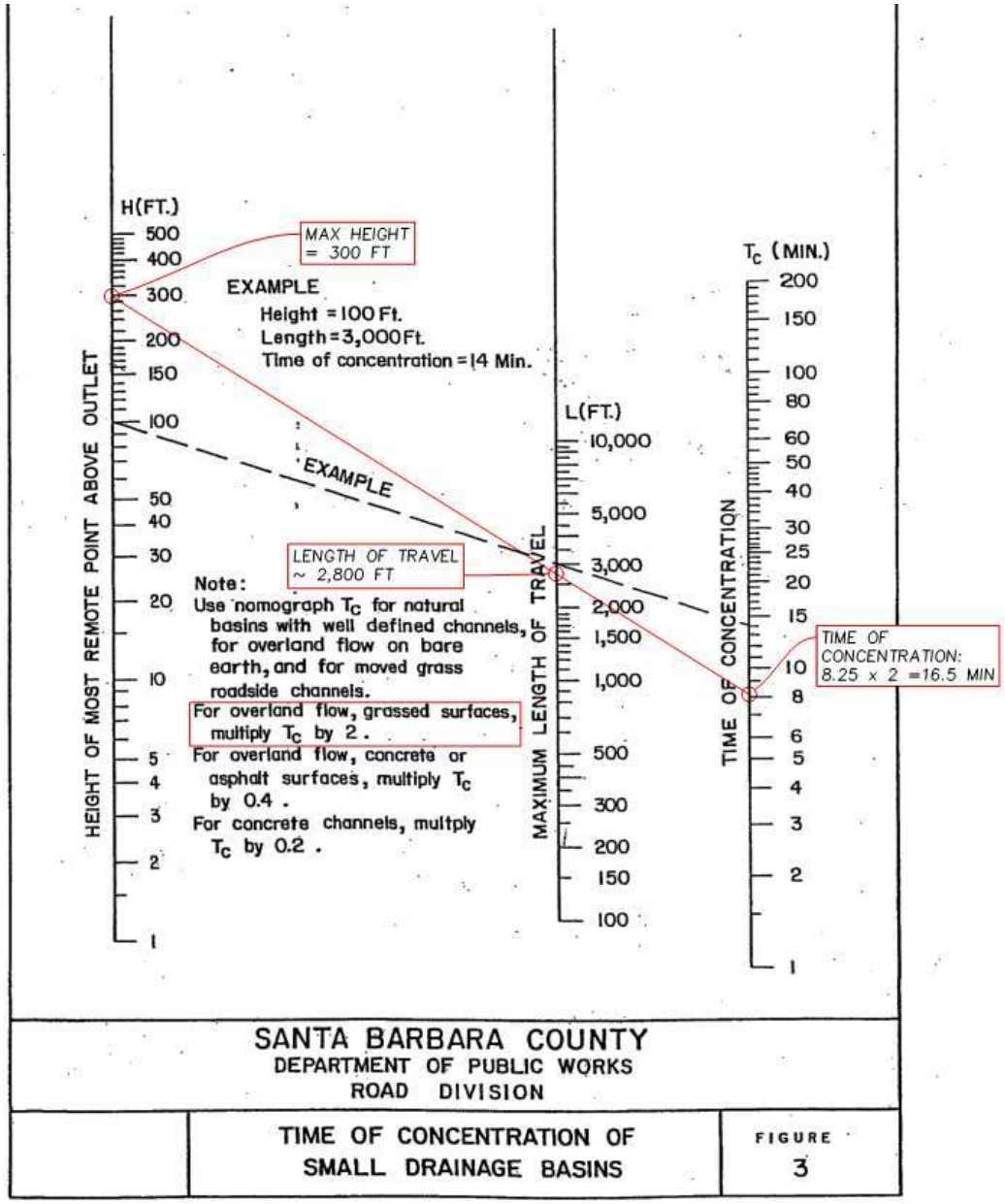
Tributary Area (A)

The watershed is approximately 38 acres. It is assumed that the road known as Pennsylvania Avenue intercepts all runoff uphill of the tributary area. The existing topography was used to determine the tributary boundary. See the figure below.



Intensity (I)

To determine the intensity of the 25-year storm event, the time of concentration first needs to be determined. The County of Santa Barbara Flood Control Standards recommends using the nomograph shown below for agricultural areas. To use the nomograph, the length of travel and height from the most remote point above the outlet are needed to determine the time of concentration. Along the longest path of travel, the elevation difference is 300 feet (2038 feet to 2080 feet). The length of travel is 2,800 feet. The water is flowing overland, on grassed surfaces. The result from the nomograph is multiplied by 2 to determine the time of concentration. The time of concentration for the watershed is 16.5 minutes.



16.5 minutes was used in the County of Santa Barbara Flood Control Program Rational - XL program. The property is located on Santa Barbara's south coast. The rainfall intensity for this area with a time of concentration of 16.5 minutes is 2.77in/hr. See attachment B for Calculator details.

Runoff Coefficient

The runoff coefficient was determined from the Runoff Coefficient (C) Fact Sheet provided by the California Water Boards. The tributary area consists of wooded areas. The Water Boards give a range from 0.05 to 0.25 for Forested Areas. The average slope of the channel is 10%, and the tributary area consists of class D soil (web soil survey - see attachment E). Due to the steep slopes and high to very high surface runoff, the upper end of the runoff coefficient range was used and 0.25 was selected.

	Runoff Coefficient, C					
	Soil Group C			Soil Group D		
Slope :	< 2%	2-6%	> 6%	< 2%	2-6%	> 6%
Forest	0.12	0.16	0.20	0.15	0.20	0.25
Meadow	0.26	0.35	0.44	0.30	0.40	0.50
Pasture	0.30	0.42	0.52	0.37	0.50	0.62
Farmland	0.20	0.25	0.34	0.24	0.29	0.41
Res. 1 acre	0.28	0.32	0.40	0.31	0.35	0.46
Res. 1/2 acre	0.31	0.35	0.42	0.34	0.38	0.46
Res. 1/3 acre	0.33	0.38	0.45	0.36	0.40	0.50
Res. 1/4 acre	0.36	0.40	0.47	0.38	0.42	0.52
Res. 1/8 acre	0.38	0.42	0.49	0.41	0.45	0.54
Industrial	0.86	0.86	0.87	0.86	0.86	0.88
Commercial	0.89	0.89	0.90	0.89	0.89	0.90
Streets: ROW	0.84	0.85	0.89	0.89	0.91	0.95
Parking	0.95	0.96	0.97	0.95	0.96	0.97
Disturbed Area	0.68	0.70	0.72	0.69	0.72	0.75

Rational Method Runoff Coefficients - Part II

Source: Knox County Tennessee, Stormwater Management Manual, http://www.knoxcounty.org/stormwater/pdfs/vol2/3-1-3%20Rational

Peak Flow (Q)

$$Q = CIA$$

$$Q = 0.25 * 2.77 * 38$$

$$Q = 26\,cfs$$

Based on our analysis the design flow rate is **Q_{25}=26 cfs.**

Hydraulic Analysis

Hydraflow Express (an extension for Autodesk Civil 3D) was used to determine the capacity for the existing culvert.

Existing 18" Culvert

A site visit was conducted to approximate the site conditions. The 18" culvert has 1' of cover and is about 14' long. These values were used in Hydraflow express. The 25-year storm (Q=26 cfs) resulted in overtopping of the road. The single 18" culvert does not have the capacity to convey a 25-year storm event. See attachment C for calculations.

Proposed (2) 18" Culverts

The existing single 18" culvert will need an additional culvert to be properly sized for the 25-year storm event. If an additional 18" culvert is added and the top of the road is 3.22' above the invert of the pipe, the culverts will have the capacity to convey runoff from a 25-year storm event. (26 cfs). See attachment D for Calculations.

100-Year Flood Elevation

Using the same method described above for the 25-year storm, the peak flow for the 100-year storm is 33 cfs (Q=3.49*0.25*38). In the event of a 100-year storm event, the water will be at 2083.74'. The FF of the proposed residence is at 2168.5'. The FF of the residence is over 1' above the 100-year water surface elevation.

Recommendations

Based on our analysis the existing single 18" culvert does not provide adequate capacity for the 25-year design storm. To increase the capacity of the culverts, we recommend (2) 18" culverts. The top of road elevation will need to be 3.22' above the invert of the culverts. A headwall headwall should be used at the inlet and outlet of the culvert and the inlet and outlet should be protected with rip rap (sized 6"-12"). Storm events larger than the 25-year will overtop the road and continue down the existing flow path.

Please don't hesitate to contact the undersigned at any time.

Kind Regards,

Todd Robinson, P.E., MscEng, CFM
Licensed RCE: 75756
todd@coast-inc.com
(805) 440-3348

San Luis Obispo P.O. Box 13127, CA 93406
Santa Barbara P.O. Box 1261, CA 93116

Attachments:

A. Moore Ranch- Watershed Site Plan

B. County of Santa Barbara Rational Program Calculations

C. Existing 18” culvert - Hydraflow Express Report

D. (2) 18” culverts- Hydraflow Express Report

E. Web Soil Survey - Hydrologic Soil Group Report

WATERSHED AREA = 38.0 ACRES

PENNSYLVANIA AVE.

PROPERTY LINE

PENNSYLVANIA AVE.

PROPERTY LINE

99
100.00

LENGTH OF TRAVEL = 2,800 FT

PROPERTY LINE

PARCEL 3
PARCEL MAP NO. 11,697
P.M. BK. 11 PG. 40
APN: 081-040-044

APN: 081-040-037

WATERSHED AREA
= 38.0 ACRES

64
100.00

EXISTING
ACCESS ROAD

PROPERTY LINE

EXISTING ACCESS ROAD

WATERSHED AREA
= 38.0 ACRES

PROPOSED SINGLE FAMILY
RESIDENCE, GUEST HOUSE,
AND BARN

EX. 18" DRAINAGE CULVERT TO BE
REPLACED WITH 2-18" HDPE PIPES

PROPERTY LINE

PROPERTY LINE

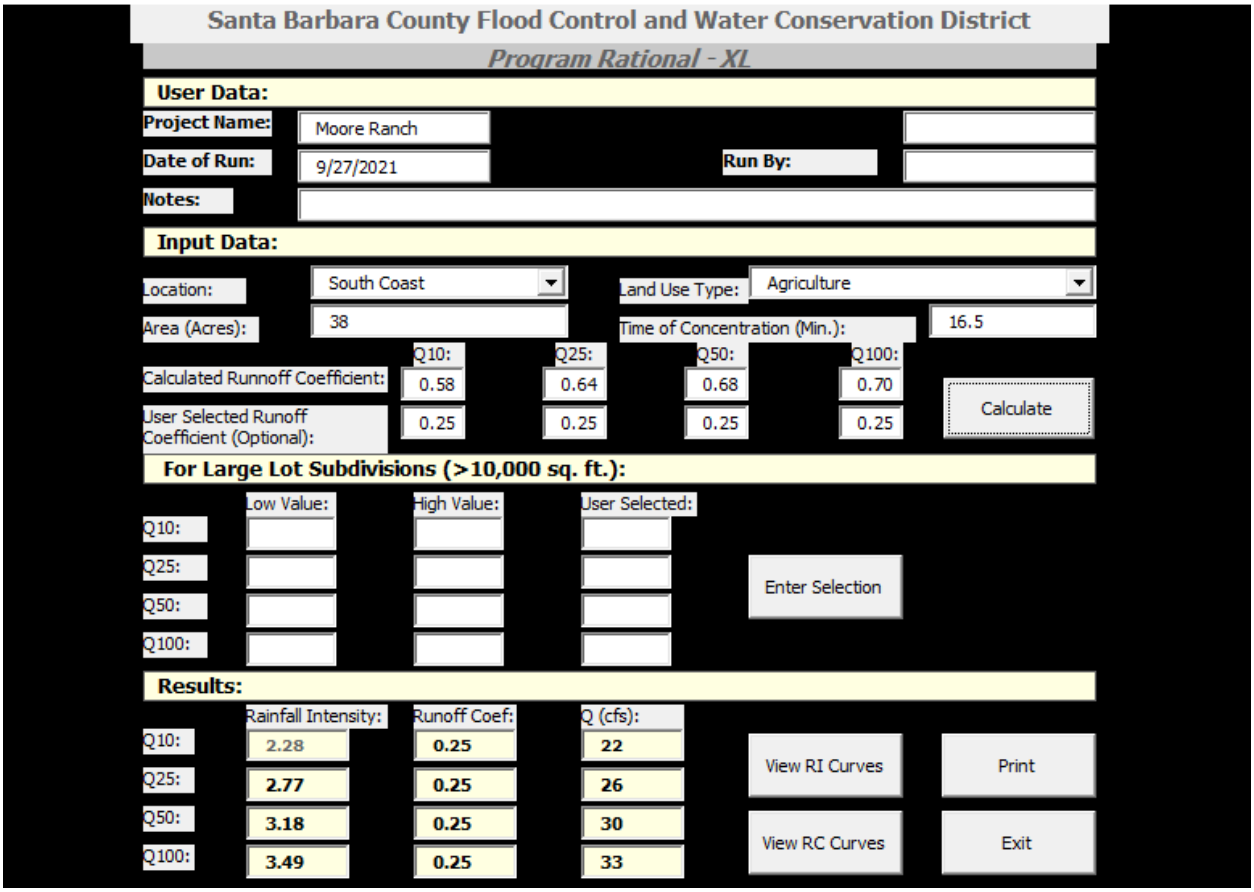
N

1 Inch
0' 200'

COAST
ENGINEERING
& SURVEY, INC.
1110 CALIFORNIA BLVD.
SAN LUIS OBISPO, CA. 93401
PH: (805) 439-1920

MOORE RANCH
WATERSHED SITE PLAN

APN: 081-040-044
DATE: SEPT. 27, 2021
JOB#: 20021


Santa Barbara County Flood Control and Water Conservation District
Program Rational - XL
User Data:
Project Name:
Moore Ranch
Date of Run:
9/27/2021
Run By:
Notes:
Input Data:
Location:
South Coast
Land Use Type:
Agriculture
Area (Acres):
38
Time of Concentration (Min.):
16.5
Q10:
Q25:
Q50:
Q100:
Calculated Runnoff Coefficient:
0.58
0.64
0.68
0.70
User Selected Runoff Coefficient (Optional):
0.25
0.25
0.25
0.25
Calculate
For Large Lot Subdivisions (>10,000 sq. ft.):
Low Value:
High Value:
User Selected:
Q10:
Q25:
Q50:
Q100:
Enter Selection
Results:
Rainfall Intensity:
Runoff Coef:
Q (cfs):
Q10:
2.28
0.25
22
Q25:
2.77
0.25
26
Q50:
3.18
0.25
30
Q100:
3.49
0.25
33
View RI Curves
Print
View RC Curves
Exit

Culvert Report

Circular Culvert

Invert Elev Dn (ft)	=	2080.00
Pipe Length (ft)	=	14.00
Slope (%)	=	2.00
Invert Elev Up (ft)	=	2080.28
Rise (in)	=	18.0
Shape	=	Circular
Span (in)	=	18.0
No. Barrels	=	1
n-Value	=	0.012
Culvert Type	=	Circular Corrugate Metal Pipe
Culvert Entrance	=	Headwall
Coeff. K,M,c,Y,k	=	0.0078, 2, 0.0379, 0.69, 0.5

Embankment

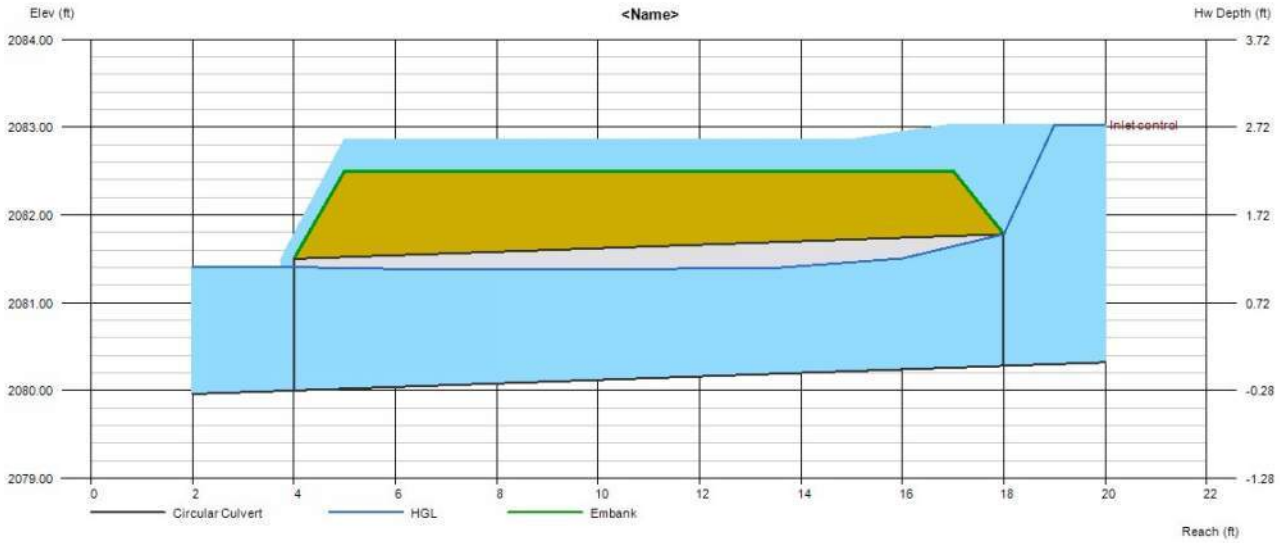
Top Elevation (ft)	=	2082.50
Top Width (ft)	=	12.00
Crest Width (ft)	=	12.00

Calculations

Qmin (cfs)	=	26.00
Qmax (cfs)	=	33.00
Tailwater Elev (ft)	=	(dc+D)/2

Highlighted

Qtotal (cfs)	=	26.00
Qpipe (cfs)	=	11.94
Qovertop (cfs)	=	14.06
Veloc Dn (ft/s)	=	6.94
Veloc Up (ft/s)	=	7.29
HGL Dn (ft)	=	2081.41
HGL Up (ft)	=	2081.59
Hw Elev (ft)	=	2083.03
Hw/D (ft)	=	1.83
Flow Regime	=	Inlet Control



Q			Veloc		Depth	
Total	Pipe	Over	Dn	Up	Dn	Up
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)
26.00	11.94	14.06	6.94	7.29	16.86	15.73
27.00	12.00	15.00	6.97	7.32	16.88	15.76
28.00	12.05	15.95	7.00	7.34	16.89	15.78
29.00	12.16	16.84	7.05	7.38	16.92	15.83
30.00	12.19	17.81	7.07	7.40	16.92	15.85
31.00	12.31	18.69	7.13	7.45	16.95	15.91
32.00	12.38	19.62	7.17	7.48	16.97	15.94
33.00	12.45	20.55	7.20	7.51	16.98	15.97

HGL			
Dn	Up	Hw	Hw/D
(ft)	(ft)	(ft)	
2081.41	2081.59	2083.03	1.83
2081.41	2081.59	2083.05	1.85
2081.41	2081.60	2083.06	1.85
2081.41	2081.60	2083.10	1.88
2081.41	2081.60	2083.10	1.88
2081.41	2081.61	2083.14	1.91
2081.41	2081.61	2083.16	1.92
2081.42	2081.61	2083.18	1.93

Culvert Report

Circular Culvert

Invert Elev Dn (ft)	=	2080.00
Pipe Length (ft)	=	14.00
Slope (%)	=	2.00
Invert Elev Up (ft)	=	2080.28
Rise (in)	=	18.0
Shape	=	Circular
Span (in)	=	18.0
No. Barrels	=	2
n-Value	=	0.012
Culvert Type	=	Circular Corrugate Metal Pipe
Culvert Entrance	=	Headwall
Coeff. K,M,c,Y,k	=	0.0078, 2, 0.0379, 0.69, 0.5

Embankment

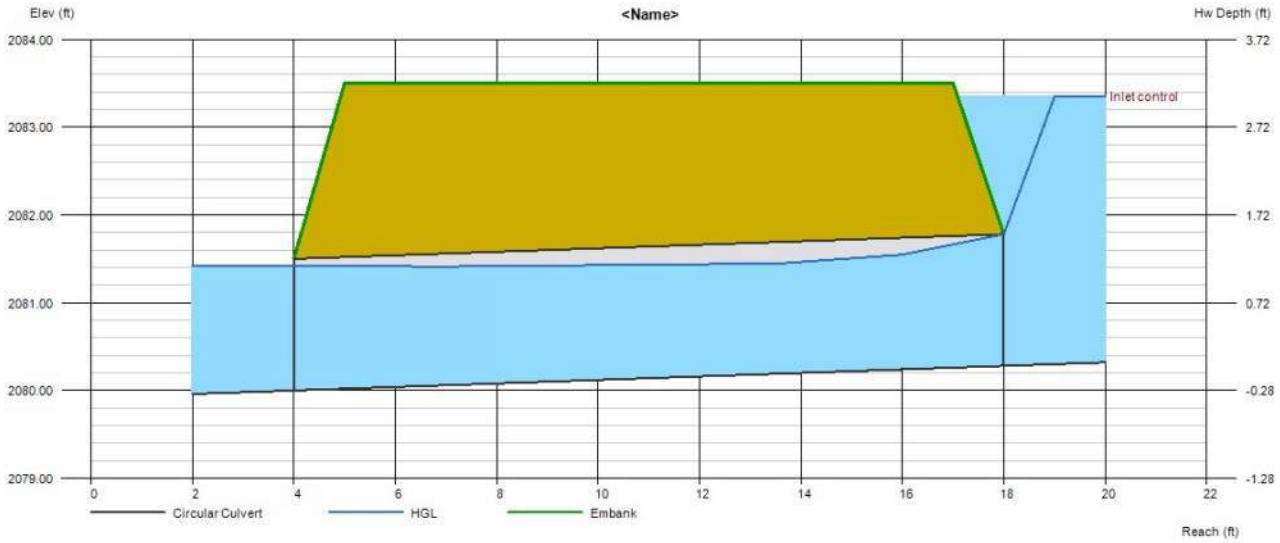
Top Elevation (ft)	=	2083.50
Top Width (ft)	=	12.00
Crest Width (ft)	=	12.00

Calculations

Qmin (cfs)	=	26.00
Qmax (cfs)	=	33.00
Tailwater Elev (ft)	=	(dc+D)/2

Highlighted

Qtotal (cfs)	=	26.00
Qpipe (cfs)	=	26.00
Qovertop (cfs)	=	0.00
Veloc Dn (ft/s)	=	7.50
Veloc Up (ft/s)	=	7.76
HGL Dn (ft)	=	2081.43
HGL Up (ft)	=	2081.63
Hw Elev (ft)	=	2083.35
Hw/D (ft)	=	2.05
Flow Regime	=	Inlet Control



Q			Veloc		Depth	
Total	Pipe	Over	Dn	Up	Dn	Up
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)
26.00	26.00	0.00	7.50	7.76	17.10	16.20
27.00	26.98	0.02	7.76	7.99	17.20	16.39
28.00	27.35	0.65	7.86	8.07	17.23	16.46
29.00	27.61	1.39	7.92	8.13	17.25	16.50
30.00	27.81	2.19	7.98	8.18	17.27	16.54
31.00	28.00	3.00	8.03	8.23	17.29	16.57
32.00	28.19	3.81	8.08	8.27	17.30	16.60
33.00	28.37	4.63	8.13	8.32	17.31	16.63

HGL			
Dn	Up	Hw	Hw/D
(ft)	(ft)	(ft)	
2081.43	2081.63	2083.35	2.05
2081.43	2081.65	2083.51	2.15
2081.44	2081.65	2083.57	2.19
2081.44	2081.66	2083.61	2.22
2081.44	2081.66	2083.65	2.24
2081.44	2081.66	2083.68	2.27
2081.44	2081.66	2083.71	2.29
2081.44	2081.67	2083.74	2.31

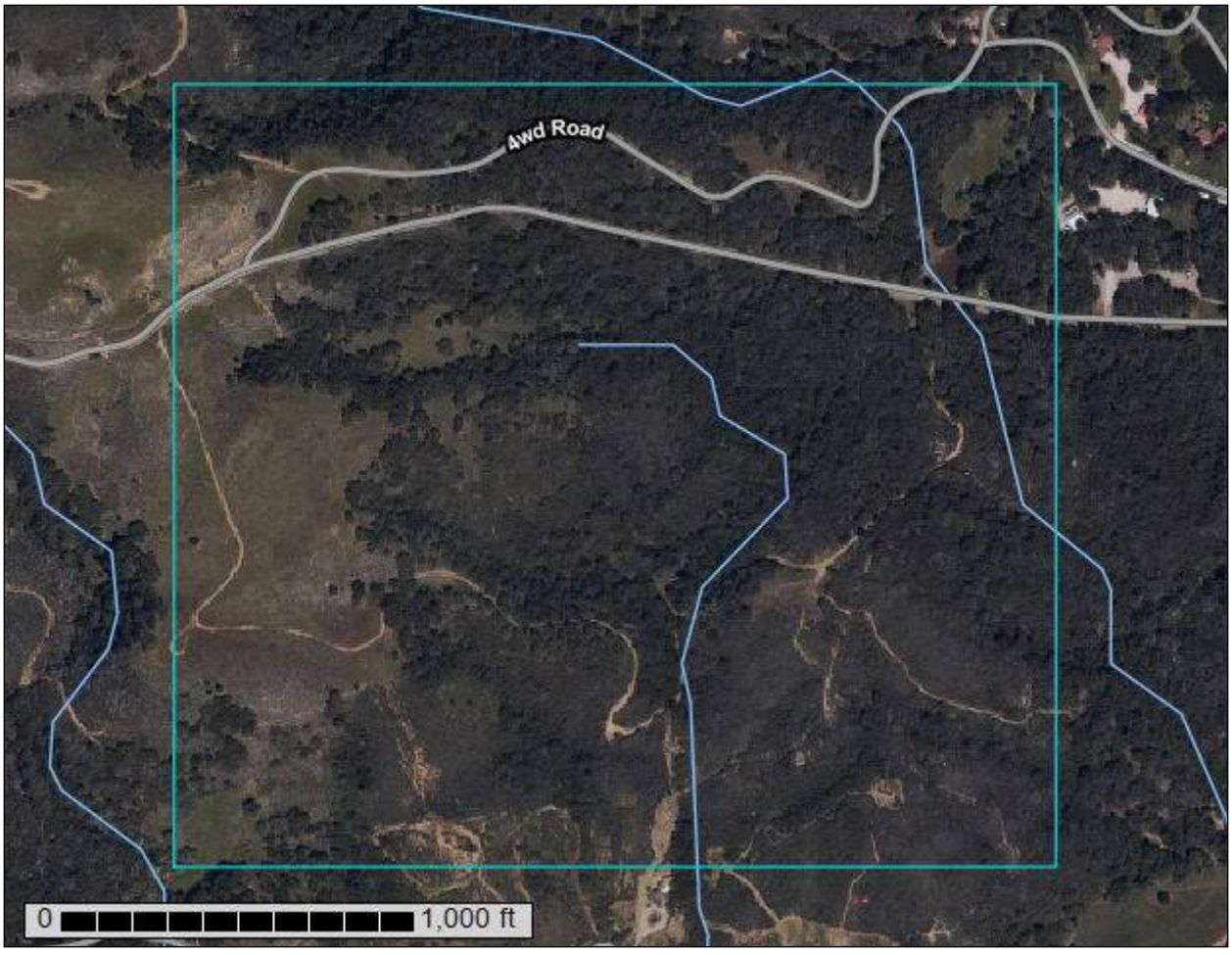
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Santa Barbara County, California, South Coastal Part



September 28, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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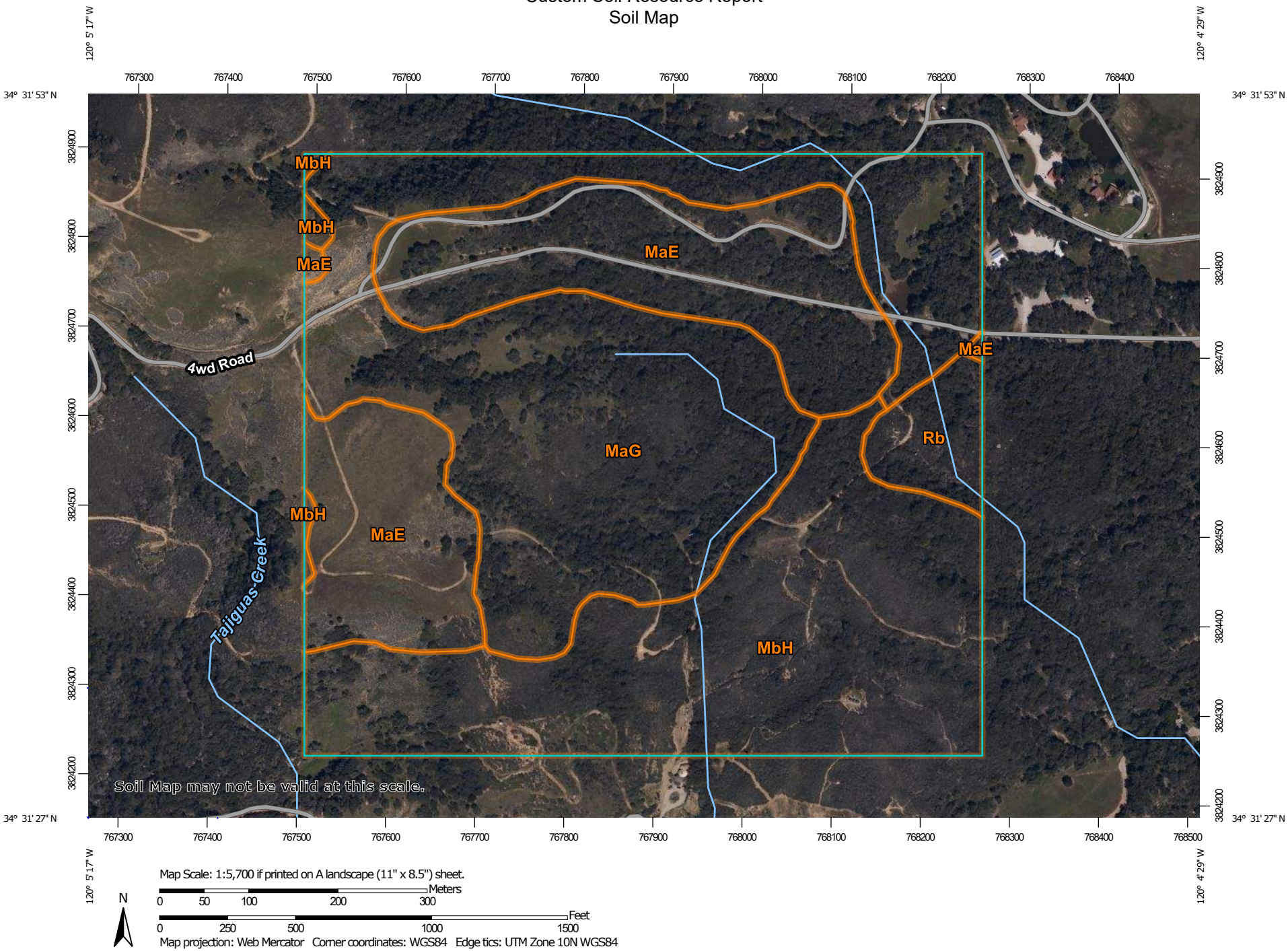
Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:5,700 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Santa Barbara County, California, South Coastal Part
Survey Area Data: Version 13, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 14, 2019—Mar 15, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
MaE	Maymen stony fine sandy loam, 15 to 30 percent slopes	32.6	25.7%
MaG	Maymen stony fine sandy loam, 30 to 75 percent slopes	51.0	40.2%
MbH	Maymen-Rock outcrop complex , 50 to 75 percent slopes	39.1	30.8%
Rb	Rock outcrop-Maymen complex, 75 to 100 percent slopes	4.0	3.2%
Totals for Area of Interest		**126.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Santa Barbara County, California, South Coastal Part

MaE—Maymen stony fine sandy loam, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hc5v
Elevation: 490 to 3,410 feet
Mean annual precipitation: 27 to 32 inches
Mean annual air temperature: 60 to 63 degrees F
Frost-free period: 310 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Maymen and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Maymen

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from shale, conglomerate and/or sandstone

Typical profile

H1 - 0 to 4 inches: stony fine sandy loam
H2 - 4 to 14 inches: loam
H3 - 14 to 18 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 12 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Other vegetative classification: SHALLOW LOAMY (020XD032CA_2)
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 5 percent
Hydric soil rating: No

Gaviota

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent
Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

MaG—Maymen stony fine sandy loam, 30 to 75 percent slopes

Map Unit Setting

National map unit symbol: hc5w
Elevation: 460 to 3,720 feet
Mean annual precipitation: 24 to 32 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 300 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Maymen and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Maymen

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from shale, conglomerate and/or sandstone

Typical profile

H1 - 0 to 4 inches: stony fine sandy loam
H2 - 4 to 14 inches: loam
H3 - 14 to 18 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 75 percent

Depth to restrictive feature: 10 to 18 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Other vegetative classification: SHALLOW LOAMY (020XD032CA_2)
Hydric soil rating: No

Minor Components

Lodo

Percent of map unit: 4 percent
Landform: Low hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Sespe

Percent of map unit: 4 percent
Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Rock outcrop

Percent of map unit: 4 percent
Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Unnamed

Percent of map unit: 3 percent
Hydric soil rating: No

MbH—Maymen-Rock outcrop complex , 50 to 75 percent slopes

Map Unit Setting

National map unit symbol: hc73
Elevation: 390 to 3,710 feet
Mean annual precipitation: 23 to 33 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 290 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Maymen and similar soils: 50 percent
Rock outcrop: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Maymen

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from shale, conglomerate and/or sandstone

Typical profile

H1 - 0 to 4 inches: stony fine sandy loam
H2 - 4 to 14 inches: loam
H3 - 14 to 18 inches: unweathered bedrock

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: 10 to 18 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Sedimentary rock

Typical profile

H1 - 0 to 60 inches: unweathered bedrock

Properties and qualities

Slope: 50 to 99 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Minor Components

Gaviota

Percent of map unit: 8 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Lodo

Percent of map unit: 8 percent
Landform: Low hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Unnamed

Percent of map unit: 4 percent
Hydric soil rating: No

Rb—Rock outcrop-Maymen complex, 75 to 100 percent slopes

Map Unit Setting

National map unit symbol: hc6f
Elevation: 490 to 4,030 feet
Mean annual precipitation: 24 to 34 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 265 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Rock outcrop: 70 percent
Maymen and similar soils: 25 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Sedimentary rock

Typical profile

H1 - 0 to 60 inches: unweathered bedrock

Properties and qualities

Slope: 75 to 99 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): 8
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Description of Maymen

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from shale, conglomerate and/or sandstone

Typical profile

H1 - 0 to 4 inches: stony fine sandy loam
H2 - 4 to 14 inches: loam
H3 - 14 to 18 inches: unweathered bedrock

Properties and qualities

Slope: 75 to 99 percent
Depth to restrictive feature: 0 to 15 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): 8e
Land capability classification (nonirrigated): 8e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Gaviota

Percent of map unit: 3 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Lodo

Percent of map unit: 2 percent
Landform: Low hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Water Features

This folder contains tabular reports that present soil hydrology information. The reports (tables) include all selected map units and components for each map unit. Water Features include ponding frequency, flooding frequency, and depth to water table.

Hydrologic Soil Group and Surface Runoff

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or

soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

Report—Hydrologic Soil Group and Surface Runoff

Absence of an entry indicates that the data were not estimated. The dash indicates no documented presence.

Hydrologic Soil Group and Surface Runoff–Santa Barbara County, California, South Coastal Part			
Map symbol and soil name	**Pct. of map unit**	**Surface Runoff**	**Hydrologic Soil Group**
MaE—Maymen stony fine sandy loam, 15 to 30 percent slopes			
Maymen	85	High	D
MaG—Maymen stony fine sandy loam, 30 to 75 percent slopes			
Maymen	85	High	D
MbH—Maymen-Rock outcrop complex , 50 to 75 percent slopes			
Maymen	50	High	D
Rock outcrop	30	Very high	—
Rb—Rock outcrop-Maymen complex, 75 to 100 percent slopes			
Rock outcrop	70	Very high	—
Maymen	25	High	D

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