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Draft Mitigated Negative Declaration

Novatt Equestrian Facility

Case Nos. 21CUP-00000-00026, 21DVP-00000-00024, 23NGD-00010

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1.0 REQUEST/PROJECT DESCRIPTION

The proposal is a request for approval of a Development Plan (21DVP-00000-00024) consisting of 83,206 square feet of agricultural and non-agricultural development, as well as approval of a Conditional Use Permit (21CUP-00000-00026) for a commercial equestrian facility. The equestrian facility will provide daily boarding and breeding operations for retired horses, as well as an equestrian event center for education, shows, clinics, and other special events up to twelve times per year. New structures proposed include a 45,000-square-foot covered riding arena, a 4,200-square-foot reception hall with a 2,127-square-foot covered porch, an 800-square-foot agricultural employee dwelling, and six (6) 2,880-square-foot horse barns. The project will also include a new uncovered 150-foot diameter round pen, and an uncovered 150-foot by 200-foot riding arena, each surrounded by 5-foot tall steel pipe rail fencing. The total amount of new structural development will be 69,407 square feet. Existing structures include the following:

- 1,809-square-foot single-family dwelling
- 1,500-square-foot agricultural employee dwelling
- 1,850-square-foot barn
- 400-square-foot shop
- 3,000-square-foot hay barn
- 3,000-square-foot equipment barn
- 2,460 square foot barn (proposed to be demolished; the proposed reception hall will be located in the footprint area)
- 219 linear feet concrete block wall and 8,450-square-foot concrete pad used as a manure composting area (to be removed)
- Eight 280-square-foot unenclosed shade structures

The total amount of existing structural development is 13,799 square feet. With the 69,407 square feet of proposed development, the property will be developed with 83,206 square feet of structural development in total.

Daily operations will include boarding and breeding of up to 75 horses. The facility will be open to scheduled visits from 7:00 am until 4:00 pm. There will be an average of two employees performing daily duties (i.e., feeding, watering, manure cleanup, exercising horses, general maintenance, and supervision). There will be no scheduled training or riding sessions, and boarders will not be riding their horses daily as this is a retirement facility. The applicant is proposing to host a maximum of 250 guests during up to six annual events, and a maximum of 150 guests during up to six additional events during the calendar year. The six larger events (250 guests max) would last up to three and a half days from Thursday afternoon through Sunday. The six smaller events (150 guests max) would generally be for small equestrian or non-equestrian one-day events. Hours of operation during special events will be 7:00 AM to 10:00 PM. During equestrian special events, there will be a maximum of 100 horses onsite. Five to eight full time employees will staff the equestrian facility during daily operations, and there will be up to 25 employees during special events. The proposed reception hall includes a 500-square-foot kitchen intended to serve as a staging area for caterers during special events. Special events will include, but are not limited to, equestrian events (educational events, shows, and clinics), as well as receptions, parties, weddings, or other similar events. Amplified music will not exceed 65 decibels at any property line. All amplified noise and lighting will end by 10:00 PM.

Parking for the proposed project includes the following:

- Ten (10) standard parking spaces adjacent to the reception hall

- A new 50,000-square-foot natural grade (unpaved) surface parking area with 120 parking spaces for spectators of special events, located near the reception hall
- Approximately 100,000 square feet (65 parking spaces) of natural grade (unpaved) area near the horse barns for car, pickup truck, and horse trailer parking during daily boarding operations
- Approximately 130,000 square feet (100 parking spaces) of natural grade (unpaved) area located east of the covered arena for pickup trucks and horse trailer parking during equestrian special events

Grading will consist of 500 cubic yards of cut and 2,800 cubic yards of fill, as well as over-excavation and re-compaction. Approximately 873 square feet of new screening landscaping is proposed. Pursuant to LUDC Subsection 35.82.060.I.1, a modification is being requested to waive the landscaping requirements for uncovered parking areas that exceed 3,600 square feet (LUDC Section 35.34.100.D) because of the infrequent nature of the proposed events. Construction of the project will significantly disturb (greater than 20 percent encroachment into the critical root zone) three sycamore trees, which are a native protected tree. Removed or significantly disturbed native protected trees will be replaced on the subject property at a minimum ratio of three 15-gallon replacement trees per one tree removed. The project will also require the removal of a magnolia tree and a loquat tree, which are both non-native species and do not meet the sizing criteria to be classified as specimen trees. Sewage disposal will be provided by a new onsite wastewater treatment system and portable restrooms during special events. Water will be provided from a proposed well and domestic water system. Animal waste management is comprised of onsite composting with biological treatment in a designated location as shown on the project site plan. Access will continue to be provided from the existing driveway off of Highway 246. The driveway approach will be widened to 28 feet. The onsite driveway will be 20 feet wide and will provide access to all proposed structures. The project site is a 63.35-acre parcel (Assessor's Parcel Number 137-250-067), zoned AG-I-40, known as 750 E. Highway 246, located in the Santa Ynez Valley Community Plan area, Third Supervisorial District.

2.0 PROJECT LOCATION

The project site is located at 750 E. Highway 246, known as Assessor's Parcel Number (APN) 137-250-067. The parcel is south of Highway 246 and north of the Santa Ynez River, along the stretch of Highway 246 between the City of Buellton and the City of Solvang. Regional access is provided from Highway 101, which connects to Highway 246 approximately 1.2 miles northwest of the project site, and Highway 154, which connects to Highway 246 approximately 7.2 miles east of the project site. The project site is bounded to the north, east, and west by parcels zoned AG-I that are developed with low-density single-family dwellings and associated agricultural uses. Parcels to the south of the project site are zoned AG-II-100 and are developed with agricultural uses. The southern property line of the project site abuts the Santa Ynez River, and the Granite Construction mining operation is located approximately 0.4 miles southwest of the project site.

2.1 Site Information	
Comprehensive Plan Designation	Inland, Inner-Rural, Agricultural Commercial (AC), minimum parcel size of 40 acres
Zoning District, Ordinance	**Zoning Ordinance:** County Land Use Development Code (LUDC) **Zone District:** AG-I-40 **Minimum Lot Size:** 40 acres **Applicable Overlay Designation:** Design Control Overlay
Site Size	63.35 (gross)
Present Use & Development	Single-family dwelling, agricultural employee dwelling, agricultural accessory structures, horse pastures
Surrounding Uses/Zoning	**North:** AG-I-40; Highway 246, vineyard, pasture

	South: AG-II-100; Santa Ynez River, agricultural **East:** AG-I-40; Single-family dwellings and associated agricultural uses **West:** AG-I-20; Single-family dwellings and associated agricultural uses
Access	Existing driveway from Highway 246
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 slopes gently (1-2 percent) to the south toward the Santa Ynez River. The existing topography of the proposed development area is generally flat. The northern third of the property where the proposed reception hall and 120-space event parking area will be built are located on a terrace that is approximately 15 feet above the Santa Ynez River flood plain. All other proposed new structures, including the horse barns and arena will be within the Santa Ynez River special flood hazard zone AE (FEMA).

Fauna: During a biological survey conducted in December 2022, biologist Mark de la Garza (Watershed Environmental, Inc.) observed 16 species of wildlife, including 15 bird species and one mammal species, which are documented in the project's Biological Assessment Report, dated January 20, 2023 (see Attachment 3). The California Department of Fish and Wildlife Natural Diversity Data Base's (CNDDB) records as of January 2023 contain occurrence records for 11 special-status wildlife species within three miles of the property. There is critical habitat for federally endangered southern steelhead trout (*Oncorhynchus mykiss irideus*) in the southern corner of the property, along the Santa Ynez River. Critical habitat for the federally endangered southwestern willow flycatcher (*Empidonax traillii*) is located approximately 200 feet southwest of the property along the Santa Ynez River. Critical habitat for the federally threatened California red-legged frog (*Rana draytonii*) lies 3.2 miles southwest and southeast of the property in the foothills of the Santa Ynez Mountains. No special-status wildlife species were observed during the December 2022 biological survey, however the following special-status wildlife species have a high to moderate potential to occur in the Santa Ynez River and the riparian woodland vegetation that exists in the southern portion of the property: southern steelhead trout (*Oncorhynchus mykiss irideus*); California red-legged frog (*Rana draytonii*); least Bell's vireo (*Vireo bellii pusillus*); southwestern willow flycatcher (*Empidonax traillii*); western pond turtle (*Clemmys marmorata*); and two-striped garter snake (*Thamnophis hammondii*). These special-status species have a low potential to occur in the area where new structures and equestrian event facilities will be built.

Flora: During the biological survey conducted in December 2022, the project biologist observed 27 different plant species on the project site, of which roughly a quarter are native and three-quarters are non-native. The majority of the property has been managed as pasture (perennial rye) for retired horses and other livestock for many years. The same general pasture areas that are present today are visible in historical aerial images from 1985 (Google Earth 2023), indicating that the vegetation cover has not experienced significant change. The table below provides a summary of the vegetation and land cover types that are currently on the project site.

Vegetation and Land Cover Types	Acres
Individual Coast Live Oak Trees	0.20
Individual Sycamore and Cottonwood Trees	1.43

Ornamental Trees and Shrubs	2.46
Pacific Willow Riparian Woodland	0.84
Pasture (Perennial Rye)	51.26
Ruderal (Poison Hemlock/Black Mustard)	1.82
Disturbed/Non-Vegetated	5.35
Total	63.35

The CNDDB records as of January 2023 do not contain any special-status plant species observations within three miles of the project site. The 0.84 acres of Pacific Willow Riparian Woodland vegetation is considered environmentally sensitive habitat pursuant to the Santa Ynez Valley Community Plan Policy BIO-SYV-1.2.

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. Seven prehistoric archaeological sites are recorded within a 0.5-mile radius.

Soils: The soils on the project site are classified as sand and silt consistent with the soil profiles of the Mocho loam, Camarillo very fine sandy loam, Corducci and Typic Xerofluvents, Mocho sandy loam (overflow), and Mocho fine sandy loam according to the U.S. Department of Agriculture Natural Resources Conservation Service (NCRS 2017). The proposed reception hall will be sited in a location with underlying Mocho loam. This soil type is characterized as well drained with moderate permeability, very slow surface runoff, and a none-to-slight erosion hazard. The soil suitability rating for small commercial buildings on this soil type is *not limited*. The proposed horse arena and barns will be sited in a location with underlying Mocho fine sandy loam, Camarillo very fine sandy loam, and Mocho sandy loam (overflow). These soil types are characterized as somewhat poorly drained to well-drained with moderate permeability, very slow surface runoff, and a slight erosion hazard.

Surface Water Bodies (including wetlands, riparian areas, ponds, springs, creeks, rivers, lakes, and estuaries): The US Geological Survey 7.5-minute quadrangle topographic map for Solvang, CA (USGS 2018), the National Wetland Inventory (USFWS 2022), and the National Hydrology Dataset (USGS 2022) all depict the Santa Ynez River in the southernmost portion of the property and adjacent (south) of the southern property line as a perennial watercourse. The Santa Ynez River floodplain (FEMA Regulatory Special Flood Hazard Area Zone AE Floodplain Fringe) covers the southern two thirds of the property, and the regulatory floodway covers the southernmost third. There are no lakes or other surface waters within 1,000 feet of the project site.

Existing Structures/Roads: Existing development on the northern third of the subject parcel includes a single-family dwelling, an agricultural employee dwelling, and four agricultural accessory structures. Existing development on the southern two-thirds of the subject parcel (within the Santa Ynez River special flood hazard zone AE) includes eight unenclosed 280-square-foot metal shade structures, two barns, and a concrete wall and pad that has been used in the past for manure composting. An existing barn and manure composting area are proposed to be removed as a part of the project (see Section 1.0 above for details), resulting in a total of 13,799 square feet of existing development across the entire property. There is an existing 20-foot wide asphalt driveway off Highway 246, approximately 585 feet in length. After passing the existing residential development, the asphalt driveway becomes a gravel road that provides access to the horse pasture areas.

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 1.2 miles southeast of the Highway 246/Highway 101 overpass, in an inner-rural area within the Santa Ynez Valley Community Plan area. The project site is bounded by agriculturally zoned properties on all sides, with Highway 246 directly adjacent to the northern property line and the Santa Ynez River along the southern property line. Pastures, equestrian uses, vineyards, and single-family dwellings (ranchettes) characterize the general area. The project site is one of several properties along a mile-long stretch of Highway 246 that is lined on both sides by Deodar cedar trees, which dominate the public views of the area. This portion of Highway 246 between the incorporated cities of Buellton and Solvang is identified as a Community Separator in the Santa Ynez Community Plan because of the natural separation afforded by inner-rural lands separating and providing visual relief between urbanized areas. To ensure special protection of the aesthetic resources of the Santa Ynez Valley, including Community Separators, the Design Control Overlay is applied to this stretch of Highway 246, including the subject property. The foothills of the Santa Ynez Mountains, located just

beyond the southern boundary of the project site and the Santa Ynez River, are intermittently visible from Highway 246. Public views of the project site are limited to views from Highway 246.

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) Insignificant: The proposed project will result in additional permanent structures and improvements on the subject property that will alter the visual appearance of the site. However, as discussed below, the proposed structures and improvements are: 1) located within relatively flat areas adjacent to existing development; 2) not highly visible from Highway 246 due to distance and intervening trees and shrubs located between the structures and highway; 3) will not obstruct views of the Santa Ynez Mountains from Highway 246; and 4) are required to obtain final review and approval from the Central Board of Architectural Review (CBAR) (Mitigation Measure MM 1) prior to zoning clearance issuance. Therefore, the proposed project will not create an aesthetically offensive site open to the public or obstruct a scenic view or vista, and impacts are considered **insignificant**.

(b, d) Significant but Mitigable: Proposed structures include a horse arena and reception hall which will have maximum heights of approximately 27 and 23 feet, respectively. Portions of these two structures will be visible from Highway 246, however, views of these structures will be minimal due to distance and intervening vegetation between the structures and the highway. The horse arena will be located approximately 685 feet from the front property line at the nearest point, and will also be located on the lower terrace of the property, with the finished grade of the arena sitting approximately 15 feet below the finished grade of Highway 246. The proposed reception hall will be located approximately 500 feet from the front property line, and in the same general footprint as an existing 2,460-square-foot barn that is proposed to be demolished. Other proposed structures include an agricultural employee dwelling and six horse barns, however, views of these structures from Highway 246 will be blocked by existing and proposed structures and vegetation. Views of the project site along Highway 246 are partially blocked by the row of Deodar cedar trees at the northern parcel edge along Highway 246, as well as by several trees and shrubs located between the northern property line and the proposed structures. Proposed parking areas will be screened with from public views along Highway 246 with landscaping in compliance with the Land Use and Development Code (LUDC) screening requirements for parking areas (LUDC Subsection 35.34.100.C).

The LUDC requires design review for all structures in the Design Control Overlay. The Central Board of Architectural Review (CBAR) conceptually reviewed the proposed project on September 17, 2021, and December 10, 2021. CBAR had no objections to the conceptual structure designs or the site layout, as shown in the attached project plans (Attachment 2). CBAR provided comments and recommendations for the applicant to incorporate in the final design. Mitigation measure MM 1 requires the proposed project to return to the CBAR for preliminary and final review following approval by the decision maker.

Pastures, equestrian uses, vineyards, and ranchettes characterize the general area in the vicinity of the project site. In order to be visually compatible with the existing onsite structural development and surrounding rural development and uses, the proposed project has been designed to include

rural/agrarian architectural elements. Mitigation Measure MM 2 requires the use of natural building materials and colors that are compatible with surrounding terrain (earth-tones and non-reflective paints). The proposed project's landscaping consists of primarily native and drought tolerant species that have been sited to visually blend in with the existing vegetation and soften views from Highway 246. Building materials, paint colors, and proposed landscaping are subject to CBAR review and approval.

MM 1 and MM 2 will ensure the proposed project will not result in visually incompatible structures or a change to the visual character of the area, therefore impacts to aesthetics/visual resources resulting from the proposed project are considered **significant but mitigable**.

(c) Insignificant: Pursuant to the Santa Ynez Valley Community Plan Outdoor Lighting Regulations, exterior lighting shall be minimized and shielded to reduce impacts on nocturnal ecosystems and night sky access. All outside illumination for aesthetic and decorative purposes that is not fully shielded (full cutoff) shall be prohibited between 9:00 PM and sunrise the following day. Except for fully shielded (full cutoff) lights, lighting associated with outdoor recreational facilities, including equestrian arenas, may only be illuminated between 9:00 PM and sunrise the following day to complete a specific organized recreational event that is in progress. 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. Lighting during events will be turned off by 10:00 PM. All proposed light fixtures will be reviewed and approved by P&D and CBAR under Case No. 21BAR-00000-00077. Adherence to Santa Ynez Valley Community Plan Outdoor Lighting Regulation will effectively mitigate any impacts associated with increased lighting from the proposed project, including avoidance of excessive lighting and glare, therefore impacts are considered **insignificant**.

Cumulative Impacts: As discussed above, the implementation of the project is not anticipated to result in any substantial change in the aesthetic character of the area. To ensure special protection of the aesthetic resources of the Santa Ynez Valley, including Community Separator areas, the Design Control Overlay is applied to the subject property and other surrounding properties along the stretch of Highway 246 between the cities of Buellton and Solvang. The LUDC requires design review for all structures in this overlay. BAR design guidance addresses the need to maintain the rural character of agriculturally-zoned parcels. The proposed project is not anticipated to result in substantial changes in the aesthetic character of the area since the proposed development is designed to be compatible with the existing agrarian structural development, and CBAR review and approval is required for the design of all new structures. Compatibility with the rural character of the area and surrounding development is ensured through appropriate scale, form, and treatments applied to the proposed development. With inclusion of project-specific mitigation, the proposed project will be compatible with the visual character of the surrounding area.

Additionally, the distance between potential special events locations would be far enough such that the cumulative special events with permanent and temporary facilities would not result in cumulative obstruction of scenic vistas or views, change to the visual character of an areas, or visually incompatible structures. Other special events projects would be required to adhere to lighting and design review requirements in the County Land Use and Development Code, which would reduce the potential for lighting to affect adjoining areas. The proposed project's exterior sources of light and glare in the area for special events would be intermittent, infrequent, and consistent with County standards. Therefore, the proposed project's contribution to aesthetics and visual resources impacts is not cumulatively considerable, and its cumulative effect is **insignificant**.

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

> **MM 1. Aest-04 BAR Required.** The Owner/Applicant shall obtain Board of Architectural Review (BAR) approval for project design. All project elements (e.g., design, scale, character, colors, materials and landscaping shall be compatible with vicinity development and shall conform in all respects to BAR approval (21BAR-00000-00077). **TIMING:** The Owner/Applicant shall submit architectural drawings of the project for review and shall obtain final BAR approval prior to issuance of Zoning Clearance. Grading plans, if required, shall be submitted to P&D concurrent with or prior to BAR plan filing. **MONITORING:** The Owner/Applicant shall demonstrate to P&D compliance monitoring staff that the project has been built consistent with approved BAR design and landscape plans prior to Final Building Inspection Clearance.
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> **MM 2. Aest-06 Building Materials**. Natural building materials and colors compatible with surrounding terrain (earth-tones and non-reflective paints) shall be used on exterior surfaces of all structures, including water tanks and fences. Material and color specifications shall be reviewed and approved by the Board of Architectural Review. **PLAN REQUIREMENT**: Materials and colors shall be denoted on building plans. **TIMING:** Structures shall be painted prior to Final Building Inspection Clearance. **MONITORING**: P&D compliance monitoring staff shall inspect prior to Final Building Inspection Clearance.

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

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		

Existing Setting: Agricultural lands play a critical economic and environmental role in Santa Barbara County. Agriculture continues to be Santa Barbara County's major producing industry with a gross production value of over $1.6 billion (Santa Barbara County Agricultural Production Report, 2019). In addition to the creation of food, jobs, and economic value, farmland provides valuable open space and maintains the County's rural character.

The existing 63.35-acre parcel currently supports 60 acres of irrigated pastures, primarily used to board horses and other livestock (donkeys and mules). The property abuts agricultural parcels to the east and west which range in size from approximately 20 acres to 60 acres; these neighboring properties are used to support single-family residences with small-scale pastureland and vineyards. Highway 246 and the Santa Ynez River create a natural barrier between the properties located to the north and south of the subject property. Approximately 80 percent of the soils on the 63.35-acre parcel are Class I and Class II prime soils according to imagery from the California Soil Resource Center at UC Davis. The proposed horse arena and horse barns will

be sited in a location with underlying Class II soils. The proposed reception hall will be sited in a location with underlying Class I soils, however, it will be located in the same general footprint as an existing barn that is proposed to be demolished. The remainder of the parcel contains soils that are all nonprime within the regulatory floodway of the Santa Ynez River. The soils on the project site are classified as sand and silt consistent with the soil profiles of the Mocho loam, Camarillo very fine sandy loam, Corducci and Typic Xerofluvents, Mocho sandy loam (overflow), and Mocho fine sandy loam according to the U.S. Department of Agriculture Natural Resources Conservation Service (NCRS 2017).

The subject property is currently a participant in the County's Agricultural Preserve Program pursuant to the Williamson Act under Contract No. 16AP016. As such, the proposed project was reviewed by the Agricultural Preserve Advisory Committee (APAC) for its consistency with the County's Uniform Rules for parcels in Agricultural Preserve. On February 4, 2022, the APAC determined that the proposed project is consistent with the Uniform Rules, specifically Uniform Rule 2-3.2 (Principal Boarding and Breeding).

County Environmental Thresholds: The County's Agricultural Resources Guidelines (approved by the Board of Supervisors, August 1993) provide a methodology for evaluating agricultural resources. These guidelines utilize a weighted point system to serve as a preliminary screening tool for determining significance. The tool assists planners in identifying whether a previously viable agricultural parcel could potentially be subdivided into parcels that are not considered viable after division. A project which would result in the loss or impairment of agricultural resources would create a potentially significant impact. The requested proposal does not include land subdivision, nor would it impair agricultural uses onsite, therefore, the weighted point system was not utilized for this project.

Impact Discussion:

(a, b) Insignificant: The proposed project consists of a commercial equestrian facility that will provide daily boarding and breeding operations, as well as an equestrian event center for education, shows, clinics, and other special events up to twelve times per year. New structural development will include a horse arena and two horse barns that will be located in existing pasture area; and a reception hall that will be located in the same general footprint as an existing barn adjacent to existing non-agricultural development. The proposed structures are underlain with Class I and Class II soils, however, the only portion of the parcel that doesn't have underlying prime soils is not suitable for structural development because it is within the regulatory floodway. Structures are generally clustered into two designated areas near the envelope for non-agricultural development and near existing agricultural structural development in order to maximize availability of irrigated pasture-land and prime soils onsite. Temporary parking areas shown on the site plan will only be used as needed during special events up to twelve times annually and will not be paved in order to leave these areas as open pasture area when events are not occurring. The proposed project is consistent with the Uniform Rules and will not conflict with the County's agricultural preserve program. The reception hall is located within the required non-agricultural envelope that was reviewed and approved by APAC. The proposed equestrian facility and associated improvements would intensify and support the existing agricultural uses on the subject parcel by allowing commercial equestrian uses on-site. The proposed project will not impact any neighboring agricultural operations. Therefore, impacts to agricultural resources would be **insignificant**.

Cumulative Impacts: In the Northern Santa Barbara County region (Santa Maria, Lompoc Valley/Santa Ynez Valley), there are a total of 25 approved or pending permit applications that allow special events. Special events could result in impacts to agricultural land if events included site uses that would degrade agricultural land or result in the conversion of agricultural land. However, the majority of permitted and proposed special events are temporary and intermittent in nature, and would not require or result in the

permanent disruption or conversion of agricultural land. 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: Impacts are **insignificant**. 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		

Existing Setting: The project site is located in the South Central Coast Air Basin under the jurisdiction of the Santa Barbara County Air Pollution Control District (APCD). As the local air quality management agency, the Santa Barbara County APCD is responsible for monitoring air pollutant levels to ensure National Ambient Air Quality Standards and California Ambient Air Quality Standards are met, and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, Santa Barbara County is classified as being in "attainment" or "nonattainment". Currently, Santa Barbara County is in nonattainment for the State standards for ozone and Particulate Matter with a diameter of 10 microns or less (PM10) (Santa Barbara APCD 2022a).

County Environmental Threshold: Chapter 5 of the Santa Barbara County Environmental Thresholds and Guidelines Manual (as revised in July 2015) 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 240 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 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).

Methodology: Air pollutant emissions generated by project construction and operation were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1. CalEEMod uses project-specific information, including the project's land uses, square footages for different uses, and location, to quantify a project's construction and operational emissions, assess climate hazards and vulnerabilities, identify environmental burdens, and evaluate benefits of various emission reduction, climate risk reduction, and health and equity measures. The analysis reflects the construction and operation of the project as described under Section 1.0 (Project Description).

Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker and vendor trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors. Construction of the proposed project was analyzed based on the general construction schedule timeframe provided by the applicant and standard CalEEMod assumptions on construction equipment. Construction would occur over approximately eight months. This analysis assumes the project would comply with all applicable regulatory standards. In particular, the project would comply with Santa Barbara County APCD Rules as outlined in the attached condition letter (Attachment 4).

Operational emissions modeled include mobile source emissions (i.e. vehicle emissions), energy emissions, area source emissions, and stationary sources emissions (i.e. generators, fire pumps). Mobile source emissions are generated by vehicle trips to and from the project site. As discussed in Section 4.14 herein, vehicle trips to the site resulting from the proposed project have been analyzed in a Trip Generation/Vehicle Miles Traveled (VMT) Evaluation prepared by Orosz Engineering Group, Inc. (January 2023). At the completion of the project, the average daily trips to the site are estimated to be approximately 22 trips per day on a normal (non-event) daily basis. Larger special events (250 guests, 3.5 days) would generate an additional 568 trips per day, and smaller special events (150 guests, 1 day) would generate an additional 183 trips per day. Since the project does not generate event traffic on a regular basis, the total annual project traffic volume was divided by 365 days per year to get an annual average of 56 new daily trips for the project. These trip rates were also utilized for the purposes of emissions modeling.

Emissions attributed to energy use include natural gas consumption by appliances as well as for space and water heating. Area source emissions are generated by landscape maintenance equipment, consumer products and architectural coatings.

Impact Discussion:

(a-c) Insignificant:

Short-Term Construction Impacts: Short-term project-related construction activities would require grading that has been minimized to the extent possible by locating proposed development on relatively flat areas near existing development with existing access. Earth moving operations at the project site would not have the potential to result in significant project-specific short-term emissions of fugitive dust and $PM_{10,}$ with the implementation of standard fugitive dust control measures that are required for all new development in the County. These measures include, but are not limited to, keeping soils damp, limiting vehicles to speeds of less than 15 miles per hour (mph), installing gravel pads, re-vegetation requirements, and designation of a dust monitor during all earthmoving activities.

Emissions of ozone precursors (NO_x and ROC) during project construction would result primarily from the on-site use of heavy earthmoving and construction equipment. Construction-phase emissions estimates of ROC, sulfur dioxide, PM10, PM2.5, and NOx emissions were estimated with CalEEmod and the project would generate less than two tons per year. 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. Furthermore, the County of Santa Barbara considers short-term construction emissions of NOx to be less than significant because countywide emissions of NOx from construction equipment is insignificant compared to regional NOx emissions from other sources, such as vehicles (County of Santa Barbara 2021a). 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. Applicable control measures that will be applied to and adopted by the project to reduce emissions from construction operations include requirements such as wetting down areas of vehicle movement, speed limits for onsite vehicles, treatment of stockpiles, registration/permitting requirements for diesel-powered construction equipment, and limitations on idling. The APCD's Fugitive Dust Control Measures, and Diesel Particulate and NOx Emission Measures are applicable to the project and are included as Attachment 4 to this document. These will be incorporated into the conditions of approval for the project in the staff report.

Long-Term Operation Emissions: Long-term emissions that would result from project-generated vehicle trips and onsite operations have been calculated as follows, pursuant to the CalEEMod computer model program (Attachment 5):

Summary of long-term operational impacts:

Emission Source	Criteria Pollutants (lb/day)		
	NOx	**ROC**	**PM10**
Mobile Sources (Vehicles) (CalEEMod)	0.50	2.02	<0.005
Greater than 25 lbs/day?	***No***	***No***	***N/A***
Area Sources (Energy/Natural Gas, Consumer Products) (CalEEMod)	0.16	2.21	0.01
Totals	***0.66***	***4.23***	***0.02***
Threshold	240 lb/day	240 lb/day	80 lb/day

Emissions from Vehicle Trips. Vehicle trips to the site resulting from the proposed project have been analyzed in a Trip Generation/Vehicle Miles Traveled (VMT) Evaluation prepared by Orosz Engineering Group, Inc. (January 2023). This report is discussed in detail in Section 4.14 of this report. At the completion of the project, the average daily trips (ADT) to the site are estimated to be approximately 22 ADTs on a normal (non-event) daily basis. The project is not expected to create any peak hour (weekday or weekend days) impacts. Larger special events (250 guests max) would generate an additional 568 ADTs a maximum of 21 days a year, and smaller special events (150 guests max) would generate 183 ADTs a maximum of 6 days a year.

The vehicle emissions calculations were performed using a vehicle trip rate representing a worst-case scenario day with a special event of 250 guests. Based on these assumptions, the proposed project's operational source emissions of criteria pollutants were calculated using CalEEMod (Attachment 5) to be 2.02 lb/day of ROC, 0.50 lb/day of NOx, and <0.005 lb/day of PM_{10}.

Emissions from Stationary Equipment. The proposed project does not include stationary equipment such as large boilers, conventional high-emissions water heaters or emergency generators.

Animal Waste Management. The project is required to comply with all County requirements for animal waste management, including submitting an animal waste management plan to Environmental Health Services for review and approval as outlined in the attached condition letter (Attachment 4). An animal waste management plan was provided with the project materials and describes the proposed animal

waste collection and composting procedures that will be used to ensure that the project does not result in offensive odors or excessive vectors as determined by Environmental Health Services.

Summary. The total criteria pollutants generated by from all project sources for the proposed project would be 4.89 pounds per day for NOx and ROC, and 0.02 pounds per day for PM10. These totals are significantly less than the daily trigger for offsets of 240 pounds per day for NOx and ROC and 80 pounds per day of PM10. In addition, the project would emit 2.52 pounds per day of NOx and ROC from motor vehicle trips only, which is much less than the 25 pounds per day threshold. Therefore, the combined long-term emissions would be insignificant. Furthermore, the proposed project would not violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. 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: Impacts are **insignificant**. No mitigations are necessary.

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.

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: Santa Barbara County adopted the Energy and Climate Action Plan (ECAP) in 2015 as a qualified GHG emission reduction plan. By the end of 2020, the County either initiated or completed 41 out of 53 (77%) ECAP emission reduction measures and achieved 44% of the target emission reductions needed to meet the County's 2020 goal. The County is currently working on its 2030 Climate Action Plan (CAP), with an ultimate goal of achieving carbon neutrality by 2045 or sooner. The 2030 CAP is expected to be adopted in 2023. Therefore, at this time, a significance threshold is more appropriate for project-level GHG emission analysis, rather than tiering off the ECAP's Environmental Impact Report (EIR).

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.

On May 19, 2015, the Board of Supervisors (Board) adopted a numerical threshold of significance for GHG emissions from industrial stationary source facilities. The numerical threshold applies to oil and gas production and surface mining projects, but may also apply to other industrial stationary sources of GHG

emissions within the unincorporated County areas. On January 26, 2021, the Board adopted interim GHG emissions thresholds of significance (interim thresholds). The interim thresholds apply to non-exempt discretionary land use projects and plans that do not contain industrial stationary sources of GHG emissions.

A numeric significance threshold is applicable to development projects of various land use types, such as residential, commercial, and mixed-use. The numeric threshold is the emissions level below which a project's incremental contribution to global climate change is less than "cumulatively considerable" and, therefore, the project would have an insignificant impact. The numeric screening threshold is 300 $MTCO_2E$ per year and is used to determine the significance of the project's GHG emissions.

Methodology: The County used the California Emissions Estimator Model (CalEEMod) version 2022.1 to estimate potential GHG emissions resulting from construction and operation of the project. Attachment 5 shows the complete greenhouse gas calculations for the project. CalEEMod calculates annual GHG emissions and criteria pollutants (e.g., carbon monoxide, ozone, and particulate matter) for a given project for CEQA analysis. With regard to GHG emissions, CalEEMod estimates CO_2, CH_4, and N_2O because they are the most common GHGs associated with land use developments. The model reports the annual metric tons (MT) of each pollutant as well as the total annual metric tons in carbon dioxide equivalent (CO_2e).

Impact Discussion:

(a) Insignificant: Analysis of the project using CalEEMod concludes that annual operational GHG emissions for the project would be 232 $MTCO_2e$/year, plus the amortized GHG emissions over 30 years due to construction of 12.46 MTO_2e /year, for a total of 244.46 MTO_2e/year. These emissions include operation of the project, forecasted trip generation, and the GHG emissions from project construction. Project construction activities would generate approximately 373.7 $MTCO_2e$. Construction GHG emissions are typically summed and amortized over the lifetime of the project (assumed to be 30 years), then added to the operational emissions. Construction GHG emissions have been amortized and would result in 12.46 $MTCO_2e$/yr. Therefore, the project's emissions would not exceed the County's screening level threshold of 300 MT of CO2e per year, and the impact would be **insignificant**.

(b) No Impact: The County adopted the ECAP in 2015 as its GHG emission reduction plan. Until the 2030 CAP is adopted (expected early 2024), the County considers 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 would comply with interim thresholds and be consistent with the County's GHG emission reduction strategy. Therefore, the proposed project would 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: Since the proposed project would not have a significant impact on the environment, no additional mitigation is necessary. Therefore, residual impacts would be **insignificant**.

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San Luis Obispo County APBD, *Greenhouse Gas Thresholds and Supporting Evidence*, March 2012.

U.S. Environmental Protection Agency*, Inventory of U.S. Greenhouse Gasses and Sinks: 1990-2017*, April 2019.

U.S. Global Change Research Program, *Fourth National Climate Assessment, Volume II*: Impacts, Risks, and Adaptation in the United States, 2018.

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			
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, a site visit was conducted by Planning and Development (P&D) staff on September 22, 2021, and a Biological Assessment Report was prepared by Watershed Environmental, Inc. biologist Mark de la Garza (January 2023). Biologist Mark de la Garza conducted a site survey in December 2022. The following analysis is based on the information collected during the site visits and presented in the Biological Assessment Report.

Flora:

The 63.35-acre site is primarily managed as pasture seeded with perennial rye grass where horses and livestock are kept. Historical imagery confirms that the land has been used for pastures for many decades. The table below provides a summary of the vegetation and land cover types that are currently on the project site.

Vegetation and Land Cover Types	**Acres**
Individual Coast Live Oak Trees	0.20
Individual Sycamore and Cottonwood Trees	1.43
Ornamental Trees and Shrubs	2.46
Pacific Willow Riparian Woodland	0.84
Pasture (Perennial Rye)	51.26
Ruderal (Poison Hemlock/Black Mustard)	1.82
Disturbed/Non-Vegetated	5.35
Total	63.35

The CNDDB records as of January 2023 do not contain any special-status plant species observations within three miles of the project site. The 0.84 acres of Pacific Willow Riparian Woodland vegetation is located along the bed and banks of the Santa Ynez River in the southernmost portion of the property. This vegetation type is considered environmentally sensitive habitat pursuant to the Santa Ynez Valley Community Plan Policy BIO-SYV-1.2, and the California Department of Fish and Wildlife (CDFW) also considers this vegetation type to be sensitive with a state security rank of S3, meaning it is considered vulnerable at a state level.

There are 26 trees within 50 feet of development areas where new structures and equestrian event facilities are proposed. Of these 26 trees, 24 are protected native trees, including 18 western sycamores (*Platanus racemosa*) and six coast live oaks (*Quercus agrifolia*). These individual coast live oak and western sycamore trees are not part of an oak woodland, riparian woodland, or any natural native plant community, however, pursuant to Policy BIO-SYV-8 and Development Standards BIO-SYV-8.1 and BIO-SYV-8.2 of the Santa Ynez Valley Community Plan (SYVCP), the coast live oak and sycamore trees classify as protected native trees. There are two English walnut (*Juglans regia*) trees near the proposed future agricultural dwelling that do not meet the SYVCP criteria to be classified as specimen non-native protected trees. Other tree species found on the subject property outside of proposed development areas include Fremont cottonwood (*Populus fremontii*) trees scattered in the pastures and the deodar cedar (*Cedrus deodara*) along the northern (front) property line.

Fauna:

Wildlife species expected to inhabit the site include common species such as turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), western scrub jay (*Aphelocoma claifornica*), brush rabbit (*Sylvilagus bachmanii*), western gray squirrel (*Sciurus griseus*), and western fence lizard (*Sceloporus occidentalis*). These species and several other common species were observed during the site survey or are expected to occur on the project site, and are documented in the biological assessment report prepared by Watershed Environmental, Inc. According to the biological assessment report, the parcel includes critical habitat for federally endangered southern steelhead (*Oncorhynchus mykiss*) in the southern corner of the property, along the Santa Ynez River. Critical habitat for federally endangered southwestern willow flycatcher (*Empidonax traillii*) is located approximately 200 feet southwest of the property along the Santa Ynez River. Critical habitat for federally threatened California red-legged frog (*Rana draytonii*) lies 3.2 miles southwest and southeast of the property in the foothills of the Santa Ynez Mountains. Nesting birds (Class Aves) have the potential to occur on the property and are protected by the Federal Migratory Bird Treaty Act;

additionally, active raptor nests are protected by Section 3503.5 of the California Fish and Game Code. No special-status wildlife species were observed during the December 2022 biological survey, however the following special-status wildlife species have a high to moderate potential to occur in the Santa Ynez River and the riparian woodland vegetation that exists in the southern portion of the property: southern steelhead trout (*Oncorhynchus mykiss irideus*); California red-legged frog (*Rana draytonii*); least Bell's vireo (*Vireo bellii pusillus*); southwestern willow flycatcher (*Empidonax traillii*); western pond turtle (*Clemmys marmorata*); pallid bat (*Antrozous pallidus*); hoary bat (*Lasiurus cinereus*) and two-striped garter snake (*Thamnophis hammondii*). The areas where construction activities will occur are within the known dispersal range of all of these special-status species, except for southern steelhead trout which require aquatic habitat to migrate.

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) No Impact: The proposed project will not result in impacts to native vegetation or any unique plant communities because the project will occur entirely within areas currently developed or used as pastureland for horses and other livestock. There are approximately 0.84 acres of environmentally sensitive Pacific Willow Riparian Woodland vegetation along the bed and banks of the Santa Ynez River in the southernmost portion of the property, however, this plant community will not be removed or disturbed by the proposed project. All proposed structures and improvements will be located more than 200 feet away from the edge of riparian vegetation in compliance with the Santa Ynez Valley Community Plan DevStd-BIO-SYV-4.1. No special-status plant species have been observed in development areas, and the project will not result in a reduction in the extent, diversity, or quality of native vegetation because the areas to be developed contain existing structural development, ornamental landscape vegetation, or pasture lands planted with non-native perennial rye grass. Therefore, the proposed project will have **no impact** on any rare plant species, rare plant community, or the quality of native vegetation.

(d) Insignificant: As discussed above, the vegetation on the project site is primarily comprised of non-native perennial rye grass. The project will result in the loss of 11.25 acres of pasture areas. The pasture areas do not provide significant habitat value and the property will continue to support 40 acres of pasture areas after project buildout, therefore impacts to non-native vegetation are considered insignificant.

(e) Significant but Mitigable: Construction of the project will significantly disturb (greater than 20 percent encroachment into the critical root zone) three sycamore trees that are classified as native protected trees based on Development Standard BIO-SYV-8.1 from the Santa Ynez Valley Community Plan. Removed and significantly impacted sycamore trees will be replaced on the subject property at a minimum ratio of three 15-gallon replacement trees per one tree removed, consistent with policies of the Santa Ynez Valley Community Plan. Remaining mature native trees on the property will be protected during construction with tree protection fencing placed at six feet from each tree dripline. Unexpected damage to native protected trees not specifically planned for removal will be required to be mitigated through replacement. The project biologist provided tree replacement and protection recommendations in the Biological Assessment Report, dated January 20, 2023 (see Attachment 3), 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 3 through MM 6 below; therefore, impacts to native specimen trees are considered **significant but mitigable**.

The project will also require the removal of one non-native magnolia tree and one loquat tree. However, these trees are smaller than 25 inches in diameter as measured at breast height, and do not meet the criteria for specimen trees identified in Development Standard BIO-SYV-8.1; therefore, the removal of these two non-native ornamental trees is considered insignificant.

(f, k) Insignificant: The project will result in the introduction of additional animal life, human presence, lighting, and noise, however, the project site and surrounding area are currently subject to these types of human disturbance. The subject property has been historically utilized to keep retired horses, and there are several existing agricultural and residential structures onsite. Neighboring parcels are developed similarly with residential, agricultural, and equestrian/livestock uses. Additionally, the site is currently exposed to moderate levels of noise and night lighting from traffic on Highway 246. Proposed landscaping will occur in previously disturbed areas and does not include any non-native plants or invasive species. As discussed in

Section 4.1 above, lighting associated with the proposed project will be required to comply with the Santa Ynez Valley Community Plan Outdoor Lighting Regulations, which require any exterior night lighting installed on the project site to be minimized and shielded to reduce impacts on nocturnal ecosystems. Adherence to Santa Ynez Valley Community Plan Outdoor Lighting Regulations will effectively mitigate any impacts associated with increased lighting from the proposed project. Human presence and noise will be the highest during special events; however, special events will be limited to up to twelve events per year. Light and noise associated with special events would be temporary and infrequent, ceasing at or prior to 10:00 PM, such that the temporary increase in light and noise is not expected to substantially alter the normal activities of wildlife. Based on the present uses and development on the property, as well as the infrequency of special events, the proposed project will not significantly change or hamper the existing habitat or hinder the normal activities of wildlife and impacts are **insignificant**.

(g-i) Significant but Mitigable: Portions of southern edge of the property along the Santa Ynez River are designated as critical habitat for southern steelhead trout and southwestern willow flycatcher. The project will not result in any direct impacts to critical habitat areas associated with the Santa Ynez River because the proposed structures are located outside of the 200-foot riparian buffer required by the Santa Ynez Valley Community Plan Development Standard BIO-SYV-4.1. However, the project has a potential to cause indirect short-term and long-term impacts to designated critical habitat for southern steelhead trout caused by degradation of water quality that the fish depend on. Implementation of an erosion and sediment control plan (Mitigation Measure MM 14) will ensure that there are no short-term impacts to southern steelhead critical habitat caused by construction activities.

The existing manure composting pad and walls located near the southeast corner of the property will be removed as a part of the project to ensure project consistency with DevStd-BIO-SYV-4.1 from the Santa Ynez Valley Community Plan. The new manure composting area will be located outside of the 200-foot riparian buffer area and is also required by the Santa Ynez Valley Community Plan Development Standard BIO-SYV-5.1 to direct polluting drainage away from the river and/or include appropriate filters such a vegetated bio-swales or bio-retention basins. Mitigation Measure MM 7 has been applied to ensure compliance with Development Standard BIO-SYV-5.1. Additionally, the applicant will be required to develop and implement an animal waste management plan (MM 8). Implementation of Mitigation Measures MM 7, MM 8, and MM 14 will ensure that construction and operation of the proposed project does not result in long-term degradation of southern steelhead critical habitat.

As mentioned above, several special-status wildlife species have the potential to occur in the Santa Ynez River and the riparian woodland vegetation that exists along the southern property line of the property. All proposed development will be located at least 200 feet away from the edge of riparian vegetation and in previously disturbed areas where structures or horse pastures currently exist. As a result, it is anticipated that wildlife will generally avoid these areas due to the existing level of exposure, human and animal presence, and lack of quality habitat. However, the proposed project is within the dispersal range for some special-status species, and therefore mitigation is required to ensure that project construction does not result in direct impacts to special-status species. Biological mitigation, including worker environmental training (MM 10), pre-construction surveys for special-status wildlife species (MM 13), construction monitoring by a County-approved biologist (MM 11), and habitat protective measures (MM 12) will be implemented prior to and during construction to ensure that the project does not cause short-term construction impacts to special-status species.

Project construction and proposed tree removal also 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 or 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, therefore Mitigation Measure MM 9 requires a pre-construction breeding bird survey if construction occurs during the bird nesting season (February 1-August 15). If any occupied or active bird nests are found, a buffer shall be established and demarcated by the biologist, and the procedures in MM 9 shall be implemented.

With the implementation of Mitigation Measures MM 7 through MM 14 below, impacts to wildlife would be **significant but mitigable**.

(j) No Impact: During the biological survey, no evidence of wildlife migration or a movement corridor was found in the areas where new structures and equestrian event facilities will be constructed. Therefore, the project will not result in introduction of barriers to movement of any resident or migratory fish or wildlife species and **no impact** is expected.

Cumulative Impacts: 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 3. 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 Biological Assessment (dated January 20, 2023) prepared for the project by Watershed Environmental, Inc. 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 in the approved TPP by the project biologist.
> b. Three specimen western sycamore trees (native protected) located along the access road will be removed per approved plans. Depict location of these trees.
> c. One non-specimen magnolia and one non-specimen loquat tree located along the access road will be removed per approved plans. 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. Depict the type & location of protective fencing (see below – MM 4) or other barriers to be in place to protect trees in protection areas during construction.
> f. 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.
>
> **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 Zoning Clearance. 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 4. 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 adjacent (within 50 feet) to locations where grading and ground disturbing activities will occur from accidental disturbance during the demolition and construction phase of the 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 4 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.
f. Special equipment: Any trenching or construction completed within the Tree Protection Zone 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 Zoning Clearance. 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 5. 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 on a 3:1 basis with 15-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 6. Bio-02 Tree Replacement. The Owner/Applicant shall submit for P&D approval a Native Tree Replacement Plan prepared by a P&D-approved arborist/ biologist designed to replace native specimen 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 western sycamore species (*Platanus racemosa*) planted at a similar density of site conditions and shall be replaced with the following ratio:
    i. Three 15-gallon size western sycamore trees obtained from locally occurring saplings or seed stock for every western sycamore 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 landscape architect shall prepare planting specifications for site preparation, soil amendment, installation, irrigation type, and maintenance schedule for the replacement trees.
d. The trees shall be gopher fenced.
e. 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).
f. The trees shall be weaned off of irrigation over a period of two to three years.
g. No permanent irrigation shall occur within the dripline of any naturally occurring native tree.
h. 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.
i. Replacement trees shall meet the annual performance standards of 6 inches average growth per year. The final tree replacement success criteria shall be an average tree height of 8 feet and 85 percent tree survival five years from the date the replacement trees are planted.

PLAN REQUIREMENTS: Include the components of the replacement plan in Landscape and Irrigation Plans. **TIMING:** Plans shall be submitted prior to issuance of Zoning Clearance. 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 7. Special Condition – Use Filters. The Owner/Applicant shall incorporate filters such as vegetated bio-swales or bio-filters into the design of the new manure composting facility that will capture, reduce, and prevent pollutants such as fecal bacteria, nitrogen and ammonia from being washed into the Santa Ynez River during storm events. The filters shall be maintained in working order for the life of the project. The landowner is responsible for the maintenance and operation of all improvements and shall maintain annual maintenance records. **PLAN REQUIREMENTS:** The filters shall be described and detailed, including any plant palettes and the sources of plant material, on the site, grading and drainage, and landscape plans, and depicted graphically. The location and type of filters shall be shown on the site, building, and grading plans. **TIMING:** The plans and maintenance program shall be submitted to P&D for approval prior to issuance of Zoning Clearance. **MONITORING:** P&D compliance monitoring staff shall site inspect for installation prior to Final Building Inspection Clearance. The landowner shall make annual maintenance records available for review by P&D upon request.

MM 8. Special Condition – Animal Waste Management Plan. The Owner/Applicant shall develop and implement an animal waste management plan that describes the onsite compositing and biological treatment methods that will be used for the project. **PLAN REQUIREMENTS:** The animal waste management plan shall include but is not limited to descriptions of the following:

a. Frequency of solid animal waste collection.
b. Composting methods and duration.
c. Description of where and how waste compost is distributed.
d. Procedures that will be used to facilitate the breakdown of animal urine in the riding arenas and pens during and after large equestrian events.

TIMING: The Owner/Applicant shall submit the animal waste management plan to P&D permit processing staff and Environmental Health Services for review and approval prior to issuance of Zoning Clearance. Plan components shall be implemented prior to Final Building Clearance and maintained throughout the life of the project. **MONITORING:** Prior to Final Building Clearance, the Owner/Applicant/Permittee shall demonstrate to P&D compliance staff that the animal waste management components are established and implemented.

MM 9. 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 500 feet. The distance surveyed from the disturbance may be reduced if property boundaries render a 500-foot survey radius infeasible, or if existing disturbance levels within the 500-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 500 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.

MM 10. Special Condition – Worker Environmental Training. A County-approved biologist shall conduct a worker environmental training prior to the start of construction to avoid impacts to special-status species during the demolition and construction phases of the project. All construction personal working onsite are required to attend the training and/or view a video of the training and sign and date an acknowledgment form stating that they have received the environmental training. The training shall include but is not limited to the following:

a. A description of special-status species potentially present in the area, including southern steelhead trout, California red-legged frog, least Bell's vireo, southwestern willow flycatcher, western pond turtle, and two-striped garter snake.

b. Procedures to be implemented in the event that a special-status species is observed in the work area.
c. A description of impact avoidance measures such as controlling vehicle speed and inspecting under vehicles and equipment before operation.

PLAN REQUIREMENTS: This condition shall be noted on all plans prior to issuance of Zoning Clearance. **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 demolition or 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 training.

MM 11. Special Condition – Biological Monitor. The Owner/Applicant shall retain a qualified biologist to monitor the demolition of the existing manure composting facility in the southeastern corner of the property and installation of temporary wildlife exclusion silt fencing along the southern property line. The biological monitor shall also periodically (at least once a week) monitor demolition, grading and construction activities. Monitoring duties include inspection of temporary wildlife exclusion fencing and temporary tree protection fencing, and adherence with special-status species avoidance measures. **TIMING:** Monitoring shall be completed on a daily basis during demolition of the existing manure composting facility, and on a weekly basis during all other construction activities. **MONITORING:** The Owner/Applicant shall submit to P&D compliance monitoring staff the name and contact information for the biological monitor prior to pre-construction meeting. P&D compliance monitoring staff shall site inspect as appropriate to ensure compliance.

MM 12. Special Condition – Habitat Protection Measures. The Owner/Applicant shall implement the following measures throughout construction to protect habitat areas associated with the Santa Ynez River, as well as special-status wildlife that may inhabit that area:

a. Install silt fencing along the entire southern portion of the property and extend it 100 ft. northward along the eastern and western property lines to prevent California red-legged frog, western pond turtle, and two-striped garter snake from entering areas where project activities will occur.
b. Demolition of the manure composting facility in the southeastern corner of the property shall be scheduled to avoid the southwestern willow flycatcher nesting season which typically begins May 1st and ends around August 15th.
c. Outdoor construction activities are prohibited when it is raining and after dark.
d. Open excavations and utility line trenches that are left open at night shall have an escape ramp so wildlife can get out. The excavation and/or trench shall be visually inspected prior to backfilling to ensure that there are no special-status species in them.
e. Vehicles, construction equipment, and portable restrooms shall be staged outside of the Santa Ynez River Flood Zone during the rainy season (November 1 to March 31).
f. The applicant shall install and maintain appropriate erosion/sediment control devices and measures per the SWPPP throughout the construction phase of the project. These erosion and sediment control measures shall be periodically inspected by County of Santa Barbara building department inspectors and/or County permit compliance staff.
g. A spill response kit containing, sorbent pads, sorbent material, plastic sheeting, plastic trash bags, and shovels shall be stored in at least two locations on site (one in the northern portion of the property and one in the southern portion of the property).

h. Trash containers shall have lids that shall be secured at night to prevent nocturnal wildlife from rummaging through the garbage.

PLAN REQUIREMENTS & TIMING: The Owner/Applicant shall include as notes or depictions all plan components listed above prior to issuance of Zoning Clearance. The Owner/Applicant shall install habitat protection measures onsite prior to pre-construction meeting. **MONITORING:** The Owner/Applicant shall demonstrate to compliance staff that the habitat identified for protection was not damaged or removed. P&D permit compliance staff shall ensure compliance with measures listed above throughout construction.

MM 13. Special Condition – Preconstruction Surveys for Special-Status Wildlife Species. No more than two (2) weeks prior to initiation of project demolition and construction activities, a County-approved biologist shall conduct a focused survey on the project site for special-status species (including those identified in the Watershed Environmental, Inc. Biological Assessment Report dated January 20, 2023: California red-legged frog; least Bell's vireo; southwestern willow flycatcher; western pond turtle; pallid bat; hoary bat; and two-striped garter snake). The purpose of the survey(s) is to determine presence and/or absence of special-status species. 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. Species that do not require a recovery permit to handle that are listed by CDFW as species of special concern (such as western pond turtles and two-striped garter snakes) will be collected by the project biologist and relocated to an appropriate offsite location. In the event that a California red-legged frog is found by construction personnel or by the project biologist, the frog shall be left alone, and all work in the vicinity (within 100 ft.) of the frog shall stop until the frog leaves of its own accord. If it becomes necessary to handle or relocate the frog, a biologist with a valid Recovery Permit (Section 10(a)(1)(A) from USFWS must do the capture and relocation.

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 14. 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.

4.5 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 (2008, revised February 27, 2018) 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 Stone Archaeological Consulting (January 2022), as well as records on file at the CCIC (Central Coast Information Center, Museum of Natural History, Santa Barbara), cultural resources are

located in the vicinity of the proposed project. Based on a records search conducted at the CCIC on September 23, 2021, no recorded archaeological sites are located within the project area. However, seven prehistoric archaeological sites have been previously identified within a 0.5-mile radius of the project site. The Phase 1 archaeological survey conducted by Stone Archaeological Consulting did not identify any archaeological resources within the project area 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 deposits is low.

The subject property consists of 63.35 acres containing seven buildings constructed between 1915 and 2022. The existing barn that is proposed to be demolished as a part of the project was permitted and built in 1985 and is not listed as a potential historical resource, a place of historical merit, or a landmark in any State or local registers of historical resources. The Planning and Development Environmental Thresholds and Guidelines Manual states that, in general, a site must be at least 50 years of age to be considered for an assessment of historical significance. Therefore, the barn is not considered a potential historic resource. All other existing buildings will remain onsite and will not be changed as a part of the project.

On April 27, 2023, 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 May 18, 2023, and concluded on June 12, 2023. 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: As discussed above, the proposed project will not cause a substantial adverse change in the significance of any historical resource, as no potentially historical buildings are proposed to be demolished. Additionally, no cultural resources were identified within or adjacent to the project area. Stone Archeological Consulting conducted a Phase I archaeological survey on October 14, 2021. Ground surfaces within the proposed development area were surveyed using no greater than 10-meter (33-foot) transects. Rodent tailings that afforded examination of subsurface soils were also inspected. According to the survey, due to the wide range of ground surfaces encountered during the intensive surface survey, overall visibility ranged from fair to excellent (30 to 100 percent). Shovel scrapes were used to remove thin leaf fall and improve surface visibility as needed. The survey report states that project improvement areas are located over 200 meters north of mapped alluvial materials that could potentially have buried archeological deposits. According to the archaeologist, the extensive distance to these mapped soils that are associated with the Santa Ynez River floodplain indicate that the likelihood of the level landform within the proposed development areas to have been buried by alluvial soils during flooding of the Santa Ynez River is remote.

According to the archaeologist, due to the absence of any prehistoric or historic remains identified within the proposed project site during background research and the pedestrian survey under reliable conditions, the potential for unrecorded archaeological resources to exist within the proposed project site is considered low. However, given the overall cultural sensitivity of the area, as demonstrated by the number of recorded sites in proximity to the project site, there is the potential that unknown cultural

resources could be encountered during grading and ground disturbance. 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 (MM 15 and MM 16).

On June 12, 2023, 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 minor edits to the inadvertent discovery measures recommended in the Phase I Archaeological Report. SYBCI also requested that the County apply cultural resource monitoring as a requirement for the project. Based on the sensitivity of the area and known resources nearby, Mitigation Measure MM 17 has been incorporated through the AB 52 consultation process. MM 17 requires a Santa Ynez Chumash Tribal Representative to monitor all proposed earth disturbances. Additionally, Mitigation Measures MM 15 and MM 16 have been revised to include standard condition language and to address concerns raised by the SYBCI. These measures will ensure that any previously unidentified cultural resources discovered during site development, including Tribal Cultural Resources, are treated in accordance with the requirements of CEQA and Chapter 8 of the County's Environmental Thresholds and Guidelines. Impacts would be **significant but mitigable**.

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 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 that archaeological remains, including Chumash material culture or ancestral 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 Santa Ynez Chumash Tribal 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 and P&D compliance monitoring staff shall spot check in the field throughout grading and construction.
>
> **MM 16. Special Condition – Unanticipated Discovery of Human Remains**. In the unlikely event that human remains are encountered during construction or excavations, all activity in the vicinity of the find will be immediately suspended and redirected elsewhere. All steps required to comply with Public Resources Code 5097.98 will be implemented, including contacting the Sheriff Coroner to determine the origin of the remains. 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.

MM 17. CulRes-07 Cultural Resource Monitor. The Owner/Applicant shall have all earth disturbances including scarification and placement of fill within the project area monitored by a Santa Ynez Chumash Tribal Representative in compliance with AB 52 identification of Tribal Cultural Resources. **TIMING**: Prior to Zoning Clearance, the Owner/Applicant shall submit for P&D review and approval, a contract or Letter of Commitment between the Owner/Applicant and the Santa Ynez Band of Chumash Indians, 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 Santa Ynez Chumash Tribal Representative and P&D grading inspectors shall spot check field work.

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 would not result in a substantial increase in energy demand especially during peak periods and no development or extension of new energy sources would be required. In summary, the project would have minimal long-term energy requirements, and no adverse impacts would result. Existing energy sources would have sufficient capacity to serve the project. Therefore, impacts would be **insignificant**.

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 is not located within a High Fire Hazard Area. It is located in an area with an adequate response time from fire protective services. Fire response services for the site will continue to be provided by Santa Barbara County Fire Station No. 31 located at 168 W. Highway 246, Buellton. Fire response time from this fire station is approximately five minutes.

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:

(a-e) No Impact/Insignificant: The existing development is currently served by Santa Barbara County Fire Station No. 31 located at 168 W. Highway 246 in Buellton. Proposed development will continue to be served by this fire station. The response time to the project site from this station is approximately five 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. Per the County Fire Department's project condition letter dated May 23, 2023 (Attachment 4), the applicant will be required to prepare and maintain an emergency preparedness plan and notify the fire department of all special events exceeding 49 people (50 or more). For all special events, buildings shall not be used outside their approved occupancy and parameters of approval. Compliance with the Fire Department's condition letter dated May 23, 2023, 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	

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
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 moderate potential for liquefaction, and a low potential for landslides, expansive soils, soil creep, and compressible/collapsible soils. The project site has a high potential for high groundwater and seismic/tectonic activity. Its overall geological problems index is Category III (moderate). The Seismic and Safety Element states that areas designated Category III would have moderate problems, but would generally be suitable for all types of development. A Soils Engineering Report was prepared for the project by GeoSolutions, Inc. (April 2021). The report noted the following geotechnical concerns for the project site:

1. The presence of loose surface and subsurface soils.
2. The presence of loose surface materials and potential for debris resulting from demolition and removal of the existing structures.
3. The presence of potentially expansive material. Influx of water from irrigation, leakage from the residence, or natural seepage could cause expansive soil problems. Foundations supported by expansive soils should be designed by a Structural Engineer in accordance with the 2019 California Building Code.
4. The potential for differential settlement occurring between foundations supported on two soil materials having different settlement characteristics, such as native soil and engineered fill. Therefore, it is important that all of the foundations are founded in equally competent uniform material in accordance with this report.

The report concluded that geotechnically, the site is suitable for the proposed development provided the recommendations in the report for site preparation, earth work, foundations, slabs, retaining walls, and pavement sections are incorporated into the design.

County Environmental Thresholds: 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 Soils Engineering Report dated April 2, 2021 (see Attachment 6), has been prepared by GeoSolutions, Inc. to ensure appropriate specifications for site preparation, grading, 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 Soils Engineering Report are incorporated into the design and implemented during construction. Therefore, with the incorporation of Mitigation Measure MM 18 requiring adherence to the approved soils engineering study, impacts would be **significant but mitigable**.

(b, e-f) Significant but Mitigable: Grading will include approximately 500 cubic yards of cut and 2,800 cubic yards of fill, as well as over-excavation and re-compaction. Total disturbed area will be approximately 108,400 square feet (2.49 acres); this calculation includes driveway improvements, permanent parking areas, construction areas, landscaped areas, and drainage improvements. Grading operations on the project site would remove vegetative cover and disturb the ground surface, thereby increasing the potential for erosion and sedimentation impacts. At their nearest point, proposed structures will be approximately 600 feet from the edge of riparian vegetation associated with the Santa Ynez River, which transverses along the southern edge of the subject parcel. The Santa Ynez River channel has the potential to be indirectly impacted by grading and site preparation activities associated with the proposed project, including increased wind or water erosion of the site. In order to mitigate potentially significant impacts resulting from proposed grading activities, Mitigation Measure MM 14 (see Section 4.4 above) 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 thereby 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, paleontological, 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 proposed reception hall and future agricultural employee dwelling will be served by a permitted septic system built in accordance with Environmental Health Services requirements. No restrooms are proposed in the proposed horse arena or horse barns. As discussed above, development is sited in previously disturbed and/or developed areas near existing development. 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. Section 4.11 [Noise] restricts the number of days per week and hours during which noise generating construction activities can occur. The long-term operation of the equestrian facility does not include activities which would create vibration. As a result, impacts would be **insignificant**.

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

Mitigation and Residual Impact: The following mitigation measure, as well as MM 14 (see Section 4.4 above for full description) would reduce the project's geologic impacts to an insignificant level:

> **MM 18. 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 Zoning Clearance. **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.

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		

Will the proposal result in:	Poten. Signif. and Unavoid.	Signif. But Mitigable	Insignif.	No Impact / Beneficial Impact	Reviewed Under Previous Document
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 consists of a commercial equestrian facility that will provide daily boarding and breeding operations, as well as an equestrian event center for education, shows, clinics, and other special events up to twelve times per year. There is no evidence that hazardous materials were used, stored, or spilled on site in the past, and there are no aspects of the proposed use that would include or involve hazardous materials at levels that would constitute a hazard to human health or the environment. 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 toxic disposal sites are located on or near the subject parcel. The project site is located adjacent to ongoing surface mining operation which harvests gravel from the bed of the Santa Ynez River. However, this operation is located over 2,000 feet from the proposed project and is not expected to pose a health or safety risk to the site. 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	
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	

Existing Setting: The project site is located approximately 1.2 miles southeast of the Highway 246/Highway 101 overpass, in an inner-rural area within the Santa Ynez Valley Community Plan area. The project site is bounded by agriculturally zoned properties on all sides, with Highway 246 directly adjacent to the northern property line and the Santa Ynez River along the southern property line. Pastures, equestrian uses, vineyards, and single-family dwellings (ranchettes) characterize the general area. The subject parcel is developed with approximately 13,800 square feet of structural development, including a single-family dwelling, an agricultural employee dwelling, and agricultural accessory structures. The 63.35-acre parcel supports 60 acres of irrigated pastures, primarily used to board horses and other livestock (donkeys and mules). The property is subject to the provisions of: 1) the Santa Barbara County

Comprehensive Plan, including the Santa Ynez Valley Community Plan; and 2) the Santa Barbara County Land Use and Development Code (LUDC).

County Environmental Threshold: The Thresholds and Guidelines Manual contains no specific thresholds for land use. Generally, a potentially significant impact can occur if a project would result in substantial growth inducing effects or result in a physical change in conflict with County policies adopted for the purpose of avoiding or mitigating an environmental effect.

Impact Discussion:

(a, b) Significant but Mitigable: Commercial equestrian facilities are an allowed use in the AG-I-40 Zone District with a Conditional Use Permit. The proposed project is also required to obtain Development Plan approval because the total existing and proposed structural development will exceed 20,000 square feet in gross floor area. As discussed in Section 4.1 above, all proposed structures are subject to Design Review and must be finished with natural building materials and colors to ensure that development is visually compatible with the character of the surrounding area (MM 1 and MM 2). Additionally, all structures are required to comply with the AG-I development standards contained in the LUDC (e.g., height limit, setbacks, landscaping, parking, etc.).

The proposed project is also subject to all applicable requirements and policies contained in the Santa Ynez Valley Community 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 Santa Ynez Valley Community Plan are provided in Section 9 below. As discussed in Section 4.4 above, the proposed project could potentially result in impacts to biological resources due to the project site's proximity to the Santa Ynez River, which contains sensitive riparian habitat. Mitigation Measures MM 3 through MM 14 will ensure protection of sensitive habitat, native trees, and wildlife species; therefore, the project is consistent with the policies protecting natural resources from the Santa Ynez Valley Community Plan.

In the Solvang area, there are already a number of AG-I and AG-II parcels that have permits to hold special events. Event facilities proposed as a part of the commercial equestrian facility will be compatible with existing Land Use policy related to Aesthetics, Noise, or Transportation/Circulation, as discussed in Sections 4.1, 4.11, and 4.14, respectively. The temporary and infrequent nature of the proposed project will be consistent with the County Land Use and Development Code and the Santa Ynez Valley Community Plan, particularly in regards to vehicular traffic, noise, or visual impacts. The Proposed Project therefore will have a **significant but mitigable** impact on Land Use.

(c-j) No Impact: The proposed project would not demolish, remove or convert any dwellings. The proposed project site has been previously developed and is not identified as an open space area. The proposed project would not cause an economic or social effect that would result in a physical change. Therefore, project is not growth inducing, and will not result in the loss of affordable housing, loss of open space, or a significant displacement of people. The proposed project would not require an extension of sewer trunk lines or extension of access roads with capacity to serve new development beyond this proposed project. The project does conflict with any airport safety zones.

Cumulative Impacts: The operation of a commercial equestrian facility on proposed project site would be consistent with existing development in this region of the County. Cumulative special events projects would be required to adhere to applicable federal, State, and local plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect. County requirements for private and

commercial events vary, in some instances requiring a Land Use Permit (LUP), and others, such as charitable functions, no permit requirement. In agricultural zone districts, private events with up to 300 attendees may be conducted without an LUP (LUDC 35.42.260.F). As a result, there may be numerous permit-exempt events occurring within the vicinity of the proposed project at any given time. Restrictions on special events vary, based on the specific conditions imposed as part of the approved permit (i.e., Development Plan, Land Use Permit, or Conditional Use Permit). In general, cumulative special events projects would not induce substantial population growth, result in the loss or displacement of housing or people, or require the conversion of substantial open space. Cumulative special events projects would not involve development which could cause an economic or social change that would result in a physical change. If a special event is located within adopted airport safety zones, the event would be subject to the requirements of the applicable Airport Land Use Compatibility Plan which would minimize potential conflicts with adopted airport safety zones. 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 would not cause a cumulatively considerable effect on land use.

Mitigation and Residual Impact: Mitigation measures MM 1 through MM 14 (see sections 4.1 and 4.4 above for full descriptions) would reduce the project's land use impacts to an insignificant level.

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 was permitted as a "trailer residence" according to microfiche records and is located approximately 140 feet east of the subject property, though there is also a more recent single-family dwelling on the same property that is approximately 550 feet east of the subject property.

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 is a commercial equestrian facility that will provide daily boarding and breeding operations for retired horses, as well as an equestrian event center for education, shows, clinics, and other special events up to twelve times per year. New structures proposed include a covered riding arena, a reception hall, an agricultural employee dwelling, and six horse barns. Long-term noise generated onsite will 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 days and hours.

The applicant intends to have live and/or amplified music played for special events in the proposed reception hall and the proposed covered arena. An acoustical report was prepared to determine if the average A-weighted sound levels from the amplified and/or live music will exceed 65 dBA at any of the four property lines (Kuntz Acoustical Engineering, November 6, 2021, Attachment 7). The report evaluated the use of a single loudspeaker system in each location, as well as a live band with amplified music in the arena. The acoustical engineer concluded that a maximum noise level of 90 dBA at ten feet in front of the loudspeaker should be considered as an upper sound level limit for amplified sound at the proposed reception hall. According to the engineer, this sound level is high enough to easily be heard over the entertainment areas and still not exceed the 65 dBA sound level at any property line. According to the engineer, if multiple loudspeakers were to be used, the directivity of the sound is altered somewhat, but, if the sound levels at the reference location are kept at 90 dBA, noise levels will not exceed the 65 dBA sound level at any property line. This same amplified music source operating at the same noise level can be used in the arena and not exceed the 65 dBA sound level at the property lines. Amplified music played at 90 dBA at ten feet in front of a single loudspeaker may be used during the evening hours in both the reception hall and arena. A live band with drums may be used in the arena during special events, but only in the daytime with a limit of four hours.

In conclusion, short-term noise exposure will remain below the 65 dBA threshold with a maximum A-weighted sound level of 90 dBA at 10 feet from a single loudspeaker in both event locations. In order to reduce the proposed project's noise effects to a less than significant level, Mitigation Measure MM 20 has

been incorporated and requires compliance with this maximum, as well as the acoustical report's recommended provisions for live music. Impacts from the proposed project will be **significant but mitigable.**

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

Mitigation and Residual Impact: The following mitigation measures would reduce the project's noise effects 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 7:00 a.m. and 4:00 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.
>
> **MM 20. Special Condition – Amplified Sound.** Amplified sound associated with special events shall not exceed 65 dBA at the exterior property boundary of the property and shall cease by 10:00 PM. Events with amplified sound must utilize the approved noise layout (single loudspeaker located at the southwest side of the reception hall building and directed to the southwest; or single loudspeaker at the center of the northern edge of the arena and directed to the south) or provide Permit Compliance staff with an acoustical report of a revised layout to show compliance with the County Noise Ordinance. Maximum A-weighted sound level from approved loudspeaker configurations shall be 90 dBA at 10 feet from the loudspeaker. A live band with drums may be used in the arena, but only in the daytime with a limit of four hours. **PLAN REQUIREMENTS AND TIMING:** The applicant shall include approved loudspeaker configurations and a note regarding maximum sound level on architectural drawings of the Proposed Project prior to Zoning Clearance issuance. **MONITORING:** The applicant shall demonstrate to P&D staff that the sound level requirements and loudspeaker configuration details have been included in a contract for clients prior to Zoning Clearance issuance, and shall provide proof of compliance to P&D Permit Compliance Staff as requested.

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

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: The proposed project will develop a new commercial equestrian facility on a parcel that is currently developed with a single-family dwelling, an agricultural employee dwelling, and agricultural accessory structures. The total amount of new structural development will be approximately 69,407 square feet. The proposed project will be served by private sewage disposal. Police protection for the project site is provided by the County Sheriff's Department. Emergency medical services are provided by the Santa Barbara County Fire Department. The closest emergency healthcare facilities are in Santa Ynez and Santa Maria.

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.

Impact Discussion:

(a, b) Insignificant/No Impact: The size, scale and type of project proposed (commercial equestrian facility and up to twelve special events annually) would not cause the need for any new or altered emergency or health care services beyond those already provided, and existing service levels are sufficient to serve the proposed project. The proposed project would not result in more than one habitable structure and would not

induce population growth beyond the inclusion of a single agricultural employee dwelling; 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. Impacts would be **insignificant**.

(c) Significant but Mitigable: The proposed project is expected to generate approximately 461.09 tons of solid waste from construction activities associated with the new equestrian facility. The estimates for demolition and construction are based on the rates shown in Table 4.12-1 and are discussed further below. Additionally, the proposed project is expected to generate approximately 107.97 tons of operational-related solid waste annually, as shown in Table 4.12-2 and discussed further below.

Short-Term Construction Impacts:

Table 4.12-1: Estimated Construction Solid Waste Generation

Proposed New Construction	Lbs/Sq.Ft. Waste*	Total Solid Waste
45,000 sq. ft. Horse Arena	4.34	195,300 lbs
6,327 sq. ft. Reception Hall with Porch	4.34	27,459.18 lbs
800 sq. ft. Agricultural Employee Dwelling	4.39	3,512 lbs
17,280 sq. ft. Horse Barns	4.34	74,995.2 lbs
2,460 sq. ft. barn (demo)	36	88,560 lbs
8,450 sq. ft. concrete pad (demo)	63	532,350 lbs
Total		**461.09 tons**

*These estimates are based on the US Environmental Protection Agency's (EPA) 2009 construction and demolition study (Document: EPA530-R-09-002; March 2009).

Table 4.12-1 uses a rate of 4.34 lbs./sq. ft. to estimate solid waste generation based on rates representative of construction of new traditional commercial construction. The project includes construction of a pre-fabricated 45,000 sq. ft. covered horse arena with three open sides. Because of the pre-fabricated nature of the structure, the lack of internal rooms, the open sides of the structure, the lack of traditional flooring, and the simplistic overall design of the arena, a rate of 4.34 lbs./sq. ft. is likely a substantial overestimation for the horse arena. The project also includes construction of six pre-fabricated 2,880 sq. ft. horse barns (17,280 sq. ft. total) that are similarly simplistic in design, therefore it is anticipated that a rate of 4.34 lbs./sq. ft. is an overestimation for the horse barns. The applicant confirmed with their contractor that the pre-fabricated structure kits are pre-cut for assembly, therefore construction of the pre-fabricated horse arena and barns is expected to produce very little waste. This can be attributed to the fact that pre-fabricated structure kits are made in a controlled factory, so recycling and waste reduction is simplified and the construction process is streamlined. Additionally material cuttings are eliminated which decreases the amount of waste generated.

Additionally, this table uses rates of 36 lbs./sq. ft. and 63 lbs/sq. ft. to estimate solid waste generation for demolition of the barn and concrete pad. These rates are from the 2009 EPA construction and demolition study for structures that were most representative in terms of materials and structural complexity of those that will be demolished as a part of the project.

The project will be subject to the 2019 California Green Building Standards Code (CALGreen) Construction Waste Management Requirements, including but not limited to submittal of a construction waste management plan that demonstrates compliance with California Green Building Code Standard Section 5.408.1.1, and at least a 65 percent reduction of construction waste pursuant to California Green Building Code Standard Section 5.408.1.3. Application of standard CALGreen Construction Waste Management

Requirements during building permit processing will ensure that impacts related to solid waste generation during construction are **insignificant**. Additionally, Mitigation Measure MM 21 has been applied to reduce construction employee-generated trash onsite.

Long-Term Operation Impacts:

Table 4.12-2: Estimated Annual Solid Waste Generation

Project Information	Annual Generation Rate*	Total Solid Waste
45,000 sq. ft. Horse Arena	0.0016 tons/year	72 tons/year
4,200 sq. ft. Reception Hall (excluding porch)	0.0013 tons/year	5.46 tons/year
800 sq. ft. Agricultural Employee Dwelling	3.01 people/unit x 0.95 tons/year	2.86 tons/year
17,280 sq. ft. Horse Barns	0.0016 tons/year	27.65 tons/year
Total		**107.97 tons/year**

*Figures are based on Industry & National Standards as discussed in the County of Santa Barbara Environmental Thresholds and Guidelines Manual (January 2021).

The proposed project would generate approximately 107.97 tons of solid waste per year, which is less than the 196 tons per year threshold of significance as identified in the County's Thresholds Manual. All solid waste would be contained via recycling, trash bins, and composting stations. All animal waste (maximum of 365 tons per year at full capacity) would be composted onsite, as discussed and implemented through the Animal Waste Management Plan (MM 8). Solid waste from special events would be disposed of at County landfill facilities. Pursuant to Assembly Bill 939 requirements, at least 50 percent of the solid waste generated would be diverted from the landfill. The temporary and infrequent special events that would occur as a result of the proposed project would not result in significant impacts to landfill capacity because they would not generate anywhere near 196 tons per year of solid waste (operational), which would be roughly equivalent to over a million square feet of Eating and Drinking Establishment operation (Santa Barbara County Environmental Thresholds Guidelines Manual). Because of the intermittent and irregular nature of the proposed special events, the proposed project would not generate excessive solid waste that would affect Tajiguas Landfill, which has a remaining capacity of 4,336,335 cubic yards (California Department of Resources, Recycling, and Recovery [CalRecycle] 2022). Therefore, impacts related to solid waste generation during operation of the proposed project are **insignificant**.

Summary. As discussed above, the proposed project would not generate significant amounts of solid waste or breach any national, state, or local standards or thresholds relating to solid waste disposal or generation (including recycling facilities and existing landfill capacity). The estimated amount of solid waste generated during construction by the proposed project (461.09 tons) is likely an overestimation because a majority of the proposed construction (62,280 sq. ft.) will consist of pre-fabricated agricultural structures. Additionally, the project will be required to prepare a construction waste management plan per CalGreen requirements. Once operational, the project would generate approximately 107.97 tons of solid waste per year, which is less than the 196 tons per year threshold of significance as identified in the County's Thresholds Manual. Therefore, the proposed project would not have a potentially significant short-term or long-term impact related to solid waste disposal or generation.

(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 disposal system for wastewater disposal. The proposed new system has been found adequate to serve the project per Environmental Health Services (letter dated March 27, 2023 –

Attachment 4). Adherence to Environmental Health Services requirements for new septic systems would ensure that impacts would be less than significant. Final review and approval of the septic system design by Environmental Health Services will be required prior to P&D issuance of the associated Zoning Clearance for the equestrian facility.

The proposed project would create new impervious surfaces that could result in greater surface runoff from the site since there would be less open ground capable of absorbing rainwater. The project includes stormwater control measures contained in a Tier 2 Stormwater Control Plan (Coast Engineering & Survey, Inc., December 19, 2022, Attachment 8), which will ensure that stormwater on the site is captured and impacts are minimized. Final review and approval of the Tier 2 Stormwater Control Plan by Project Clean Water will be required prior to P&D issuance of the associated Zoning Clearance for the equestrian facility. Therefore, the project would have an insignificant impact on public facilities related to wastewater treatment and stormwater drainage.

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.

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

> **MM 21. SolidW-03 Solid Waste-Construction Site**. The Owner/Applicant shall provide an adequate number of covered receptacles for construction and employee trash to prevent trash & debris from blowing offsite, shall ensure waste is picked up weekly or more frequently as needed, and shall ensure site is free of trash and debris when construction is complete. **PLAN REQUIREMENTS**: All plans shall contain notes that the site is to remain trash-free throughout construction. **TIMING**: Prior to building permit issuance, the Owner/Applicant shall designate and provide P&D with the name and phone number of a contact person(s) responsible for trash prevention and site clean-up. Additional covered receptacles shall be provided as determined necessary by P&D. **MONITORING**: Permit compliance monitoring staff shall inspect periodically throughout grading and construction activities and prior to Final Building Inspection Clearance to ensure the construction site is free of all trash and debris.

With the incorporation of these measures, residual impacts would be 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		

Existing Setting: The proposed project site is located at 750 E. Highway 246 between the City of Buellton and the City of Solvang. The Santa Ynez Valley Community Plan Parks, Recreation, and Trails map depicts a proposed on-road trail along Hwy 246 from the eastern edge of the City Buellton to the western edge of the City of Solvang.

County Environmental Threshold: 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.

Impact Discussion:

(a-c) Insignificant: The proposed project would 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 Highway 246, which is adjacent to the entire northern boundary of the subject parcel. The proposed project will not result in any conflicts with the proposed on-road trail, nor would the project preclude the future establishment of a trail following this alignment in the future. As discussed in Section 4.14 below, Highway 246 would not become overused or obstructed as a result of the project. The population increase associated with project implementation (one additional agricultural employee dwelling unit) would result in insignificant adverse impacts on the quality and quantity of existing recreational opportunities, both in the project vicinity and Countywide. The proposed project would develop a commercial equestrian facility for boarding and breeding operations for retired horses, as well as an equestrian event center for education, shows, clinics, and other special events up to twelve times per year. Equestrian events at the proposed facility could potentially provide new recreational opportunities for the area. Therefore, project impacts on recreation would be **insignificant**.

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

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

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 on the south side of Highway 246, approximately 1.2 miles southeast of the Highway 246/Highway 101 overpass, commonly known as 750 E. Highway 246. According to the Santa Ynez Valley Community Plan, Hwy 246 is a two-lane highway which serves as a major east/west route linking the Santa Ynez Valley, Santa Rita Valley, and Lompoc Valley.

County Thresholds: On December 28, 2018, the California Natural Resources Agency certified and adopted proposed revisions to *CEQA Guidelines* Section 15064.3 and Appendix G: Environmental Checklist Form, Section XVII, Transportation. Section 15064.3 includes new criteria for determining the significance of a project's transportation impacts. Specifically, Section 15064.3(a) states "vehicle miles traveled is the most appropriate measure of transportation impacts." Therefore, the following thresholds reflect the specific guidance set forth in CEQA Guidelines Section 15064.3 regarding estimating vehicle miles traveled (VMT) and developing thresholds of significance for VMT and transportation impacts.

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

a. **Potential Conflict with a Program, Plan, Ordinance, or Policy**. The Santa Barbara County Association of Governments' (SBCAG) 2050 Regional Transportation Plan and Sustainable Communities Strategy (SBCAG 2021) 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 significant impact may occur 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).

b. **Potential Impact to VMT.** The County expresses thresholds of significance in relation to existing, or baseline, county VMT. Specifically, the County compares the existing, or baseline, County VMT (i.e., pre-construction) to a project's VMT. The County presumes that land use or transportation projects meeting any of the screening criteria within Table 4.14-1, absent substantial evidence to the contrary, would have less than significant VMT impacts and would not require further analysis (County of Santa Barbara 2021a).

Table 4.14-1 Screening Criteria for Land Use Projects

Screening Category	Project Requirements to Meet Screening Criteria
Small Projects	A project that generates 110 or fewer average daily trips
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.
Projects near Major Transit Stop	A project that is located within a ½ mile of a major transit stop or within a ½ mile of a bus stop on a high-quality transit corridor (HQTC). A major transit stop is a rail station or a bus stop with two or more intersecting bus routes with service frequency of 15 minutes or less during peak commute periods. A HQTC is a corridor with fixed route bus service with frequency of 15 minutes or less during peak commute periods. However, these screening criteria do not apply if project-specific or location-specific information indicates the project will still generate significant levels of VMT. Therefore, in addition to the screening criteria listed above, the project should also have the following characteristics: – Floor area ratio (FAR) of 0.75 or greater; – Consistent with the applicable SBCAG Sustainable Communities Strategy (as determined by the County); – Does not provide more parking than required by the County's Comprehensive Plan and zoning ordinances; and – Does not replace affordable housing units (units set aside for very low income[1] and low income[2] households) with a smaller number of moderate or high-income housing units.
Affordable Housing	A residential project that provides 100 percent affordable housing units (units set aside for very low income and low income households); if part of a larger development, only those units that meet the definition of affordable housing satisfy the screening criteria.

c. Design Features and Hazards. A significant impact occurs if a project will increase roadway hazards. An increase could result from existing or proposed uses or geometric design features.

[1] As referenced in California Government Code Section 65584(f)(2) and defined in California Health and Safety Code Section 50079.5(a), "'Very low income households' means persons and families whose incomes do not exceed the qualifying limits for very low income families as established and amended from time to time pursuant to Section 8 of the United States Housing Act of 1937. ... In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for very low income households for all geographic areas of the state at 50 percent of area median income, adjusted for family size and revised annually."

[2] As referenced in California Government Code Section 65584(f)(2) and defined in California Health and Safety Code Section 50079.5(a), "'Lower income households' means persons and families whose income does not exceed the qualifying limits for lower income families as established and amended from time to time pursuant to Section 8 of the United States Housing Act of 1937. ... In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually."

d. Emergency Access. A significant impact occurs if a project impedes emergency access vehicles.

Impact Discussion:

The proposed project includes daily boarding and breeding operations for retired horses, as well as an equestrian event center for education, shows, clinics, and other special events up to twelve times per year. The Trip Generation/Vehicle Miles Traveled (VMT) Evaluation prepared by Orosz Engineering Group, Inc. (January 2023) includes project site trip generation estimates for proposed site conditions during daily operations and special events. To calculate an annual average daily trip rate, large multi-day special event trips were applied 21 days a year (six 3.5-day events = 21 event days), small one-day special event trips were applied six days a year, and daily operation (non-event) trips were applied 338 days a year:

	Days per Year	Use Trips	Site Condition Trip Count	Total Trips	Annual ADT
Special Event (250 guests, 3.5 days)	21	550	18	568	
Special Event (150 guests, 1 day)	6	165	18	183	
Daily Operations (non-event)	338	22	0	22	
	365				**56.060**

At the completion of the project, the average daily trips to the site are estimated to be approximately 22 trips per day on a normal (non-event) daily basis. Larger special events (250 guests, 3.5 days) would generate an additional 568 trips per day, and smaller special events (150 guests, 1 day) would generate an additional 183 trips per day. The County's Environmental Thresholds and Guidelines Manual specifies that land uses with irregular or seasonal trip making characteristics, such as wineries or special event centers, should estimate daily trips using an annual average. Since the project does not generate event traffic on a regular basis, the total annual project traffic volume was divided by 365 days per year to get an annual average of 56 new daily trips for the project. The project generates 110 or fewer average daily trips, and is therefore not subject to additional VMT analysis. The Trip Generation/Vehicle Miles Traveled (VMT) Evaluation prepared by Orosz Engineering Group, Inc. includes adequate analysis and data to assess vehicular movement, road maintenance, and road safety in the impact discussion below:

(a, c-d) Insignificant / Significant but Mitigable: The proposed project presents unique characteristics in that irregular special events are proposed. Mitigation Measure MM 22 will require the applicant to submit a parking and traffic control plan that will be implemented for all special events to reduce the potential for traffic hazards on and off-site. With the incorporation of this mitigation measure, the proposed project would not result in any temporary or permanent road closures or otherwise cause a substantial interference in roadways which would impede emergency access. Access will continue to be provided from the existing driveway off of Highway 246. The driveway approach will be widened to 28 feet. The onsite driveway will be 20 feet wide and will provide access to all proposed structures. The proposed project would not result in the construction of new roads and parking for the equestrian facility and associated special events will be accommodated onsite. The proposed project would not substantially increase hazards due to a geometric design feature or incompatible uses. The proposed project would not preclude implementation of or interfere with SBCAG's major projects shown in Figure 1-3 of the 2050 Regional Transportation Plan and Sustainable Communities Strategy (SBCAG 2021). Accordingly, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system. Impacts would be **insignificant**.

(b) Insignificant: As discussed above, the proposed project meets the screening criteria for small projects (i.e., projects that generate 110 or fewer average daily trips). The proposed project would generate only 22 additional trips during daily operations and would be limited to up to twelve special events per year, including six multi-day events. Due to the nature of the proposed special events, the total annual project traffic volume was divided by 365 days per year to get an annual average of 56 new daily trips for the project. The County's Environmental Thresholds and Guidelines Manual specifies that land uses with irregular or seasonal trip making characteristics, such as wineries or special event centers, should estimate daily trips using an annual average. Accordingly, the proposed project would meet the screening criteria for a small project which would generate 110 or fewer average daily trips on an annual basis. The temporary vehicle trips that would occur in accordance with up to twelve special events annually is therefore not expected to substantially increase vehicular traffic. The proposed project would not conflict or be inconsistent with *CEQA Guidelines* Section 15064.3(b) and this impact would be **insignificant.**

Cumulative Impacts:
Potential cumulative impacts could occur if special events throughout Santa Barbara cumulatively increase VMT beyond County thresholds. 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. The proposed project qualifies as a small project which, pursuant to County guidance, would result in a less than significant VMT impact. The proposed project's contribution to cumulative VMT impacts and other Traffic/Circulation impacts would **not be cumulatively considerable.**

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

> **MM 22. Special Condition – Parking and Traffic Control Plan:** The Owner/Applicant shall develop and implement a Parking and Traffic Control Plan designed to reduce the potential for traffic hazards on and off-site during special events. The plan shall include the following:
>
> a. The use of a parking coordinator who shall be present at all times during special events attended by 100 or more persons to manage and direct vehicular movement and parking.
> b. The use of dust control measures to keep dust generation to a minimum and to minimize the amount of dust leaving the site.
> c. Appropriate signage places onsite directing visitors to and indicating the location of parking areas, including open field overflow areas. Signs shall be in place before the commencement of each special event.
>
> **PLAN REQUIREMENTS AND TIMING:** The Owner/Applicant shall submit the Parking and Traffic Control Plan to P&D for review and approval prior to issuance of Zoning Clearance. The Parking and Traffic Control Plan shall be implemented for all special events. **MONITORING:** The applicant shall demonstrate to P&D staff that the Parking and Traffic Control Plan has been included in a contract for clients prior to Zoning Clearance issuance, and shall provide proof of compliance to P&D Permit Compliance Staff as requested.

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

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		
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: The Santa Ynez River is located in the southernmost portion of the property and flows adjacent to the southern property line. The Santa Ynez River floodplain (FEMA Regulatory Special Flood Hazard Area Zone AE Floodplain Fringe) covers the southern two thirds of the property, and the regulatory floodway covers the southernmost third. The northern third of the property where the proposed reception hall and 120-space event parking area will be built are located on a terrace that is approximately 15 feet above the Santa Ynez River flood plain. All other proposed new structures, including the horse barns and covered

riding arena will be within the Santa Ynez River special flood hazard zone AE (FEMA). The subject parcel is located within the Santa Ynez River Valley Groundwater Basin.

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[3] 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) Insignificant: The project would create minor amounts of additional storm water runoff as a result of newly constructed impermeable surfaces (i.e. structures, driveways, porches, etc.). The project includes stormwater control measures contained in a Tier 2 Stormwater Control Plan (Coast Engineering & Survey, Inc., December 19, 2022, Attachment 8), which will ensure that stormwater on the site is captured and impacts are minimized. Final review and approval of the Tier 2 Stormwater Control Plan by Project Clean

[3] 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.

Water will be required prior to P&D issuance of the associated Zoning Clearance for the equestrian facility, therefore impacts related to storm water runoff will be **insignificant**.

(e-f) Insignificant: As discussed above, the proposed project includes construction of six horse barns and a covered riding arena within the Santa Ynez River special flood hazard zone AE (FEMA). Structures located in the special flood hazard zone are required to be designed in compliance with Floodplain Management Ordinance Chapter 15A of the Santa Barbara County Code. However, as is detailed in the Water Resources Division project condition letter (Attachment 4), the covered riding arena is not subject to Ordinance 15A since it is not classified as a structure with two or more outside rigid walls and a fully secured rood affixed to a permanent site. The proposed horse barns must either be elevated at least two feet above the Base Flood Elevation (BFE) or be dry-flood proofed to two feet above BFE. Adherence to the conditions contained in the Water Resources Division (i.e., Flood Control District) condition letter dated April 18, 2022, (Attachment 4) will ensure that the proposed project will be designed so that the flow of floodwaters is unaltered, and there would be no need for public flood control improvements. Final review and approval of the project design by the Flood Control District will be required prior to P&D issuance of the associated Zoning Clearance for the equestrian facility, therefore impacts related to flood hazards will be **insignificant**.

(g-k) Insignificant: The project would be supplied water from a proposed well and domestic water system, which receives its water from the Santa Ynez Valley River groundwater basin. Since the volume of water extracted annually does not exceed its safe yield, this basin is not considered overdrafted. The County's Environmental Thresholds and Guidelines Manual does not establish a threshold of significance for this basin since it is not overdrafted. Further, water use for the proposed project will be similar to existing uses onsite which includes residential uses and irrigated pastures for horses and other livestock. Therefore, there is an adequate supply of water for the project, the project would not contribute to overdraft of groundwater resources, and the project's impact on water supplies will be **insignificant**.

Additionally, the proposed new system has been found adequate to serve the project per Environmental Health Services (letter dated March 27, 2023 – Attachment 4). Adherence to Environmental Health Services requirements for new septic systems would ensure that the proposed wastewater treatment system does not result in degradation of groundwater quality. Final review and approval of the septic system design by Environmental Health Services will be required prior to P&D issuance of the associated Zoning Clearance for the equestrian facility, therefore impacts will be **insignificant**.

(l) Significant but Mitigable: The project could result in the introduction of storm water pollutants (e.g., oil, grease, pesticides, nutrients, sediments, pathogens, etc.) into groundwater or surface water due to the project's proximity to the Santa Ynez River. The project will not result in any direct impacts to the Santa Ynez River because the proposed structures are located outside of the 200-foot riparian buffer required by the Santa Ynez Valley Community Plan Development Standard BIO-SYV-4.1. Additionally, the existing manure composting pad and walls located near the southeast corner of the property will be removed as a part of the project to ensure project consistency with DevStd-BIO-SYV-4.1 from the Santa Ynez Valley Community Plan. The new manure composting area will be located outside of the 200-foot riparian buffer area and is also required by the Santa Ynez Valley Community Plan Development Standard BIO-SYV-5.1 to direct polluting drainage away from the river and/or include appropriate filters such a vegetated bio-swales or bio-retention basins. Mitigation Measure MM 7 (discussed in Section 4.4 above) has been applied to ensure compliance with Development Standard BIO-SYV-5.1. Additionally, the applicant will be required to develop and implement an animal waste management plan (MM 8, discussed in Section 4.4 above). Implementation of Mitigation Measures MM 7 and MM 8 will ensure that long-term operation of the proposed project does not result in degradation of storm water quality.

Short-term construction activities such as grading could also potentially create temporary runoff and erosion problems. Implementation of an erosion and sediment control plan (discussed in Section 4.4 above) will ensure that no significant increase of erosion or storm water runoff would occur. Other potential short-term construction impacts to surface water quality 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 these potential impacts to aquatic resources in the project vicinity, Mitigation Measures MM 23 and MM 24 below are proposed in addition to MM 14 (Erosion and Sediment Control Plan).

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, as well as MM 7, MM 8, and MM 14 (see Section 4.4 above for full description) would reduce the project's water resource impacts to an insignificant level:

> **MM 23. 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 Zoning, 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 24. 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 Zoning, 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, Other : _____

5.2 Comprehensive Plan:

X	Seismic Safety/Safety Element	Conservation Element

	Open Space Element	X	Noise Element
	Coastal Plan and Maps	X	Circulation Element
	ERME	X	Land Use Element

5.3 Other Sources:

X	Field work	X	Ag Preserve maps
X	Calculations	X	Flood Control maps
X	Project plans	X	Other technical references (reports, survey, etc.)
X	Traffic studies		
X	Records	X	Planning files, maps, reports
X	Grading plans	X	Zoning maps
X	Elevation, architectural renderings	X	Soils maps/reports
	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: Aesthetics/Visual Resources, Biological Resources, Cultural Resources, Geologic Processes, Land Use, Noise, Public Facilities, Transportation/Circulation, and 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 45,000-square-foot covered riding arena, a 4,200-square-foot reception hall with a 2,127-square-foot covered porch, an 800-square-foot agricultural employee dwelling, and six (6) 2,880-square-foot horse barns. The project will also allow for up to twelve special events annually. 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 for negative declarations.

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-I zoning of the site allows for Equestrian Facilities with a Conditional Use Permit (LUDC 35.21.030).

Comprehensive Plan

The proposed project will be subject to all applicable requirements and policies under the Santa Barbara County Land Use and Development Code and the County's Comprehensive Plan. This analysis will be provided in the forthcoming Staff Report. Policies that pertain to the proposed project include, but are not limited to the following:

1. **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.

2. **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.

3. **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.

4. **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.

5. **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.

6. **Flood Hazard Area Policy No. 1:** All development, including construction, excavation, and grading, except for flood control projects and non-structural agricultural uses, shall be prohibited in the floodway unless off-setting improvements in accordance with federal regulations are provided. If the proposed development falls within the floodway fringe, development may be permitted, provided creek setback requirements are met and finished floor elevations are two feet above the projected 100-year flood elevation, and the other requirements regarding materials and utilities as specified in the Flood Plain Management Ordinance are in compliance.
7. **Flood Hazard Area Policy No. 2:** Permitted development shall not cause or contribute to flood hazards or lead to expenditure of public funds for flood control works, i.e., dams, stream channelizations, etc.

8. **Flood Hazard Area Policy No. 3:** All development shall be reviewed in accordance with the requirements of County Code Chapter 15A-Floodplain Management and 15B-Development Along Watercourses.

9. **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.

10. **Noise Element Policy No. 1:** In the planning of land use, 65dB Day-Night Average Sound Level should be regarded as the maximum exterior noise exposure compatible with noise-sensitive uses unless noise mitigation features are included in the project design.

Santa Ynez Valley Community Plan Policies and Development Standards

The Proposed Project will be subject to all applicable requirements and policies under the Santa Ynez Valley Community Plan. This analysis will be provided in the forthcoming Staff Report. Policies and development standards that pertain to the proposed project include, but are not limited to the following:

1. **Development Standard BIO-SYV-4.1:** Development shall include a minimum setback of 50 feet in the Urban and Inner-Rural areas, 100 feet in the Rural areas, and 200 feet from the Santa Ynez River, from the edge of riparian vegetation or the top of bank whichever is more protective. The setbacks may be adjusted upward or downward on a case-by-case basis depending upon site specific conditions such as slopes, biological resources and erosion potential.

2. **Development Standard BIO-SYV-4.2:** Only fully shielded (full cutoff) night lighting shall be used near stream corridors. Light fixtures shall be directed away from the stream channel.

3. **Development Standard BIO-SYV-5.1:** Site drainage plans shall direct polluting drainage away from the stream channel or include appropriate filters.

4. **Policy BIO-SYV-8:** Native protected trees and non-native specimen trees shall be preserved to the maximum extent feasible. Non-Native specimen trees are defined for the purposes of this policy as mature trees that are healthy and structurally sound and have grown into the natural stature particular to the species. Native or non-native trees that have unusual scenic or aesthetic quality, have important historic value, or are unique due to species type or location shall be preserved to the maximum extent feasible.

5. **Development Standard BIO-SYV-8.1:** A "native protected tree" is at least six inches in diameter as measured at breast height (DBH = 4.5 feet above level ground). A "non-native specimen tree" is at least 25 inches DBH. Areas to be protected from grading, paving, and other disturbances shall generally avoid the critical root zone (a circular area around a tree trunk with a radius equivalent to one foot for each inch of diameter at breast height) or dripline as applicable. Standards for oak tree protection in inner-rural and rural areas are governed by the County's Deciduous Oak Tree Protection and Regeneration Ordinance (Article IX of Chapter 35 of the Santa Barbara County Code).

6. **Development Standard BIO-SYV-8.2:** Development shall be sited and designed at an appropriate size and scale to avoid damage to native protected trees (e.g., sycamore, cottonwood, willow, etc.), non-native roosting and nesting trees, and non-native protected trees by incorporating buffer areas, clustering, or other appropriate measures. Mature protected trees that have grown into the natural stature particular to the species should receive priority for preservation over other immature, protected trees. Where native protected trees are removed, they shall be replaced in a manner consistent with County standard conditions for tree replacement.

7. **Policy VIS-SYV-3:** The night sky of the Santa Ynez Valley shall be protected from excessive and unnecessary light associated with new development and redevelopment.

8. **Policy WW-SYV-2:** Pollution of surface and groundwater shall be avoided. Where contribution of potential pollutants of any kind is not prohibited and cannot be avoided, such contribution shall be minimized to the maximum extent practical.

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:

_____ With Public Hearing ___X___ Without Public Hearing

PREVIOUS DOCUMENT:

PROJECT EVALUATOR: **Tina Mitchell** **DATE:** November 30, 2023

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:_____ **INITIAL STUDY DATE**: November 17, 2023

SIGNATURE:_____ **NEGATIVE DECLARATION DATE**: November 30, 2023

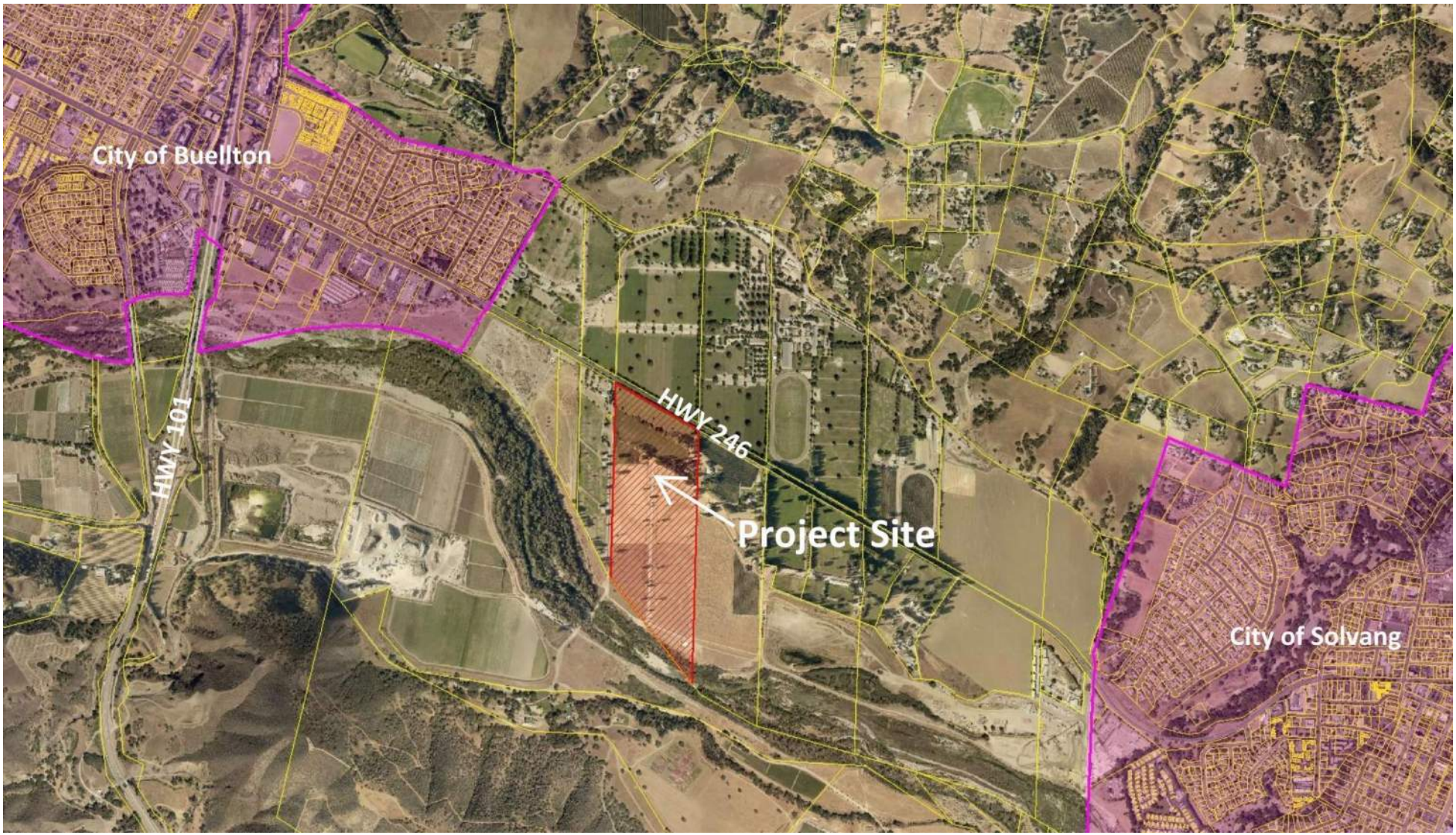
SIGNATURE:_____ **REVISION DATE:** _____

SIGNATURE:_____ **FINAL NEGATIVE DECLARATION DATE:** _____

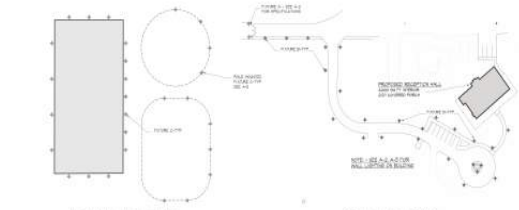
12.0 ATTACHMENTS

1. Vicinity Map
2. Project Plans (November 2023)
3. Biological Assessment Report prepared by Watershed Environmental, Inc. (January 2023)
4. Compiled Departmental Project Condition Letters
5. CalEEmod Air Quality Detailed Report (November 2023)
6. Soils Engineering Report prepared by GeoSolutions, Inc. (April 2021)
7. Acoustical Report prepared by Kuntz Acoustical Engineering (November 2021)
8. Tier 2 Stormwater Control Plan prepared by Coast Engineering & Survey, Inc. (December 2022)

Attachment 1: Vicinity Map



Attachment 2: Project Plans



PROJECT INFORMATION

750 HWY 246
SOLVANG, CA.
APN # 137-250-067

ZONING - AG-I-40
AGRI-TIRE AREA
AG PRESERVE CONTRACT # - 69AP008

LOT SIZE 6535 AC+- 2,784,526 SQ FT

EXISTING STRUCTURES - SINGLE STORY

EXISTING RESIDENCE #1	41' HT	3509 SQ FT
EXISTING RESIDENCE #2	16' HT	1000 SQ FT
TOTAL LIVING SPACE		5509 SQ FT
EXISTING BARN #1	20' 3960 SQ FT	10 80 HEIGHT
EXISTING BARN #2	25' HT	1850 SQ FT
HAY BARN / SHOP	21' HT	5000 SQ FT
EQUIP BARN	21' HT	5000 SQ FT
SUNDRY SHADE STRUCTURES	12' HT	2340 SQ FT
TOTAL AG BUILDING		13490 SQ FT
TOTAL EXISTING STRUCTURES		18999 SQ FT

PROPOSED STRUCTURES - SINGLE STORY

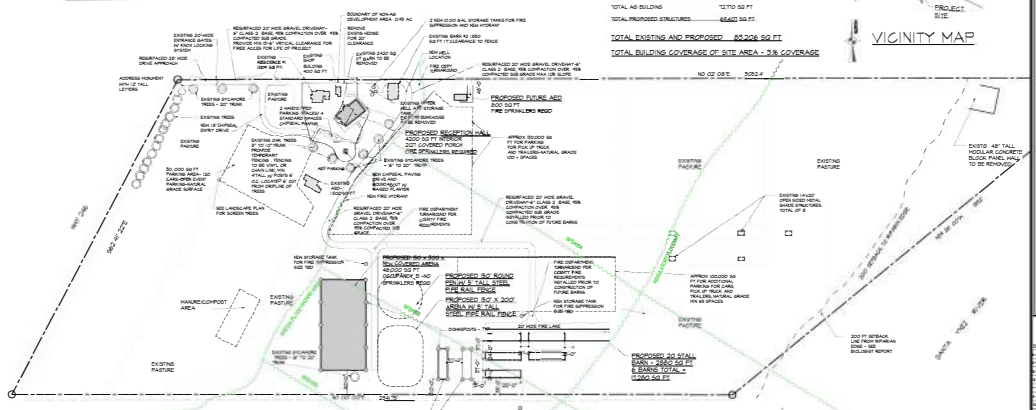
RECEPTION HALL/OFFICE	21' HT	4727 SQ FT
ADU	21' HT	1000 SQ FT
TOTAL LIVING SPACE		1727 SQ FT
COVERED RIDING ARENA 28' HT		45,000 SQ FT
2880 SQ FT X 4 - 5' HT		11280 SQ FT
TOTAL AG BUILDING		72,710 SQ FT
TOTAL PROPOSED STRUCTURES		65407 SQ FT

TOTAL EXISTING AND PROPOSED 85208 SQ FT

TOTAL BUILDING COVERAGE OF SITE AREA - 3% COVERAGE

SHEET INDEX

S-1	SITE/INFO
A-1	RECEPTION FLOOR PLAN
A-2	RECEPTION ELEVATIONS
A-3	RECEPTION ELEVATIONS
A-4	ROOF PLANS
A-5	HORSE BARN
L-1	LANDSCAPE
L-2	LANDSCAPE
L-3	LANDSCAPE
C-1	CIVIL COVER
C-2	GRADING/DRAINAGE
C-3	GRADING/DRAINAGE
C-4	SITE SECTIONS
C-5	EROSION CONTROL PLAN
C-6	
SS-1	GWTS SITE PLAN
SS-2	GWTS DESIGN
SS-3	DETAILS
SS-4	SITE SEWER AND WATER COMPOSITE



SITE PLAN SCALE: 1"=100' FT

statler design solutions
1785 Ocean Oaks Rd.
Oceano, CA. 93475
805-252-3879
gordon@statlerdesignsolutions.com

HAPPY N RIVER RANCH
750 HWY 246
SOLVANG, CA.

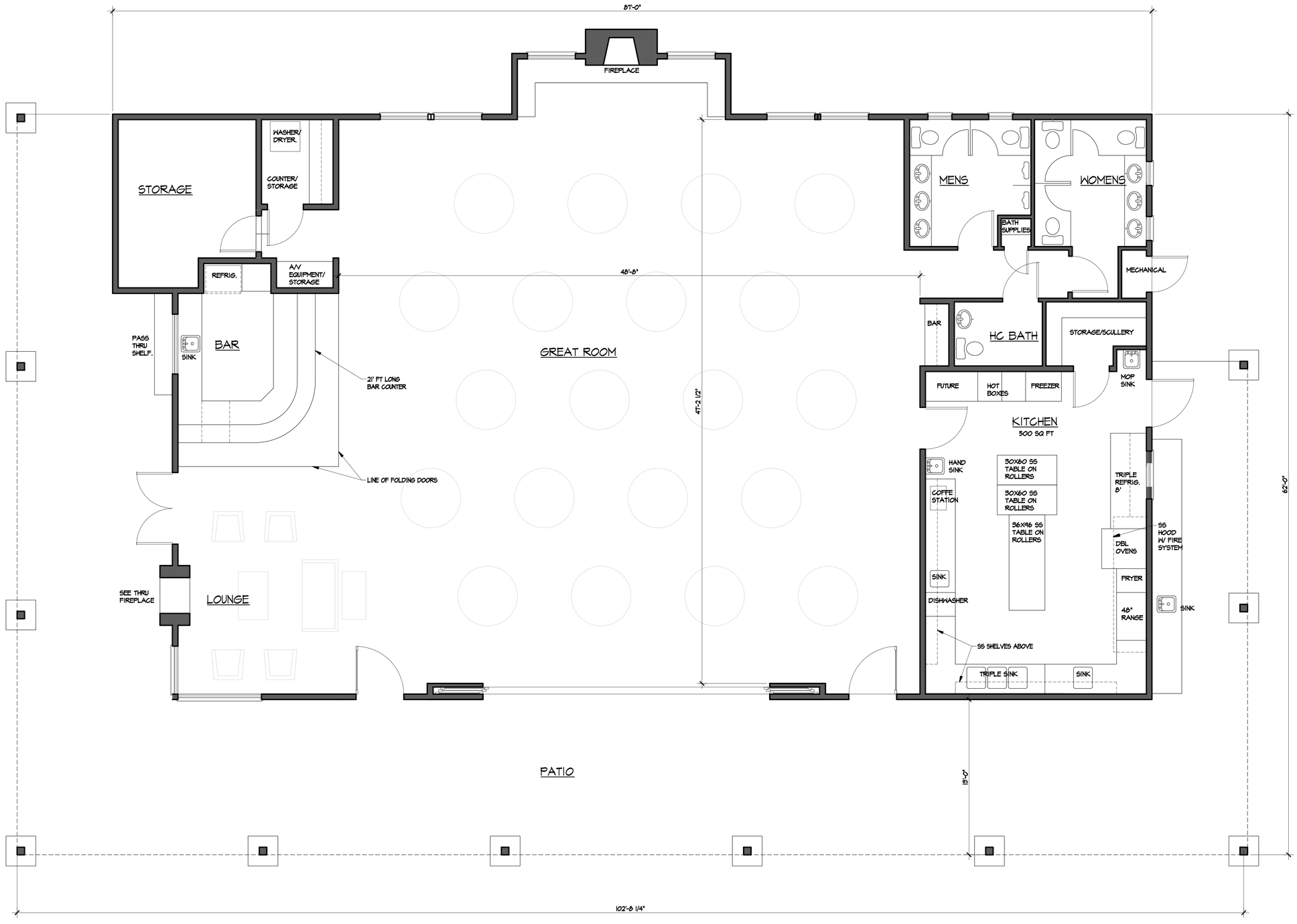
SUBMITTAL DATES

DATE	DESCRIPTION
12-20-21	INITIAL CUP
2-21-22	RE SUBMITTAL CUP
6-24-22	RE SUBMITTAL CUP
12-7-22	RE SUBMITTAL CUP
1-17-23	RE SUBMITTAL CUP
10-26-23	RE SUBMITTAL CUP
12-5-23	

DATE
DESIGNED BY Gordon Statler
DRAWN BY TJ
CHECKED BY Gordon Statler

SHEET NO. S-1

PROJECT NAME NOVATT



RECEPTION HALL
4200 SQ FT

statler design ▪ solutions
1795 Ocean Oaks Rd.
Carpinteria Ca. 93013
805-252-3679
gordon@statlerdesignsolutions.com

HAPPY N RIVER RANCH - RECEPTION HALL
750 HWY 246
SOLVANG, CA

SUBMITTAL DATES

DATE	DESCRIPTION
3.23.21–	–
6.23.21–	–
–	–
–	–
–	–
–	–
–	–

DATE

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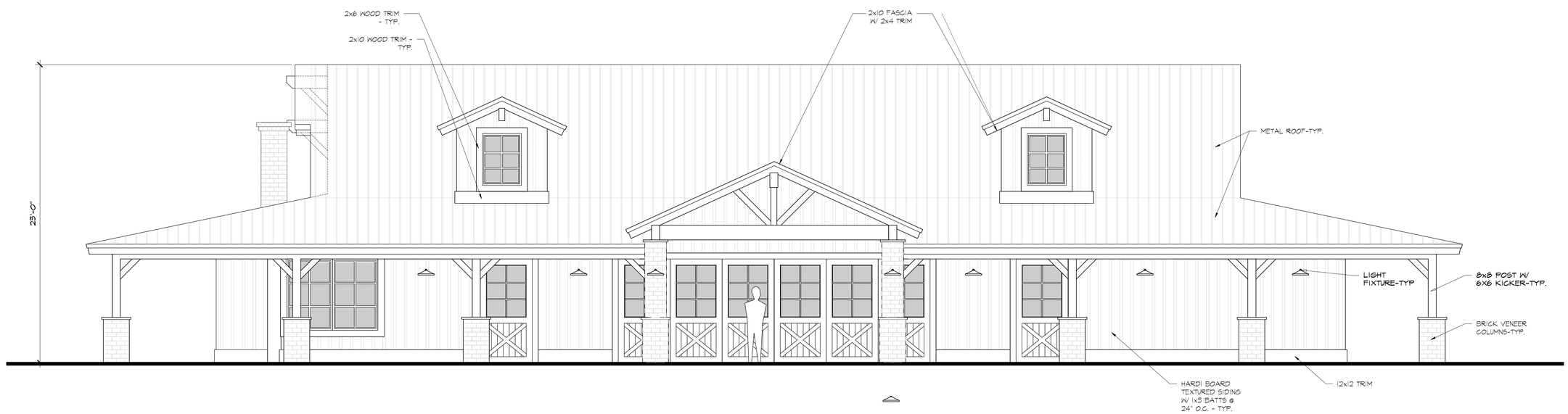
DRAWN BY Gordon Statler
CHECKED BY Gordon Statler

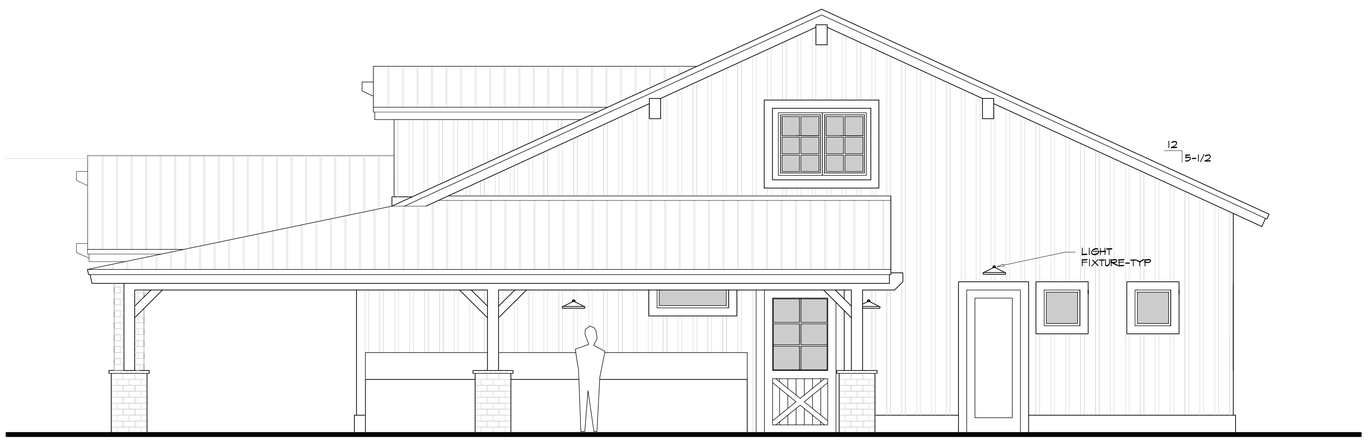
SHEET NO. A-1

PROJECT NAME
NOVATT



1 RECEPTION HALL FRONT ELEVATION

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



2 RIGHT ELEVATION

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

DINO LED WALL SCONCE-DARK SKY COMPLIANT
14" WIDE CANOPY, 8 1/2" TALL
2000 LUMENS WITH 30 DEGREE SHADE CANOPY

FIXTURE A

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Carpinteria Ca. 93013
805-252-3679
gordon@statlerdesignsolutions.com

HAPPY N RIVER RANCH - RECEPTION HALL
750 HWY 246
SOLVANG, CA.

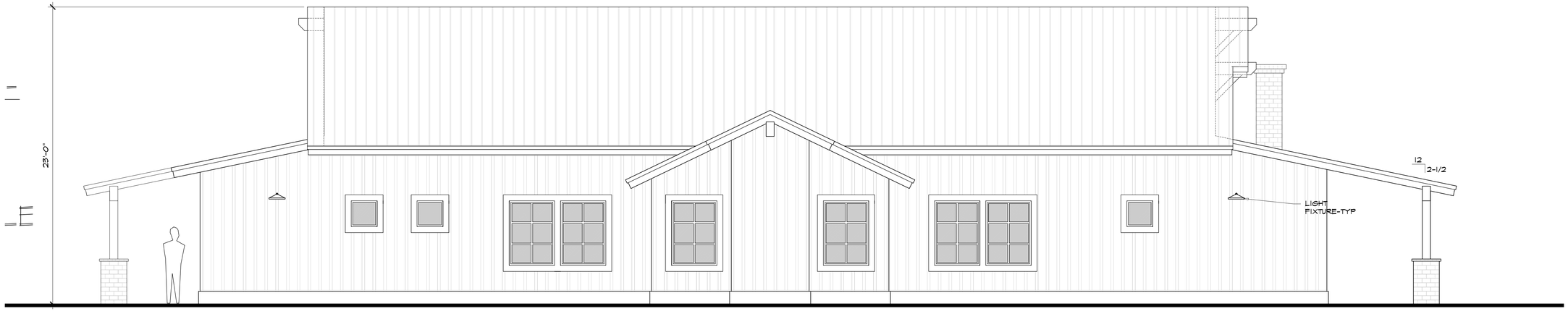
SUBMITTAL DATES

DATE	DESCRIPTION
-1.4.21	PRELIMINARY-
8.28.21	-
-	-
-	-
-	-
-	-
-	-

DATE 01-03-20
DESIGNED BY Gordon Statler
DRAWN BY Gordon Statler
CHECKED BY Gordon Statler

SHEET NO. A-2

PROJECT NAME
NOVATT



1 REAR ELEVATION

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

Stepped Dome 12V 3000K Path Light Textured Architectural Bronze
15820AZT (Bronze)

Project Name:
Location:
Type:
Qty:
Comments:

Certifications / Qualifications

Warranty	www.kichler.com/warranty

Dimensions

Height	22.50"
Length	6.25"
Width	6.25"

Primary Lamping

Lamp Included	Integrated
Light Source	LED

Product / Ordering Information

SKU	15820AZT
Finish	Bronze
UPC	783927388610

Specifications

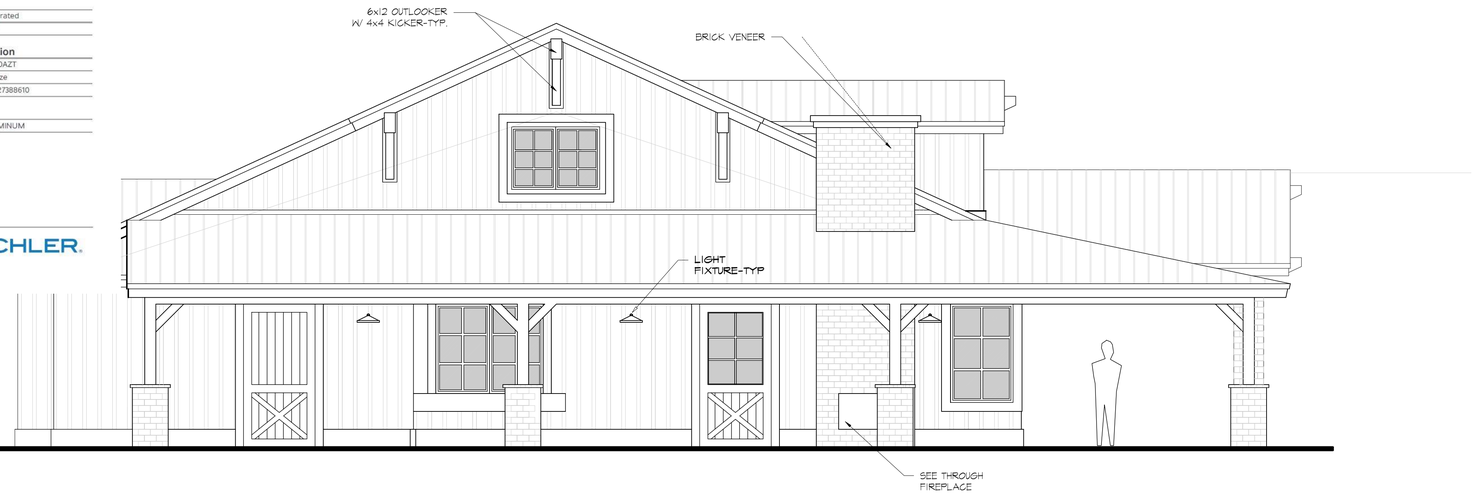
Material	ALUMINUM

Kichler
7711 East Pleasant Valley Road Cleveland, Ohio 44131-8010
Toll free: 866.558.5706 or kichler.com

Notes:
1) Information provided is subject to change without notice. All values are design or typical values when measured under laboratory conditions.
2) Incandescent Equivalent: The incandescent equivalent as presented is an approximate number and is for reference only.

KICHLER

FIXTURE B



2 LEFT ELEVATION

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

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Carpinteria Ca. 93013
805-252-3679
gordon@statlerdesignsolutions.com

HAPPY N RIVER RANCH - RECEPTION HALL
750 HWY 246
SOLVANG, CA.

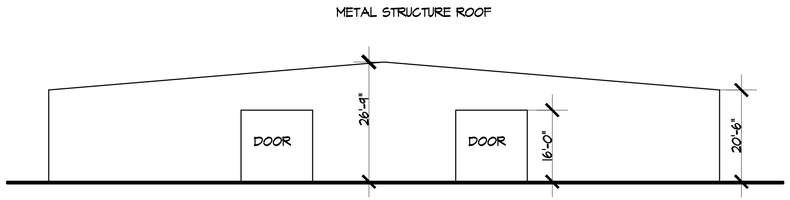
SUBMITTAL DATES

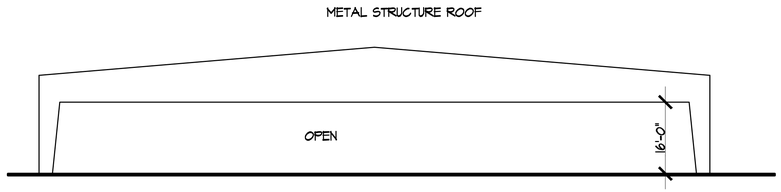
DATE	DESCRIPTION
-1.4.21	PRELIMINARY-
8.28.21	-
-	-
-	-
-	-
-	-
-	-

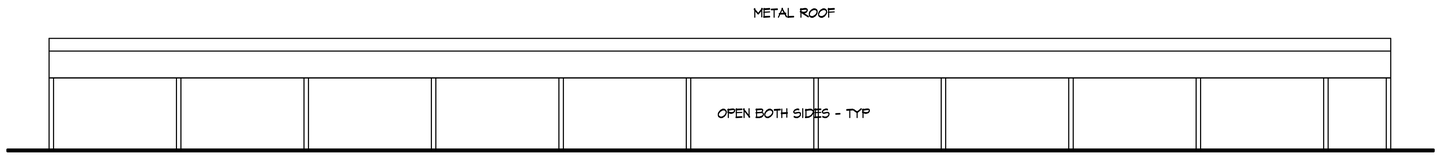
DATE 01-03-20
DESIGNED BY Gordon Statler
DRAWN BY Gordon Statler
CHECKED BY Gordon Statler

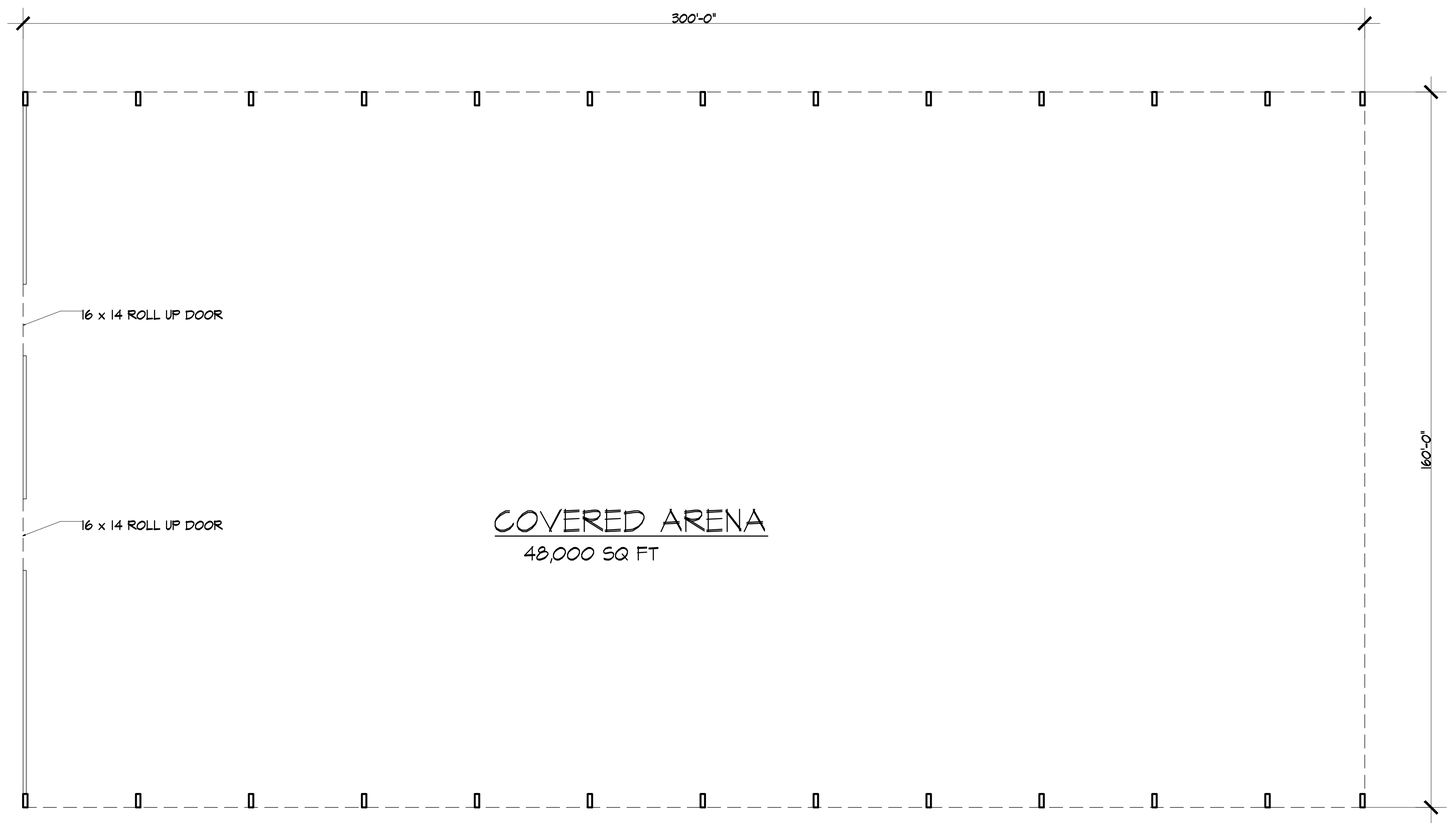
SHEET NO. A-3

PROJECT NAME
NOVATT









Home / Commercial LED Lighting / LED High Bay Lights / 240 Watt UFO High Bay | 40800 Lumens | 5000K | 100-277V

240 Watt UFO High Bay | 40800 Lumens | 5000K | 100-277V

Sku: MLLG-LED-HBHO-240-5-120 - 1528
DLC Model: JJS-HB25-240/T-5080-H00115
Watts: 240 • **Lumens:** 40800 • **LM/W:** 180
Replaces: 750 Watt Fixture | 1000 Watt Fixture
Color Temp: 4000K | 5000K
CRI: 80+
IP: IP65 • **IK:** IK08
Volts: 100V-277V
Operating Temperature: -22°F to +122°F
Life Hours: 134,000 (L70) hours

Dimmable: No
Beam Angle: 60° 90° 120° (Std)
Frequency: 50 / 60 hz
Power Factor: .90
THD: 20% Max
Housing: IP65 rated - Aluminum housing with Epoxy Coating
Mounting: Eye-Hook | Pendant (3/4 NPT) | Ceiling-Surface
Dimensions: 14.7 in X 7.32 in
Weight: 12 lbs
Warranty: 5 years

FIXTURE C

15' HEIGHT-POLE OR BUILDING MOUNTED

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1795 Ocean Oaks Rd.
Carpinteria Ca. 93013
805-252-3679
gordon@statlerdesignsolutions.com

HAPPY N RIVER RANCH - RIDING ARENA
750 HWY 246
SOLVANG, CA

SUBMITTAL DATES

DATE	DESCRIPTION
2.16.23-	SUBMITTAL-
-	-
-	-
-	-
-	-

DATE

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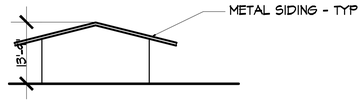
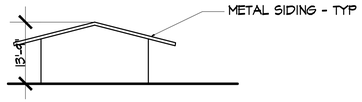
DRAWN BY Gordon Statler
CHECKED BY Gordon Statler

SHEET NO. A-5

PROJECT NAME
NOVATT

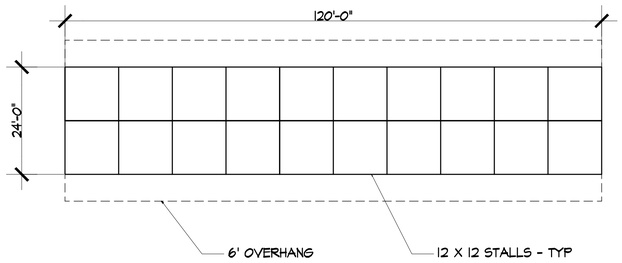


LEFT SIDE



RIGHT SIDE

FRONT / REAR ELEVATION



PLAN

HORSE BARN #1 TOTAL OF 6 BARNS

2880 SQ FT EACH

statler design ■ solutions
1795 Ocean Oaks Rd.
Carpinteria Ca. 93013
805-252-3679
gordon@statlerdesignsolutions.com

HAPPY N RIVER RANCH - HORSE BARNS
750 HWY 246
SOLVANG, CA

SUBMITTAL DATES

DATE	DESCRIPTION
1.4.21-	PRELIM REVIEW-
3.22.21	-
6.22.21	-
-	-
-	-
-	-
-	-

DATE

DESIGNED BY Gordon Statler
DRAWN BY Gordon Statler
CHECKED BY Gordon Statler

SHEET NO. A-6

PROJECT NAME
NOVATT

0 75 150 300

SCALE : 1" = 150'-0" NORTH

❑ CONCEPTUAL LANDSCAPE PLAN

County of Santa Barbara Water Efficient Landscape Ordianance
Landscape Documentation Package an Certification of Completion Forms

Appendix B - Water Efficient Landscape Work sheet

Reference Evapotranspiration (ETo): 45.6
Project:

Hydrozone # /Planting Description a	Plant Factor (PF)	Irrigation Method b	Irrigation Efficiency (IE)c	ETAF (PF/IE)	Landscape Area (sq, ft,)	ETAF x Area	Estimated Total Water Use (ETWU) e
Regular Landscape Areas							
Very Low	0.1	drip	0.81	0.12	-	-	-
Low	0.2	drip	0.81	0.25	-	-	-
Low	0.3	drip	0.81	0.37	873.01	323.34	9,141.34
Medium	0.5	drip	0.81	0.62	-	-	-
Non-irrigated	0		0.81	0.00	-	-	-
				Totals	873.01	323.34	9,141.34
Special Landscape Areas							
Turf				1	-	-	-
						-	-
						-	-
						-	-
						-	-
				Totals	-	-	-
						ETWU Total	**9,141.34**
Maximum Allowed Water Allowance (MAWA)e							**11,106.73**

a **Hydrozone #/Planting Description**
E.g
1.) front lawn
2.) medium water use planting

b **Irrigation Method**
overhead spray
or drip

c **Irrigation Efficiency**
0.75 for spray head
0.81 for drip

d **ETWU (Annual Gallons Required)**
= Eto x 0.62 x ETAF x Area
where 0.62 is a conversion factor
that converts acre-inches per acre
per year to gallons per square foot
per year.

e **MAWA (Annual Gallons Allowed)**
= (Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]
where 0.62 is a conversion factor that converts
acre- inches per acre per year to gallons per square
foot per year, LA is the total landscape area in
square feet, SLA is the total special landscape area
in square feet, and ETAF is .55 for residential areas
and 0.45 for non-residential areas.

ETAF Calculations:
Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area (B+D)	**323.34**
Total Area (A+C)	**873.01**
Sitewide ETAF (B+D) ÷ (A+C)	**0.37**

Regular

Total ETAF x Area (B)	**323.34**
Total Area (A)	**873.01**
Average ETAF (B ÷ A)	**0.37**

PLANT LEGEND

TREES

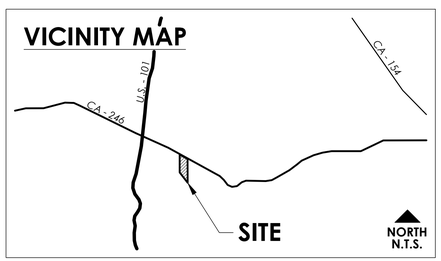
SYMBOL		NAME	SIZE	WUCOLS	QTY.
○	T1	*EXISTING TREE TO REMAIN*	*N/A*	*N/A*	*N/A*
	T1	*LAURUS NOBILIS BAY LARUEL*	*15 GAL.*	*LOW*	*6*

SHRUBS

SYMBOL		NAME	SIZE	WUCOLS	QTY.
S1	S1	*LIGUSTRUM JAPONICUM JAPANESE PRIVET*	*15 GAL.*	*MED*	*54*
	ALTERNATIVE :	*HETEROMELES ARBUTIFOLIA TOYON*	*15 GAL.*	*V. LOW*	*54*

GENERAL NOTES

1. MINIMUM PLANT SIZES: SHRUBS (15 GAL.)
2. IRRIGATION SYSTEM TO BE TEMPORARY DRIP FOR A 2-3 YEAR ESTABLISHMENT PERIOD.
3. ALL PLANTING AREAS SHALL RECEIVE A 3" LAYER OF MEDIUM BARK MULCH AFTER INSTALLATION.
4. ALL PLANT MATERIAL SHALL CONFORM TO THE COUNTY OF SANTA BARBARA OR STATE OF CALIFORNIA MODEL WATER CONSERVATION ORDINANCE.
5. ALL PLANTING AND IRRIGATION SHALL BE INSTALLED PER THE COUNTY OF SANTA BARBARA STANDARDS AND CODES.
6. FOR SITE WORK, ARCHITECTURAL, AND GRADING/DRAINAGE INFORMATION SEE PLANS BY OTHERS.
7. ALL AREAS BEYOND THE AREA OF WORK THAT ARE DISTURBED BY CONSTRUCTION SHALL BE RETURNED TO ORIGINAL CONDITION.
8. DRAWINGS ARE FOR DESIGN AND REVIEW PURPOSES ONLY AND SHALL NOT BE USED AS CONSTRUCTION DOCUMENTS.



PLEINAIRE
DESIGN GROUP
3203 Lightning St., Ste. 201 // Santa Maria, CA 93455
805.349.9695 // www.pleinairedg.com

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HAPPY N RIVER RANCH

750 EAST HIGHWAY 246 // SOLVANG, CALIFORNIA 93463

SHEET TITLE

CONCEPTUAL LANDSCAPE PLAN

OWNER

DATE 2022.02.18
22219

SHEET NO.

L-01

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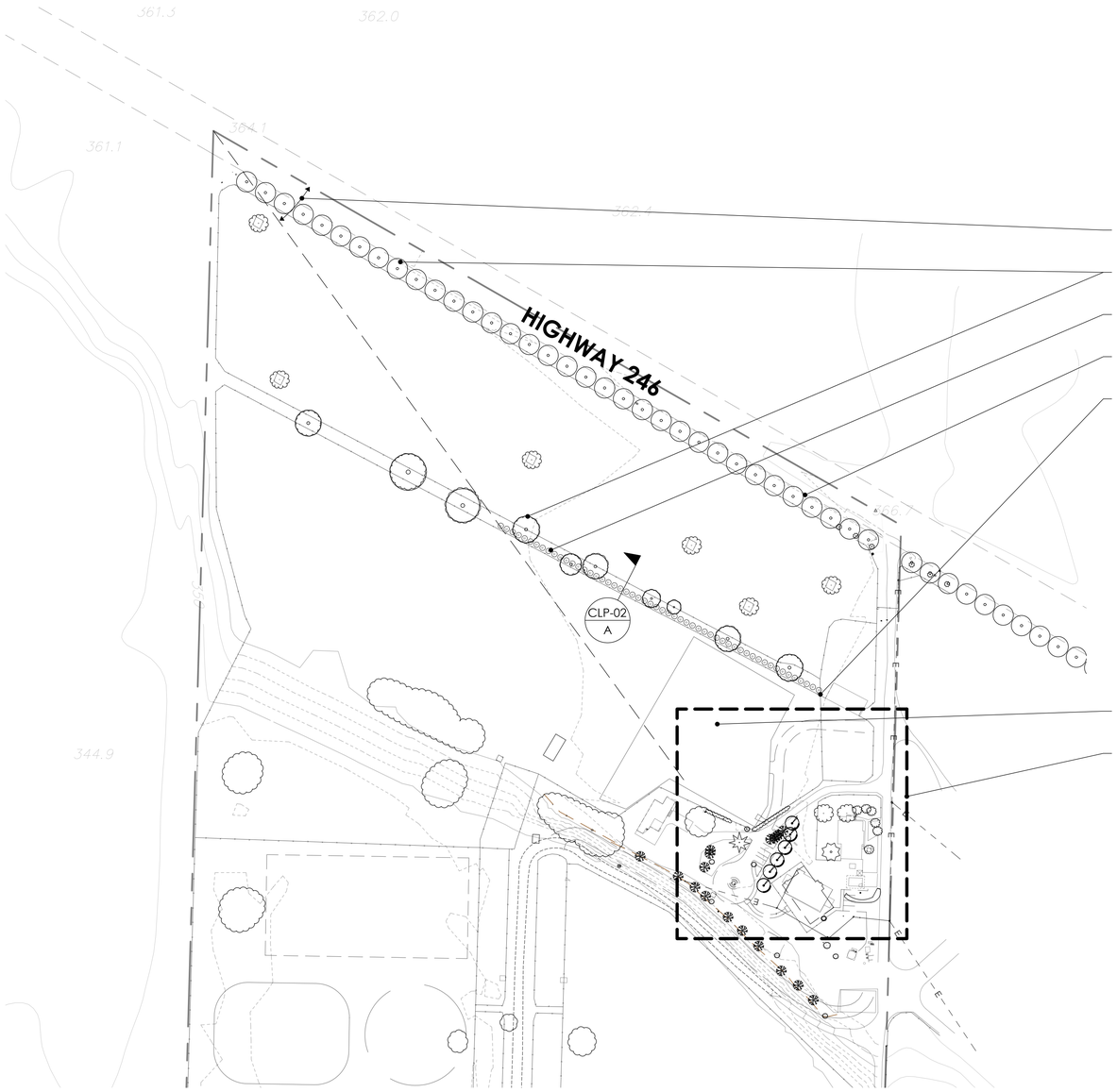
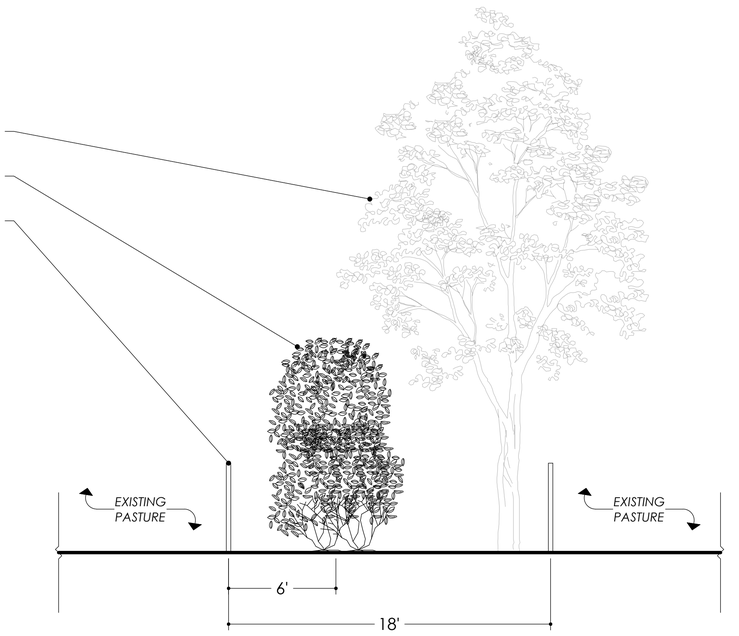


❑ CONCEPTUAL LANDSCAPE ENLARGEMENT - A

0 50 100 200
SCALE : 1" = 100'-0"
NORTH



❑ PLANTING SECTION - A

0 2 4 8
SCALE : 1" = 4'-0"

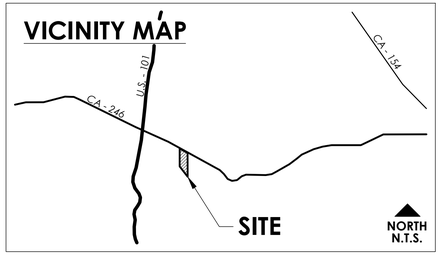
PLANT LEGEND

TREES

SYMBOL	NAME	SIZE	WUCOLS	QTY.
◦	T1 EXISTING TREE TO REMAIN	N/A	N/A	N/A
	T1 LAURUS NOBILIS BAY LARUEL	15 GAL.	LOW	6

SHRUBS

SYMBOL	NAME	SIZE	WUCOLS	QTY.
S1	S1 LIGUSTRUM JAPONICUM JAPANESE PRIVET	15 GAL.	MED	54
	ALTERNATIVE : HETEROMELES ARBUTIFOLIA TOYON	15 GAL.	V. LOW	54



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HAPPY N RIVER RANCH

750 EAST HIGHWAY 246 // SOLVANG, CALIFORNIA 93463

SHEET TITLE

CONCEPTUAL LANDSCAPE ENLARGEMENT - A

OWNER

DATE 2022.02.18
22219

SHEET NO.

L-02

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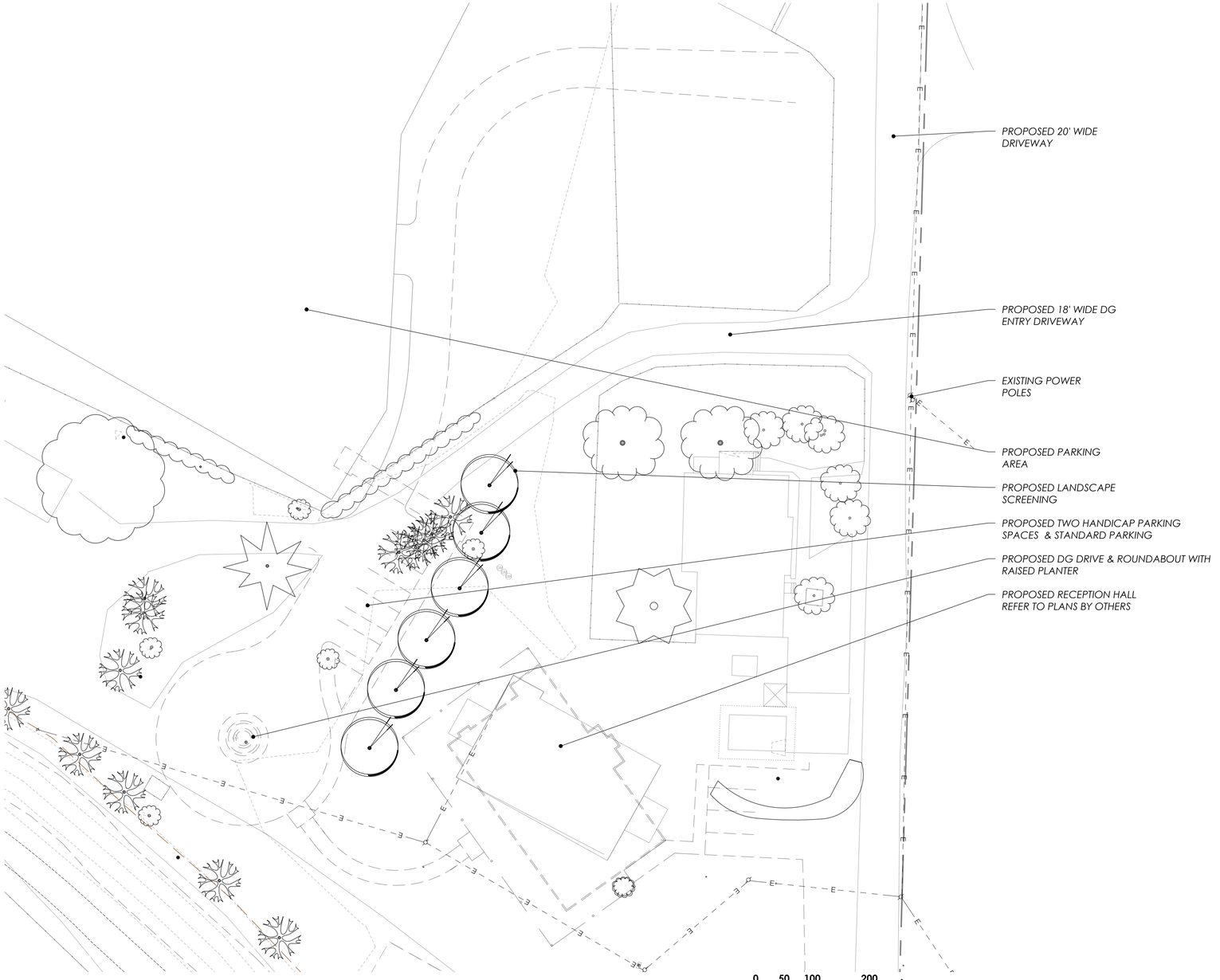


❑ CONCEPTUAL LANDSCAPE ENLARGEMENT - B

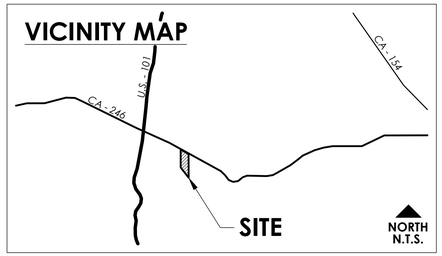
PLANT LEGEND

TREES

SYMBOL	NAME	SIZE	WUCOLS	QTY.
◦	T1 EXISTING TREE TO REMAIN	N/A	N/A	N/A
	T1 LAURUS NOBILIS BAY LARUEL	15 GAL.	LOW	6

SHRUBS

SYMBOL	NAME	SIZE	WUCOLS	QTY.
S1	S1 LIGUSTRUM JAPONICUM JAPANESE PRIVET	15 GAL.	MED	54
	ALTERNATIVE : HETEROMELES ARBUTIFOLIA TOYON	15 GAL.	V. LOW	54



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HAPPY N RIVER RANCH

750 EAST HIGHWAY 246 // SOLVANG, CALIFORNIA 93463

SHEET TITLE

CONCEPTUAL LANDSCAPE ENLARGEMENT - B

OWNER

DATE 2022.02.18
22219

SHEET NO.

L-03

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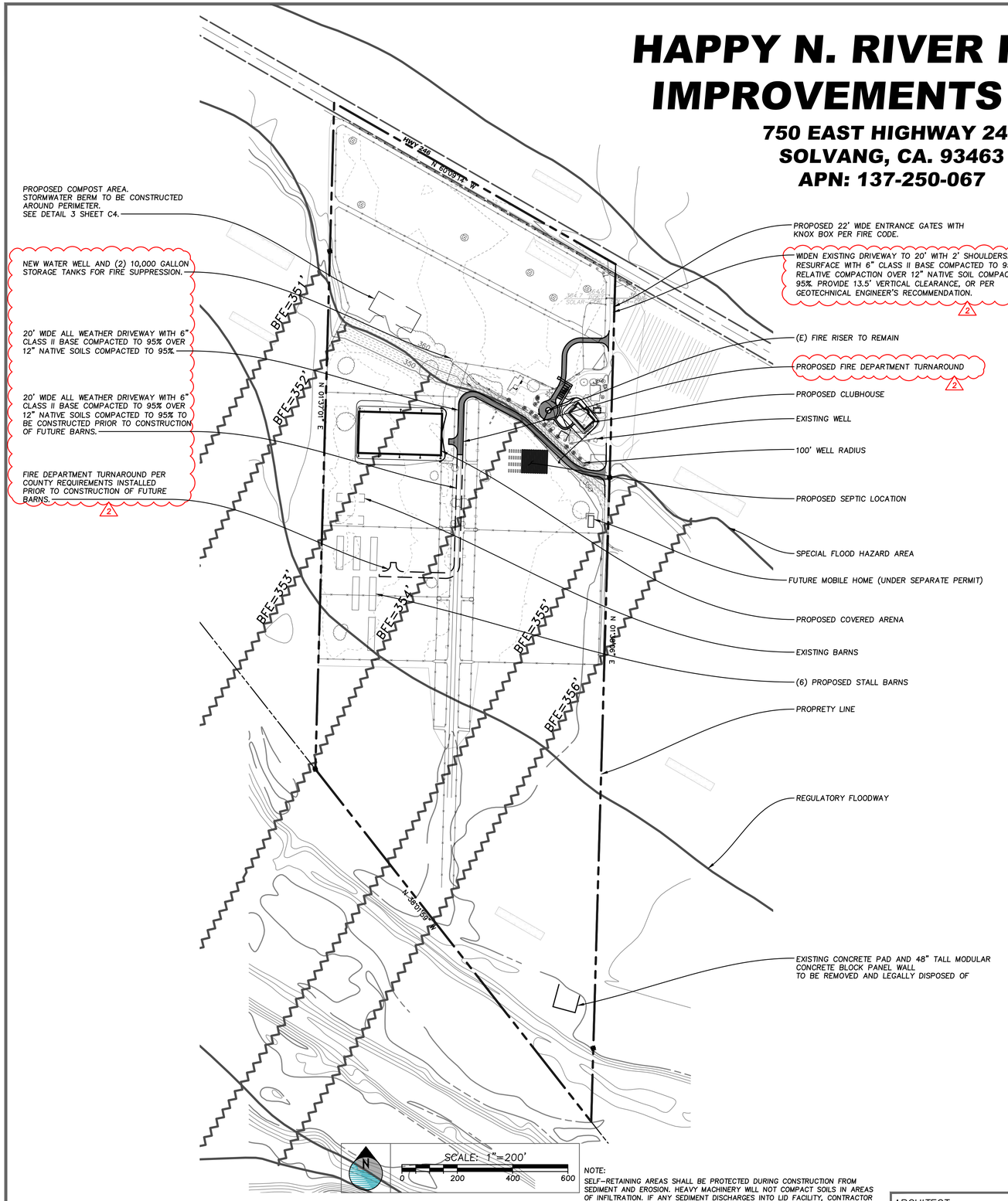
HAPPY N. RIVER RANCH
IMPROVEMENTS PLAN

750 EAST HIGHWAY 246
SOLVANG, CA. 93463
APN: 137-250-067



NOTE:
SELF-RETAINING AREAS SHALL BE PROTECTED DURING CONSTRUCTION FROM SEDIMENT AND EROSION. HEAVY MACHINERY WILL NOT COMPACT SOILS IN AREAS OF INFILTRATION. IF ANY SEDIMENT DISCHARGES INTO LID FACILITY, CONTRACTOR SHALL RESTORE TO PERFORMANCE DESIGN SPECIFICATIONS AS VERIFIED BY CIVIL ENGINEER. CONTRACTOR SHALL NOTIFY GRADING OR BUILDING INSPECTOR 24-HOURS PRIOR TO INSTALLATION OF GRAVEL AND BIORETENTION SOIL TO VERIFY MATERIAL QUALITY.

SITE PLAN AND STORMWATER CONTROL PLAN
SCALE: 1" = 200'

COUNTY OF SANTA BARBARA 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.

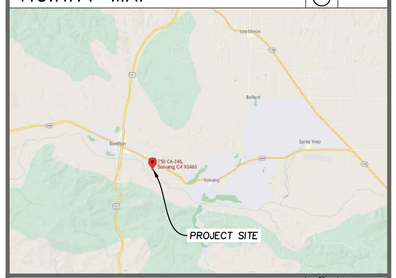
811 Know what's **below.** **Call** before you dig.

NOT FOR CONSTRUCTION

ARCHITECT		TOPOGRAPHIC INFORMATION:	
DRAWINGS BY:	GORDON STATLER	SURVEY PREPARED BY:	COAST ENGINEERING & SURVEY, INC.
DATE:	JANUARY 4, 2021	DATE PERFORMED:	JANUARY 28, 2021
		VERTICAL DATUM:	NAVD88
		HORIZONTAL DATUM:	NAD83

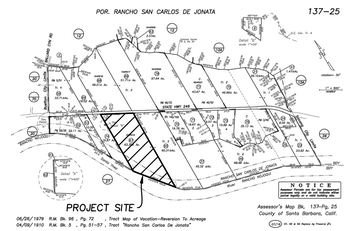
VICINITY MAP

N.T.S.



ASSESSORS PARCEL MAP

N.T.S.



PROJECT DATA

PROJECT ADDRESS:	750 EAST HIGHWAY 246 SOLVANG, CA APN: 137-250-067
CLIENT INFORMATION:	LISA NOVATT C/O GORDON STATLER PH: 805-252-3679
PROPOSED WORK:	PRELIMINARY GRADING PLAN AND ASSOCIATED SITE WORK FOR A AND COVERED ARENA.

PRELIMINARY GRADING STATISTICS

RAW CUT	500 CY
RAW FILL	2,800 CY
TOTAL GRADED (DISTURBED) AREA	108,400 SF 2.49 AC

NOTES:
1) EARTHWORK QUANTITIES ARE RAW ESTIMATES FOR PERMITTING ONLY, NOT FOR CONSTRUCTION OR PRICING ESTIMATION.
2) EARTHWORK VOLUMES ARE CALCULATED FROM THE EXISTING GROUND SURFACE TO THE PROPOSED SUBGRADE. ARENA STRUCTURAL SECTION THICKNESS HAS BEEN ESTIMATED TO BE 12" SINCE FINAL DESIGN PARAMETERS HAVE NOT BEEN ESTABLISHED AT THIS TIME.
3) RAW QUANTITIES ABOVE HAVE NOT BEEN ADJUSTED TO ACCOUNT FOR THE FOLLOWING:
   - DEMOLITION OF EXISTING MATERIALS
   - CLEARING, GRUBBING, OR SUBSIDENCE
   - SHRINKAGE OR EXPANSION
   - OVEREXCAVATION SHRINKAGE
   - FOOTING OR UTILITY SPOILS
5) EARTHWORK QUANTITIES ARE INTENDED TO BALANCE ONSITE. ONSITE SOILS TO BE USED AS FILL SHALL BE INSPECTED BY THE GEOTECHINCAL ENGINEER FOR SUITABILITY.

STORMWATER CONTROL PLAN

THE PROJECT IS LOCATED OUTSIDE THE NPDES AREA BUT DISTURBS MORE THAN AN ACRE OF GRADING. THE PROJECT WILL BE SUBJECT TO TIER 2 REQUIREMENTS.

A COVERED ARENA IS PROPOSED WHICH WILL CREATE 45,000 SQUARE FEET OF NEW IMPERVIOUS AREA. RUNOFF FROM THE ROOF WILL BE DIRECT INTO PERVIOUS LANDSCAPE AREAS. THE LANDSCAPE AREA IS GREATER THAN 22,500 SQUARE FEET.

SEE SHEET C2 & C3 FOR DOWNSPOUT LOCATIONS. SEE SHEET C6 FOR STORMWATER CONTROL PLAN.

NEW IMPERVIOUS AREA (ARENA = 45,000 SF)
(CLUBHOUSE = 6,324 SF)

LANDSCAPE AREA TO RECEIVE RUNOFF (+26,000 SF)

ABBREVIATIONS

AC	ASPHALT CONCRETE	N.T.S.	NOT TO SCALE
BW	BACK OF WALK	PP	POWER POLE
C	COMMUNICATIONS	RIM	TOP OF STRUCTURE
CLF	CHAIN LINK FENCE	S	SEWER
CO	CLEANOUT	SD	STORM DRAIN
E	ELECTRICAL	SDMH	STORM DRAIN MANHOLE
EP	EDGE OF PAVEMENT	SL	SEWER LATERAL
FF	FINISHED FLOOR	SSMH	SEWER MANHOLE
FG	FINISHED GRADE	STBK	SETBACK
FH	FIRE HYDRANT	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
GM	GAS METER	W	WATER
HP	HIGH POINT	WM	WATER METER
INV	INVERT	WV	WATER VALVE
LP	LOW POINT		

SHEET INDEX

C1	TITLE SHEET
C2	PRELIMINARY GRADING AND DRAINAGE PLAN
C3	PRELIMINARY ARENA GRADING AND DRAINAGE PLAN
C4	SITE SECTIONS
C5	EROSION AND SEDIMENT CONTROL PLAN
C6	STORMWATER CONTROL PLAN

COAST
ENGINEERING & SURVEY, INC.
785 HIGH STREET
SAN LUIS OBISPO, CA. 93401
PH: (805) 439-1920

REGISTERED PROFESSIONAL ENGINEER
TODD A. ROBINSON
No. 73756
CIVIL
STATE OF CALIFORNIA
PRELIMINARY

REVISIONS:	DATE:	DESCRIPTION:
1	10/25/2022	REVISIONS PER COUNTY COMMENTS
2	04/07/2023	FIRE DEPARTMENT REVISIONS

LOCATION
ADDRESS: 750 EAST HIGHWAY 246
CITY: SOLVANG, CA 93463
APN: 137-250-067

PROJECT NO.
21005

DRAWN LML
CHECKED TAR

CLIENT
LISA NOVATT

HAPPY N. RIVER RANCH
SITE IMPROVEMENT PLANS
EQUESTRIAN EVENT CENTER

TITLE SHEET

SHEET: C1 OF: 6

DATE:
DECEMBER 20, 2022

CONSTRUCTION NOTES

1. CONSTRUCT ENERGY DISSIPATION DEVICE. SEE DETAIL 1 SHEET C4.
2. CONSTRUCT HARDSCAPE PER ARCHITECTURAL PLANS.
3. CONSTRUCT 18' CHIPSEAL DRIVEWAY. SEE ARCHITECTURAL PLANS FOR DETAILS.
4. INSTALL 12" CATCH BASIN WITH ATRIUM GRATE. CONNECT TO 6" STORM DRAIN.
5. CONSTRUCT 20' WIDE ALL WEATHER DRIVEWAY. SEE DETAIL 2 SHEET C4.

(E) HOUSE TO REMAIN

(E) DRIVEWAY

ADA STALLS MAX SLOPE 2% IN ANY DIRECTION

(E) TREES TO BE REMOVED

PROPOSED ALL WEATHER DRIVEWAY.

PROPOSED FLOW LINE

(E) HOUSE TO REMAIN

(E) SHED TO REMAIN

PROPOSED CLUBHOUSE FF=365.67'

(E) BARN TO BE REMOVED

PROPOSED WALKWAY

LIMITS OF GRADING

PROPOSED 12" CATCH BASIN WITH ATRIUM GRATE.

(E) WELL

150' WELL SETBACK

LIMITS OF GRADING

LEACH FIELD

EXPANSION AREA

PRELIMINARY GRADING PLAN
SCALE: 1"=20'

SCALE: 1"=20'
0 20 40 60

NOT FOR CONSTRUCTION

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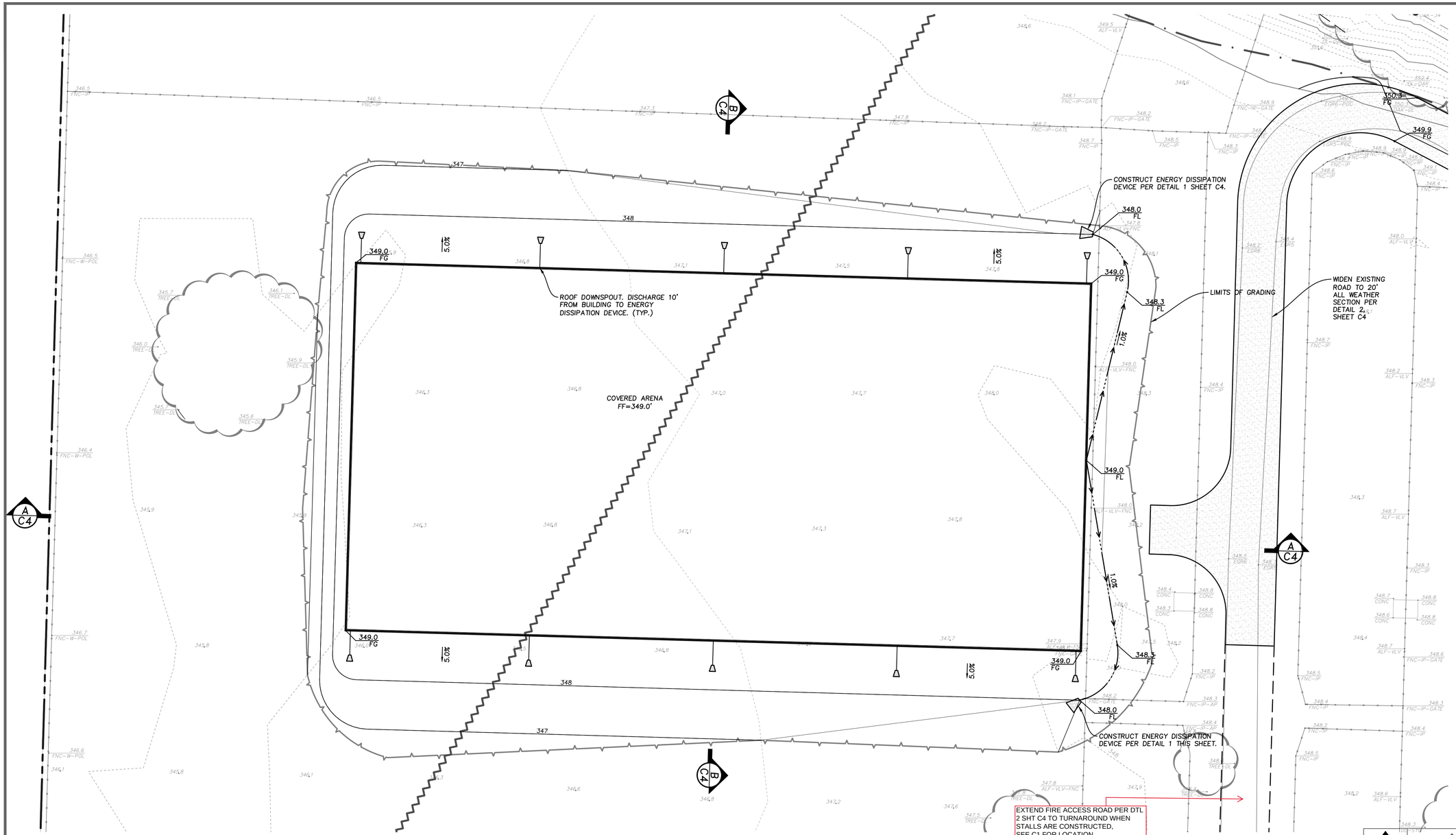
EQUESTRIAN EVENT CENTER

PRELIMINARY GRADING AND DRAINAGE PLAN

SHEET: C2 OF: 6

DATE: DECEMBER 20, 2022



PRELIMINARY ARENA GRADING PLAN
SCALE: 1" = 20'

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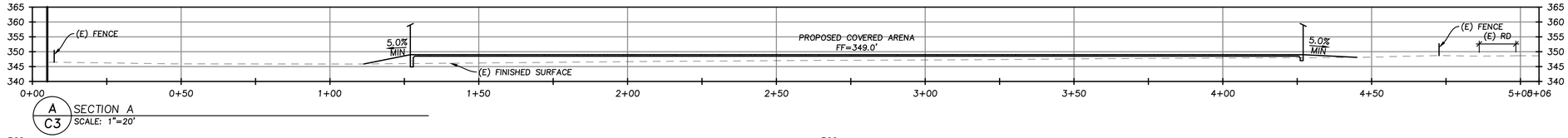
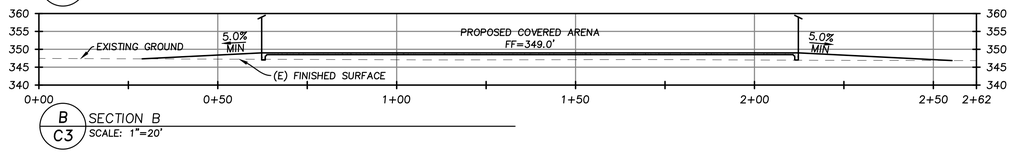
PRELIMINARY ARENA GRADING AND DRAINAGE PLAN

SHEET: C3
OF: 6

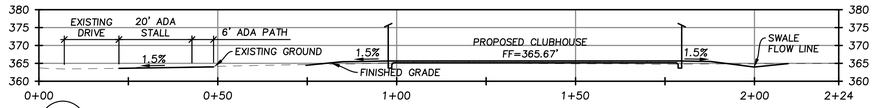
DATE:
DECEMBER 20, 2022



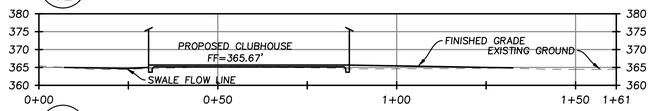
A C3 SECTION A
SCALE: 1"=20'



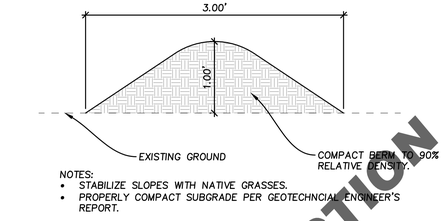
B C3 SECTION B
SCALE: 1"=20'



C C2 SECTION C
SCALE: 1"=20'

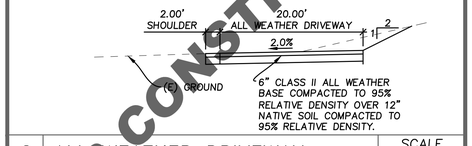


D C2 SECTION D
SCALE: 1"=20'

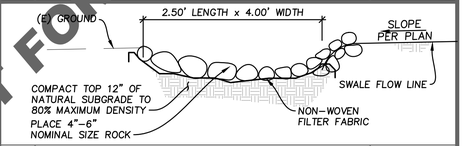


NOTES:
- STABILIZE SLOPES WITH NATIVE GRASSES.
- PROPERLY COMPACT SUBGRADE PER GEOTECHNCIAL ENGINEER'S REPORT.

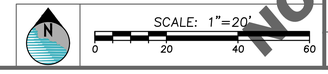
3 BERM — SCALE N.T.S.



2 ALL WEATHER DRIVEWAY — SCALE N.T.S.



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



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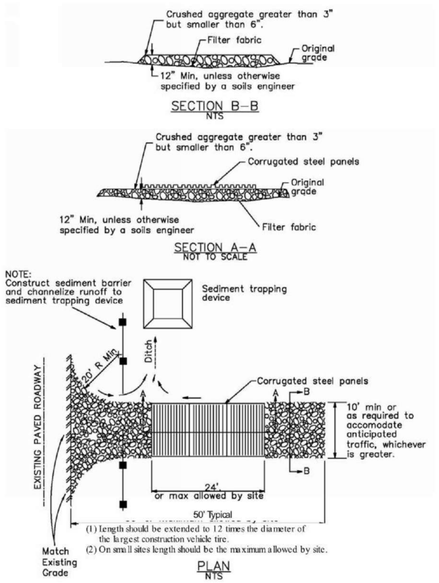
SITE IMPROVEMENT PLANS
EQUESTRIAN EVENT CENTER

SITE SECTIONS AND DETAILS

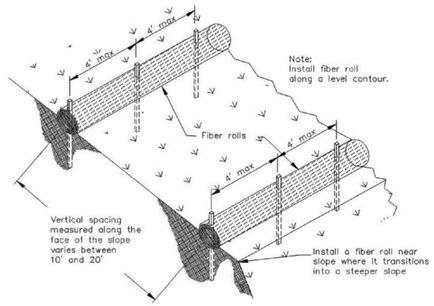
SHEET: C4 OF: 6

DATE: DECEMBER 20, 2022

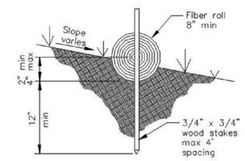
Stabilized Construction Entrance/Exit TC-1



Fiber Rolls SE-5

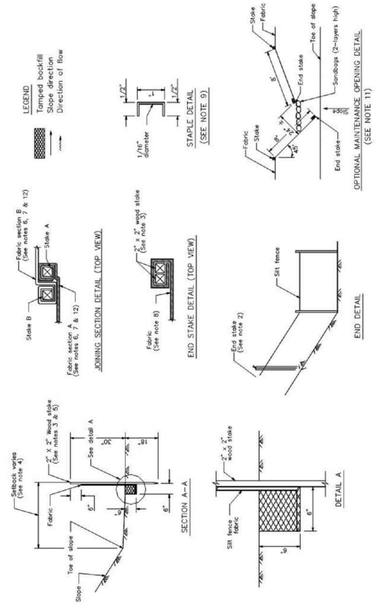


TYPICAL FIBER ROLL INSTALLATION
N.T.S.



ENTRENCHMENT DETAIL
N.T.S.

Silt Fence SE-1



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

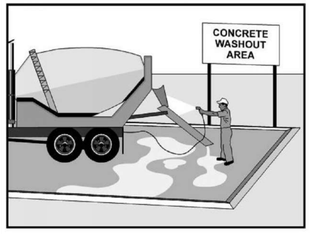
1. CONTRACTOR TO IMPLEMENT CONSTRUCTION BMP'S BELOW IN ACCORDANCE WITH THE CURRENT CASQA CONSTRUCTION BMP HANDBOOK AND WITH THE COUNTY OF SANTA BARBARA STANDARDS. SELECTED BMP'S ARE NOTED ABOVE.
2. BMP'S SHALL BE IMPLEMENTED BY THE CONTRACTOR(S) AS NECESSARY, WHETHER OR NOT SPECIFIED BY THESE PLANS.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

EROSION CONTROL NOTES

- WM-8 — CONSTRUCTION WASH-OUT AREA.
- SE-1 — CONSTRUCTION SILT FENCE.
- SE-5 — FIBER ROLLS
- SE-10 — STORM DRAIN INLET PROTECTION
- TC-1 — STABILIZED CONSTRUCTION ENTRANCE/EXIT

LEGEND

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**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	☑
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

If User/Subscriber modifies this fact sheet in any way, the CASQA name/logo and footer below must be removed from each page and not appear on the modified version.

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).

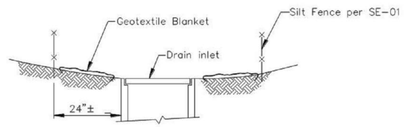
Many types of construction materials, including mortar, concrete, stucco, cement and block and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into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

Suitable Applications

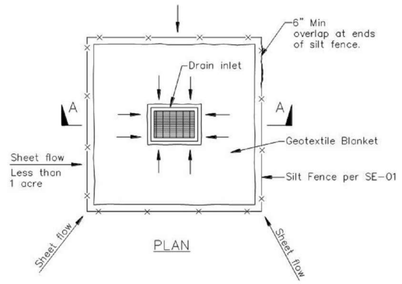
Concrete waste management procedures and practices are implemented on construction projects where:

- 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.

Storm Drain Inlet Protection SE-10



SECTION A–A



PLAN

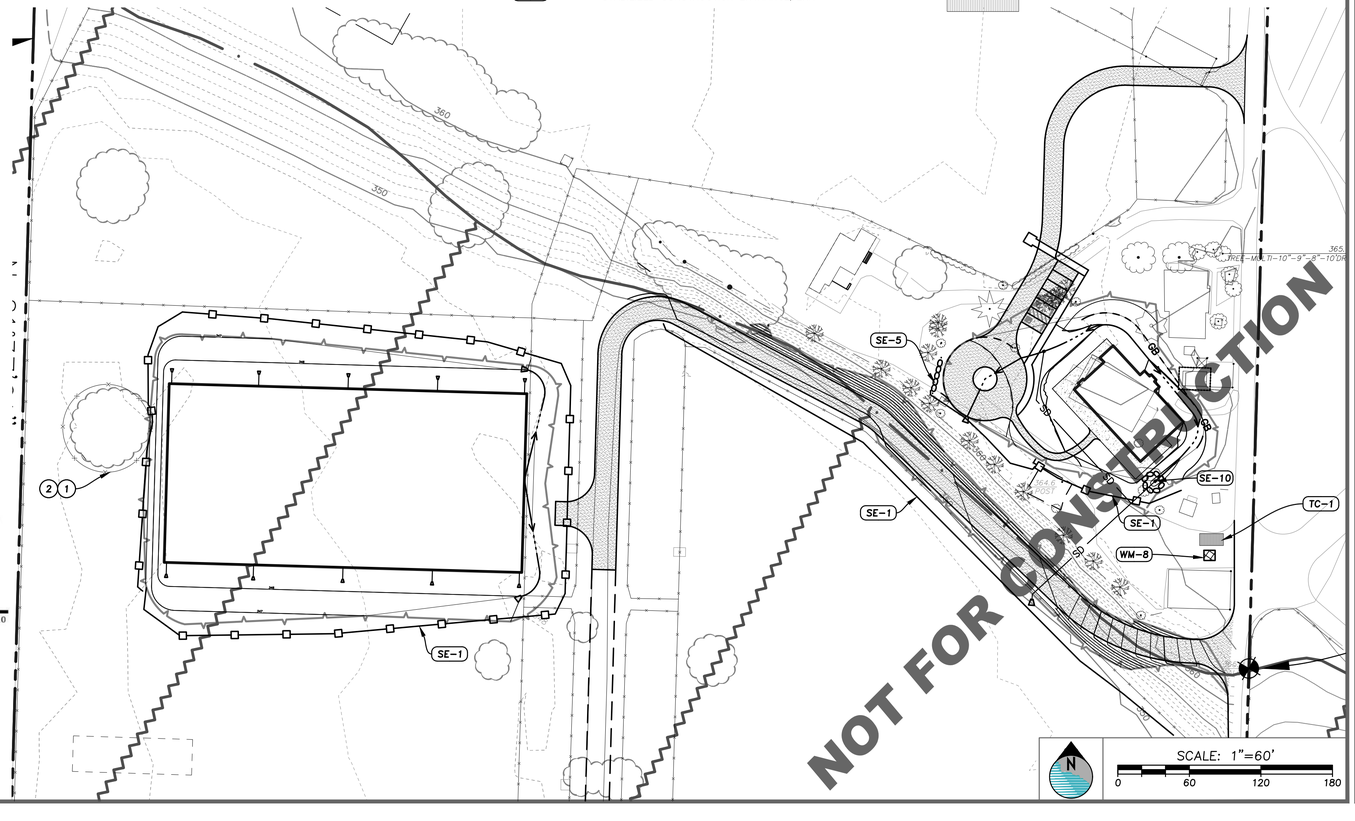
DI PROTECTION TYPE 1
NOT TO SCALE

NOTES:

1. For use in areas where grading has been completed and final soil stabilization and seeding are pending.
2. Not applicable in paved areas.
3. Not applicable with concentrated flows.

TREE PROTECTION NOTES

1. PROTECT LIVE EXISTING OAK TREE IN PLACE. ORANGE VINYL CONSTRUCTION FENCING, 4' HIGH AND SUPPORTED AT A MAXIMUM OF 10' INTERVALS BY TEMPORARY STEEL POSTS. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN A PROTECTIVE FENCING FOR EACH TREE OR GROUP OF TREES ON THE CONSTRUCTION SITE. THE FENCING ENCIRCLES 6' BEYOND THE OUTER LIMITS OF THE DRIP LINE TO PROTECT FROM GRADING, TRENCHING, GROUND DISTURBANCE, CONSTRUCTION ACTIVITIES AND STRUCTURAL DEVELOPMENT. ALL PROTECTIVE FENCING SHALL BE PLACED PRIOR TO COMMENCEMENT OF WORK ON SITE.
2. IF CONSTRUCTION ACTIVITY ENCROACHES WITHIN 100', TREE PROTECTION FENCING WILL BE INSTALLED PER TREE PROTECTION NOTE 1.



COAST ENGINEERING & SURVEY, INC.
785 HIGH STREET
SAN LUIS OBISPO, CA. 93401
PH: (805) 439-1920

REGISTERED PROFESSIONAL ENGINEER TODD A. ROBINSON No. 47156 CIVIL STATE OF CALIFORNIA

PRELIMINARY

REVISIONS:	DATE:	DESCRIPTION:
1	10/25/2022	REVISIONS PER COUNTY COMMENTS
2	04/07/2023	FIRE DEPARTMENT REVISIONS

LOCATION
ADDRESS: 750 EAST HIGHWAY 246
CITY: SOLVANG, CA 93463
APN: 137-250-067

PROJECT NO.
21005

DRAWN LML

CHECKED TAR

CLIENT
LISA NOVATT

HAPPY N. RIVER RANCH

SITE IMPROVEMENT PLANS

EROSION AND SEDIMENT CONTROL PLAN

SHEET: **C5** OF: 6

DATE: DECEMBER 20, 2022

Central Coast Region Stormwater Control Measure Sizing Calculator

1. Project Information

Project name:	Happp N. River Ranch
Project location:	750 East Highway 246
Tier 2/Tier 3:	Tier 2 - Treatment
Design rainfall depth (in):	1.1
Total project area (ft2):	
Total DMA area (ft2):	79324
Total new impervious area (ft2):	51324
Total replaced impervious within a USA (ft2):	
Total replaced impervious not in a USA (ft2):	
Total pervious/landscape area (ft2):	28000
Total SCM area (ft2):	

2. DMA Characterization

Add DMA Row | Remove DMA Row

Name	DMA Type	Area (ft2)	Surface Type	New, Replaced?	Connection
Arena North	Drains to Self-Retaining	22500	Roof		L1
Arena South	Drains to Self-Retaining	22500	Roof		L2
Clubhouse	Drains to Self-Retaining	6324	Roof		L3
L1	Self-Retaining	12000			
L2	Self-Retaining	12000			
L3	Self-Retaining	4000			

DMA Summary Area

Total assigned DMA area (ft2):	79324
New impervious area (ft2):	51324
Replaced impervious within a USA (ft2):	0
Replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	28000

3. SCM Characterization

Add SCM Row | Remove SCM Row

Name	SCM Type	Safety Factor	SCM Soil Type	Infilt. Rate (in/hr)	Area (ft2)

4. Run SBUH Model

Launch Model | Clear Results

5. SCM Minimum Sizing Requirements

SCM Name	Min. Required Storage Vol. (ft3)	Depth Below Underdrain (ft)	Drain Time (hours)	Orifice Diameter (in)

6. Self-Retaining Area Sizing Checks

Self-Retaining DMA Name	Self-Retaining DMA Area (ft2)	Tributary DMA Name(s)	Eff. Tributary DMA Area (ft2)	Effective Tributary / SRA Area Ratio
L1	12000	Arena North	22500	1.88
L2	12000	Arena South	22500	1.88
L3	4000	Clubhouse	6324	1.58

STORMWATER CONTROL PLAN

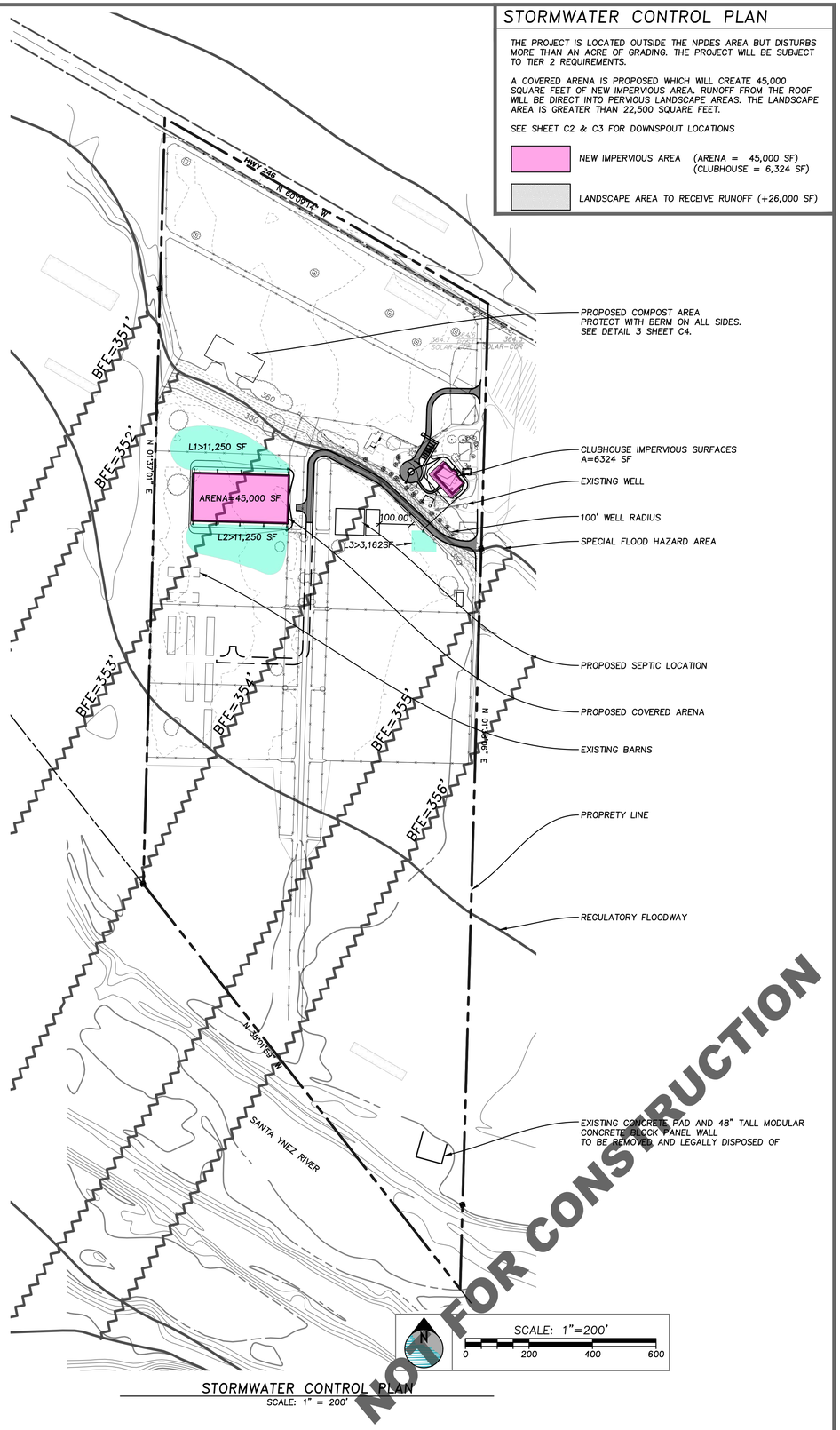
THE PROJECT IS LOCATED OUTSIDE THE NPDES AREA BUT DISTURBS MORE THAN AN ACRE OF GRADING. THE PROJECT WILL BE SUBJECT TO TIER 2 REQUIREMENTS.

A COVERED ARENA IS PROPOSED WHICH WILL CREATE 45,000 SQUARE FEET OF NEW IMPERVIOUS AREA. RUNOFF FROM THE ROOF WILL BE DIRECT INTO PERVIOUS LANDSCAPE AREAS. THE LANDSCAPE AREA IS GREATER THAN 22,500 SQUARE FEET.

SEE SHEET C2 & C3 FOR DOWNSPOUT LOCATIONS

NEW IMPERVIOUS AREA (ARENA = 45,000 SF) (CLUBHOUSE = 6,324 SF)

LANDSCAPE AREA TO RECEIVE RUNOFF (+26,000 SF)



STORMWATER CONTROL PLAN
SCALE: 1" = 200'

NOT FOR CONSTRUCTION

COAST
ENGINEERING & SURVEY, INC.
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REGISTERED PROFESSIONAL ENGINEER
TODD A. ROBINSON
No. 73756
CIVIL
STATE OF CALIFORNIA

PRELIMINARY

REVISIONS:	DATE:	DESCRIPTION:
1	10/25/2022	REVISIONS PER COUNTY COMMENTS
2	04/07/2023	FIRE DEPARTMENT REVISIONS

LOCATION
ADDRESS: 750 EAST HIGHWAY 246
CITY: SOLVANG, CA 93463
APN: 137-250-067

PROJECT NO. 21005

DRAWN LML

CHECKED TAR

CLIENT LISA NOVATT

HAPPY N. RIVER RANCH
SITE IMPROVEMENT PLANS
EQUESTRIAN EVENT CENTER

PRELIMINARY STORMWATER CONTROL PLAN

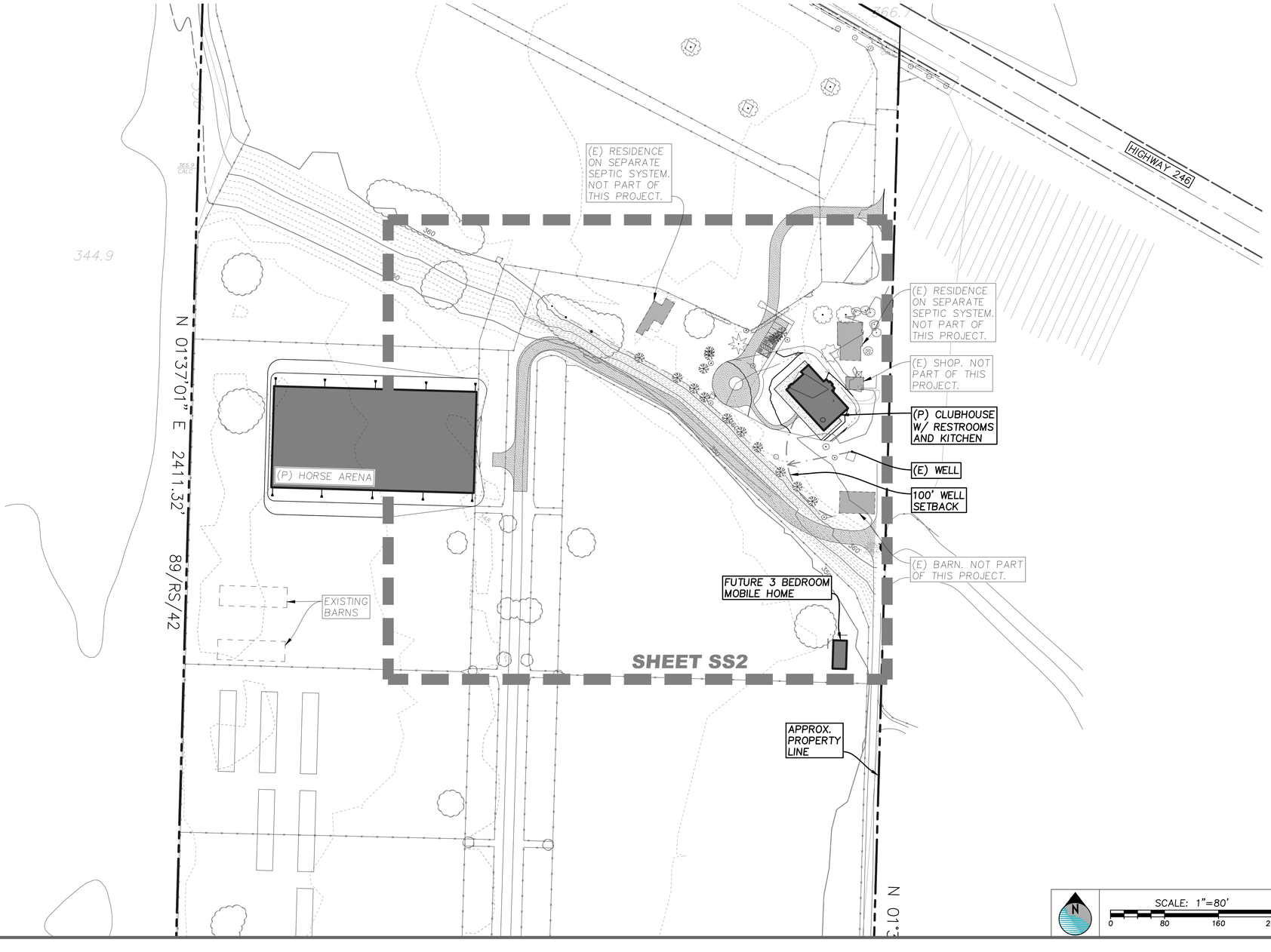
SHEET: C6

OF: 6

DATE: DECEMBER 20, 2022

HAPPY N. RIVER RANCH
OWTS DESIGN PLAN

750 EAST HIGHWAY 246
SOLVANG, CA. 93463
APN: 137-250-067



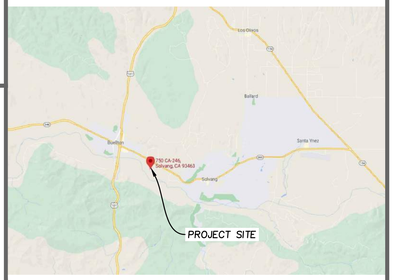
FLOOD ZONE NOTE

THIS DISPERSAL FIELD IS LOCATED WITHIN THE 100 YEAR FLOOD ZONE. DISCHARGE TO SYSTEM IS PROHIBITED IN CONDITIONS WHERE INUNDATION OF DISPERSAL FIELD HAS OCCURRED.

CONTRACTOR TO INSTALL BACKFLOW PREVENTION DEVICES TO ENSURE A FLOODED DISPERSAL FIELD DOES NOT GENERATE A SURFACING EFFLUENT CONDITION.

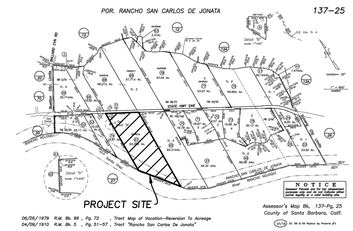
VICINITY MAP

N.T.S.



ASSESSORS PARCEL MAP

N.T.S.



TOPOGRAPHIC INFORMATION

1. TOPOGRAPHIC AND BOUNDARY SURVEY WAS PERFORMED.
2. UNDERGROUND UTILITIES SHOWN HEREON (IF ANY) ARE BASED ON ABOVE-GROUND STRUCTURES, USA MARKINGS, AND RECORD DRAWINGS ONLY. ACTUAL LOCATION MAY VARY.
3. ADDITIONAL UNDERGROUND UTILITY SERVICE LINES TO THE PROPERTY MAY EXIST. FOR INFORMATION REGARDING UTILITY LOCATIONS, SIZE, DEPTH, CONDITION, AND CAPACITY, CONTACT UTILITY OWNERS.

FIELD SURVEYS PERFORMED: 1-28-2021 & 2-2-2021

LEGEND

- PROPERTY LINE
- S — PROPOSED SEWER LINE
- S — EX. SEWER LINE
- P — PROPOSED SEWER PRESSURE
- EASEMENT
- SETBACK
- P6 / PERC RATE / LOADING RATE / DEPTH OF TEST — PERCOLATION TEST LOCATION
- MEASURED PERCOLATION RATE (MIN/IN)
- ALLOWABLE LOADING RATE (PER LAMP REQUIREMENTS)
- DEPTH OF TEST

SHEET INDEX

SS1	OWTS TITLE SHEET, SITE PLAN
SS2	OWTS DESIGN PLAN
SS3	OWTS DETAILS

SCALE: 1"=80'
0 80 160 240

COAST ENGINEERING & SURVEY, INC.
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REGISTERED PROFESSIONAL ENGINEER
TODD A. ROBINSON
No. 75756
CIVIL
STATE OF CALIFORNIA

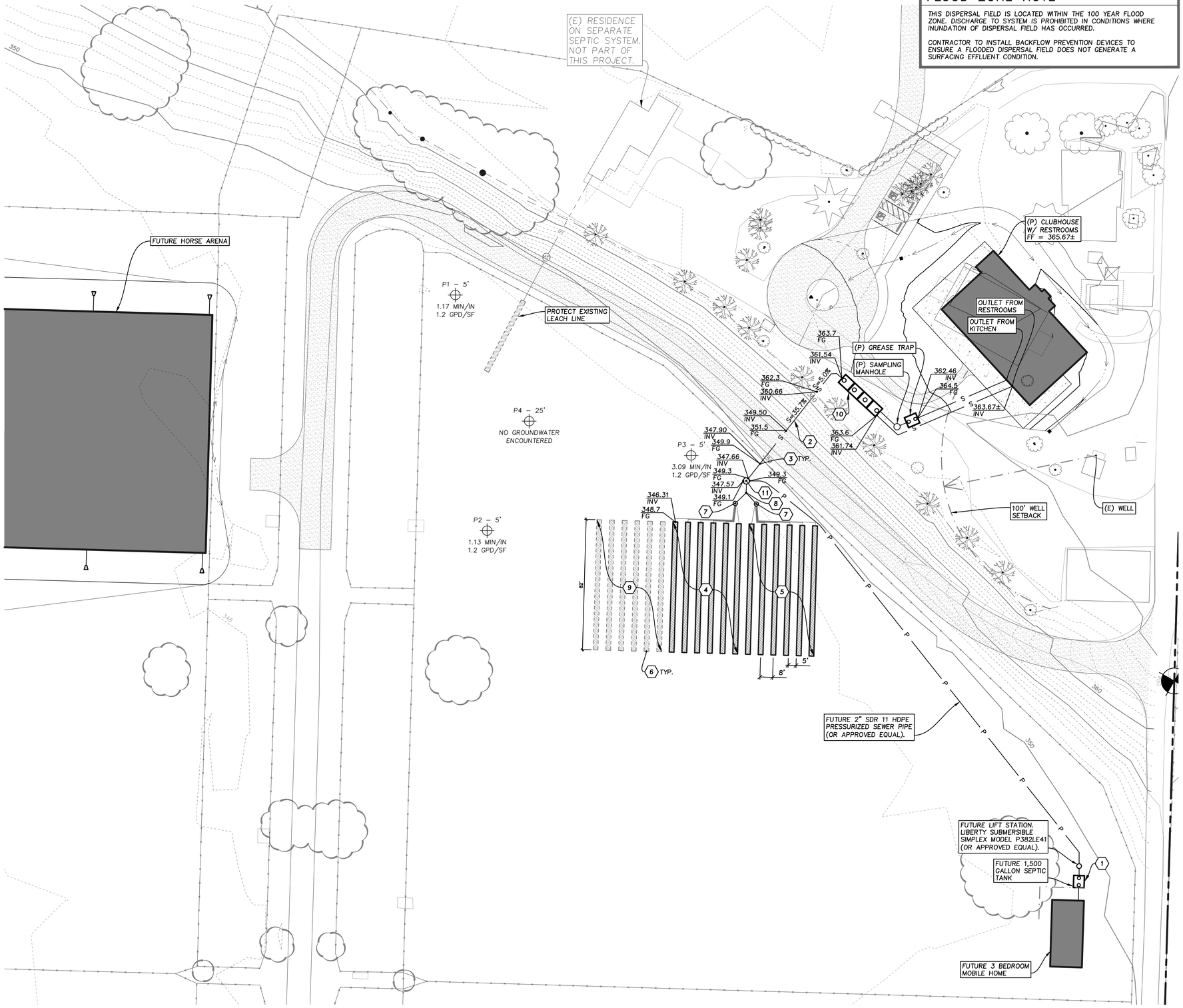
REVISIONS:
DESCRIPTION:	DATE:
OWTS REVISIONS	01/20/2023

LOCATION
ADDRESS: 750 EAST HIGHWAY 246
CITY: SOLVANG, CA 93463
APN: 137-250-067
PROJECT NO. 21005
DRAWN NAH
CHECKED TAR
CLIENT LISA NOVATT

HAPPY N. RIVER RANCH
SITE IMPROVEMENT PLANS

OWTS TITLE SHEET, SITE PLAN

SHEET: **SS1** OF: 3
DATE: JULY 12, 2021



FLOOD ZONE NOTE

THIS DISPERSAL FIELD IS LOCATED WITHIN THE 100 YEAR FLOOD ZONE. DISCHARGE TO SYSTEM IS PROHIBITED IN CONDITIONS WHERE INUNDATION OF DISPERSAL FIELD HAS OCCURRED.

CONTRACTOR TO INSTALL BACKFLOW PREVENTION DEVICES TO ENSURE A FLOODED DISPERSAL FIELD DOES NOT GENERATE A SURFACING EFFLUENT CONDITION.

CONSTRUCTION NOTES

1. FUTURE 1,500 GALLON TRAFFIC RATED MIDSTATE CONCRETE SEPTIC TANK (OR APPROVED EQUAL). TANK SHOULD BE FITTED WITH WATERTIGHT RISERS TO EXTEND WITHIN 12" OF EXISTING GROUND. SEE DETAIL "D" SHEET SS3. ENSURE INSTALLATION OF AN APPROVED EFFLUENT FILTER, SEE DETAIL "I" SHEET SS3 OR APPROVED EQUAL.
2. INSTALL 4" SDR 35 SEWER LINE AT 2% MINIMUM SLOPE, OR 6" SDR 35 SEWER LINE AT 1% MINIMUM SLOPE PER DETAIL "B" SHEET SS3.
3. CONSTRUCT SEWER CLEANOUTS AT THE UPPER TERMINUS OF EACH HORIZONTAL DRAINAGE PIPE, HORIZONTAL CHANGES IN DIRECTION GREATER THAN OR EQUAL TO 45°, AND AT LEAST EVERY 100'; REFER TO DETAIL "A" SHEET SS3.
4. INSTALL PRIMARY LEACH FIELD PER DETAIL "C" SHEET SS3, AND IN ACCORDANCE WITH ALL MANUFACTURER, SB LAMP, AND CALIFORNIA PLUMBING CODE RECOMMENDATIONS.
5. INSTALL SECONDARY LEACH FIELD PER DETAIL "C" SHEET SS3, AND IN ACCORDANCE WITH ALL MANUFACTURER, SB LAMP, AND CALIFORNIA PLUMBING CODE RECOMMENDATIONS.
6. INSTALL INSPECTION PORT. INSPECTION PORTS SHALL EXTEND TO THE BOTTOM OF THE TRENCH OR BED AND MUST BE ANCHORED TO PREVENT DISTURBANCE OR REMOVAL. THE PORTION OF THE INSPECTION PORT WITHIN THE ROCK FILTER MATERIAL SHALL BE PERFORATED TO PERMIT THE FREE FLOW OF THE LIQUID. THE INSPECTION PORTS SHALL HAVE REMOVABLE CAPS AND MAY EITHER EXTEND ABOVE GRADE OR SET TO GRADE IF ENCLOSED IN A SERVICE BOX WITH REMOVABLE LID. THE BOXES SHALL BE MADE OF NON–DEGRADABLE MATERIAL SUCH AS PVC, FIBERGLASS OR CONCRETE.
7. FURNISH AND INSTALL MIDSTATE CONCRETE (7)–OUTLET DISTRIBUTION BOX PER DETAIL "F" SHEET SS3 (OR APPROVED EQUAL).
8. FURNISH AND INSTALL DIVERTER VALVE. DETAIL "E" SHEET SS3 (OR APPROVED EQUAL)
9. RESERVE AREA FOR FUTURE USE – 100% LEACH FIELD EXPANSION.
10. INSTALL 6,000 GALLON MIDSTATE CONCRETE SEPTIC TANK (OR APPROVED EQUAL). TANK SHOULD BE FITTED WITH WATERTIGHT RISERS TO EXTEND WITHIN 12" OF EXISTING GROUND. SEE DETAIL "G" SHEET SS3. ENSURE INSTALLATION OF AN APPROVED EFFLUENT FILTER, SEE DETAIL "I" SHEET SS3 OR APPROVED EQUAL.
11. INSTALL MANHOLE JUNCTION STRUCTURE PER DETAIL "H" SHEET SS3 (OR APPROVED EQUAL).

ENGINEER'S NOTE

AS PER THE LAMP 18C–3(F)(2) THE DESIGNING ENGINEER SHOULD CONDUCT PERIODIC INSPECTIONS OF ONSITE WASTEWATER TREATMENT SYSTEMS AFTER EXCAVATION AND PRIOR TO THE PLACEMENT OF ANY ROCK OR FILL MATERIAL. PRIOR TO FINAL APPROVAL, A SIGNED REPORT SHALL BE SUBMITTED TO EHS CONFIRMING THAT THE OWTS INSTALLATION HAS BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED DESIGN. THIS DOES NOT PRECLUDE THE NORMAL INSPECTION PROCESS ASSOCIATED WITH THE PERMIT TO CONSTRUCT.

GENERAL NOTES

1. ALL SEWER PIPES SHALL BE SDR 35 P.V.C. CONFORMING TO ASTM D–3034 OR EQUIVALENT UNLESS OTHERWISE NOTED.
2. TRENCHING, BEDDING, AND BACKFILL SHALL BE PER COUNTY OF SANTA BARBARA SPECIFICATIONS.
3. ALL SEWERS SHALL BE TESTED BY THE CONTRACTOR PER COUNTY OF SANTA BARBARA STANDARDS.
4. ALL SEWER IMPROVEMENTS AND DISPOSAL FIELDS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE COUNTY OF SANTA BARBARA ENVIRONMENTAL HEALTH SERVICES, CALIFORNIA PLUMBING CODE, AND THESE PLANS.
5. THE LOCATION OF SEPTIC TANKS, BOXES, AND DISPOSAL FIELDS SHALL BE STAKED PRIOR TO CONSTRUCTION TO COMPLY WITH SETBACK REQUIREMENTS.

	SEPTIC TANK	DISPOSAL
SETBACK TO PROPERTY LINE	5'	5'
SETBACK TO BUILDING	5'	8'
SETBACK TO PUBLIC WATER MAIN	10'	10'
SETBACK TO TOP OF CREEK BANK	100'	100'
SETBACK TO PRIVATE WATER WELL	100'	100'
SETBACK TO PUBLIC WATER WELL	150'	150'
SETBACK TO ADDITIONAL DISPOSAL FIELDS	5'	4'
SETBACK TO ONSITE WATER SERVICE LINE	5'	5'
HORIZONTAL DISTANCE FROM LEACHING SYSTEM TO GROUND SURFACE	15'	15'
SETBACK TO DISTRIBUTION BOX	–	5'

6. PER CPC – MINIMUM SPACING BETWEEN TRENCHES OR LEACHING BEDS SHALL BE FOUR (4) FEET PLUS TWO (2) FEET FOR EACH ADDITIONAL FOOT OF DEPTH IN EXCESS OF (1) FOOT BELOW THE BOTTOM OF THE DRAIN LINE.
7. CONTRACTOR TO MAINTAIN ALL MINIMUM DISTANCE REQUIREMENTS BETWEEN OWTS COMPONENTS AND SATISFY OTHER SETBACKS PER LAMP REQUIREMENTS.
8. THIS PLAN DOES NOT AUTHORIZE ANY INCREASE IN DESIGN FLOW AT THE EXISTING PROPERTY.
9. THIS SITE PLAN DOES NOT CONSTITUTE A SURVEY. IT IS SCHEMATIC IN NATURE AND PROVIDES FOR SEPTIC SYSTEM LAYOUT AND SITE REPRESENTATION ONLY.

EHS NOTE

SEPTIC SYSTEM INSTALLERS NEED TO WORK FROM THE EHS STAMPED APPROVED PLANS ONLY AND SHOULD NOT DIVERT FROM THE ENGINEERED DESIGN.

DISPOSAL FIELD SIZING CALCULATIONS

FIELD	RESULT
PARCEL SIZE:	63.35 ACRES
PEAK FLOW CALCULATIONS	(SEE OWTS CALCULATION REPORT)
PEAK FLOW RATE	2,209 GPD
LOADING RATE	1.2 GPD/SF
REQUIRED LEACHING AREA	200% (COMMERCIAL)
ADVANCED TREATMENT	NO
DOSING	NO
APPLICATION AREA REQUIRED (2,209 GPD / 1.2 GPD/SF)	1,690.8 SF
LEACH FIELD ABSORPTION AREA	4 SF/LF
LEACH LENGTH REQ. (100%)	423 LF
LEACH LENGTH REQ. (200%)	846 LF
LEACH LENGTH PROVIDED (100%)	492 LF
LEACH LENGTH PROVIDED (200%)	984 LF
TRENCH WIDTH	3 FT

SEPTIC TANK SIZING
(SEE OWTS CALCULATION REPORT)

COMMERCIAL PROJECTS REQUIRE TWICE THE 100% DISPOSAL AREA TO BE INSTALLED WITH AN ADDITIONAL 100% HELD IN RESERVE. TOTAL NUMBER OF LEACH LINES TO BE INSTALLED WILL BE 12 @ 82 FT EACH.

SCALE: 1"=30'
0 30 60 90

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

REVISIONS:

DATE:	DESCRIPTION:
01/20/2023	OWTS REVISIONS

LOCATION
ADDRESS: 750 EAST HIGHWAY 246
CITY: SOLVANG, CA 93463
APN: 137–250–067

DRAWN NAH
CHECKED TAR

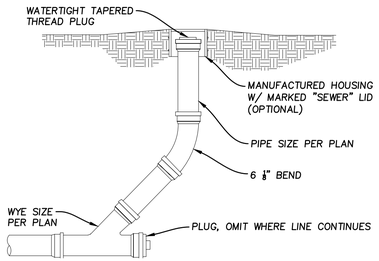
PROJECT NO. 21005
CLIENT LISA NOVATT

HAPPY N. RIVER RANCH
SITE IMPROVEMENT PLANS

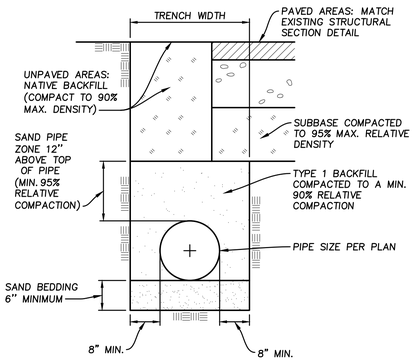
OWTS DESIGN PLAN

SHEET: SS2
OF: 3

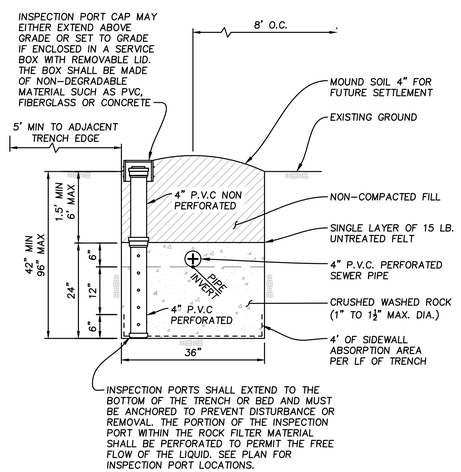
DATE: JULY 12, 2021



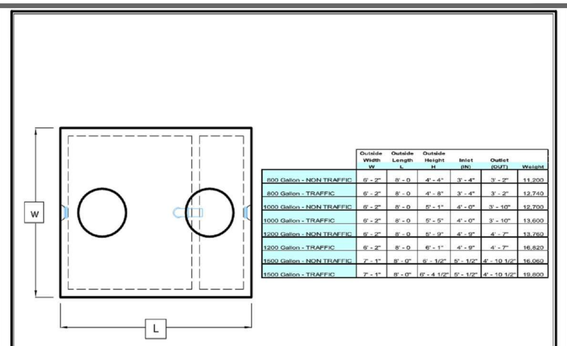
A | TYPICAL CLEANOUT DETAIL | SCALE N.T.S.



B | TYPICAL TRENCH DETAIL | SCALE N.T.S.



C | TYPICAL LEACH LINE DETAIL | SCALE N.T.S.



	Outside Width W	Outside Length L	Outside Height H	Inlet (IN)	Outlet (OUT)	Weight
500 Gallon - NON TRAFFIC	6' - 2"	8' - 0	4' - 4"	3' - 4"	3' - 2"	11,200
500 Gallon - TRAFFIC	6' - 2"	8' - 0	4' - 8"	3' - 4"	3' - 2"	12,745
1000 Gallon - NON TRAFFIC	6' - 2"	8' - 0	5' - 1"	4' - 0"	3' - 10"	12,700
1000 Gallon - TRAFFIC	6' - 2"	8' - 0	5' - 5"	4' - 0"	3' - 10"	13,600
1200 Gallon - NON TRAFFIC	6' - 2"	8' - 0	6' - 3"	4' - 9"	4' - 7"	13,750
1200 Gallon - TRAFFIC	6' - 2"	8' - 0	6' - 1"	4' - 9"	4' - 7"	16,820
1500 Gallon - NON TRAFFIC	7' - 1"	8' - 0"	6' - 1/2"	5' - 1/2"	4' - 10 1/2"	16,060
1500 Gallon - TRAFFIC	7' - 1"	8' - 0"	6' - 4 1/2"	5' - 1/2"	4' - 10 1/2"	19,600

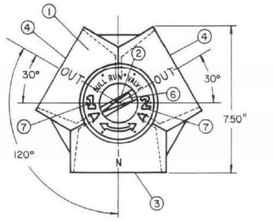
MID STATE Concrete Products Santa Maria, Ca | 1625 E. DONOVAN RD., STE. C SANTA MARIA, CA 93454 PH (805) 928-2855 FAX (805) 928-2114 www.midstateconcrete.com | **CONCRETE SEPTIC TANKS** REV. 09/07

D | 1,500 GAL TRAFFIC RATED SEPTIC TANK | SCALE N.T.S.

Bull Run® Valve

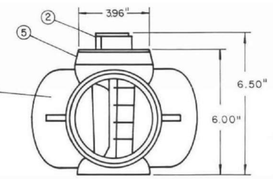
Specification Sheet

SIZE: 4" Valve Ports
MATERIAL: PVC
WEIGHT: 2½ Pounds
POSITIONER: Manual with Internal Stop



UPC

1. Valve Body
2. Direction Control Handle
3. Valve "IN" Port
4. Valve "OUT" Port
5. Riser Tube Connection
6. Positioning Shape
7. Indicator Number



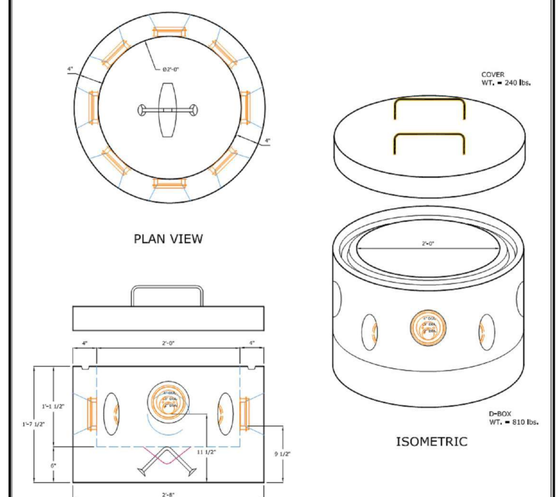
OPERATION OF VALVE

The Direction Control Handle is turned using the valve key (a standard water meter key) provided so the Positioning Shape on the Direction Control Handle is perfectly in line with the corresponding Positioning Shape labeled as No. 1 or No. 2 on the valve body. The indicator number shows which side of the field is in use.

The internally tapered valve body and plug provide compression sealing for operation. This design may cause minimal resistance to the turning operation which is perfectly normal.

PATENT NO. 4,217,933

E | DIVERTER VALVE | SCALE N.T.S.

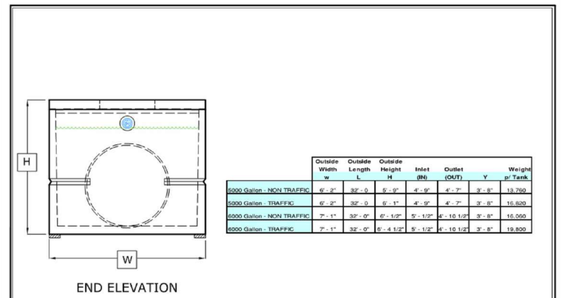


NOTES:

1. Heights shown above are nominal dimensions. Actual dimensions vary to allow a ½" mortar or sealant joint, if needed.
2. Inlet and Outlet holes are cast in product wall using "Polylok Pipe Seal" low pressure pipe seals.
3. Wire mesh ASTM A 185

MID STATE Concrete Products Santa Maria, Ca | 1625 E. DONOVAN RD., STE. C SANTA MARIA, CA 93454 PH (805) 928-2855 FAX (805) 928-2114 www.midstateconcrete.com | **24 ROUND D-BOX 7 outlets** REV. 05/12

F | DISTRIBUTION BOX – 7 OUTLET | SCALE N.T.S.

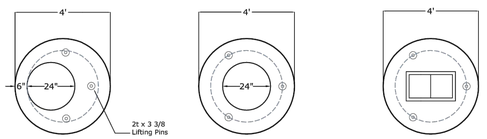


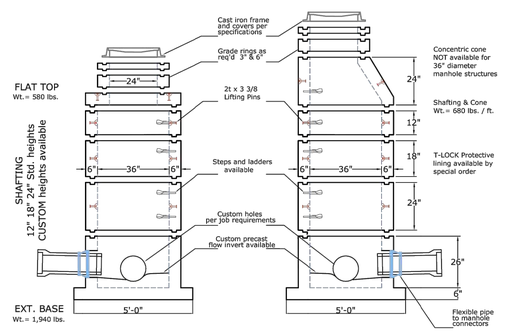
	Outside Width w	Outside Length L	Outside Height H	Inlet (IN)	Outlet (OUT)	Y	Weight pr Tank
5000 Gallon - NON TRAFFIC	6' - 2"	32' - 0	5' - 5"	4' - 9"	4' - 7"	3' - 8"	13,780
5000 Gallon - TRAFFIC	6' - 2"	32' - 0	6' - 1"	4' - 9"	4' - 7"	3' - 8"	16,820
6000 Gallon - NON TRAFFIC	7' - 1"	32' - 0"	6' - 1/2"	5' - 1/2"	4' - 10 1/2"	3' - 8"	16,060
6000 Gallon - TRAFFIC	7' - 1"	32' - 0"	6' - 4 1/2"	5' - 1/2"	4' - 10 1/2"	3' - 8"	19,600

MID STATE Concrete Products Santa Maria, Ca | 1625 E. DONOVAN RD., STE. C SANTA MARIA, CA 93454 PH (805) 928-2855 FAX (805) 928-2114 www.midstateconcrete.com | **5000 & 6000 gal BATTERY TANKS** REV. 09/07

G | 6,000 GAL SEPTIC TANK | SCALE N.T.S.

FLAT TOP OPTIONS





MID STATE Concrete Products Santa Maria, Ca | 1625 E. DONOVAN RD., STE. C SANTA MARIA, CA 93454 PH (805) 928-2855 FAX (805) 928-2114 www.midstateconcrete.com | **36" DIAMETER MANHOLE** REV. 09/07

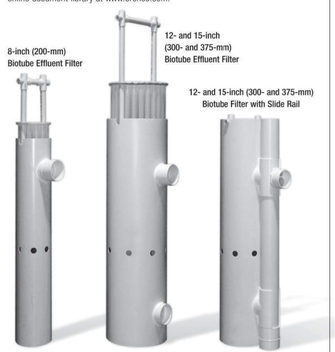
H | MANHOLE JUNCTION STRUCTURE | SCALE N.T.S.

orenco SYSTEMS *Product Sheet*

Commercial Biotube® Effluent Filters

Applications

Our patented* Biotube® Effluent Filters in 8-, 12-, and 15-inch (200-, 300-, and 375-mm) diameter sizes are ideal for large residential, commercial, and community applications. They prevent large solids from leaving the tank, dramatically improving wastewater quality and extending the life of downstream treatment systems. For more information, see our "Filter Facts" document, AFL-FT-2-PRN, which is available on our online document library at www.orenco.com.



Orenco's commercially-sized effluent filters are the only effluent filters on the market capable of handling large wastewater flows. Standard models have up to 52 ft² (4.8 m²) of filter area, to resist clogging while providing maximum long-term protection. Large filter area increases the time between cleanings.

*Covered by patent numbers 5,492,635 and 4,439,323

Standard Features & Benefits

- The only large, commercial-size effluent filter available
- Removes about two-thirds of suspended solids, on average, extending drainfield life
- Flow modulating discharge orifices to limit flow rate leaving tank, mitigating surges and increasing retention time
- Extendible cartridge handle, simplifies filter removal
- Easy to clean by simply hosing off filter cartridge
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Optional Features & Benefits

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- Slide Rail System available, required when there is only one tank access to the effluent filter compartment
- Multiple filters may be used to accommodate larger flows

Biotube Filtering Process

Effluent from the relatively clear zone of the septic tank, between the scum and sludge layers, horizontally enters the Biotube Effluent Filter through inlet holes in the housing. Effluent then enters the annular space between the housing and the Biotubes, utilizing the Biotubes' entire surface for filtering. Particles larger than the Biotube's mesh are prevented from leaving the tank.

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orenco SYSTEMS

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I | EFFLUENT FILTER | SCALE N.T.S.

COAST ENGINEERING & SURVEY, INC.
785 HIGH STREET
SAN LUIS OBISPO, CA. 93401
PH: (805) 439-1920

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

REVISIONS:

DATE:	DESCRIPTION:
01/20/2023	OWTS REVISIONS

LOCATION
ADDRESS: 750 EAST HIGHWAY 246
CITY: SOLVANG, CA 93463
APN: 137-250-067

PROJECT NO. 21005

CLIENT LISA NOVATT

DRAWN NAH

CHECKED TAR

HAPPY N. RIVER RANCH

SITE IMPROVEMENT PLANS

OWTS DETAILS

SHEET: SS3 OF: 3

DATE: JULY 12, 2021

PROJECT INFORMATION

750 HWY 246
BUELLTON, CA
APN # 137-250-067

ZONING - AG-I-40
HIGH FIRE AREA
AG PRESERVE CONTRACT # - 16AP016

LOT SIZE 63.35 AC- 2,759,526 SQ FT

EXISTING STRUCTURES - SINGLE STORY

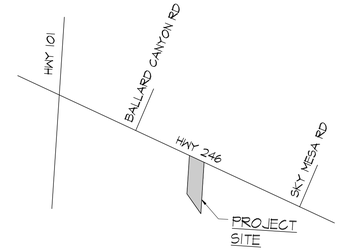
EXISTING RESIDENCE #1	16' HT	1809 SQ FT
EXISTING RESIDENCE #2	16' HT	1500 SQ FT
TOTAL LIVING SPACE		3309 SQ FT
EXISTING BARN #1	20' HT	2460 SQ FT
EXISTING BARN #2	23' HT	1850 SQ FT
EXISTING SHOP	14' HT	400 SQ FT
HAY BARN (UNDER CONST)	21' HT	3000 SQ FT
EQUIP BARN (UNDER CONST)	19' HT	3000 SQ FT
TOTAL AG BUILDING		10710 SQ FT
TOTAL EXISTING STRUCTURES		14,019 SQ FT

PROPOSED STRUCTURES - SINGLE STORY

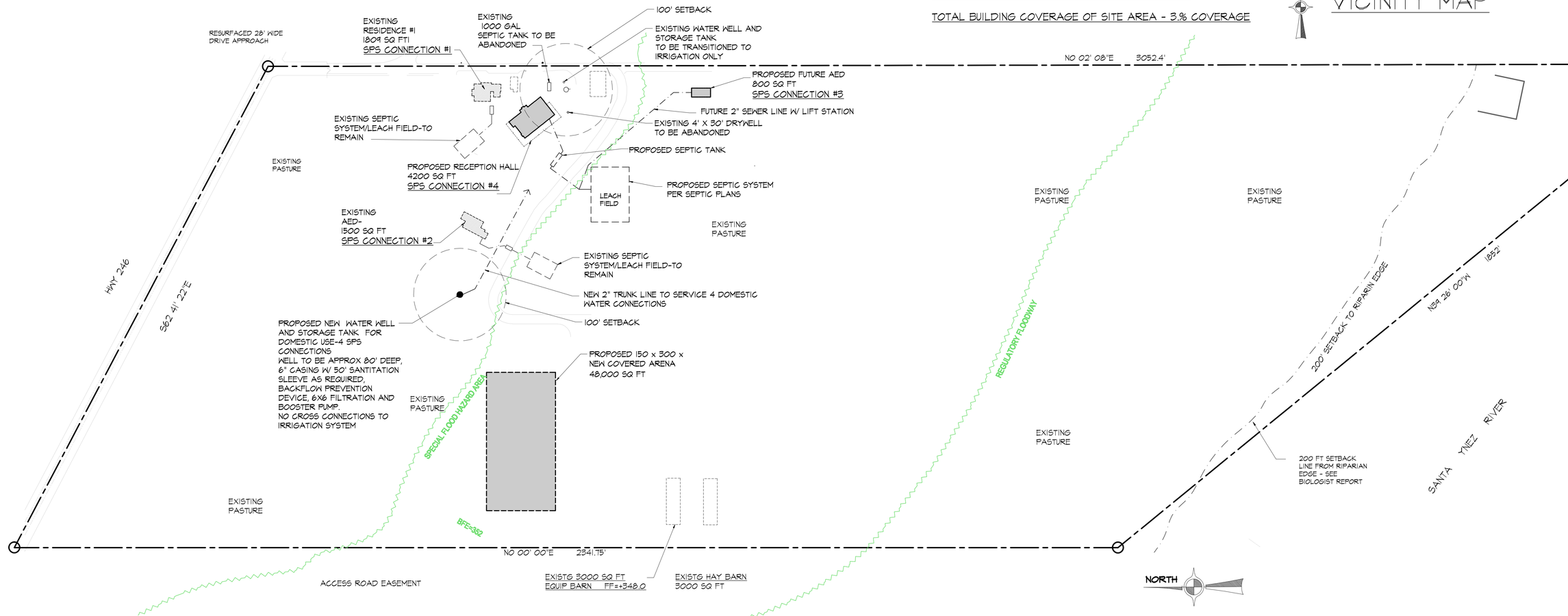
RECEPTION HALL	23' HT	4200 SQ F
AED	12' HT	800 SQ FT
TOTAL LIVING SPACE		5000 SQ FT
COVERED RIDING ARENA	28' HT	45,000 SQ FT
PROPOSED HORSE BARNS 2880 SQ FT X 6	15' HT	17,280 SQ FT
TOTAL AG BUILDING		62,280 SQ FT
TOTAL PROPOSED STRUCTURES		67,280 SQ FT

TOTAL EXISTING AND PROPOSED 81, 299 SQ FT

TOTAL BUILDING COVERAGE OF SITE AREA - 3.% COVERAGE



VICINITY MAP



SITE SEWER AND WATER COMPOSITE PLAN

SCALE 1"=100' FT

statler ▫ design solutions
1795 Ocean Oaks Rd.
Carpinteria Ca. 93013
805-252-3679
gordon@statlerdesignsolutions.com

HAPPY N RIVER RANCH
750 HWY 246
SOLVANG, CA.

SUBMITTAL DATES

DATE	DESCRIPTION
3-9-23	SITE SEWER AND WATER

DATE -	SHEET NO.
DESIGNED BY Gordon Statler	SS-4
DRAWN BY TJ	
CHECKED BY Gordon Statler	

PROJECT NAME
NOVATT

Attachment 3: Biological Assessment Report dated January 2023

January 20, 2023

BIOLOGICAL ASSESSMENT
EQUESTRIAN EVENT FACILITIES

Happy N River Ranch
750 Highway 246 (APN: 137-250-067)
Solvang, California

Prepared for:
Gordon Statler
Statler Design Solutions
1795 Ocean Oaks Road
Carpinteria, California 93013

Prepared by:
Watershed Environmental, Inc.
3324 State Street, Suite B
Santa Barbara, CA 93105

BIOLOGICAL ASSESSMENT
EQUESTRIAN EVENT FACILITIES
Happy N River Ranch
750 Highway 246 (APN: 137-250-067)
Solvang, California

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ATTACHMENTS

Attachment 1. Photographs of Project Site

1.0 INTRODUCTION

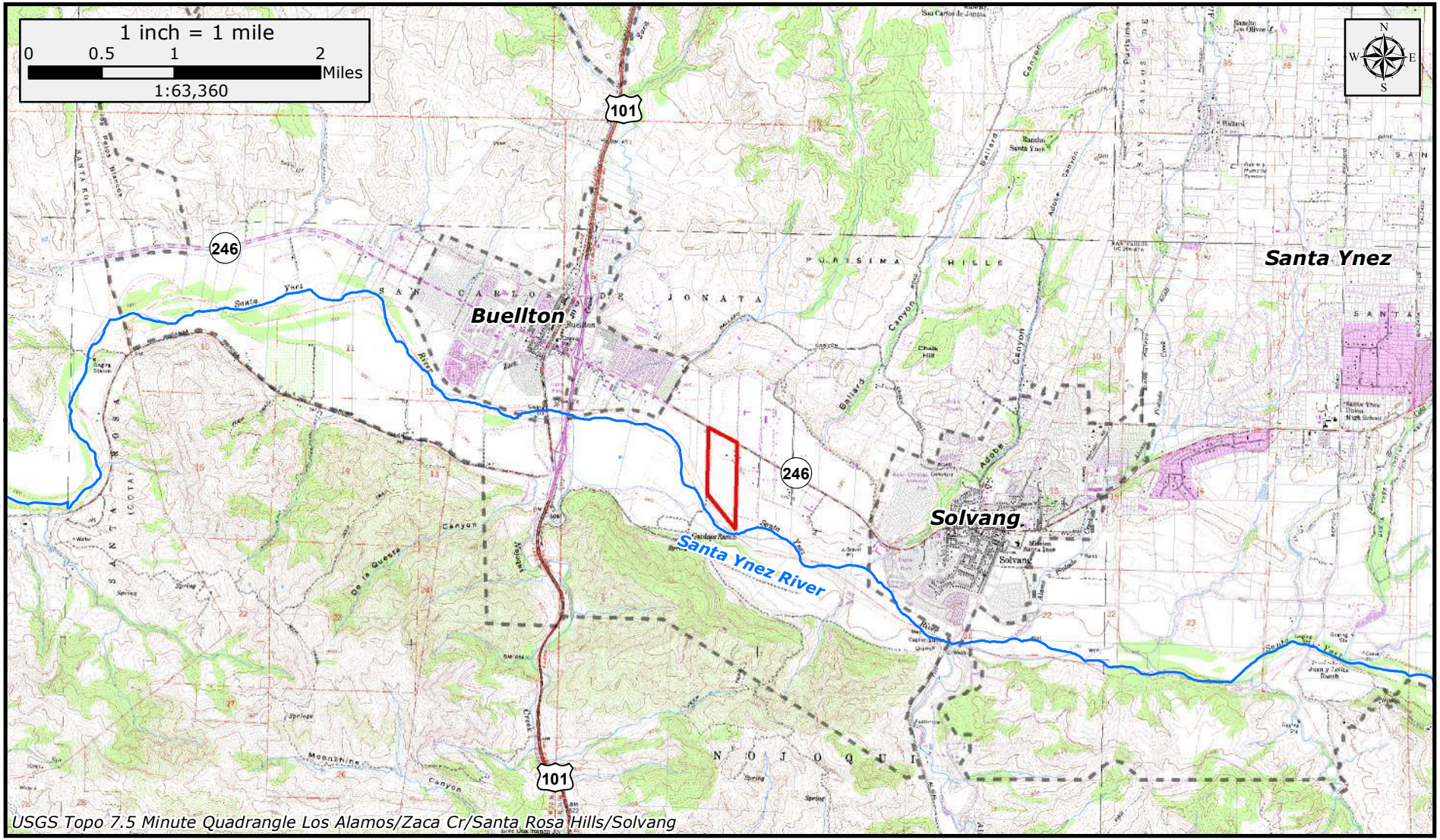
This biological assessment report describes the existing conditions and potential impacts to biological resources caused by construction of new horse keeping and equestrian riding facilities, a reception hall, restrooms for guests, and a parking lot (Case No. 22BDP-OOOOO-01202) at 750 HWY 246 (APN: 137-250-067) in Solvang, California (Lat: 34.600864, Long: -120.172249). The property is 63.35-acres in size and is located approximately 1 mi. west of the City of Solvang (Figure 1) in the County of Santa Barbara. This property is zoned for agricultural use (AG-I-40) and is currently an equine retirement and rehabilitation facility known as the Happy N River Ranch. Watershed Environmental, Inc. prepared this report under contract to the property owners, Mr. and Mrs. Novatt, and their designer, Gordon Statler with Statler Design Solutions.

This report is designed for the County of Santa Barbara and other state and federal regulatory agencies to use in their environmental review of the project as mandated by the California Environmental Quality Act (CEQA). The County of Santa Barbara Planning and Development Department is the lead agency on this project for CEQA purposes. This report provides the following: a description of the existing conditions on the property; an assessment of potential impacts to biological resources; and recommendation of biological resource impact avoidance and protection measures necessary to reduce impacts to less than significant levels and ensure project consistency with Federal and State Endangered Species Acts and local County of Santa Barbara biological resource protection policies.

The purposes of this report are to: 1) identify existing biological resources and evaluate the potential for sensitive biological resources to occur in the project area; 2) assess project impacts to biological resources per the 2022 CEQA statutes and guidelines and the County of Santa Barbara 2021 *Environmental Thresholds and Guidelines Manual*, 3) identify biological mitigation measures necessary to avoid and reduce project impacts to acceptable (less than significant) levels and ensure project consistency with applicable Santa Barbara County Comprehensive Plan (SBCO 1979, amended 2010) and Santa Ynez Valley Community Plan (SBCO 2009) biological resource protection policies and development standards.

2.0 PROJECT DESCRIPTION

The project aims to provide the necessary facilities for hosting equestrian events in the northern half of the property—focused around a large 48,000 sq. ft. covered riding arena and a 4,200 sq. ft. reception hall—while protecting adjacent existing native trees and protecting the Santa Ynez River aquatic habitat and riparian woodland vegetation located in the southern portion of the property. Table 1 contains a summary of proposed new structures and equestrian facilities.



Map Items

Property Boundary (APN: 137-250-067)

Santa Ynez Valley Community Plan Boundary

Figure 1. Location Map

BIOLOGICAL ASSESSMENT
EQUESTRIAN EVENT FACILITIES PROJECT
750 Highway 246 (APN: 137-250-067)
Solvang, California

Watershed Environmental, Inc. 1/20/2023

Table 1. Proposed New Structures and Facilities

New Structures & Facility Type	Total Area (sq. ft.)
6 20-stall 2,880 sq. ft. Horse Barns	17,280
Reception Hall (4,200 sq. ft.) with covered porch (2,127 sq. ft.)	6,327
A 150 ft. diameter Open Circular Horse Pen	17,671
A 150 ft. x 200 ft. Open Rectangular Arena	30,000
A 150 ft. x 300 ft. Covered Arena with 4 Restrooms	48,000
A detached 4 Stall Restroom	200
A 120-space Event Parking Area for cars	50,000
A 100-space Event Parking Area for Trucks and Horse Trailers	130,000
Additional Event Parking Area (65 spaces+)	100,000
18 ft. wide by 390 ft. long Chipseal Driveway with Roundabout and 6 Parking Spaces, two of which are designed for handicap use only	11,800
Manure Composting Area	14,000
Agricultural Employee Dwelling (to be built in the future)	800
Total	**426,078**

In addition to the proposed new structures and facilities listed above, an existing 2,460 sq. ft. barn (with bunkhouse) and an existing 8,450 sq. ft. concrete pad surrounded on three sides by a 6-8 ft. tall modular concrete block panel wall that is used to compost horse manure area will be demolished. As part of this project, an existing 1,355 ft. long by 20 ft. wide gravel access road will be resurfaced with fresh gravel. New screening plant materials will be installed around the northern, western, and eastern perimeter of the 120-space vehicle event parking area.

3.0 SURVEY METHODS

Watershed Environmental, Inc. biologist Mark de la Garza and environmental/GIS analyst Dominick Burnham performed a survey of the entire 63.35-acre Happy N. River Ranch property at 750 Highway 246 on December 7, 2022 between 9:00am and 12:30pm. Weather conditions were clear and calm, with temperatures ranging from 38°F to 48°F.

The survey included measuring the trunks of all native trees with a diameter at breast height (DBH, measured 4.5 ft. above ground) greater than 6 inches near (within 50 ft.) where new structures and facilities are proposed, and included walking the edge of riparian woodland along the Santa Ynez River in the southern portion of the property. Observations were recorded on field notes and included direct observations of botanical and wildlife species and vegetation and land cover types. Photographs of the property taken during performance of our survey are provided in Attachment 1.

1 inch = 250 feet

0 125 250 500 Feet

1:3,000

Aerial Image: Google Earth, Mar. 2021
Site Plan: Statler Design Solutions, Jan. 17, 2022

Highway 246

Santa Ynez River

Map Items

- Property Boundary
- Trees Near Proposed Structures and Facilities
- Santa Ynez River
- Edge of Environmentally Sensitive Habitat (ESH)
- 200 ft. Buffer from ESH

FIGURE 2.
Site Plan

BIOLOGICAL ASSESSMENT
EQUESTRIAN EVENT FACILITIES PROJECT
750 Highway 246 (APN: 137-250-067)
Solvang, California

Watershed Environmental, Inc. 1/20/2023

Our botanical survey followed the California Native Plant Society's recommended survey guidelines (CNPS 2010), the US Fish and Wildlife Service's *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000), and the CDFW *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities* (CDFW 2018).

Our wildlife survey followed standard professional practices and the County of Santa Barbara's *Biological Survey Guidelines* contained in SBCO's *Environmental Thresholds and Guidelines Manual (SBCO 1995 revised 2021*). Background biological information came from the most recent January 2023 California Natural Diversity Data Base (CDFW 2023) and the County of Santa Barbara's environmentally sensitive habitat geographic information system data (SBCO 2022).

4.0 ENVIRONMENTAL SETTING

4.1 Land Use

The property is in a designated "inner-rural" area of the Santa Ynez Valley Community Plan planning area and is currently zoned for agricultural use (AG-I-40). The property is subject to the community plan's biological resource protection policies and development standards. Development on the property is also subject to compliance with biological resource protection policies contained in the Santa Barbara County Conservation Element Comprehensive Plan (SBCO 1979; rev. 2010) and the Conservation Element Supplement—Oak Tree Protection in the Inland Areas of Santa Barbara County (SBCO 2003). The adjacent properties are all of a similar size and also zoned for agricultural use.

Access to the property is provided via an existing 20 ft. wide asphalt driveway and entrance gate in the northeastern corner of the parcel and provides access to the existing 1,804 sq. ft. residence, a 400 sq. ft. shop, a 2,460 sq. ft. barn, and an 1,850 sq. ft. barn. The driveway turns to the west near the barn and becomes a gravel road that extends to a 1,500 sq. ft. Agricultural Employee Dwelling and then turns southward to a 3,000 sq. ft. hay barn and a 3,000 sq. ft. equipment barn. The gravel road continues southward to existing horse pastures with shade structures and water troughs located adjacent to the road.

The Happy N River Ranch is an equine retirement and rehabilitation facility with nine fenced pastures that are used to board horses and other livestock (mules and donkeys). Manure is composted on an existing 8,450 sq. ft. concrete pad with 6-8 ft. tall stacked modular walls around the southern, eastern and western perimeter of pad. This existing manure composing pad and walls will be removed as part of this project to ensure project consistency with Santa Ynez Valley Community Plan DevStd-BIO-SYV-4.1 which requires that structures be setback at least 200 ft. from the Santa Ynez River, from the edge of riparian vegetation or the top of bank whichever is more protective.

As part of this assessment, we reviewed historic aerial photographs of the property taken between 1994 and 2021, available from Google Earth (Google Earth 2022), which indicate that the land use has not changed. The property has been used as pasture to board horses and other livestock the entire time.

4.2 Topography and Soils

The 750 Highway 246 property slopes gently (1-2 percent) to the south toward the Santa Ynez River. The northern third of the property where the existing residences, barn and shop are located and where the proposed reception hall and 120 space event parking lot will be built are outside (north) of the Santa Ynez River special flood hazard zone. All other proposed new structures and facilities will be within the Santa Ynez River special flood hazard zone (FEMA 2012).

The Natural Resources Conservation Service (2022) has mapped the soils on the property as Corducci and Typic Xerofluvents (map symbol 300), Camarillo very fine sandy loam (map symbol Cc), Mocho sandy loam (map symbol Mr), Mocho fine sandy loam (map symbol Mu), and Mocho loam (map symbol Mv). None of these soil types are classified as hydric (NRCS 2019).

A brief description of the soils on the property:

Corducci and Typic Xerofluvents (300) This soil occurs in the southern 25 percent of the property, along the Santa Ynez River and associated riparian vegetation. It is occasionally flooded and typically saturated within 4.92 ft. of the surface.

Camarillo very fine sandy loam (Cc) This soil occurs across 25 percent of the property, along the center. It is somewhat poorly drained with moderate permeability, slow surface runoff, and a none-to-slight erosion hazard.

Mocho sandy loam, overflow (Mr) This soil type occurs across 15 percent of the property, along the center. It occurs near channels of large drainageways and is inundated during severe floods. It is well drained with moderate permeability, a slow surface runoff rate, and slight erosion hazard.

Mocho fine sandy loam (Mu) This soil occurs across 10 percent of the property, in the northern portion. This soil occurs in floodplains in the Santa Ynez Valley. It is well drained with moderately rapid permeability, very slow surface runoff, and a none-to-slight erosion hazard.

Mocho loam (Mv) This soil occurs in the northern 25 percent of the property. This soil type occurs in flood plains in the Santa Ynez Valley. It is well drained with moderate permeability, very slow surface runoff, and a none-to-slight erosion hazard.

4.3 Watercourses and Impoundments

As part of this biological assessment, we reviewed the US Geological Survey 7.5-minute quadrangle topographic map for Solvang, CA (USGS 2018), the National Wetland Inventory (USFWS 2022), and the National Hydrography Dataset (USGS 2022) to see if these federal agencies had mapped any blue-line watercourses, ponds, wetlands, impoundments, or flood zones on the property.

All three agencies depict the Santa Ynez River in the southernmost portion of the property and adjacent (south) of the southern property line as a perennial watercourse (solid blue-line). The 7.5-minute quadrangle topographic map and the

National Wetland Inventory also identifies the riparian vegetation along the bed and banks of the Santa Ynez River as a "riverine-intermittent-stream bed that is a seasonally flooded or temporarily flooded wetland" (R4SBC and RBSBA). These agencies do not depict any other watercourses, seeps, springs, waterbodies, or wetland on the property.

4.4 Environmentally Sensitive and Critical Habitat

The Santa Ynez Valley Community Plan Policy BIO-SYV-1.2 identifies the Santa Ynez River, streams and creeks, coast live oak woodlands, valley oak woodland and savanna, Central Coast sage scrub, native grasslands, wetlands, sensitive native flora, and critical wildlife habitat/corridors as environmentally sensitive biological resources and habitats. During our biological survey of the property, we determined that there is 36,506 sq. ft. (0.84 acre) of environmentally sensitive Pacific Willow Riparian Woodland vegetation along the bed and banks of Santa Ynez River in the southernmost portion of the property. This environmentally sensitive riparian woodland vegetation extends southward beyond the Happy N River Ranch southern property line onto the adjacent property.

As part of this assessment, Watershed Environmental accessed the USFWS online critical habitat mapper (2022). The southernmost corner of the 750 Highway 246 property contains critical habitat for federally endangered southern steelhead *(Oncorhynchus mykiss)*. Critical habitat for federally endangered southwestern willow flycatcher *(Empidonax traillii)* is located approximately 200 ft. southwest of the property along the Santa Ynez River. Within 5 miles of the property, critical habitat for federally threatened California red-legged frog *(Rana draytonii)* exists 3.2 mi. southwest and southeast of the property in the foothills of the Santa Ynez Mountains.

5.0 SURVEY RESULTS

5.1 Vegetation and Land Cover Types

We performed vegetation and land cover mapping by identifying the plant species and land cover types and mapping their aerial extent on a 1-in.=50-ft. color aerial photograph taken on March 1, 2021. "Land cover" describes developed areas that contain no vegetation, referring to structures, roads, and paved surfaces. Vegetation type classification and nomenclature follow the *Manual of California Vegetation 2nd Edition* (2009 Sawyer et al.), which has 3 main categories:

1. **Forests and Woodlands** with a tree canopy of at least 10 percent over denser layers of shrubs and herbaceous species.
2. **Shrublands** with at least 10 percent shrub cover and less than 10 percent tree cover; herbaceous species may have total higher cover than shrubs.
3. **Herbaceous** dominated by graminoids (grasses) and forbs with less than 10 percent shrubs, sub-shrubs, and trees.

Environmentally sensitive habitats include: 1) habitat/vegetation types that Santa Barbara County classifies as environmentally sensitive and 2) vegetation types that the CDFW considers threatened, or sensitive (CDFW 2019), with a ranking of S3.2 or higher. Within the 63.35-acre property, we identified 6 different vegetation types and 7 land cover types (Table 2). Figure 3 depicts their locations.

Table 2. Existing Vegetation and Land Cover Types

Vegetation and Land Cover Type	Area (sq. ft.)	Area (acres)
Vegetation		
Individual Coast Live Oak Trees	8,503	0.20
Individual Sycamore and Cottonwood Trees	62,419	1.43
Ornamental Trees and Shrubs	107,118	2.46
Pacific Willow Riparian Woodland	36,506	0.84
Pasture (Perennial Rye)	2,232,722	51.26
Ruderal (Poison Hemlock/Black Mustard)	79,406	1.82
Land Cover		
Disturbed Bare Ground	6,674	0.15
Gravel Road	184,503	4.24
Manure Composting Area (Concrete Pad w/ Modular Stacked Concrete Walls)	8,105	0.19
Manure Stockpile	3,565	0.08
Paved Road	13,035	0.30
Structure	13,075	0.30
Woodchip Stockpile	3,894	0.09
Total	**2,759,526**	**63.35**

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1 inch = 250 feet

0 125 250 500 Feet

1:3,000

Aerial Image: Google Earth, Mar. 2021
Site Plan: Statler Design Solutions, Jan. 17, 2023

N W E S

Highway 246

Santa Ynez River

Map Items

- Property Boundary
- Trees Near Proposed Structures and Facilities
- Santa Ynez River
- Edge of Environmentally Sensitive Habitat (ESH)
- 200 ft. Buffer from ESH

Vegetation Types

- Individual Coast Live Oak Trees
- Individual Sycamore and Cottonwood Trees
- Ornamental Trees and Shrubs
- Pacific Willow Riparian Woodland
- Pasture (Perennial Rye)
- Ruderal (Poison Hemlock/Black Mustard)

Land Cover Types

- Gravel Road
- Disturbed Bare Ground
- Manure Composting Area
- Manure Stockpile
- Paved Road
- Structure
- Woodchip Stockpile

FIGURE 3.
Existing Vegetation and Land Cover Types

BIOLOGICAL ASSESSMENT
EQUESTRIAN EVENT FACILITIES PROJECT
750 Highway 246 (APN: 137-250-067)
Solvang, California

Watershed Environmental, Inc. 1/20/2023

5.1.1 Description of Vegetation Types

Individual Coast Live Oak Trees: There are 6 coast live oak trees adjacent to the gravel road near the existing bunk house and existing agricultural employee dwelling. These trees have trunk diameters that range in size from 9-50 inches measured at breast height. The understory beneath these trees is non-native Bermuda grass and ornamental bay laurel shrubs. Theses individual coast live oak trees are not part of an oak woodland, riparian woodland or any natural native plant community and do not fit into the 2009 *Manual of California Vegetation 2nd Edition* classification scheme and as such do not have a global or state rarity ranking. We have mapped these individual trees because they meet the County of Santa Barbara Santa Ynez Valley Community Plan Policy BIO-SYV-8 to be classified as protected native trees.

Individual Sycamore and Cottonwood Trees: Sycamore and Cottonwood trees are scattered in the pastures and a few are located near the driveway entrance and adjacent to the existing barns and residence. These trees appear to have been planted to provide shade for horses and shade for the residents. The trees in the pastures are surrounded by 6 ft. tall wire fencing around the tree trunks to protect the trees from being used as scratching posts by horses and other livestock. These individual sycamore and cottonwood trees are not part of a riparian woodland or any natural native plant community and do not fit into the 2009 *Manual of California Vegetation 2nd Edition* classification scheme and as such do not have a global or state rarity ranking. We have mapped these individual trees because they meet the County of Santa Barbara Santa Ynez Valley Community Plan Policy BIO-SYV-8 to be classified as protected native trees.

Ornamental Trees and Shrubs: This vegetation type includes a variety of ornamental trees and shrubs that have been planted as landscaping adjacent to Highway 246, around the existing residential structures, and adjacent to the gravel road between the pastures in the southern portion of the property. Ornamental trees species include: deodar cedar *(Cedrus deodara)*, English walnut *(Juglans regia)*, loquat *(Eriobotrya japonica)*, magnolia *(Magnolia* sp.*)*, mulberry *(Morus* sp.*)*, peach *(Prunus persica)*, and Peruvian pepper *(Schinus molle)*. Ornamental shrub species include: bay laurel *(Laurus nobilis)*, climbing rose *(Rosa* sp.*)*, and waxleaf privit *(Ligustrum* japonicum*)*. This ornamental landscape vegetation does not fit into the 2009 *Manual of California Vegetation 2nd Edition* classification scheme and is not listed by the California Natural Diversity Data Base Natural Communities List (CDFW 2022) and as such, they do not have a global or state rarity ranking.

Pacific Willow Riparian Woodland: This vegetation type occurs along the bed and banks of the Santa Ynez River in the southern portion of the property. The dominant species are Pacific willow *(Salix lasiandra* var. *lasiandra)* trees and arroyo willow *(Salix lasiolepis)* shrubs. This vegetation type is deeply shaded and did not have an herbaceous understory at the time of survey. Applying the nomenclature rules in the 2009 *Manual of California Vegetation 2nd Edition* classification scheme, this vegetation stand meets the classification criteria to be called a *Salix lasiandra* Riparian Woodland with a *Salix lasiolepis* association. The CDFW considers this vegetation type to be sensitive (CDFW 2022). CDFW has assigned this vegetation type a global rarity rank of G4 and state rarity rank of S3, meaning it is considered apparently secure at a global level and vulnerable at a state level. This vegetation

type also meets the County of Santa Barbara Santa Ynez Valley Community Plan policy BIO-SYV-1 and BIO-SYV-4 criteria to be classified as Environmentally Sensitive Habitat.

Pasture (Perennial Rye): This vegetation type occurs in all of the pastures where horses and livestock are kept. These pastures are seeded with a perennial rye grass commercial seed mix containing "allaire 3, evening shade, patriot 4, and rodeo 3" perenial ryegrass which are hybrids of Italian rye (*Lolium perenne).* Applying the nomenclature rules in the 2009 *Manual of California Vegetation 2nd Edition* classification scheme, this vegetation stand meets the classification criteria to be called *Lolium perenne* semi-natural herbaceous alliance*.* CDFW does not consider this vegetation type to be sensitive, and they have not assigned it a global or state rarity ranking because it is comprised entirely of varieties of non-native perennial rye grass (CDFW 2022).

Ruderal (Poison Hemlock/Black Mustard): This vegetation type occurs in a narrow strip on the banks of the Santa Ynez River between the Pacific willow riparian woodland and the gravel road that runs parallel to the top-of-bank. The dominant vegetation is poison hemlock *(Conium maculatum)*, and black mustard *(Brassica nigra)*. Applying the nomenclature rules in the 2009 *Manual of California Vegetation 2nd Edition* classification scheme, this vegetation stand meets the classification criteria to be called *Conium maculatum -Brassica nigra* semi-natural herbaceous alliance*.* CDFW does not consider this vegetation type to be sensitive, and they have not assigned it a global or state rarity ranking because it is comprised entirely of non-native invasive species (CDFW 2022).

5.1.2 Description of Land Cover Types

Disturbed Bare Ground: This land cover type occurs in the southern portion of the property.

Gravel Road: This land cover type includes all of the existing roadways on the property.

Manure Composting Area: this land cover type occurs in the southeastern portion of the property and includes a concrete pad with stacked concrete walls on three sides.

Manure Stockpile: This land cover type exists in the southeast corner of the property adjacent (south and southwest) to the manure composting area.

Paved Road: this land cover type extends from HWY 246 to the Happy N River Ranch entrance gate.

Structure: This land cover type includes all of the existing residential and agricultural structures on the property.

Woodchip Stockpile: This land cover type exists in the southeast corner of the property adjacent (south and southwest) to the manure composting area.

5.2 Trees Near Proposed Structures and Facilities

This property is one of the properties along a mile-long stretch of Highway 246 that is lined on both sides by Deodar cedar trees. These Deodar cedar trees are iconic and at times problematic when one falls and temporarily blocks the highway. The Deodar cedar trees on this property meet the Santa Ynez Valley Community Plan Policy BIO-SYV-8 criteria to be classified as specimen non-native trees, however the proposed project will not directly or indirectly impact any of the Deodar cedar trees on the property—they will all be preserved.

There are 26 trees within and adjacent (within 50 ft.) of areas where new structures and equestrian event facilities are proposed (Table 3). The Santa Ynez Valley Community Plan development standard DevStd BIO-SYV-8.1 defines native protected trees as having a trunk Diameter at Breast Height (DBH)—measured 4.5 ft. above the ground—that is at least 6 inches. Of the 26 trees near proposed development and event facilities, 24 are protected native trees including 18 western sycamores *(Platanus racemosa)* and 6 are coast live oaks *(Quercus agrifolia)*. There are two English walnut *(Juglans regia)* trees near the proposed future agricultural employee dwelling that do not meet the criteria to be classified as specimen non-native protected trees.

Table 3. Trees Within and Adjacent to Proposed New Structures and Equestrian Event Facilities

ID No.	Species	Diameter at Breast Height (inches)
1	western sycamore *(Platanus racemosa)*	29.7
2	western sycamore *(Platanus racemosa)*	35.6
3	coast live oak *(Quercus agrifolia)*	14.0
4	coast live oak *(Quercus agrifolia)*	9.0
5	English walnut *(Juglans regia)*	45.0
6	western sycamore *(Platanus racemosa)*	21.2
7	western sycamore *(Platanus racemosa)*	27.2
8	western sycamore *(Platanus racemosa)*	16.9
9	western sycamore *(Platanus racemosa)*	20.8
10	western sycamore *(Platanus racemosa)*	26.2
11	western sycamore *(Platanus racemosa)*	17.9
12	western sycamore *(Platanus racemosa)*	18.9
13	western sycamore *(Platanus racemosa)*	26.9
14	western sycamore *(Platanus racemosa)*	14.4
15	coast live oak *(Quercus agrifolia)*	26.4, 15.3
16	western sycamore *(Platanus racemosa)*	26.1
17	coast live oak *(Quercus agrifolia)*	15.3
18	western sycamore *(Platanus racemosa)*	33.3
19	coast live oak *(Quercus agrifolia)*	50.0
20	coast live oak *(Quercus agrifolia)*	37.0
21	western sycamore *(Platanus racemosa)*	39.3
22	western sycamore *(Platanus racemosa)*	31.9
23	western sycamore *(Platanus racemosa)*	33.7
24	western sycamore *(Platanus racemosa)*	17.2
25	western sycamore *(Platanus racemosa)*	33.1
26	English walnut *(Juglans regia)*	25.1

5.3 Flora

We observed 27 different species of plants on the property during our December 7, 2022 survey (Table 4), of which 26 percent are native and 74 percent are nonnative. The number of nonnative plant species is high, but reflects the fact that almost all of the property has been managed as a pasture for retired horse and other livestock for many years.

Table 4. Vegetation Species Observed

Common Name	Scientific Name	Native (N) Introduced (I)	Strata	Status
aloe	*Aloe* sp.	I	Shrub	
arroyo willow	*Salix lasiolepis*	N	Tree	
bay laurel	*Laurus nobilis*	I	Shrub	
Bermuda grass	*Cynodon dactylon*	I	Herb	
black mustard	*Brassica nigra*	I	Herb	
cheeseweed	*Malva parviflora*	I	Herb	
climbing rose	*Rosa* sp.	I	Shrub	
coast live oak	*Quercus agrifolia* var. *agrifolia*	N	Tree	
common sow thistle	*Sonchus oleraceus*	I	Herb	
coyote brush	*Baccharis pilularis* var. *consanguinea*	N	Shrub	
deodar cedar	*Cedrus deodara*	I	Tree	
English walnut	*Juglans regia*	I	Tree	
field mustard	*Brassica rapa*	I	Herb	
Fremont cottonwood	*Populus fremontii* subsp. *fremontii*	N	Tree	
loquat	*Eriobotrya japonica*	I	Tree	
magnolia	*Magnolia* sp.	I	Tree	
mulberry	*Morus* sp.	I	Tree	
mulefat	*Baccharis salicifolia* subsp. *salicifolia*	N	Shrub	
Pacific willow	*Salix lasiandra* var. *lasiandra*	N	Tree	
peach	*Prunus persica*	I	Tree	
perennial ryegrass	*Lolium perenne*	I	Herb	
Peruvian pepper	*Schinus molle*	I	Tree	
poison hemlock	*Conium maculatum*	I	Herb	
redstem filaree	*Erodium cicutarium*	I	Herb	
shepherd's purse	*Capsella bursa-pastoris*	I	Herb	
waxleaf privet	*Ligustrum* japonicum	I	Shrub	
western sycamore	*Platanus racemosa*	N	Tree	

5.4 Fauna

We observed or detected 16 wildlife species on the property during our December 7, 2022 survey—1 mammal species and 15 bird species, as expected. Table 5 contains a list of wildlife species observed, expected, and with a potential to occur on the property.

Table 5. Wildlife Species Observed, Expected, and Potentially Occurring

Common Name	Scientific Name	Seasonal Status	Site Status
Amphibians and Reptiles			
American bullfrog	*Lithobates catesbeianus*	RB	P
arboreal salamander	*Aneides lugubris*	RB	P
black-bellied slender salamander	*Batrachoseps nigriventris*	RB	P
California legless lizard	*Anniella pulchra*	RB	P
California mountain king snake	*Lampropeltis zonata*	RB	P
California night snake	*Hypsiglena torquate*	RB	P
California red-legged frog	*Rana draytonii*	RB	P
California striped racer	*Masticophis lateralis lateralis*	RB	P
California tree frog	*Pseudacris cadaverine*	RB	E
coast garter snake	*Thamnophis elegans terrestris*	RB	P
coast horned lizard	*Phrynosoma coronatum*	RB	P
coast range newt	*Taricha torosa*	RB	P
common king snake	*Lampropeltis getula californiae*	RB	P
coral-bellied ring-necked snake	*Diadophis punctatus modestus*	RB	P
ensatina	*Ensatina eschscholtzii*	RB	P
gopher snake	*Pituophis catenifer*	RB	P
Pacific tree frog	*Pseudacris regilla*	RB	P
southern alligator lizard	*Elgaria multicarinata*	RB	P
southern Pacific rattlesnake	*Crotalus oreganus helleri*	RB	P
two-stripped garter snake	*Thamnophis hammondii*	RB	P
western fence lizard	*Sceloporus occidentalis*	RB	E
western patchnose snake	*Salvadora hexalepis*	RB	P
western pond turtle	*Emys marmorata*	RB	P
western skink	*Eumeces skiltonianus*	RB	P
western toad	*Bufo boreas*	RB	P
western yellow-bellied racer	*Coluber mormon*	RB	P
Birds			
acorn woodpecker	*Melanerpes formicivorus*	RB	O
Allen's hummingbird	*Selasphorus sasin*	M	E
American coot	*Fulica americana*	RB	P
American crow	*Corvus brachyrhynchos*	RB	O
American goldfinch	*Carduelis tristis*	WV	E
American kestrel	*Falco sparverius*	RB	E
American robin	*Turdus migratorius*	WV	E
Anna's hummingbird	*Calypte anna*	RB	E
ash-throated flycatcher	*Myiarchus cinerascens*	SB	E
band-tailed pigeon	*Columda fasciata*	RB	O
barn owl	*Tyto alba*	RB	E

Common Name	Scientific Name	Seasonal Status	Site Status
barn swallow	*Hirundo rustica*	SB	E
Bewick's wren	*Thryomanes bewickii*	RB	E
black phoebe	*Sayornis nigricans*	RB	O
black-chinned hummingbird	*Archilochus alexandri*	M	P
black-headed grosbeak	*Pheucticus melanocephalus*	SB	P
black-shouldered kite	*Elanus axillaris*	RB	P
blue-gray gnatcatcher	*Polioptila caerulea*	SB	P
Brewer's blackbird	*Euphagus cyanocephalus*	RB	E
brown-headed cowbird	*Molothrus ater*	SB	E
Bullock's oriole	*Icterus bullockii*	SB	P
bushtit	*Psaltriparus minimus*	RB	E
California quail	*Callipepla californica*	RB	O
California thrasher	*Toxostoma redivivum*	RB	E
California towhee	*Pipilo crissalis*	RB	O
canyon wren	*Catherpes mexicanus*	RB	P
Cassin's kingbird	*Tyrannus vociferans*	RB	E
cedar waxwing	*Bombycilla cedrorum*	WV	O
cliff swallow	*Hirundo pyrrhonota*	SB	E
common yellowthroat	*Geothlypis trichas*	RB	E
Cooper's hawk	*Accipiter cooperii*	RB	E
Costa's hummingbird	*Calypte costae*	M	P
dark-eyed junco	*Junco hyemalis*	RB	E
downy woodpecker	*Picoides pubescens*	RB	E
Eurasian collared dove	*Streptopelia decaocto*	IB	E
European starling	*Sturnus vulgaris*	RB	O
ferruginous hawk	*Buteo regalis*	WV	P
fox sparrow	*Passerella iliacea*	WV	P
golden eagle	*Aquila chrysaetos*	RB	P
great blue heron	*Ardea herodias*	RB	O
great horned owl	*Bubo virginianus*	RB	E
greater roadrunner	*Geococcyx californianus*	RB	P
hairy woodpecker	*Picoides villosus*	RB	E
hermit thrush	*Catharus guttatus*	WV	P
hermit warbler	*Dendroica occidentalis*	M	E
hooded oriole	*Icterus cucullatus*	SB	E
house finch	*Carpodacus mexicanus*	RB	O
house sparrow	*Passer domesticus*	I	E
house wren	*Troglodytes aedon*	RB	E
Hutton's vireo	*Vireo huttoni*	SB	E
killdeer	*Charadrius vociferus*	RB	E
lark sparrow	*Chondestes grammacus*	SB	P
Lawrence's goldfinch	*Carduelis lawrencei*	M	P
lazuli bunting	*Passerina amoena*	SB	P
least Bell's vireo	*Vireo bellii pusillus*	RB	P
lesser goldfinch	*Carduelis psaltria*	RB	E
Lincoln's sparrow	*Melospiza lincolnii*	WV	P
merlin	*Falco columbarius*	WV	O
mourning dove	*Zenaida macroura*	SB	E
northern flicker	*Colaptes auratus*	RB	E
northern harrier	*Circus cyaneus*	WV	P
northern mockingbird	*Mimus polyglottos*	RB	E
northern oriole	*Icterus bullockii*	M	P

Common Name	Scientific Name	Seasonal Status	Site Status
Nuttall's woodpecker	*Picoides nuttallii*	RB	E
oak titmouse	*Bacolophus ridgwayi*	RB	P
Pacific-slope flycatcher	*Empidonax difficilis*	SB	E
prairie falcon	*Falco mexicanus*	WV	P
phainopepla	*Phainopepla nitens*	M	P
purple finch	*Carpodacus purpurius*	RB	E
purple martin	*Progne subis*	RB	P
red-breasted nuthatch	*Sitta canadensis*	WV	P
red-breasted sapsucker	*Sphyrapicus ruber*	WV	P
red-shouldered hawk	*Buteo lineatus*	RB	E
red-tailed hawk	*Buteo jamaicensis*	RB	O
rock pigeon	*Columba livia*	RB	E
ruby-crowned kinglet	*Regulus calendula*	WV	E
rufous hummingbird	*Saelasphorus rufus*	M	E
savanna sparrow	*Passerculus sandwichensis*	SB	E
Say's phoebe	*Sayornis saya*	RB	E
sharp-shinned hawk	*Accipiter striatus*	WV	P
song sparrow	*Melospiza melodia*	RB	E
Southwestern willow flycatcher	*Empidonax traillii extimus*	SB	P
spotted towhee	*Pipilo maculatus*	RB	E
Swainson's thrush	*Catharus ustulatus*	M	P
turkey vulture	*Cathartes aura*	V	O
western bluebird	*Sialia mexicana*	RB	E
western kingbird	*Tyrannus verticalis*	SB	E
western meadowlark	*Sturnella neglecta*	RB	E
western screech owl	*Otus kennicottii*	RB	P
western scrub jay	*Aphelocoma californica*	RB	O
western tanager	*Piranga ludoviciana*	M	E
western wood pewee	*Contopus sordidulus*	M	P
white-breasted nuthatch	*Sitta carolinensis*	RB	P
white-crowned sparrow	*Zonotrichia leucophrys*	WV	O
white-tailed kite	*Elanus leucurus*	RB	E
Wilson's warbler	*Wilsonia pusilla*	M	P
wrentit	*Chamaea fasciata*	RB	E
yellow-billed magpie	*Pica nuttalli*	RB	E
yellow-breasted chat	*Icteria virens*	RB	P
yellow-rumped warbler	*Dendroica coronata*	WV	E
Mammals			
American badger	*Taxidea taxus*	RB	P
beaver	*Castor canadensis*	RB	P
big brown bat	*Eptesicus fuscus*	SB	E
big-eared woodrat	*Neotoma macrotis*	RB	E
black bear	*Ursus americanus*	RB	P
black-tailed jackrabbit	*Lepus californicus*	RB	P
bobcat	*Lynx rufus*	RB	P
Botta's pocket gopher	*Thomomys bottae*	RB	O
broad-footed mole	*Scapanus latimanus*	RB	E
brush mouse	*Peromyscus boylii*	RB	E
brush rabbit	*Sylvilagus bachmani*	RB	E
California ground squirrel	*Spermophilus beecheyi*	RB	E
California mouse	*Peromyscus californicus*	RB	E
California myotis	*Myotis californicus*	SB	E

Common Name	Scientific Name	Seasonal Status	Site Status
California pocket mouse	*Chaetodipus californicus*	RB	E
California vole	*Microtus californicus*	RB	E
coyote	*Canis latrans*	V	E
deer mouse	*Peromyscus maniculatus*	RB	E
gray fox	*Urocyon cinereoargenteus*	RB	E
hoary bat	*Lasiurus cinereus cinereus*	RB	P
house mouse	*Mus musculus*	RB	E
long-eared myotis	*Myotis evotis evotis*	RB	P
Merriam's chipmunk	*Eutamias merriami*	RB	P
mountain lion	*Felis concolor*	RB	E
mule deer	*Odocoileus hemionus*	RB	E
ornate shrew	*Sorex ornatus*	RB	E
pallid bat	*Antrozous pallidus*	SB	P
raccoon	*Procyon lotor*	RB	E
red fox	*Vulpes vulpes*	RB	P
ringtail	*Bassariscus astutus*	RB	P
striped skunk	*Mephitis mephitis*	V	E
Townsend's big-eared bat	*Plecotus townsendii*	RB	P
Virginia opossum	*Didelphis virginiana*	I	E
western grey squirrel	*Sciurus griseus*	RB	E
western harvest mouse	*Reithrodontomys megalotis*	RB	E

Seasonal Status: RB = Resident Breeder; SB = Summer Breeder; M = Migrant; V = Visitor; WV = Winter Visitor; I = Introduced Species
Site Status: E = Expected to occur at the project site; O = Observed on or in the immediate vicinity of the project site; P = Potential to occur

5.4.1 Migration Corridors and Wildlife Movement

The project site is in a rural area of Santa Barbara County with lots that are about 40 acres in size (or greater) and primarily used for agriculture. The only potential barriers to wildlife movement are fences separating pastures and around cultivated fields. The entire perimeter of this property is fenced with a 6-ft.-tall metal pipe and wire fencing, which prevent horses and livestock from leaving the property but do not deter most other wildlife. The primary deterrents to wildlife inhabiting the property are lack of shelter in the pastures and high levels of human presence. We did not find any evidence of wildlife migration or movement corridors in the portions of the property that are managed. However, the Santa Ynez River which flows through the southernmost portion of the property is a recognized wildlife corridor for a variety of terrestrial and aquatic species, including federally endangered southern steelhead.

5.5 Special Status Species

The California Department of Fish and Wildlife Natural Diversity Data Base (CNDDB) contains special status species observation records for the entire state that are updated monthly. For this project, we used the most current January 2023 CNDDB to identify documented special status plant and wildlife species observations within 3 miles of the property. The January 2023 CNDDB does not contain any special status plant species observations within 3 miles of the project site, but does contain occurrence records for 11 special status wildlife species. For this biological

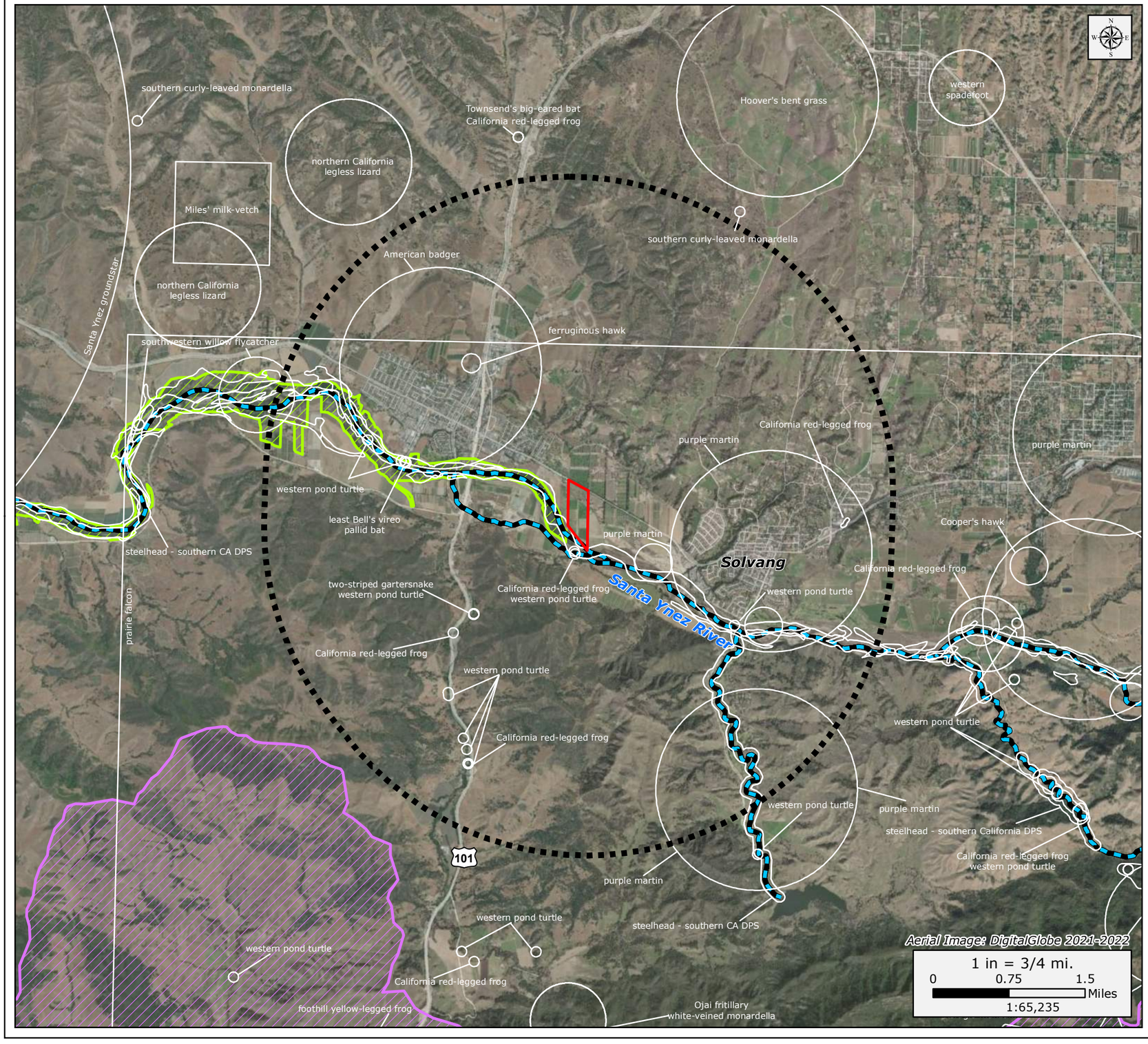
assessment, we performed a habitat suitability analysis for all recent and historic special status wildlife species observations within 3 miles of the property, and federally listed endangered and threatened species with critical habitat within 5 miles of the project site (Table 6).

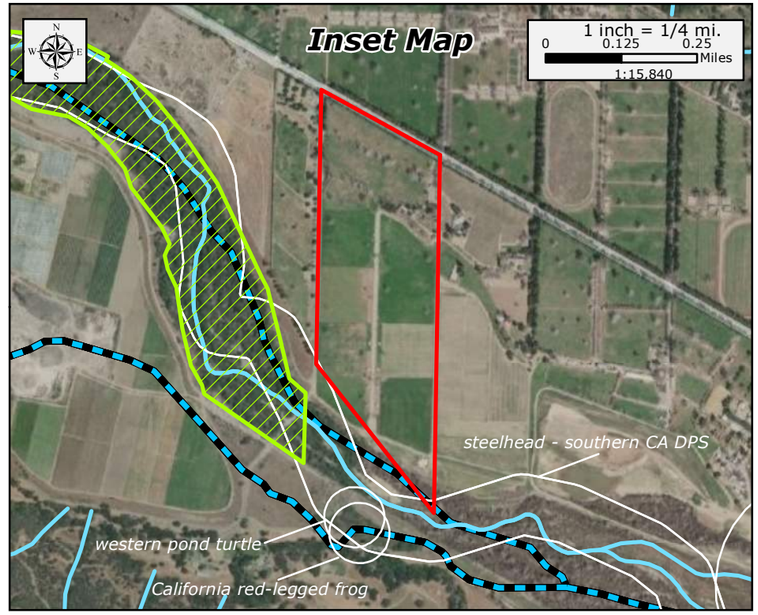
Sensitive Species and Habitats

Sensitive species considered in this assessment are those protected by the federal Endangered Species Act and/or the California Endangered Species Act and those species meeting the California Environmental Quality Act definition of "rare." This includes all endangered or threatened species, candidates for listing, CDFW Species of Special Concern (Brylski et al. 1998), CDFW Fully Protected Species, and plants listed by the California Native Plant Society (CNPS) as List 1 or List 2, as well as plants listed by the Santa Barbara Botanic Garden (2007) as locally sensitive. Sensitive habitats include all federally designated critical habitat for threatened and endangered wildlife species, habitat meeting the County of Santa Barbara criteria to be classified as environmentally sensitive habitat, and habitats CDFW lists as threatened (i.e., ranked S3.2 or higher) or sensitive (CDFW 2022).

There is critical habitat for federally endangered southern steelhead (*Oncorhynchus mykiss*) in the southern corner of the property, along the Santa Ynez River. Critical habitat for federally endangered southwestern willow flycatcher *(Empidonax traillii)* is located approximately 200 ft. southwest of the property along the Santa Ynez River. Critical habitat for federally threatened California red-legged frog (*Rana draytonii*) lies 3.2 mi. southwest and southeast of the property in the foothills of the Santa Ynez Mountains. During our December 2022 survey, we found no federally or state listed endangered, threatened or candidate species, or any CDFW wildlife species of special concern, or any rare plant species on the property.

Our survey occurred in December 2022 after the bird nesting season had ended. Given the timing of our survey, there is a potential for birds to nest in the large trees scattered about the property and in the Santa Ynez River riparian vegetation in the southernmost portion of the property. Ground-nesting birds are not expected to occur due to the activity of the horses and other livestock and high levels of human activity. The active nests of migratory bird species are protected by the Federal Migratory Bird Treaty Act (*Federal Register* 2013) and active raptor nests are protected by Section 3503.5 of the CDFW Code (2014). At this time, the nests of 1,007 bird species nationally are protected by the Federal Migratory Bird Treaty Act and approximately 32 raptor species are protected by CDFW Code.





California Natural Diversity Database (CDFW Jan 2023 CNDDB)

CNDDB Occurence Records in White

Map Items

- Property Boundary
- USGS National Hydrography Dataset (NHD - inset map)
- 3-mi. Property Boundary Buffer

USFWS Federal Critical Habitat

- California red-legged frog
- Southern steelhead
- Southwestern willow flycatcher

FIGURE 4.
Sensitive Species and Designated Critical Habitat in Project Vicinity

BIOLOGICAL ASSESSMENT
EQUESTRIAN EVENT FACILITIES PROJECT
750 Highway 246 (APN: 137-250-067)
Solvang, California

Watershed Environmental, Inc. 1/20/2023

Table 6. Special Status Species Potentially Occurring in Project Area and Occurrence Potential Evaluation

Common Name	Scientific Name	Special Status	Occurrence Potential	Notes
Fish				
southern steelhead ESU	*Oncorhynchus mykiss irideus*	FE State Candidate-E	None	The Santa Ynez River flows through the southeastern corner of the property and is federally designated critical habitat for southern steelhead. These endangered fish use the river as a migration corridor from the Pacific Ocean to spawning grounds in Hilton Creek, a tributary of the Santa Ynez River below Lake Cachuma. The occurrence potential within the river is high for steelhead using it as a movement corridor. There are no watercourse or drainage features on the portion of the property that is developed or in the pastures where horses and livestock are kept. There is no potential for southern California steelhead to occur in the areas where new structures and equestrian event facilities are proposed. With implementation of County and State required sediment and erosion control measures during construction of the project, and implementation of County required biofiltration measures during operation and use of the project, we believe that there is a low potential for stormwater runoff to indirectly impact critical habitat for steelhead.
Birds				
least Bell's vireo	*Vireo bellii pusillus*	FE CE	No nesting or occurrence potential in areas where new structures and equestrian event facilities are proposed Moderate to High potential for occurrence and nesting in riparian woodland vegetation along Santa Ynez River in the southern	Least Bell's vireo is a 4.5-5.0-in.-long, olive-gray, migratory songbird. It is a smaller subspecies of Bell's vireo and the westernmost, breeding entirely in southwestern California and northern Baja California and wintering in southern Baja California, Mexico. This bird arrives in its breeding habitat in mid-March to early April and leaves in late August-September. It is an obligate riparian breeder that nests in dense, willow-dominated riparian habitat with lush understory vegetation near water (*Federal Register* 1986). There is 1 CNDDB occurrence record for this bird approximately 1.6 mi. west of the property along the Santa Ynez River (2016). Our survey was performed at a time of year when this bird would not have been present. Given the existence of dense riparian woodland habitat in the southern portion of the property along the Santa Ynez River, and previously recorded observations of this species nearby, we have concluded that there is a moderate to high potential for this species to occur in the riparian woodland vegetation in the southern portion of the property. However, we do not expect this bird to occur in the portions of

Common Name	Scientific Name	Special Status	Occurrence Potential	Notes
			portion of the property	the property that are developed or in the pastures where horses and livestock are kept. There is no potential for least Bell's vireo to occur in the areas where new structures and equestrian event facilities are proposed.
ferruginous hawk	*Buteo regalis*	WL	None (nesting) Moderate (foraging)	This hawk is a winter visitor to California, principally from October to early April. Grinnell and Miller (1944) considered it "formerly abundant, still more or less common locally," but because of widespread conversion of grassland and open scrub habitats to ag land, this hawk is now considered an uncommon fall transient and winter visitor throughout California (Remsen 1978). Ferruginous hawks frequent dry, open country and are most numerous in grassland habitats and agricultural areas. There is 1 CNDDB occurrence record 1.4 mi. northwest and dated 1992, noting the observation of a wintering and foraging site and 1 adult. We did not see this bird in our December 2022 survey. Given the agricultural land use of the property and adjacent properties, there is a moderate potential for this species to forage on the property, but no potential for nesting.
prairie falcon	*Falco mexicanus*	WL	None (nesting) Moderate (foraging)	Prairie falcons were once a common resident of California (Grinnell and Miller 1944). Now they're considered uncommon throughout the state except in the deserts, where numbers are still high (Remsen 1978). Prairie falcons are considered uncommon winter visitors to the Santa Ynez valley. While foraging, they frequent open country such as grasslands, agricultural areas, sloughs, beaches, and river mouths. Roosting and nesting sites are typically located on cliff faces in rocky, inaccessible mountainous regions, which can be dozens of miles from foraging habitat. There is 1 CNDDB occurrence record for prairie falcon: a vague, inaccurate entry from 1979 that encompasses most of the 3 mile radius from the property (refer to Figure 4). We didn't see this species during our December 2022 survey. There is a moderate potential for the raptor to forage on the property, but no chance for nesting.
purple martin	*Progne subis*	CSC	Low (breeding) Low (foraging)	Purple martins formerly bred throughout coastal, central, and southern California, but are now considered a rare and very local breeder and very rare spring and fall transient to these areas (Garrett and Dunn

Common Name	Scientific Name	Special Status	Occurrence Potential	Notes
				1981; Lehman 2022). The bird is declining throughout the US. Purple martins typically breed in areas where large trees occur, such as oaks, sycamore, yellow pine, Monterey pine, white fir, etc., and where there are holes drilled by other birds in the trunks of trees. This species uses woodland and savannah habitats for breeding, as well as marginal or isolated trees, but not dense forests (Grinnell and Miller 1944). Within 3 mi. of the property, there are 2 CNDDB occurrence records, the nearest dated 1932 and located 0.8 mi. east. We didn't see this species during our December 2022 survey. There is a moderate potential for this bird to forage on the property.
southwestern willow flycatcher	*Empidonax traillii extimus*	FE CE	No nesting or occurrence potential in areas where new structures and equestrian event facilities are proposed Moderate to High potential for occurrence and nesting in riparian woodland vegetation along Santa Ynez River in the southern portion of the property	Southwestern willow flycatcher lives in dense riparian habitats along rivers, streams, and wetlands. Known breeding locations for this bird are along the Santa Ynez River (Lehman 2022). Federally designated critical habitat for this species lies along the Santa Ynez River riparian woodland vegetation about 200 ft. southwest of the property. There is 1 CNDDB occurrence record within 3 mi., located 2.8 mi. west, dated 1989 and identifying 4 adults breeding. Our survey was performed at a time of year when this bird would not have been present. Given the existence of dense riparian woodland habitat in the southern portion of the property along the Santa Ynez River, and previously recorded observations of this species nearby, we have concluded that there is a moderate to high potential for this species to occur in the riparian woodland vegetation in the southern portion of the property. However, we do not expect this bird to occur in the portions of the property that are developed or in the pastures where horses and livestock are kept. There is no potential for southwestern willow flycatcher to occur in the areas where new structures and equestrian event facilities are proposed.
Mammals				
American badger	*Taxidea taxus*	CSC	None	There is 1 CNDDB occurrence record for American badger from 1989 northwest of the town of Buellton (refer to Figure 4)--unfortunately from a roadkill report. Badgers are solitary (except when mothers are rearing young), nocturnal carnivores that feed on ground squirrels and other small burrowing mammals. During daylight hours they occupy the burrows they have dug out to get their prey. They forage over large

Common Name	Scientific Name	Special Status	Occurrence Potential	Notes
				territories, leaving only when prey sources run out. This species has a low tolerance for human presence and we didn't see evidence of it on the property during our December 2022 survey. Given their highly mobile habits and the high levels of human activity on the property (i.e., farming), there is no potential for this species to occur.
pallid bat	*Antrozous pallidus*	CSC	None (roosting) Moderate (foraging)	There is one CNDDB occurrence record from 2015 for a pallid bat that was discovered during passive acoustic monitoring in willow riparian scrubland along the Santa Ynez River, approximately 1.6 mi. west of the project site. Pallid bats are presumed to use the riparian scrubland vegetation found along the Santa Ynez River for foraging. They prey on crickets, scorpions, centipedes, beetles, grasshoppers, cicadas, and potato bugs, which they capture on the ground surface. There are no mines or rock crevices on the property that the bats could use to roost, and there is a moderate potential for them to forage in the pastures and riparian woodland habitat on the property.
Reptiles and Amphibians				
California red-legged frog	*Rana draytonii*	FT	No breeding potential and a low occurrence potential in areas where new structures and equestrian event facilities are proposed Moderate to High potential for breeding and foraging in riparian woodland vegetation along Santa Ynez River in the southern portion of the	There is federally designated critical habitat for California red-legged frogs 3.2 mi. southwest of the property. These frogs breed and reproduce in ponds and slow-moving, pond-like parts of streams, marshes, and lagoons. Adult frogs are usually associated with permanent bodies of water with emergent freshwater marsh vegetation or riparian vegetation, but are known to forage in upland vegetation up to 1 mi. from their aquatic breeding habitat (USFWS 2005). There are 4 CNDDB occurrence records within 3 mi. of the property, the nearest dated 2007 and located 350 ft. south of the property along the Santa Ynez River (refer to Figure 4). Our survey was performed at a time of year when California red-legged frogs are not active. Given the existence of dense riparian woodland habitat in the southern portion of the property along the Santa Ynez River, and previously recorded observations of this species nearby, we have concluded that there is a moderate to high potential for this species to occur in the riparian woodland vegetation in the southern portion of the property. However, we do not expect this frog to occur in the portions of the property that are developed or in the pastures where

Common Name	Scientific Name	Special Status	Occurrence Potential	Notes
			property	horses and livestock are kept. There is a low potential for California red-legged frogs to occur in the areas where new structures and equestrian event facilities are proposed.
two-striped gartersnake	*Thamnophis hammondii*	CSC	No breeding potential and a low occurrence potential in areas where new structures and equestrian event facilities are proposed Moderate to High potential for breeding and foraging in riparian woodland vegetation along Santa Ynez River in the southern portion of the property	This species typically occurs in aquatic habitat and adjacent riparian habitat, but is also known to forage in rocky areas, oak woodland, chaparral, coastal sage scrub, and coniferous forest habitats (Nafis Gary 2016). This snake typically feeds in aquatic habitat on tadpoles, newt larvae, fish, and fish eggs, but is also known to forage in adjacent upland habitats for small frogs, toads, and earthworms. There is 1 CNDDB occurrence record, dated 2008 and 1.15 mi. southwest along Nojoqui Creek off Highway 101 (refer to Figure 4). This species has a moderate to high potential to occur in the riparian woodland vegetation in the southern portion of the property. However, there is only a low potential for this species to occur in the pastures and existing developed areas where new structures and equestrian event facilities are proposed.
western pond turtle	*Clemmys marmorata*	CSC	No breeding potential and a low occurrence potential in areas where new structures and equestrian event facilities are proposed Moderate to High potential for breeding and	This species is typically found in aquatic habitat (ponds, lakes, streams), but is also known to move into adjacent upland areas to nest or estivate (enter summer dormancy). Within 3 mi. there are 6 CNDDB occurrence records for this species, the nearest of which occurs 250 ft. south of the property along the Santa Ynez River. Western pond turtles are known to travel up to 1,500 ft. from aquatic habitat (USDA 1997). We did not see this turtle during our December survey. Most of the property lies within the movement range of this turtle from the Santa Ynez River, but agricultural activities on the property and on the adjacent properties do not provide the type of habitat required by this species to forage, nest or estivate. For these reasons we have

Common Name	Scientific Name	Special Status	Occurrence Potential	Notes
			foraging in riparian woodland vegetation along Santa Ynez River in the southern portion of the property	concluded that this species has a low potential to occur in the areas where new structures and equestrian event facilities are proposed.

Status Codes: FT = Federally listed as threatened; CE = State listed as endangered; FE = Federally listed as endangered; T = State listed as threatened; CSC = CDFW California Special-Concern Species; CFP = CDFW fully protected species; WL = CDFW Watch List; LC = IUCN Least Concern; SBBG = locally sensitive

6.0 POTENTIAL IMPACTS TO BIOLOGICAL RESOURCES

This section describes potential short- and long-term and temporary and permanent impacts to biological resources resulting from the proposed project. Short-term impacts are associated with demolition of existing structures and construction of new structures and equestrian event facilities; long-term impacts are associated with occupation and use of the new structures and facilities after construction completion. Temporary impacts include trenching for underground utilities or grading beyond the locations where structures and new facilities will be located. Permanent impacts include placement of new structures (i.e., the event hall, barns, driveways, parking lots) and facilities (i.e., arenas) in areas that are currently undeveloped.

Prior to project approval, the County (as the lead agency) is required to perform an environmental review in accordance with the California Environmental Quality Act. In this report, environmental effects are considered significant if they cause a substantial or potentially substantial adverse change in any of the existing physical conditions within the area affected by the project. To facilitate the CEQA review, the County of Santa Barbara has adopted and published an *Environmental Thresholds and Guidelines Manual* (SBCO 1995 revised 2021), that contains thresholds for determination of impact significance to biological resources.

6.1 Impact Significance Criteria

6.1.1 SBCO Environmental Thresholds and Guidelines

The County of Santa Barbara Environmental Thresholds and Guidelines Manual states that: Disturbance to habitats or species may be significant, based on substantial evidence in the record (not public controversy or speculation), if they substantially impact significant resources in the following ways:

1. Substantially reduce or eliminate species diversity or abundance.
2. Substantially reduce or eliminate quantity or quality of nesting areas.
3. Substantially limit reproductive capacity through losses of individuals or habitat.
4. Substantially fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources.
5. Substantially limit or fragment range and movement (geographic distribution of animals and/or seed dispersal routes).
6. Substantially interfere with natural processes, such as fire or flooding, upon which the habitat depends.

6.1.2 CEQA Guidelines

CEQA guidelines state that a project will normally have a significant effect on the environment if it will:

a. Conflict with adopted environmental plans and goals of the community where it is located.
b. Substantially affect a rare or endangered species of animal or plant or the habitat of the species.

c. Interfere substantially with the movement of any resident or migratory fish or wildlife species.
d. Substantially diminish habitat for fish, wildlife, or plants.

In addition, the CEQA guidelines require a mandatory finding of significance if a "project has the potential to…reduce the number or restrict the range of an endangered, rare, or threatened species."

CEQA Title 14, Section 15380 defines **"endangered", "rare",** or **"threatened"** as:

Endangered: When its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, competition, disease, or other factors.

Rare:

a) Although not presently threatened with extinction, the species exists in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens.
b) The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered **"threatened"** as that term is used in the federal Endangered Species Act.

Species are presumed to be endangered, rare, or threatened if listed by the CDFW (Sections 670.2 or 670.5 Title 14, *California Code of Regulations*) or the USFWS (Title 50, *Code of Federal Regulations* Sections 17.11 or 17.12). A species not listed by the CDFW or USFWS may be considered in the CEQA review process if it can be shown to meet the above-listed criteria.

6.1.3 Impact Classification Categories

For CEQA purposes, we have categorized impacts into the following five categories:

Significant and Unavoidable: An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Consideration to be issued if the project is approved per Sec. 15093 of the State CEQA guidelines.

Significant but Mitigable: An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings to be made under Sec. 15091 of the State CEQA guidelines.

Adverse but Less than Significant: An impact that may be adverse but does not exceed the threshold level and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.

Beneficial: An effect that would reduce existing environmental problems or hazards.

None, no impact: The biological resource evaluated would not be affected.

6.2 Impacts to Vegetation and Land Cover Types

The proposed project will occur entirely within areas that are currently developed or used as pasture land for horses and other livestock. Table 7 contains a summary of temporary and permanent impacts to vegetation and land cover types.

Vegetation Removal and Disturbance
Short- and long-term direct effects to vegetation caused by the project are considered ***Adverse but Less than Significant****,* because the areas that will be impacted contain ornamental landscape vegetation or are pasture lands containing non-native perennial rye grass.

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Table 7. Temporary & Permanent Impacts to Vegetation and Land Cover Types

	Temporary Impact		Permanent Impact	
Vegetation Types	**Area (sq. ft.)**	**Area (acres)**	**Area (sq. ft.)**	**Area (acres)**
Individual Coast Live Oak Trees	0	0	0	0
Individual Sycamore and Cottonwood Trees	1,772	0.04	4,530	0.10
Ornamental Trees and Shrubs	1,978	0.05	2,208	0.05
Pacific Willow Riparian Woodland	0	0	0	0
Pasture (Perennial Rye)	45,888	1.05	490,054	11.25
Ruderal (Poison Hemlock/Black Mustard)	0	0	0	0
Subtotal Vegetation Types	**49,638**	**1.14**	**496,792**	**11.40**

Land Cover Types	**Area (sq. ft.)**	**Area (acres)**	**Area (sq. ft.)**	**Area (acres)**
Disturbed Bare Ground	0	0	0	0
Gravel Road	1,510	0.03	9,459	0.22
Manure Composting Area (Concrete Pad w/ Modular Stacked Concrete Walls)	0	0	0	0
Manure Stockpile	0	0	0	0
Paved Road	0	0	0	0
Structure	0	0	2,460	0.06
Woodchip Stockpile	0	0	0	0
Subtotal Land Cover Types	**1,510**	**0.03**	**11,919**	**0.28**

GRAND TOTAL VEGETATION AND LAND COVER TYPES	**51,148**	**1.17**	**508,711**	**11.68**

6.3 Impacts to Protected Trees

Construction of the project will significantly disturb the critical root zone of 3 sycamore trees (Tree ID No. 12, 13, and 14), which are native protected tree. The project will not remove or significantly disturb any other native protected trees. The project will require the removal of a non-native magnolia tree and a loquat tree, which are small and do not meet the criteria to be classified as specimen trees. In this report, the term "significantly disturbed" is defined as greater than 20 percent encroachment into the critical root zone of a protected tree. The critical root zone is defined as the area beneath the tree canopy plus six feet beyond the outer edge of the tree canopy. County of Santa Barbara Santa Ynez Valley Community Plan Policy BIO-SYV-8 requires that native and non-native specimen trees be preserved to the maximum extent feasible.

The County of Santa Barbara 1995 amended 2021 *Environmental Thresholds and Guidelines Manual* has established the following native tree impact significance threshold:

> *"In general, the loss of 10 percent or more of the trees of biological value on a project site is considered potentially significant."*

Short-term impacts to protected native trees are considered ***Significant but Mitigable*** because the project will significantly disturb 3 native protected trees. Mitigation is required to ensure project consistency with Santa Ynez Valley Community Plan Policy BIO-SYV-8 and development standard DevStd-BIO-SYV-8.1. -8.2, and -8.3.

The removal of 2 non-native ornamental trees is considered ***Adverse but Less than Significant*** because the ornamental trees that will be removed do not meet the County criteria to be classified as specimen trees, and new ornamental screening shrubs will be installed around the reception hall and reception hall parking lot as part of the project landscaping after construction has been completed.

Long-term impacts to native protected trees are considered ***None, no impact*** because use of the new structures and maintenance of newly installed landscaping is not expected to impact any native protected trees.

6.4 Project Effects on Wildlife

A wide variety of wildlife species are expected to occur and/or have a potential to occur on the property (refer to Table 5). Most of these species are not protected (i.e., endangered, threatened, CDFW fully protected) and are not special-status CDFW Species of Special Concern. However, the following special status wildlife species have a high to moderate potential to occur in the Santa Ynez River and the riparian woodland vegetation that exists in the southern portion of the property: Southern steelhead, California red-legged frog, least Bell's vireo, southwestern willow flycatcher, western pond turtle, and two-striped garter snake. These special status species have a low potential to occur in the area where new structures and equestrian event facilities will be built, but biological mitigation will need to be performed prior to and during construction to ensure that the project does not cause take of one of these federally listed species, and to ensure that direct impacts to CDFW species of special concern are avoided.

In our sensitive species occurrence evaluation (refer to Table 6), we determined that the project has a low potential to directly impact any special status wildlife species, and a low potential to indirectly impact federally endangered southern steelhead critical habitat in the Santa Ynez River, if sediment and erosion control measures are properly implemented and maintained during construction of the project. We also concluded that use of proposed new structures, equestrian event facilities, and manure composting area has a low potential to directly and indirectly impact any sensitive wildlife species, with implementation of sediment and erosion control measures contained in the project Stormwater Pollution Prevention Control Plan (which has yet to be prepared) and incorporation of recommended and County required biofiltration measures to treat storm water runoff from new equestrian facilities and from the new manure composting facility.

Project development—specifically, construction equipment operation—will cause a short-term increase in noise and dust and is expected to temporarily disturb wildlife species. Mobile wildlife species that live aboveground (i.e., small mammals and birds) will temporarily relocate during site preparation and construction, reoccupying the area upon completion. Less-mobile wildlife such as amphibians, reptiles, and small mammals that live below ground will likely be killed during clearing, grubbing, and grading operations. Project construction activities will be limited to daylight hours only and are not expected to affect any nocturnal wildlife.

The proposed covered arena, the round pen, and the rectangular arena will have pole mounted light fixtures to light the arenas so they can be used at night. The proposed new driveway and roundabout and 6 vehicle parking lot next to the reception hall will also be lighted to guide pedestrian traffic from the adjacent 120 vehicle parking lot. Raised and unshielded lighting can adversely impact wildlife, disrupting diurnal and nocturnal wildlife movement patterns, bird nesting, and breeding and foraging activities. However, the area where these lights will be installed and used is currently a landscaped developed area, or a pasture planted with perennial rye grass used for horses and other livestock, which provide low quality wildlife habitat. The areas that will be lighted are more than 1,200 ft. from the Santa Ynez River and the riparian woodland habitat that exists in the riverbed and banks.

In order to avoid impacts to wildlife, the lights installed on the covered arena, round pen and rectangular area should be shielded and or directed away from the river and riparian woodland vegetation.

Impacts to Wildlife Caused by Habitat Loss or Degradation
Short-term impacts to wildlife are considered ***Significant but Mitigable*** given the project proximity to the Santa Ynez River where several special status wildlife species have a high to moderate potential to occur. The proposed project is within the dispersal range for some of these special status species and impact avoidance mitigation measures need to be implemented during construction to ensure project compliance with the federal endangered species act and to avoid impacts to CDFW species of special concern and ensure project consistency with Santa Ynez Valley Community Plan Policy BIO-SYV-1 and SYV-4 and Development Standard DevStd BIO-SYV-14.4.

Long-term impacts to wildlife caused by use and operation of the proposed new project structures, use of equestrian event facilities, and operation of the new

manure composting facility are considered ***Adverse but Less than Significant,*** because these structures are outside of the 200-ft. riparian buffer required by the Santa Ynez Valley Community Plan DevStd-BIO-SYV-4.1. The manure composting facility is also required by Santa Ynez Valley Community Plan Development Standard DevStd BIO-SYV-5.1 to direct polluting drainage away from the river and/or include appropriate filters such as vegetated bio-swales or bio-retention basins.

Impacts to Wildlife Caused by Night Lighting
Short-term impacts to wildlife from night lighting during construction are ***None, no impact*** because construction activities will only occur during daylight hours.

Long-term impacts to wildlife caused by night lighting are considered ***Significant but Mitigable*** because of the proximity of the covered Arena, the round pen, and rectangular arena—which will be lighted—to the Santa Ynez River riparian habitat, located approximately 1,200 ft. south. Mitigation is needed to ensure project consistency with Santa Ynez Valley Community Plan Policy BIO-SYV-4 and Development Standard DevStd BIO-SYV-4.2 that require protection of environmentally sensitive habitat and shielding/direction of exterior lighting away from the river and stream channels.

Noise and Human Disturbance of Wildlife
Short- and long-term direct and indirect effects to wildlife caused by project-related noise and human disturbance are considered ***Adverse but Less than Significant*** because all of the area that will be impacted is either developed or a managed pasture, both of which are considered to be low quality wildlife habitat. Noise levels and human disturbance is expected to substantially increase when large events are held and may disturb the neighbors, but is not expected to adversely impact resident wildlife that may be in the area.

Disturbance and/or Disruption of Protected Bird Nests
The active nests of migratory bird species are protected by the Federal Migratory Bird Treaty Act (*Federal Register* 2013) and active raptor nests are protected by Section 3503.5 of the California Department of Fish and Wildlife Code (CDFW 2019). At this time, the nests of 1,007 bird species are protected nationwide by the Federal Migratory Bird Treaty Act and approximately 32 raptor species are protected by CDFW Code.

Depending on when vegetation removal, structure demolition, and new construction occurs, protected bird nests could be disturbed. Therefore, short-term impacts to protected bird nests are ***Significant but Mitigable.*** Mitigation is also required to ensure project consistency with Santa Ynez Valley Community Plan BIO-SYV-9, Policy BIO-SYV-14, Development Standard DevStd BIO-SYV-9.1, and Development Standard DevStd BIO-SYV-14.4.

Long-term impacts to protected bird nests during occupation and use of the new structures and equestrian event facilities are considered ***None, no impact*** because birds are expected to adapt to human presence and to select appropriate nesting sites relative to their tolerance of human activity.

Migration Corridors and Wildlife Movement
During the performance of our December 2022 biological survey, we did not find any evidence of a wildlife migration or a movement corridor in the areas where new structures and new equestrian event facilities will be constructed.

Short- and long-term disturbance of wildlife movement, migration, and dispersal corridors resulting from the project are considered ***None, no impact***.

6.5 Impacts to Special Status Species and Habitats

As previously described, the following special status wildlife species have a high to moderate potential to occur in the Santa Ynez River and the riparian woodland vegetation that exists in the southern portion of the property: Southern steelhead, California red-legged frog, least Bell's vireo, southwestern willow flycatcher, western pond turtle, and two-striped garter snake. These special status species however, have a low potential to occur in the developed areas and perennial rye grass pastures where new structures and equestrian event facilities will be built. The areas where construction activities will occur are within the known dispersal range of all of these special status species except for southern steelhead which require aquatic habitat to migrate.

Special-Status Wildlife Species
Short-term impacts to special status wildlife species are considered ***Significant but Mitigable*** given the project proximity to the Santa Ynez River where special status Southern steelhead, California red-legged frog, least Bell's vireo, southwestern willow flycatcher, western pond turtle, and two-striped garter snake have a high to moderate potential to occur. The proposed project is within the dispersal range of all of these special status species except southern steelhead and impact avoidance mitigation measures are needed during construction to ensure project compliance with the federal endangered species act and to avoid impacts to CDFW species of special concern and ensure project consistency with Santa Ynez Valley Community Plan Policy BIO-SYV-1 and BIO-SYV-4 and Development Standard DevStd BIO-SYV-14.4

Long-term direct and indirect project impacts to special status wildlife species during occupation and use of the new structures and equestrian event facilities are considered ***Adverse but Less than Significant*** because special status species are expected to avoid these newly developed areas because they will have high levels of human and horse activity and will lack cover needed to shelter them from predators.

Special-Status Plant Species
Short- and long-term impacts to special-status plant species are considered ***None, no impact*** because special-status plant species do not exist in areas where new structures and equestrian facilities will be located.

Critical Habitat and Environmentally Sensitive Habitat
Short-term direct impacts to federally designated critical habitat and County of Santa Barbara Environmentally Sensitive Habitat are considered ***None, no impact***. The proposed project does not encroach into any federally designated critical habitat for threatened or endangered species or into any environmentally sensitive Pacific willow riparian woodland habitat growing along the bed and banks of the Santa Ynez River.

The project does however, have a potential to cause ***Significant but Mitigable short-term and long-term*** indirect impacts to designated critical habitat for endangered southern steelhead caused by degradation of water quality that these fish depend upon. Mitigation is required to ensure project consistency with Santa Ynez Valley Community Plan Policies BIO-SYV-1, BIO-SYV-4, BIO-SYV-14 and Development Standard DevStd BIO-SYV-14.1.

6.6 Impacts to Water Quality

Construction of this project will be subject to State Water Resources Control Board Construction General Permit requirements which require preparation of a Stormwater Pollution Prevention Control Plan by a certified Qualified SWPPP Developer and installation and maintenance of best management erosion control measures during the construction phase of the project. Preparation of a Stormwater Pollution Prevention Control Plan typically occurs after the environmental review of a project has been completed, but before grading permits are issued.

Erosion causes sedimentation of creeks and degrades water quality. Suspended sediment harms aquatic biota and can smother invertebrates and amphibian eggs, elevate water temperatures, and decrease dissolved oxygen levels. The biggest potential for these problems is during demolition of existing structures, grading, and the construction phase of the project. Erosion and sediment transport risks continue until vegetation is well established and/or landscape materials are installed in temporarily disturbed areas.

Short-term impacts to water quality from erosion and sedimentation during demolition of existing structures, grading, and construction are considered ***Significant but Mitigable*** due to the proximity of the project to designated critical habitat for endangered southern steelhead in Santa Ynez River. Mitigation measures are needed to ensure project consistency with Santa Ynez Valley Community Plan Policy BIO-SYV-5 and Development Standard DevStd BIO-SYV-5.1.

Long-term impacts to water quality from stormwater runoff during use and operation of the new structures and equestrian event facilities are considered ***Significant but Mitigable*** due to the proximity of the project to the Santa Ynez River and the potential for polluted stormwater runoff containing fecal bacteria, nitrogen and ammonia from animal waste to wash into the river. Mitigation measures are needed to ensure project consistency with Santa Ynez Valley Community Plan Policy BIO-SYV-5 and Development Standard DevStd BIO-SYV-5.1.

7.0 RECOMMENDED MITIGATION MEASURES

The California Environmental Quality Act requires that feasible mitigation measures or alternatives be incorporated into the project description to avoid or mitigate effects to a point where clearly no significant effect on the environment will occur and ensure project consistency with local adopted biological resource protection policies. The actual incorporation of mitigation measures into a project depends on the type of CEQA document prepared, and can consist of applicant-proposed mitigation and/or lead agency permit condition requirements. In either case, mitigation measures are required for impacts identified as significantly adverse.

The proposed project was found to have the following short-term significant, but mitigable impacts to: protected trees, wildlife habitat loss or degradation,

disturbance and/or disruption of protected bird nests, and degradation of water quality. The project was also found to have a potential to cause long-term significant, but mitigable impacts to: wildlife caused by night lighting, damage to critical habitat, and degradation of water quality.

We recommend that all of the biological mitigation measures listed below be implemented by the project applicant to: 1) ensure project consistency with adopted County of Santa Barbara Santa Ynez Valley Community Plan biological resource protection policies and development standards, 2) ensure that project impacts to biological resources are reduced to less-than-significant levels, and 3) ensure that the project does not cause take of a federally or state listed endangered, threatened or candidate species.

Protected Native Trees
The mitigation measures below are intended to reduce short-term impacts to protected native trees to less than significant levels and ensure project consistency with Santa Ynez Valley Community Plan Policy BIO-SYV-8 and development standards DevStd-BIO-SYV-8.1. -8.2, and -8.3.

Tree Replacement Mitigation
All native protected trees with a DBH greater than 6 inches that are removed or significantly disturbed by implementation of the project shall be replaced in kind at a 3:1 ratio with minimum 15-gal.-container-size trees. In order to achieve a 3:1 tree replacement ratio, 9 15-gal. or larger container-grown sycamore trees will need to be planted on the Happy N River Ranch property. Replacement trees shall be derived from local seed sourced within the Santa Ynez Valley or the Santa Ynez River watershed. The landscape architect shall depict on the project landscape plans the locations where the 9 replacement trees will be planted.

The landscape architect shall prepare planting specifications for site preparation, soil amendment, installation, irrigation type, and maintenance schedule for the replacement trees. Tree replacement monitoring and agency reporting shall be performed annually by a County-approved biologist. Replacement trees shall meet the annual performance standards of 6 in. average growth per year. The final tree replacement success criteria shall be an average tree height of 8 ft. and 85 percent tree survival 5 years from the date the replacement trees are planted. Monitoring to verify achievement of performance standards and success criteria shall be performed annually for a period of 5 years. A brief status report documenting the planting of the mitigation trees shall be prepared by the project biologist or another County-approved biologist and shall be submitted to the County within 30 days of the replacement trees being planted. Annual tree replacement status reports containing a table of annual tree growth and photographs of the replacement trees shall be prepared by a County-approved biologist and shall be submitted to Santa Barbara County by May 31st for a period of 5-years—or less, if the performance standards and success criteria are achieved sooner—beginning the first year after the replacement trees are planted.

Tree Protection Mitigation
A County of Santa Barbara approved biologist or arborist shall prepare a tree protection plan that ensures that native protected trees adjacent (within 50 ft.) to locations where grading and other ground disturbing activities will occur are

protected from accidental disturbance during the demolition and construction phase of the project. The tree protection plan shall depict locations where temporary tree protection fencing will be installed around the critical root zone (a circular area around a tree trunk with a radius equivalent to one foot for each inch of diameter at breast height) of trees or the outer edge of the grading limits or outer edge of existing roadways that will be resurfaced. Tree protection fencing shall be chain-link or brightly colored temporary vinyl fencing that is a minimum of 4 ft. tall and shall be secured to metal fence posts that are installed no more than 8 ft. apart. Fences shall remain upright and attached to the metal fence posts throughout the duration of the demolition and construction phase of the project. Construction activities, equipment operation and storage, storage of materials, and stockpiling of soil is prohibited within fenced Tree Protection Areas.

Wildlife Habitat Loss and Disturbance
Construction, operation, and use of new proposed manure composting facility is considered a Significant but Mitigable long-term impact to wildlife because it has to potential to pollute environmentally sensitive riparian and aquatic habitat in the Santa Ynez River bed and banks. This type of facility is required by Santa Ynez Valley Community Plan Development Standard DevStd BIO-SYV-5.1 to direct polluting drainage away from the river and/or include appropriate filters. The mitigation measures below are intended to reduce impacts to wildlife habitat and ensure project consistency with local adopted policies and development standards.

Incorporate filters such as vegetated bio-swales or bio-filters into the design of the new manure composting facility that will capture, reduce and prevent pollutants such as fecal bacteria, nitrogen and ammonia from being washed during storm events into the Santa Ynez River.

We also recommend that the applicant prepare an animal waste management plan that describes how often solid animal waste will be collected, composting methods and duration, where the composted manure will be used, and procedures that will be used facilitate the breakdown of animal urine in the riding areas and pens during and after large equestrian events.

Impacts to Wildlife Caused by Night Lighting
The following mitigation is intended to reduce long-term impacts to wildlife caused by night lighting to less than significant levels and ensure consistency with Santa Ynez Valley Community Plan Policy BIO-SYV-4 and Development Standard DevStd BIO-SYV-4.2 that require protection of environmentally sensitive habitat and shielding/direction of exterior lighting away from the river and stream channels.

The exterior lighting around the covered arena, the rectangular arena, and the round pen shall be shielded and/or directed downwards toward the ground where equestrian event activities will occur. The project biologist and/or the building inspector shall visit the site at night and shall confirm that the lights are directed away from the Santa Ynez River and environmentally sensitive riparian habitat growing on the river bed and banks.

Disturbance and/or Disruption of Protected Bird Nests
The mitigation measures below are intended to reduce short-term impacts to protected bird nests to less than significant levels and ensure project consistency

with Santa Ynez Valley Community Plan BIO-SYV-9, Policy BIO-SYV-14, Development Standard DevStd BIO-SYV-9.1, and Development Standard DevStd BIO-SYV-14.4.

Ground disturbance, vegetation removal, demolition, and construction shall not occur during bird nesting season (February 1–August 15). If these activities must occur during this time, pre-construction breeding bird surveys shall be performed by a qualified, County-approved biologist. Nesting bird pre-construction surveys shall occur within the area to be disturbed and extend outward 500 ft. or to the property line, whichever is closer. If any occupied bird nests or cavity roosts are found, the biologist shall determine an appropriate buffer zone that considers the bird species, nest location, nest height, existing pre-construction level of disturbance in the vicinity of the nest, and proposed construction activities. The buffer zone will range from 100 ft. for nesting passerine species to 500 ft. for nesting raptors, demarcated with bright-orange construction fencing, flagging, construction lathe, or other means to mark the boundary, unless the County-approved biologist considers a smaller buffer adequate based on the factors listed above. Project related activities shall be prohibited within the nest protection buffer zone until the project biologist confirms that the nesting birds have fledged and the nest is no longer being used.

Special-Status Wildlife Species
The mitigation measures described below are intended to reduce short-term impacts to less than significant levels for the following specials status species which have a high potential to occur in the Santa Ynez River and associated riparian habitat that exists in the southern portion of the property: southern steelhead, California red-legged frog, least Bell's vireo, southwestern willow flycatcher, western pond turtle, and two-striped garter snake. These measures are also intended to ensure project compliance with the federal and state endangered species acts, to avoid impacts to CDFW species of special concern, and ensure project consistency with Santa Ynez Valley Community Plan Policy BIO-SYV-1 and BIO-SYV-4 and Development Standard DevStd BIO-SYV-14.4.

A County of Santa Barbara and USFWS approved biologist shall prepare a biological mitigation and monitoring plan that describes the protection measures that will be implemented to protect and avoid impacting: southern steelhead, California red-legged frog, least Bell's vireo, southwestern willow flycatcher, western pond turtle, and two-striped garter snake during the demolition and construction phase of the project. The biological mitigation and monitoring plan shall be reviewed and approved by the County of Santa Barbara Planning and Development Department, the California Department of Fish and Wildlife, and U.S. Fish and Wildlife Service and shall contain the following elements:

- Worker environmental training;
- On-site biological monitoring;
- Project avoidance and/or minimization measures, including work window restrictions;
- Habitat protective measures, such as buffer area fencing, spill prevention, sedimentation and erosion control measures, and trash containment guidelines;
- Pre-construction surveys (including nesting bird surveys), and a species removal and relocation plan (compliance with the federal Endangered Species Act and California Fish and Game Code is required for the

handling and relocation of listed species) or methods to avoid individuals and allow them to leave the site on their own, along with exclusionary measures to prevent individuals from returning to the work area.

Critical Habitat and Environmentally Sensitive Habitat
Mitigation measures are required to reduce long-term impacts to federally designated critical habitat for endangered southern steelhead. Mitigation is also needed to ensure project compliance with the federal and California Endangered Species Acts, and ensure project consistency with Santa Ynez Valley Community Plan Policies BIO-SYV-1, BIO-SYV-4, BIO-SYV-14 and Development Standard DevStd BIO-SYV-14.1.

The applicant shall implement all of the recommended mitigation measures for Wildlife Habitat Loss and Disturbance and shall implement the recommended mitigation measures to reduce impacts to water quality. Implementation of these mitigation measures will ensure protection of southern steelhead critical habitat over the short-term and long-term life of the project.

Water Quality Protection
The following mitigation measures are needed to reduce short- and long-term impacts to water quality caused by construction and operation of the project and ensure project consistency with Santa Ynez Valley Community Plan Policy BIO-SYV-5 and Development Standard DevStd BIO-SYV-5.1.

The applicant shall retain the services of a qualified Storm Water Pollution Prevention Plan (SWPPP) developer to prepare a SWPPP for the project. The construction contractors working for the applicant on the project shall install and maintain appropriate erosion/sediment control devices and measures during the demolition and construction phase of the project. These erosion and sediment control measures shall be periodically inspected by County of Santa Barbara building department inspectors and/or the County environmental compliance inspector while demolition and construction activities are under way.

The applicant shall implement all of the recommended mitigation measures for Wildlife Habitat Loss and Disturbance and shall implement the recommended mitigation measures to reduce short-term and long-term impacts to water quality from animal waste.

8.0 CONCLUSIONS

The County of Santa Barbara Planning and Development Department is the CEQA lead agency responsible for environmental review and approval of this project. In this report, we determined that the project has the potential to cause short-term significant, but mitigable impacts to: protected trees, wildlife habitat loss or degradation, disturbance and/or disruption of protected bird nests, and degradation of water quality. The project also has the potential to cause long-term significant, but mitigable impacts to: wildlife caused by night lighting, damage to critical habitat, and degradation of water quality.

We believe that with implementation of the biological impact avoidance and mitigation measures described in this report, the County of Santa Barbara Planning

and Development Department will be able to make the determination that the project is consistent with the County of Santa Barbara Santa Ynez Valley Community Plan biological resource protection policies and development standards and that all of the potentially significant impacts to biological resources identified in this report will be reduced to less than significant levels. Implementation of these impact avoidance and mitigation measures will also ensure project compliance with the Federal and California Endangered Species Acts, CDFW Code Regulations and Statutes, and the Federal Migratory Bird Treaty Act.

If the County or other regulatory agencies reviewing this project have any questions or comments about this report please contact the report author Mark de la Garza at 805 729-1070 or via email at mdelagarza@WatershedEnvironmental.com.

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Attachment 1.
Photographs of Project Site

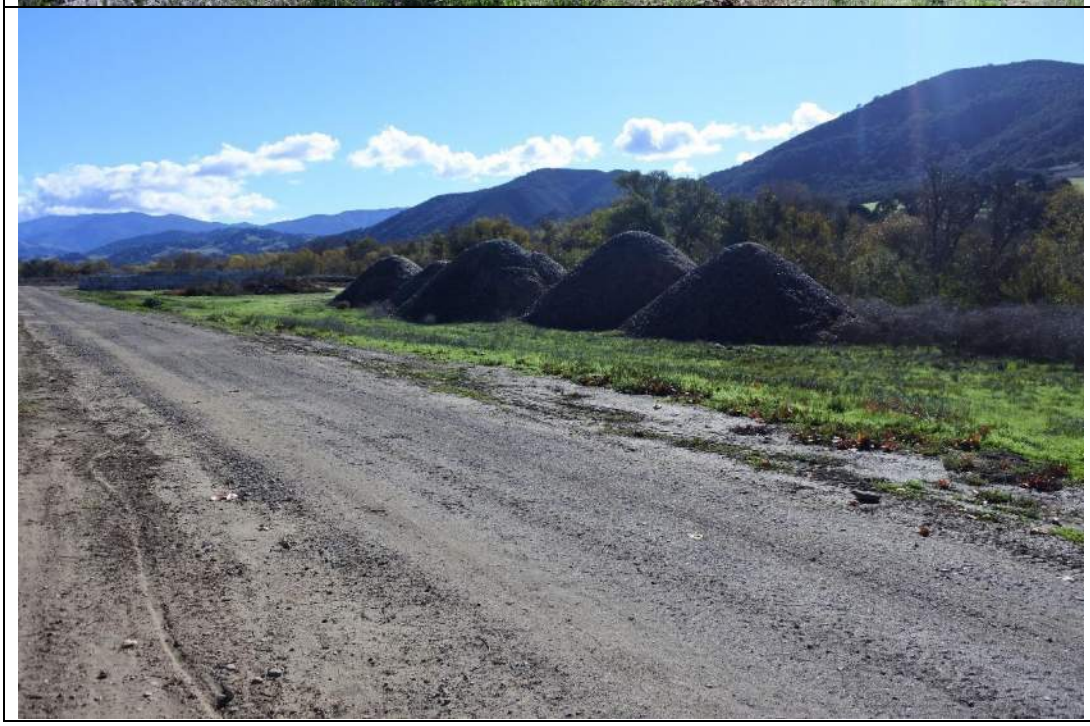
	Photo 1. Existing entrance and gate to projects site. This driveway will be resurfaced as part of the project. The sycamore trees on the right side of driveway will be retained. (view looking south) taken 12/7/2022)
	Photo 2. Deodar cedar trees along northern property line on south side of HWY 246. These trees will not be impacted by the project and will be retained. (view looking south) taken 12/7/2022)

	Photo 3. Location of proposed new chipseal entry drive to proposed new reception hall. (view looking south taken 12/7/2022)
	Photo 4. Existing bunkhouse to be demolished. The proposed new reception hall will be built at this location. (view looking south taken 12/7/2022)

	Photo 5. Existing agricultural employee dwelling to remain. Magnolia tree in foreground will be removed to create roundabout. (view looking west taken 12/7/2022)
	Photo 6. Existing coast live oak trees near existing AED. (view looking west taken 12/7/2022

	Photo 7. Existing perennial rye grass pasture that will be converted into a parking lot for 100 pick-up trucks and horse trailers. (view looking south taken 12/7/2022)
	Photo 8. Existing hay barn and equipment barn. Proposed new covered arena, rectangular arena, and round pen will be built in the perennial rye grass pasture to the right of these barns. (view looking southwest taken 12/7/2022)

	Photo 9. Existing gravel road and hay barn and equipment barns. Eight new 20 stall barns will be built in the perennial rye grass pasture south of these barns (view looking south taken 12/7/2022)
	Photo 10. Existing manure composting facility with concrete pad and stacked block panel walls to be demolished (view looking south taken 12/7/2022)

	Photo 11. Pacific willow and arroyo willow riparian woodland in the bed and banks of the Santa Ynez River in the southern most portion of the property (view looking south taken 12/7/2022)
	**Photo 14.** Existing gravel road in the southern portion of the property. Large piles in the foreground are woodchips (view looking east taken 12/7/2022)

Attachment 4: Compiled Departmental Condition Letters

February 21, 2023

Tina Mitchell
Santa Barbara County
Planning and Development
624 W. Foster Road
Santa Maria, CA 93455

Re: Santa Barbara County Air Pollution Control District Suggested Conditions on Novatt Johnston Equestrian Facility, 21CUP-00000-00026, 21DVP-00000-00024

Dear Tina Mitchell:

The Santa Barbara County Air Pollution Control District (District) has reviewed the referenced project, which consists of 81,299 square feet (SF) of commercial agricultural development and a new commercial equestrian facility which will provide boarding and breeding operations as well as an equestrian event center for education, shows, and clinics. Events are proposed to occur up to 12 times per year with a maximum of 250 guests. New septic and water infrastructure is proposed for the events. New structures include a 45,000 SF covered riding area, a 4,200 SF reception hall, an 800 SF agricultural employee dwelling, six 2,280 SF horse barns, and new parking. A 2,460 SF barn will be demolished. The project requires 500 cubic yards (cy) of cut and 2,800 cy of fill. The subject property, a 63.35-acre parcel zoned AG-I-40 and identified in the Assessor Parcel Map Book as APN 137-250-67, is located at 750 E Highway 246 in the unincorporated area of Solvang.

The proposed project is subject to the following **regulatory requirements** that should be included as conditions of approval in the applicable land use permit:

1. Prior to building permit issuance, **District Authority to Construct permits** must be obtained for all equipment that requires a District permit. Proof of receipt of the required District permits shall be submitted by the applicant to planning staff. District Authority to Construct permits are required for diesel engines rated at 50 brake horsepower and greater (e.g., firewater pumps and emergency standby generators) and boilers/large water heaters whose combined heat input rating exceeds 2.0 million British thermal units per hour (Btu/hr). *Advisories:* (1) In the case of a diesel-fired emergency generator, an equipment-specific Health Risk Assessment may be required as part of District permit issuance. The applicant should refer to the District's website at www.ourair.org/dice-atcm for more information on diesel engine permitting. (2) The District permit process can take several months. To avoid delay, the applicant is encouraged to submit their Authority to Construct permit application to the District as soon as possible, see www.ourair.org/permit-applications to download the necessary permit application(s).

2. All portable diesel-fired construction engines rated at 50 brake horsepower or greater must have either statewide Portable Equipment Registration Program (PERP) certificates or District permits prior to grading/building permit issuance. Construction engines with PERP certificates are exempt from the District permit, provided they will be on-site for less than 12 months.

3. The application of architectural coatings, such as paints, primers, and sealers that are applied to buildings or stationary structures, shall comply with District Rule 323.1, *Architectural Coatings* that places limits on the VOC-content of coating products.

4. Asphalt paving activities shall comply with District Rule 329, *Cutback and Emulsified Asphalt Paving Materials*.

5. Construction activities are subject to District Rule 345, *Control of Fugitive Dust from Construction and Demolition Activities*. This rule establishes limits on the generation of visible fugitive dust emissions at demolition and construction sites, includes measures for minimizing fugitive dust from on-site activities, and from trucks moving on- and off-site. Please see www.ourair.org/wp-content/uploads/rule345.pdf. Activities subject to Rule 345 are also subject to Rule 302 (*Visible Emissions*) and Rule 303 (*Nuisance*).

6. Natural gas-fired fan-type central furnaces with a rated heat input capacity of less than 175,000 British thermal units per hour (Btu/hr) and water heaters rated below 75,000 Btu/hr must comply with the emission limits and certification requirements of District Rule 352. Please see www.ourair.org/wp-content/uploads/rule352.pdf for more information.

7. Boilers, water heaters, and process heaters rated between 75,000 and 2.0 million British thermal units per hour (Btu/hr) must comply with the emission limits and certification requirements of District Rule 360. Note: Units fired on fuel(s) other than natural gas still need to be certified under Rule 360. Please see www.ourair.org/wp-content/uploads/rule360.pdf for more information.

8. Boilers, water heaters, and process heaters rated between 2 million to 5 million British thermal units per hour (Btu/hr) must comply with the emission limits and certification requirements of District Rule 361. Please see www.ourair.org/wp-content/uploads/Rule361.pdf for more information.

9. If the drilling or operation of a water well has the potential to emit hydrogen sulfide (H_2S), the applicant should have a process in place to prevent these odors from causing a violation of Rule 303, *Nuisance* and/or Rule 310, *Odorous Organic Sulfides*. The applicant should contact the District to determine the permitting requirements for any method used to control H_2S emissions. For more information see www.ourair.org/wp-content/uploads/rule303.pdf and www.ourair.org/wp-content/uploads/rule310.pdf.

In addition, the District recommends that the following **best practices** be considered for inclusion as conditions of approval, in the interest of reducing emissions of criteria air pollutants, toxic air contaminants, greenhouse gases, dust and odors:

1. Dust and Odor Control Measures (**Attachment A**) are recommended during operations of the facility. The name and telephone number of an on-site contact person must be provided to the District prior to grading/building permit issuance.

2. The State of California considers particulate matter emitted by diesel engines carcinogenic. Therefore, during project grading, construction, and hauling, construction contracts must specify that contractors shall adhere to the requirements listed in **Attachment B** to reduce emissions of particulate matter (as well as of ozone precursors) from diesel equipment. Recommended

measures should be implemented to the maximum extent feasible. Prior to grading/building permit issuance and/or map recordation, all requirements shall be shown as conditions of approval on grading/building plans, and/or on a separate sheet to be recorded with the map. Conditions shall be adhered to throughout all grading and construction periods. The contractor shall retain the Certificate of Compliance for CARB's In-Use Regulation for Off-Road Diesel Vehicles onsite and have it available for inspection.

3. At a minimum, prior to occupancy, any feasible greenhouse gas reduction measures from the following sector-based list should be applied to the project:
   - Energy use (energy efficiency, renewable energy)
   - Water conservation (improved practices and equipment, landscaping)
   - Waste reduction (material re-use/recycling, composting, waste diversion/minimization)
   - Architectural features (green building practices, cool roofs)
   - Transportation (reduce vehicle miles traveled)
   - Electric Vehicle Infrastructure (EV charger installation, installation of pre-wiring for future EV chargers)
   - For additional information on greenhouse gas mitigation and potential strategies, see www.ourair.org/ghgmitigation-sbc.

If you or the project applicant have any questions regarding these comments, please feel free to contact me at (805) 979-8334 or via email at WaddingtonE@sbcapcd.org.

Sincerely,

Emily Waddington
Air Quality Specialist
Planning Division

Attachments: Recommended Dust and Odor Control Measures
Diesel Particulate and NO_x Emission Measures

cc: Planning Chron File

air pollution control district
SANTA BARBARA COUNTY

ATTACHMENT A
RECOMMENDED DUST & ODOR CONTROL MEASURES

- Animal waste, composting and other operations must be conducted so that objectionable odors are not a public nuisance. APCD Rule 303, *Nuisance,* states that a source shall not discharge air contaminants or other material in violation of Section 41700 of the Health and Safety Code. To view the complete rule see www.ourair.org/wp-content/uploads/rule303.pdf.

- Water sprinklers should be installed around the perimeter of horse riding areas and access to running water provided at paddocks to minimize dust associated with the *operation* of the project.

- During construction, use water trucks, sprinkler systems, or dust suppressants in all areas of vehicle movement to prevent dust from leaving the site and from exceeding the APCD's limit of 20% opacity for greater than 3 minutes in any 60 minute period. When using water, this includes wetting down areas as needed but at least once in the late morning and after work is completed for the day. Increased watering frequency should be required when sustained wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.

- Increased watering frequency shall be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.

- Minimize amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.

- If importation, exportation and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.

- Gravel pads shall be installed at all access points to prevent tracking of mud onto public roads.

- After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.

- The applicant shall designate a person or persons to monitor the dust and odor control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to final permit sign-off.

  Plan Requirements: All requirements shall be shown on grading and building plans and/or as a separate information sheet listing the conditions of approval to be recorded with the map. **Timing**: Requirements shall be shown on plans prior to grading/building permit issuance and/or recorded with the map during map recordation. Conditions shall be adhered to throughout all grading and construction periods.

  MONITORING: Lead Agency shall ensure measures are on project plans and/or recorded with maps. Lead Agency staff shall ensure compliance onsite. APCD inspectors will respond to nuisance complaints.

air pollution control district
SANTA BARBARA COUNTY

ATTACHMENT B
DIESEL PARTICULATE AND NO_x EMISSION REDUCTION MEASURES

Particulate emissions from diesel exhaust are classified as carcinogenic by the state of California. The following is a list of regulatory requirements and control strategies that should be implemented to the maximum extent feasible.

The following measures are required by state law:

- All portable diesel-powered construction equipment greater than 50 brake horsepower (bhp) shall be registered with the state's portable equipment registration program OR shall obtain an APCD permit.
- Fleet owners of diesel-powered mobile construction equipment greater than 25 hp are subject to the California Air Resource Board (CARB) In-Use Off-Road Diesel-Fueled Fleets Regulation (Title 13, California Code of Regulations (CCR), §2449), the purpose of which is to reduce oxides of nitrogen (NOx), diesel particulate matter (DPM), and other criteria pollutant emissions from in-use off-road diesel-fueled vehicles. Off-road heavy-duty trucks shall comply with the State Off-Road Regulation. For more information, see www.arb.ca.gov/msprog/ordiesel/ordiesel.htm.
- Fleet owners of diesel-fueled heavy-duty trucks and buses are subject to CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation (Title 13, CCR, §2025), the purpose of which is to reduce DPM, NOx and other criteria pollutants from in-use (on-road) diesel-fueled vehicles. For more information, see www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm.
- All commercial off-road and on-road diesel vehicles are subject, respectively, to Title 13, CCR, §2449(d)(3) and §2485, limiting engine idling time. Off-road vehicles subject to the State Off-Road Regulation are limited to idling no more than five minutes. Idling of heavy-duty diesel trucks during loading and unloading shall be limited to five minutes, unless the truck engine meets the optional low-NOx idling emission standard, the truck is labeled with a clean-idle sticker, and it is not operating within 100 feet of a restricted area.

The following measures are recommended:

- Diesel equipment meeting the CARB Tier 3 or higher emission standards for off-road heavy-duty diesel engines should be used to the maximum extent feasible.
- On-road heavy-duty equipment with model year 2010 engines or newer should be used to the maximum extent feasible.
- Diesel powered equipment should be replaced by electric equipment whenever feasible. Electric auxiliary power units should be used to the maximum extent feasible.
- Equipment/vehicles using alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, should be used on-site where feasible.
- Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
- All construction equipment shall be maintained in tune per the manufacturer's specifications.
- The engine size of construction equipment shall be the minimum practical size.
- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
- Construction worker trips should be minimized by requiring carpooling and by providing for lunch onsite.
- Construction truck trips should be scheduled during non-peak hours to reduce peak hour emissions whenever feasible.
- Proposed truck routes should minimize to the extent feasible impacts to residential communities and sensitive receptors.
- Construction staging areas should be located away from sensitive receptors such that exhaust and other construction emissions do not enter the fresh air intakes to buildings, air conditioners, and windows.

PLAN REQUIREMENTS AND TIMING: Prior to grading/building permit issuance and/or map recordation, all requirements shall be shown as conditions of approval on grading/building plans, and/or on a separate sheet to be recorded with the map. Conditions shall be adhered to throughout all grading and construction periods. The contractor shall retain the Certificate of Compliance for CARB's In-Use Regulation for Off-Road Diesel Vehicles onsite and have it available for inspection.

MONITORING: The Lead Agency shall ensure measures are on project plans and/or recorded with maps. The Lead Agency staff shall ensure compliance onsite. APCD inspectors will respond to nuisance complaints.

Memorandum

DATE: May 23, 2023

TO: Tina Mitchell
Planning and Development
County of Santa Barbara - Santa Maria

FROM: Steven Sauer, Inspector
Fire Department

SUBJECT: APN: 137-250-067 Permit: 21DVP-00024 / 21CUP-00026 Project: 21FDR-00063
Site: 750 E Highway 246, Solvang
Project: Development Plan and Major Conditional Use Permit – Equestrian Facility with Special Events

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This Memorandum Supersedes the Previous Memorandum Dated March 28, 2023

(Access Correction Condition #1 Removed)

The above project is located within the jurisdiction of the Santa Barbara County Fire Department.

The Fire Prevention Division must be notified of any changes to the project proposal.
A change in the project description may cause conditions to be imposed.

GENERAL NOTICE

1. Prior to land use clearance, a Master Fire Protection Plan shall be submitted for Fire Department review and approval and shall include the following information
   - Fire Apparatus Access Plan
   - Stored Fire Water Plan
   - Fuel Management Plan.
   - Building Occupancy information
     - Specifically, proposed scope of use for Riding Arena and buildings

THE FOLLOWING ARE CONDITIONS FOR
DEVELOPMENT PLAN AND MAJOR CONDITIONAL USE PERMIT

2. Defensible space of 100 feet (or to the property line, whichever is nearer) around the proposed structures and any existing structures on this property shall be provided.
   - Removal does not apply to single specimens of trees, ornamental shrubbery or similar plants that are used as ground cover if they do not form a means of rapidly transmitting fire from the native growth to any structure.

3. Fire department apparatus access shall be provided and maintained for the life of the project.
   - Access shall be installed per approved access plans.
   - Fire apparatus access servicing buildings and special event temporary structures shall have a minimum width of 20 feet.
   - Surface shall be all-weather or paved.
   - Access ways shall be unobstructed and extended to within 150 feet of all portions of the exterior walls of the first story of any building.
   - A minimum of 13 feet, 6 inches of vertical clearance shall be provided and maintained for the life of the project for emergency apparatus access.

4. Stored water for fire protection shall be provided and maintained for the life of the project.
   - Stored water system shall be installed per approved Stored Fire Water Plan.

5. Designated fire lanes shall include red curbs and signs indicating "Fire Lane – No Stopping" placed as required by the fire department.
   - Fire Lanes shall be maintained and clear of obstructions and parking at all times.

6. Portable fire extinguishers are required and shall be in accordance with the current adopted Santa Barbara County Code Chapter 15.

7. All fire protection systems shall be maintained for the life of the project.

8. Address numbers shall be properly posted for the site and all buildings.
   - Minimum height of twelve (12) inches for buildings.
   - Address number locations shall be approved by the fire department.
   - Address numbers shall be a color contrasting to the background color.
   - The address numbers shall be elevated for clear visibility and easy directional identification.
   - The numbers shall be visible from the access road when travelling in either direction.
   - If the driveway is over 150 feet in length or the building is obstructed from view at the access road and/or driveway, numbers shall be posted at all road and driveway intersections as is necessary.

9. Access way entrance gates shall conform to fire department requirements.

10. When access ways are gated, a fire department approved Knox locking system shall be installed.

THE FOLLOWING ARE ADDITIONAL CONDITIONS FOR DEVELOPMENT PLAN

11. Automatic fire sprinkler systems shall be installed as required by the adopted Santa Barbara County Fire Code at the time of construction.
    - Advisory: current code requires sprinklers to be installed in all new non agricultural buildings; Agricultural as defined in Chapter 15 of the Santa Barbara County Code of Ordinances.
      - **Fire Sprinklers may be required in the Riding Arena based on the proposed occupancy classification and uses.**
    - The fire department shall determine the location of any fire department connection (FDC) that may be required.

12. Automatic fire and emergency alarm system shall be installed as required by the adopted Santa Barbara County Fire Code at the time of construction.
    - Advisory: current code requires only sprinkler monitoring systems.

13. Exterior fire department walkway access shall be provided and maintained for the life of the project.
    - Minimum five (5) foot path, clear of obstructions shall be provided around all structures.

14. Recorded addresses shall be required for all residences and separate commercial buildings.

15. A Knox Box entry system shall be installed for the reception hall. Spare keys shall be provided for the Knox Box entry system.

16. The applicant will be required to pay Fire Department Development Impact Mitigation Fees. In accordance with Chapter 15 of the Santa Barbara County Code, the fee shall be computed per square foot of occupied space in each new building.

    - **Payment shall be made according to the schedule of fees in place on the date fees are paid.**

    Final occupancy clearance inspection will not be scheduled unless fees have been paid.

THE FOLLOWING ARE ADDITIONAL CONDITIONS FOR MAJOR CONDITIONAL USE PERMIT

17. An emergency preparedness plan shall be provided and maintained.

18. For all special events, building shall not be used outside their approved occupancy and parameters of approval.

19. For any non-equestrian event exceeding 49 people (50 or more), a special events application shall be provided to the Santa Barbara County Fire Department Inspection Services section.

20. For any equestrian event exceeding 49 people (50 or more), the local fire station shall be notified the day of the event.

21. Operational tent permits are required where applicable in the current CFC.

ADVISORY FOR CONSTRUCTION

22. All standard fire department conditions and current codes shall apply at time of development.

23. Portable fire extinguishers are required on the project site at all times during construction.

24. Temporary address posting is required during construction. Inspections will not be completed without temporary address posted.
    - Temporary addressing shall be plainly visible and legible from the street or road fronting the property. Address numbers shall clearly contrast with their background and shall be a minimum of 6 inches high with ½-inch stroke.

25. Construction access shall comply with California Fire Code (CFC) requirements during construction.
    - Vehicles and materials shall not obstruct fire access.

As always, if you have any questions or require further information, please call me at (805)686-8182 or (805)681-5523. SS-ab

Santa Barbara County
PUBLIC Health
DEPARTMENT

Environmental Health Services

225 Camino del Remedio ◆ Santa Barbara, CA 93110
805/681-4900 ◆ FAX 805/681-4901

2125 S. Centerpointe Pkwy. #333 ◆ Santa Maria, CA 93455-1340
805/346-8460 ◆ FAX 805/346-8485

Mouhanad Hammami, MHSA *Director*
Suzanne Jacobson, CPA *Chief Financial Officer*
Paige Batson, MA, PHN, RN *Deputy Director*
Darrin Eisenbarth *Deputy Director*
Dana Gamble, LCSW *Deputy Director*
Dr. Noemi Doohan *Medical Director*

Lars Seifert *Director of Environmental Health*

TO: Tina Mitchell, Planner
Planning & Development Department

FROM: Jason Johnston
Environmental Health Services

DATE: March 27, 2023

SUBJECT: Case No. 21CUP-OOOOO-00026, 21DVP-OOOOO-00024

Project: Novatt Equestrian Facility

Assessor's Parcel No. 137-250-067

Located at: 750 E. Hwy 246, Lompoc area zoned AG-I-40

The proposal is a request for approval of a Development Plan (21DVP-00000-00024) consisting of 81,299 square feet of agricultural and non-agricultural development, as well as approval of a Conditional Use Permit (21CUP-00000-00026) for a commercial equestrian facility. The equestrian facility will provide daily boarding and breeding operations, as well as an equestrian event center for education, shows, clinics, and other special events up to twelve times per year. New structures proposed include a 45,000-square-foot covered riding arena, a 4,200-square-foot reception hall, an 800-square-foot agricultural employee dwelling, and six (6) 2,280-square-foot horse barns. The total amount of new structural development will be 67,280 square feet. Existing structures include an 1,809-square-foot single family dwelling, an 1,500-square-foot agricultural employee dwelling, a 2,460-square-foot barn, an 1,850-square-foot barn, a 400-square-foot shop, a 3,000-square-foot hay barn, a 3,000-square-foot equipment barn, a 2,460 square foot barn (proposed to be demolished; the proposed reception hall will be located in the footprint area), and a 219 linear feet 48-inch tall concrete block wall (to be removed). The total amount of existing structural development is 14,019 square feet. With the 67,280 square feet of proposed development, the property will be developed with 81,299 square feet of structural development in total.

Daily operations will include boarding and breeding of up to 75 horses. The facility will be open to visitors from 7:00 am until 4:00 pm. The applicant is proposing to host a maximum of 250 guests during up to six annual events, and a maximum of 150 guests during up to six additional events during the calendar year. The larger events could last from Thursday or Friday through Sunday. The smaller events would generally be for smaller equestrian or non-equestrian one-day events. Hours of operation during special events will be 7:00 am to 8:00 pm. During equestrian special events, there will be a maximum of 100 horses onsite. The equestrian facility will be staffed by five to eight full time employees during daily operations, and up to 25 employees during special events. The proposed reception hall includes a 500-square-foot kitchen

intended to serve as a staging area for caterers during special events. Special events will include, but are not limited to, equestrian events including educational events, shows, and clinics, as well as receptions, parties, weddings, or other similar events. Amplified music will not exceed 65 decibels at any property line. All amplified noise and lighting will end by 10 PM.

Sewage disposal will be provided by a new onsite wastewater treatment system and portable restrooms during special events. Domestic water will be provided from a proposed well and domestic water system. Animal waste management is comprised of onsite composting with biological treatment. The project site is a 63.35-acre parcel (APN 137-250-067), zoned AG-I-40, known as 750 E. Hwy 246, located in the Santa Ynez Valley Community Plan area, Third Supervisorial District.

Environmental Health Services has received and reviewed a preliminary site plan for a proposed single parcel water system. An existing water well and water system serves the two existing domestic water connections, and a new water well is proposed to serve these two existing connections and the two proposed new connections. Construction of the proposed well and formal review of the proposed water system, will be required prior to the issuance of Zoning Clearance.

Environmental Health Services has received and reviewed a feasible preliminary design for the onsite wastewater treatment system by Coast Engineering & Survey, Inc, dated March 17, 2021 (REVISED January 20, 2023) based on 236 guests per day, four (4) staff, and a three (3) bedroom residence. Formal review and approval of the Onsite Wastewater Treatment Systems will be required prior to the issuance of building permits.

Providing the Planning Commission grants approval of the applicant's request, Environmental Health Services recommends the following be included as **Conditions of Approval:**

1. Prior to Issuance of Zoning Clearance,
    a. The proposed water well which is not already constructed, but is necessary in order to complete a suitable system design, must be developed in accordance with the requirements of Santa Barbara County Code Chapter 34A; or
    b. The existing water well shall be assessed to determine construction details including presence and length of a sanitary seal. If it is determined that the existing well does not have a sanitary seal or it is not a sufficient length, the well shall be modified under permit to place a sanitary seal to the satisfaction of Environmental Health Services. Additionally, any potential sources of contamination that are encroaching on the existing well shall be removed.

2. Prior to Issuance of Zoning Clearance, a complete application for a Single Parcel Water System Permit shall be submitted to Environmental Health Services in accordance with Santa Barbara County Code Chapter 34B.

3. Prior to Issuance of Zoning Clearance, a completed application for the new Onsite Wastewater Treatment System permit shall be submitted to Environmental Health Services. The plans shall include a layout for the installation of dual dispersal fields (two, 100% peak design flow capacity fields) and 100% expansion area. The onsite wastewater treatment systems shall be designed in compliance with the State Onsite Wastewater Treatment System Policy, California Plumbing Code, Santa Barbara County's Local Agency Management Program, and Santa Barbara County Code Chapter 18C.

4. Prior to Issuance of Zoning Clearance, the applicant shall submit an animal waste management plan to Environmental Health Services for review and approval. The plan shall include but not be limited to the following:
    a. Method and frequency of cleaning,
    b. means of waste transport,
    c. description of short-term storage facilities, if any
    d. method and area of waste disposal,
    e. drainage plan and moisture control measures, and
    f. any equipment necessary to implement the plan.

    The animal solid waste management plan may be amended with approval from Environmental Health Services. Facilities, permitted uses, and waste handling operations shall be conducted and maintained in a manner that does not promote the production of offensive odors or excessive vectors as determined by Environmental Health Services.

5. Prior to Issuance of Building Permits, the application for the permit to construct a water system shall be reviewed and approved by Environmental Health Services.

6. Prior to Issuance of Building Permits, the application for the permit to construct an onsite wastewater treatment system shall be reviewed and approved by Environmental Health Services.

7. Prior to Issuance of Building Permits, the applicant shall consult with Environmental Health Services in regards to a food facility permit. If a food facility permit is required, the applicant shall submit a complete Application for Plan Review of a Food Facility to be reviewed and approved by Environmental Health Services.

8. Prior to Occupancy, the water system shall be installed, constructed, and fully operational, to be verified by Environmental Health Services.

9. Prior to Occupancy, the onsite wastewater treatment systems shall be installed, constructed and fully operational, to be verified by Environmental Health Services.

Jason Johnston, REHS
Supervising Environmental Health Specialist

ec: Jones Land Use Planning, LLC
Statler Design Solutions

George Chapjian, Director, Community Services
Sarah York Rubin, Executive Director, Office of Arts & Culture
Ryder Bailey, CPA, Chief Financial Officer, Community Services
Dinah Lockhart, Deputy Director, Housing & Community Development
Jeff Lindgren, Superintendent, Parks Division
Ashley Watkins, Division Chief, Sustainability Division

February 15, 2023

TO: Tina Mitchell, Planner
Planning & Development

FROM: George Amoon, Contract Park Planner

RE: 21DVP-00024 Novatt Johnston Equestrian Facility
APN 137-250-067

County Parks recommends the following condition(s) to the approval of the above referenced project:

1) Pursuant to the provisions of Ordinance 4348 and the appurtenant fee resolutions adopted by the Board of Supervisors, the applicant will be required to pay a development mitigation fee for new dwelling unit(s) to offset the project's potential impact on the County's park system. Said fee will be used in conjunction with other similar fees collected in the area to provide park and recreational facilities in the Regional Demand Area. A protest of mitigation fees imposed may be filed pursuant to Government Code Section 66020(a). The protest shall be filed at the time of approval or conditional approval of the development or within 90 days after the date of the imposition of the fees, dedications, reservations, or other exactions to be imposed on a development project. The Applicant is hereby notified that the 90-day approval period in which the Applicant may protest has begun.

Based on the current fee schedule, the total fee for the proposed project would be $1,526 ($1,526 x 1 lot(s)/dwelling unit(s)). Fees are due prior to prior to final inspection. The actual fee shall be based on the fee schedule in effect when payment is made. Fee schedules are subject to adjustment on an annual basis. This office will not accept nor process a payment prior to project approval by the decision maker.

Fees are payable to the COUNTY OF SANTA BARBARA, and may be paid in person or mailed to: Santa Barbara County Parks Administration, 123 East Anapamu St., 2nd floor, Santa Barbara CA 93101.

cc: George Chapjian, Community Services Department Director

Santa Barbara County Public Works Department
Water Resources Division
Flood Control • Water Agency • Project Clean Water
130 E. Victoria Street, Suite 200, Santa Barbara, CA 93101
PH (805) 568-3440 FAX (805) 568-3434
http://cosb.countyofsb.org/pwd/pwwater.aspx?id=2956

SCOTT D. MCGOLPIN
Director Public Works

THOMAS D. FAYRAM
Deputy Director Water Resources

April 19, 2022

Tina Mitchell, Planner
County of Santa Barbara
Planning & Development Department
624 W. Foster Rd
Santa Maria, CA 93455

Re: 21DVP-00000-00024; 21CUP-00000-00026; Novatt Johnston Equestrian Facility
APN: 137-250-067; 750 HWY 246, Solvang

Dear Ms. Mitchell:

This condition letter supersedes that dated August 30, 2021 because the building layouts have changed.

The Public Works Department Water Resources Division has conditions for the proposed Development Plan consisting of 84,200 SF of commercial agricultural development, as well as approval of a Conditional Use Permit for a commercial equestrian facility. New structures proposed include a 45,000 SF covered riding arena, a 4,200 SF reception hall, a 200 SF restroom building, an 800 SF agricultural employee dwelling, and two (2) 17,000 SF horse barns.

The proposed covered riding arena (with bathrooms), the hay and equipment barns, and proposed horse stalls are located in the FEMA Regulatory Special Flood Hazard Area Zone AE Floodplain Fringe.

The subject parcel is adjacent to the Santa Ynez River and is subject to SBCC Ordinance 15B, “Development Along Watercourses”.

The following conditions are subject to change if the site building layout is revised and/or if the project description changes.

A. Flood Control & Water Conservation District

The District recommends that approval of the above referenced project be subject to the following conditions:

1. General
    a. The applicant shall comply with the Santa Barbara County Flood Control District Standard Conditions of Project Plan Approval dated January 2011

(http://www.countyofsb.org/uploadedFiles/pwd/Content/Water/Documents/StdConditionsJan2011.pdf)

b. The applicant shall provide a site plan of the proposed development following the guidelines provided in the Standard Conditions for Project Plan Approval.

2. Design/ Prior to Permit Issuance
   a. The applicant shall submit all improvement plans, grading plans, drainage plans, drainage studies, and landscape plans to the District for review and approval.
   b. The applicant shall acquire and submit all required data, forms and certifications as described in the Standard Conditions of Approval.
   c. Projects near a watercourse shall be designed in compliance with the setback requirements described in Chapter 15B of the Santa Barbara County Code. No development is allowed within 200 feet of the Santa Ynez River top-of-bank.
   d. Projects located in a FEMA designated Special Flood Hazard Area shall be designed in compliance with Floodplain Management Ordinance Chapter 15A of the Santa Barbara County Code:
      i. The covered riding arena is not subject to Ordinance 15A since it is not classified as a structure with 2 or more outside rigid walls and a fully secured roof affixed to a permanent site.
      ii. The bathrooms (attached to the arena) and the horse stalls are classified as non-residential structures and must either be
         1. Elevated with the finished floor is situated at least 2 feet above the Base Flood Elevation (BFE), or
         2. Together with attendant utilities be dry-floodproofed to two feet above the BFE so that the structure is watertight with walls substantially impermeable to the passage of water. Dry-floodproofed structures require a **draft Floodproofing Certificate** prepared by licensed engineer along with **draft Flood Emergency Operations Plan and an Inspection & Maintenance Plan**. See FEMA publications P-936 and TB-3 for further detail.
      iii. The Hay and Equipment Barns are FEMA-designated accessory structures and must either be
         1. Elevated with the finished floor is situated at least 2 feet above the Base Flood Elevation (BFE), or
         2. May have the finished floor elevation below BFE+2 feet, but shall have a minimum of two flood vents according to 15A standards at one square inch of opening per one square foot of enclosed space subject to flooding. The openings shall be installed on at least two separate walls and the bottom of openings shall be no higher than one foot above highest adjacent grade, interior or exterior (whichever is higher). Screening will reduce effective opening and must be accounted for in the net open area calculations. Screening can be no smaller than 1/8".
         3. And shall be used only for limited storage.
      iv. Plumbing below BFE +2 feet must be fitted with backflow devices.
      v. Flood resistant materials are required for areas of the structure below BFE +2 feet. See FEMA publication TB-2 for list of approved materials.
      vi. All structural components shall be capable of resisting hydrostatic and hydrodynamic loads, debris impact and effects of buoyancy.
      i. Utilities and equipment shall be elevated to a minimum of 2 feet above the BFE or be designed to eliminate infiltration of flood waters into the system.

3. Prior to Permit Issuance/Zoning Clearance
    a. The applicant shall submit to the District electronic drawings in PDF format of the approved grading plans, improvement plans, drainage plans, and landscape plans.
    b. The engineer of record shall submit **Final Floodproofing Certificates** for non-residential structures designed to be watertight (FEMA Form 086-0-34).

4. Prior to Occupancy Clearance
    a. The applicant shall submit record drawings to the District's Floodplain Manager in electronic format.
    b. Prior to vertical construction, and upon completion of construction, the applicant shall submit **Elevation Certificates** (FEMA Form 086-0-33) to the District's Floodplain Manager for all structures located within the Special Flood Hazard Area.
    c. The engineer of record shall submit **Final Flood Emergency Operations Plans and an Inspection & Maintenance Plans** for non-residential structures designed to be watertight.
    d. In the event that the grading and drainage plans are revised during the construction process the applicant shall update the drainage report and submit to the District for review and approval.

B. Project Clean Water

The project is subject to the County's Post-Construction Stormwater Requirements for treating storm water quality, because the project has 25 or more parking spaces or exceeds the established thresholds of more than 0.5 ac of disturbance for commercial development. Therefore, appropriate control measures must be designed and installed to treat storm water runoff, where applicable, from the 1.2-inch storm.

The following provisions apply to this project:

1. Submit a conceptual Stormwater Control Plan that identifies how stormwater runoff is treated for water quality using runoff reduction measures such as permeable surfaces (gravel), and treatment measures such as dispersal to landscaped or vegetated areas.

    It is recommended to follow the County of Santa Barbara's Stormwater Technical Guide for a Tier 2 project or other approved technical guide. The County's Stormwater Technical Guide is on the Water Resources Division website. Click on the Development tab at SBProjectCleanWater.org.

2. Prior to issuance of Zoning Clearance, Land Use Clearance, or Building or Grading Permits (whichever of these actions comes first), the applicant must submit to the Water Resources Division (attention: Project Clean Water) for review and approval a final Storm Water Control Plan with accompanying civil, architectural, and possibly landscape plans if appropriate, for the treatment measures provided.

    The Stormwater Control Plan must provide relevant details on the location and function of treatment facilities. These facilities shall be depicted on a separate plan sheet within the engineering plan set. At a minimum, the submittal(s) must:
    a. Show the locations of all impervious surfaces, their delineated drainage management area, and associated stormwater control measure,
    b. Show the treatment areas comply with the conditions by managing runoff from the design storm, and

b. Demonstrate how the treatment areas comply with the conditions by managing runoff from the design storm, and
c. The final SWCP must include a separate long-term maintenance plan appropriate for the proposed facilities, including and site schematic identifying water quality treatment areas (no color, hatching or faint lines). Instructions and templates for preparing a Maintenance Plan are provided in the Stormwater Technical Guide.

3. The applicant will include a deposit for plan check review at the time the Stormwater Control Plan and engineering plans are submitted. The plan check deposit of $1,150 shall be submitted to Water Resources Division, Public Works, 130 E. Victoria St., Santa Barbara, CA 93101. The check shall be made payable to Project Clean Water.

4. Prior to issuance of Zoning Clearance or Land Use Clearance, or Building or Grading Permits (whichever comes first), the owner must sign a maintenance agreement that includes the long-term maintenance plan. Instructions for preparing a maintenance plan are provided in the Stormwater Technical Guide. The maintenance agreement identifies the owner as the party responsible for maintaining the storm water retention facilities for the life of the project. The maintenance agreement will be signed and notarized by the property owner.

5. Upon installation of treatment systems, and prior to Building Division final clearance on Grading or Building permits, all improvements required as part of the above conditions shall be installed in accordance with the approved plans. An **Engineer's Certificate of Approval** shall be signed and stamped by the engineer of record and submitted to the Water Resources Division along with a set of As-Built plans or drawings in PDF format as appropriate to the storm water measures installed. This certification attests that the engineer has inspected all storm water control measures described in the Stormwater Control Plan and found them constructed per plans and stabilized in substantial conformance with the approved development plans. If the treatment systems are to be installed in phases, separate Certificates of Approval can be provided for each phase. If necessary, the final maintenance plan shall be revised by the engineer of record based on as-built construction drawings, including elevations and construction details of stormwater measures.

Sincerely,

SANTA BARBARA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

By: KM Sullivan
Karen Sullivan, PE, CFM
Development Review Engineer

Cc: Brett Jones, Jones Land Use Planning LLC, PO Box 847, Los Olivos, CA 93441
Novatt, Gary & Johnston, Lisa Community Property Trust, PO Box 122, Buellton, CA 93427-0122

Attachment 5: CalEEmod Detailed Report dated November 2023

Novatt Equestrian Facility Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	Novatt Equestrian Facility
Construction Start Date	5/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.10
Precipitation (days)	25.4
Location	750 E Hwy 246, Buellton, CA 93427, USA
County	Santa Barbara
City	Unincorporated
Air District	Santa Barbara County APCD
Air Basin	South Central Coast
TAZ	3364
EDFZ	6
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Southern California Gas
App Version	2022.1.1.20

1.2. Land Use Types

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

Arena	45.0	1000sqft	14.5	45,000	0.00	—	—	Horse Arena
Quality Restaurant	4.20	1000sqft	0.10	4,200	0.00	—	—	Reception Building
User Defined Recreational	120	User Defined Unit	0.00	13,680	0.00	—	—	Horse Barns
Parking Lot	2.00	1000sqft	0.05	0.00	873	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.43	146	36.0	33.6	0.07	1.60	7.78	9.37	1.47	3.97	5.44	—	7,446	7,446	0.32	0.33	4.07	7,507
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.59	146	11.6	14.3	0.02	0.50	0.21	0.71	0.46	0.05	0.51	—	2,750	2,750	0.12	0.05	0.03	2,769
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.09	4.20	8.42	8.92	0.02	0.36	0.63	0.99	0.33	0.25	0.58	—	1,813	1,813	0.08	0.04	0.29	1,827
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.20	0.77	1.54	1.63	< 0.005	0.07	0.12	0.18	0.06	0.05	0.11	—	300	300	0.01	0.01	0.05	303

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.43	3.73	36.0	33.6	0.07	1.60	7.78	9.37	1.47	3.97	5.44	—	7,446	7,446	0.32	0.33	4.07	7,507
2025	0.18	146	0.90	1.34	< 0.005	0.03	0.03	0.06	0.03	0.01	0.03	—	167	167	0.01	< 0.005	0.15	168
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.59	1.34	11.6	14.3	0.02	0.50	0.21	0.71	0.46	0.05	0.51	—	2,750	2,750	0.12	0.05	0.03	2,769
2025	1.49	146	10.8	14.2	0.02	0.43	0.21	0.64	0.40	0.05	0.45	—	2,744	2,744	0.12	0.05	0.03	2,762
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.09	0.91	8.42	8.92	0.02	0.36	0.63	0.99	0.33	0.25	0.58	—	1,813	1,813	0.08	0.04	0.29	1,827
2025	0.24	4.20	1.71	2.27	< 0.005	0.07	0.03	0.10	0.06	0.01	0.07	—	424	424	0.02	0.01	0.08	427
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.20	0.17	1.54	1.63	< 0.005	0.07	0.12	0.18	0.06	0.05	0.11	—	300	300	0.01	0.01	0.05	303
2025	0.04	0.77	0.31	0.41	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	70.3	70.3	< 0.005	< 0.005	0.01	70.7

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.58	4.23	0.66	7.06	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	243	726	970	20.2	0.15	6.56	1,527

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.10	3.78	0.69	5.51	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	243	717	961	20.3	0.15	6.56	1,519
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.26	1.97	0.15	1.47	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	243	616	860	20.1	0.10	6.56	1,401
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.36	0.03	0.27	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	40.3	102	142	3.34	0.02	1.09	232
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	240	240	—	—	—	—	—	25.0	—	80.0	—	—	—	—	—	—	—
Unmit.	—	No	No	—	—	Yes	—	Yes	No	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	240	240	—	—	—	—	—	25.0	—	80.0	—	—	—	—	—	—	—
Unmit.	—	No	No	—	—	Yes	—	Yes	No	—	No	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.07	2.02	0.50	4.20	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	—	104	104	0.10	0.04	0.00	120
Area	0.49	2.19	0.02	2.73	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.2	11.2	< 0.005	< 0.005	—	11.3

Energy	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	521	521	0.07	0.01	—	525
Water	—	—	—	—	—	—	—	—	—	—	—	44.1	62.5	107	0.16	0.10	—	140
Waste	—	—	—	—	—	—	—	—	—	—	—	199	0.00	199	19.9	0.00	—	697
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.56	6.56
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	27.2	27.2	—	—	—	27.2
Total	2.58	4.23	0.66	7.06	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	243	726	970	20.2	0.15	6.56	1,527
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.09	2.03	0.55	5.39	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	—	107	107	0.12	0.05	0.00	124
Area	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	521	521	0.07	0.01	—	525
Water	—	—	—	—	—	—	—	—	—	—	—	44.1	62.5	107	0.16	0.10	—	140
Waste	—	—	—	—	—	—	—	—	—	—	—	199	0.00	199	19.9	0.00	—	697
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.56	6.56
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	27.2	27.2	—	—	—	27.2
Total	2.10	3.78	0.69	5.51	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	243	717	961	20.3	0.15	6.56	1,519
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	—	0.03	0.03	< 0.005	< 0.005	0.00	0.03
Area	0.24	1.97	0.01	1.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.55	5.55	< 0.005	< 0.005	—	5.57
Energy	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	521	521	0.07	0.01	—	525
Water	—	—	—	—	—	—	—	—	—	—	—	44.1	62.5	107	0.16	0.10	—	140
Waste	—	—	—	—	—	—	—	—	—	—	—	199	0.00	199	19.9	0.00	—	697
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.56	6.56
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	27.2	27.2	—	—	—	27.2
Total	0.26	1.97	0.15	1.47	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	243	616	860	20.1	0.10	6.56	1,401

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.01
Area	0.04	0.36	< 0.005	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.92	0.92	< 0.005	< 0.005	—	0.92
Energy	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	86.3	86.3	0.01	< 0.005	—	86.9
Water	—	—	—	—	—	—	—	—	—	—	—	7.31	10.3	17.7	0.03	0.02	—	23.1
Waste	—	—	—	—	—	—	—	—	—	—	—	33.0	0.00	33.0	3.30	0.00	—	115
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.09	1.09
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	4.50	4.50	—	—	—	4.50
Total	0.05	0.36	0.03	0.27	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	40.3	102	142	3.34	0.02	1.09	232

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.62	24.9	21.7	0.03	1.06	—	1.06	0.98	—	0.98	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.41	1.41	—	0.21	0.21	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.34	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	46.9	46.9	< 0.005	< 0.005	—	47.1
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.77	7.77	< 0.005	< 0.005	—	7.79
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.60	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	96.2	96.2	0.01	< 0.005	0.45	98.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.16	0.04	2.70	0.94	0.02	0.03	0.46	0.49	0.02	0.13	0.15	—	1,889	1,889	0.11	0.30	3.62	1,983
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.29	1.29	< 0.005	< 0.005	< 0.005	1.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.9	25.9	< 0.005	< 0.005	0.02	27.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.21	0.21	< 0.005	< 0.005	< 0.005	0.22

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.28	4.28	< 0.005	< 0.005	< 0.005	4.49

3.3. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.99	0.90	< 0.005	0.04	—	0.04	0.04	—	0.04	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.18	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.70	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	112	112	0.01	< 0.005	0.52	114
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.01	3.01	< 0.005	< 0.005	0.01	3.07
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.51
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2024) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.29	2.82	2.48	0.01	0.12	—	0.12	0.11	—	0.11	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.51	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.07	0.80	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	128	128	0.01	0.01	0.60	131
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.06	0.01	1.03	0.36	0.01	0.01	0.17	0.19	0.01	0.05	0.06	—	720	720	0.04	0.11	1.38	756
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.02	10.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.09	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	59.2	59.2	< 0.005	0.01	0.05	62.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.71	1.71	< 0.005	< 0.005	< 0.005	1.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.79	9.79	< 0.005	< 0.005	0.01	10.3

3.7. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.43	4.00	4.67	0.01	0.18	—	0.18	0.16	—	0.16	—	854	854	0.03	0.01	—	857
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.73	0.85	< 0.005	0.03	—	0.03	0.03	—	0.03	—	141	141	0.01	< 0.005	—	142
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.09	1.06	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	169	169	0.01	0.01	0.79	173
Vendor	0.02	0.01	0.30	0.15	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	186	186	0.01	0.03	0.47	195
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.13	0.10	1.08	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	166	166	0.01	0.01	0.02	168
Vendor	0.02	0.01	0.31	0.15	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	186	186	0.01	0.03	0.01	195
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.05	0.04	0.04	0.38	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	59.1	59.1	< 0.005	< 0.005	0.12	60.2
Vendor	0.01	< 0.005	0.11	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	66.3	66.3	< 0.005	0.01	0.07	69.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.79	9.79	< 0.005	< 0.005	0.02	9.96
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.43	1.79	< 0.005	0.06	—	0.06	0.05	—	0.05	—	328	328	0.01	< 0.005	—	330
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.26	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.4	54.4	< 0.005	< 0.005	—	54.6

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.10	1.01	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	163	163	0.01	0.01	0.02	165
Vendor	0.02	0.01	0.30	0.14	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	183	183	0.01	0.03	0.01	191
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.3	22.3	< 0.005	< 0.005	0.04	22.7
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.1	25.1	< 0.005	< 0.005	0.03	26.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.69	3.69	< 0.005	< 0.005	0.01	3.76
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.15	4.15	< 0.005	< 0.005	< 0.005	4.33
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2025) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.20	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	41.4	41.4	< 0.005	< 0.005	—	41.6
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.86	6.86	< 0.005	< 0.005	—	6.88
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.06	0.57	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	92.4	92.4	0.01	< 0.005	0.01	93.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.54	2.54	< 0.005	< 0.005	< 0.005	2.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.42	0.42	< 0.005	< 0.005	< 0.005	0.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	146	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	146	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.66	3.66	< 0.005	< 0.005	—	3.67
Architectural Coatings	—	4.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Architectural Coatings	—	0.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.20	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.2	33.2	< 0.005	< 0.005	0.15	33.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.20	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.6	32.6	< 0.005	< 0.005	< 0.005	33.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.91

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.15	0.15	< 0.005	< 0.005	< 0.005	0.15
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	254	254	0.04	< 0.005	—	256
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	99.6	99.6	0.02	< 0.005	—	101
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.98	0.98	< 0.005	< 0.005	—	0.99

Total	—	—	—	—	—	—	—	—	—	—	—	—	354	354	0.06	0.01	—	358
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	254	254	0.04	< 0.005	—	256
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	99.6	99.6	0.02	< 0.005	—	101
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.98	0.98	< 0.005	< 0.005	—	0.99
Total	—	—	—	—	—	—	—	—	—	—	—	—	354	354	0.06	0.01	—	358
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	—	42.0	42.0	0.01	< 0.005	—	42.4
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	16.5	16.5	< 0.005	< 0.005	—	16.7
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.16	0.16	< 0.005	< 0.005	—	0.16
Total	—	—	—	—	—	—	—	—	—	—	—	—	58.7	58.7	0.01	< 0.005	—	59.2

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Quality Restaurant	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	167	167	0.01	< 0.005	—	167
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	167	167	0.01	< 0.005	—	167
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Quality Restaurant	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	167	167	0.01	< 0.005	—	167
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	167	167	0.01	< 0.005	—	167
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Quality Restaurant	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	27.6	27.6	< 0.005	< 0.005	—	27.7
User Defined Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	27.6	27.6	< 0.005	< 0.005	—	27.7

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.49	0.45	0.02	2.73	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.2	11.2	< 0.005	< 0.005	—	11.3
Total	0.49	2.19	0.02	2.73	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.2	11.2	< 0.005	< 0.005	—	11.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	0.04	0.04	< 0.005	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.92	0.92	< 0.005	< 0.005	—	0.92
Total	0.04	0.36	< 0.005	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.92	0.92	< 0.005	< 0.005	—	0.92

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.4	58.6	100	0.15	0.09	—	131
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	2.72	3.85	6.58	0.01	0.01	—	8.62
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.02	0.02	< 0.005	< 0.005	—	0.02
Total	—	—	—	—	—	—	—	—	—	—	—	44.1	62.5	107	0.16	0.10	—	140
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	41.4	58.6	100	0.15	0.09	—	131
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	2.72	3.85	6.58	0.01	0.01	—	8.62
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.02	0.02	< 0.005	< 0.005	—	0.02

Total	—	—	—	—	—	—	—	—	—	—	—	44.1	62.5	107	0.16	0.10	—	140
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	6.86	9.70	16.6	0.03	0.02	—	21.7
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	0.45	0.64	1.09	< 0.005	< 0.005	—	1.43
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	7.31	10.3	17.7	0.03	0.02	—	23.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	197	0.00	197	19.7	0.00	—	690
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	2.07	0.00	2.07	0.21	0.00	—	7.23
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	199	0.00	199	19.9	0.00	—	697

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	197	0.00	197	19.7	0.00	—	690
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	2.07	0.00	2.07	0.21	0.00	—	7.23
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	199	0.00	199	19.9	0.00	—	697
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Arena	—	—	—	—	—	—	—	—	—	—	—	32.6	0.00	32.6	3.26	0.00	—	114
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.20
User Defined Recreational	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	33.0	0.00	33.0	3.30	0.00	—	115

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

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

Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.56	6.56
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.56	6.56
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.56	6.56
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.56	6.56
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Quality Restaurant	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.09	1.09
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.09	1.09

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grazing	—	—	—	—	—	—	—	—	—	—	—	—	19.2	19.2	—	—	—	19.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	19.2	19.2	—	—	—	19.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grazing	—	—	—	—	—	—	—	—	—	—	—	—	19.2	19.2	—	—	—	19.2
Total	—	—	—	—	—	—	—	—	—	—	—	—	19.2	19.2	—	—	—	19.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grazing	—	—	—	—	—	—	—	—	—	—	—	—	3.18	3.18	—	—	—	3.18
Total	—	—	—	—	—	—	—	—	—	—	—	—	3.18	3.18	—	—	—	3.18

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

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	7.97	7.97	—	—	—	7.97
Total	—	—	—	—	—	—	—	—	—	—	—	—	7.97	7.97	—	—	—	7.97
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	7.97	7.97	—	—	—	7.97
Total	—	—	—	—	—	—	—	—	—	—	—	—	7.97	7.97	—	—	—	7.97
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	1.32	1.32	—	—	—	1.32
Total	—	—	—	—	—	—	—	—	—	—	—	—	1.32	1.32	—	—	—	1.32

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	5/1/2024	5/7/2024	5.00	5.00	—

Site Preparation	Site Preparation	5/8/2024	5/21/2024	5.00	10.0	—
Grading	Grading	5/22/2024	7/2/2024	5.00	30.0	—
Building Construction	Building Construction	7/3/2024	3/11/2025	5.00	180	—
Paving	Paving	3/12/2025	3/25/2025	5.00	10.0	—
Architectural Coating	Architectural Coating	3/26/2025	4/8/2025	5.00	10.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45

Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	8.80	LDA,LDT1,LDT2
Demolition	Vendor	—	5.30	HHDT,MHDT
Demolition	Hauling	25.2	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	8.80	LDA,LDT1,LDT2
Site Preparation	Vendor	—	5.30	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	8.80	LDA,LDT1,LDT2
Grading	Vendor	—	5.30	HHDT,MHDT
Grading	Hauling	9.60	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	26.4	8.80	LDA,LDT1,LDT2
Building Construction	Vendor	10.3	5.30	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	8.80	LDA,LDT1,LDT2
Paving	Vendor	—	5.30	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	5.28	8.80	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	5.30	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Apply dust suppressants to unpaved roads	84%	84%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	94,320	31,440	120

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	10,910	—
Site Preparation	0.00	0.00	15.0	0.00	—
Grading	2,300	0.00	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.05

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Arena	0.00	0%
Quality Restaurant	0.00	0%
User Defined Recreational	0.00	0%
Parking Lot	0.05	80%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

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

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	568	568	568	56.0	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	94,320	31,440	120

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Arena	453,877	204	0.0330	0.0040	0.00
Quality Restaurant	178,301	204	0.0330	0.0040	520,247

User Defined Recreational	0.00	204	0.0330	0.0040	0.00
Parking Lot	1,752	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Arena	19,384,655	0.00
Quality Restaurant	1,274,842	0.00
User Defined Recreational	0.00	0.00
Parking Lot	0.00	10,427

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Arena	366	—
Quality Restaurant	3.83	—
User Defined Recreational	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Quality Restaurant	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00

Quality Restaurant	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
Grazing	Mollisols	60.0	57.0

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
Grassland	60.0	57.0

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	14.2	annual days of extreme heat
Extreme Precipitation	6.85	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	43.3	annual hectares burned

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

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	2	4	1
Flooding	N/A	N/A	N/A	N/A
Drought	1	2	4	1
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	2	4	1
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	5	1
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	N/A	N/A	N/A	N/A

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

6.4. Climate Risk Reduction Measures

6.4.1. Drought

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
D-3: Install Drought Resistant Landscaping	Water Conservation	—	1.00	1.00

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	15.0
AQ-PM	5.59
AQ-DPM	9.18
Drinking Water	85.0
Lead Risk Housing	29.8
Pesticides	62.6
Toxic Releases	7.65
Traffic	10.4
Effect Indicators	—

CleanUp Sites	0.00
Groundwater	14.3
Haz Waste Facilities/Generators	19.2
Impaired Water Bodies	43.8
Solid Waste	70.4
Sensitive Population	—
Asthma	36.9
Cardio-vascular	30.2
Low Birth Weights	32.5
Socioeconomic Factor Indicators	—
Education	36.6
Housing	40.9
Linguistic	37.7
Poverty	41.7
Unemployment	56.2

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	68.90799435
Employed	84.92236623
Median HI	57.85961761
Education	—
Bachelor's or higher	69.9987168
High school enrollment	100
Preschool enrollment	79.32760169

Transportation	—
Auto Access	58.09059412
Active commuting	78.9298088
Social	—
2-parent households	37.75182856
Voting	96.16322341
Neighborhood	—
Alcohol availability	45.54087001
Park access	45.54087001
Retail density	19.53034775
Supermarket access	44.75811626
Tree canopy	76.40189914
Housing	—
Homeownership	49.89092776
Housing habitability	48.60772488
Low-inc homeowner severe housing cost burden	69.79340434
Low-inc renter severe housing cost burden	28.6154241
Uncrowded housing	59.34813294
Health Outcomes	—
Insured adults	66.05928397
Arthritis	0.0
Asthma ER Admissions	81.8
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0

Diagnosed Diabetes	0.0
Life Expectancy at Birth	63.5
Cognitively Disabled	54.2
Physically Disabled	26.6
Heart Attack ER Admissions	82.7
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	67.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	81.0
Elderly	5.2
English Speaking	50.9
Foreign-born	36.1
Outdoor Workers	36.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	88.2
Traffic Density	20.8
Traffic Access	0.0

Other Indices	—
Hardship	43.5
Other Decision Support	—
2016 Voting	95.5

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	22.0
Healthy Places Index Score for Project Location (b)	79.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

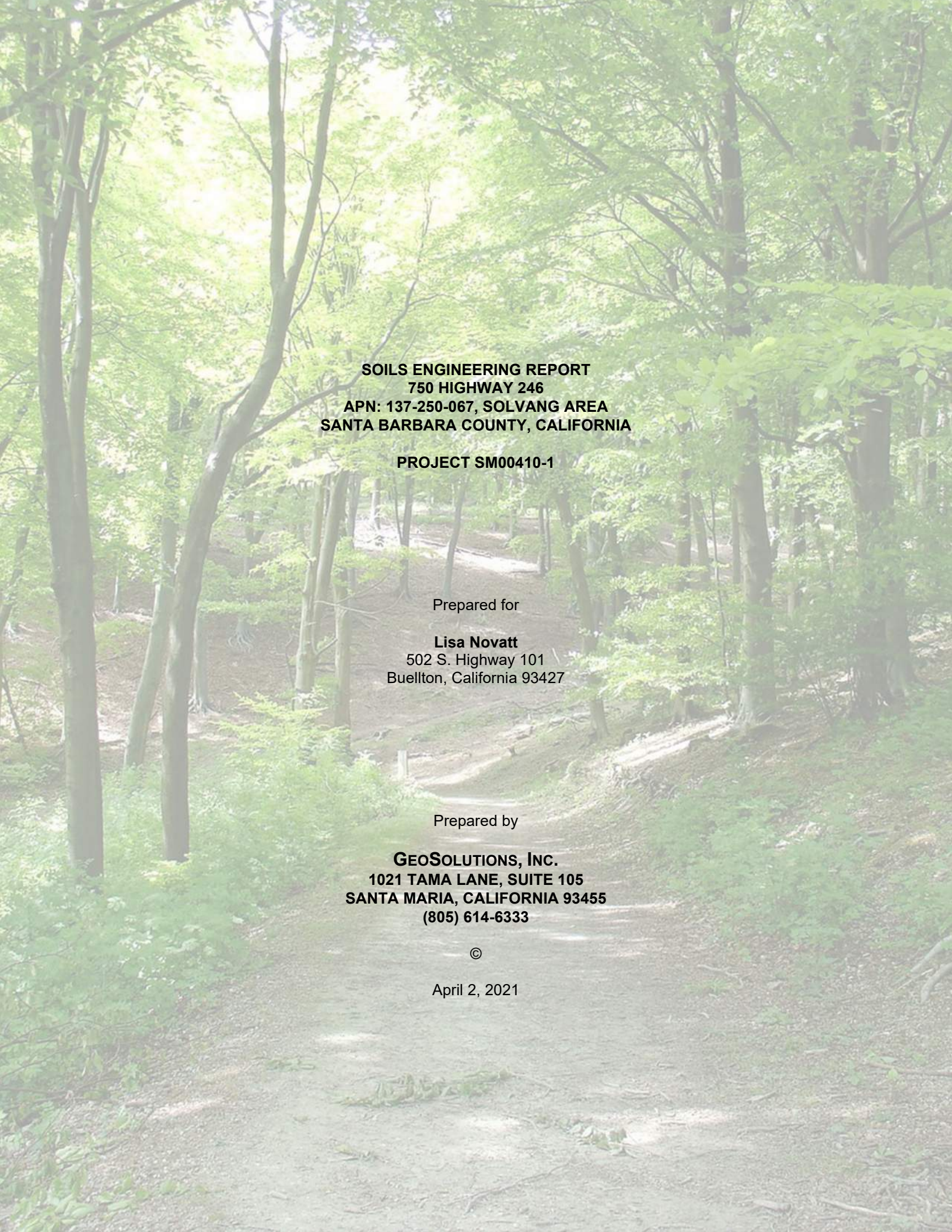
No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Six 1,280 SF horse barns. Each barn has 20 horse stalls, for a total of 120.
Construction: Paving	chip seal
Operations: Refrigerants	NO A/C or refrigerants in arena. No walk-in refrigerator in reception building kitchen.

Construction: Construction Phases	Timeline based on info from project agent
Operations: Solid Waste	From project Animal Waste Management plan: The general rule stated in the Guidelines of Santa Barbara County states that the average 1,000 lb. horse produces 1-2 cubic feet of manure per day. Based on this rule, the maximum number of horses, 100, to be located on site would produce 100 cubic feet per day. 100 cubic feet conversion = 1 ton per day at max capacity. 365 X 1 = 365 tons per year. 365/45=8.1
Operations: Energy Use	Assume that indoor arena (open-sided) will not require natural gas for space heating.

Attachment 6: Soils Engineering Report dated April 2021



SOILS ENGINEERING REPORT
750 HIGHWAY 246
APN: 137-250-067, SOLVANG AREA
SANTA BARBARA COUNTY, CALIFORNIA

PROJECT SM00410-1

Prepared for

Lisa Novatt
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Prepared by

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©

April 2, 2021

DATE:
April 2, 2021

PROJECT NUMBER:
SM00410-1

CLIENT:
Lisa Novatt
502 S. Highway 101
Buellton, California 93427

PROJECT NAME:
750 Highway 246
APN: 137-250-067
Solvang Area,
Santa Barbara County,
California

SOILS ENGINEERING REPORT

Dear Ms. Novatt:

This Soils Engineering Report has been prepared for the proposed new clubhouse, hay barn and covered arena to be located at 750 Highway 246, APN: 137-250-067, Solvang Area, Santa Barbara County, California. Geotechnically, the site is suitable for the proposed development provided the recommendations in this report for site preparation, earthwork, foundations, slabs, retaining walls, and pavement sections are incorporated into the design.

It is anticipated that a graded pad will be constructed for the proposed new clubhouse, hay barn, mobile home, and covered arena with all foundations excavated into engineered fill.

All foundations are to be excavated into uniform material to limit the potential for distress of the foundation systems due to differential settlement. If cuts steeper than allowed by State of California Construction Safety Orders for "Excavations, Trenches, Earthwork" are proposed, a numerical slope stability analysis may be necessary for temporary construction slopes.

Thank you for the opportunity to have been of service in preparing this report. If you have any questions, please contact the undersigned at (805) 614-6333.

Sincerely,
GeoSolutions, Inc.

Bradley J. Bucher, PE
Principal, C81927

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SOILS ENGINEERING REPORT
750 HIGHWAY 246
APN: 137-250-067, SOLVANG AREA
SANTA BARBARA COUNTY, CALIFORNIA

PROJECT SM00410-1

1.0 INTRODUCTION

This report presents the results of the geotechnical investigation for the proposed new clubhouse, hay barn and covered arena to be located at 750 Highway 246, APN: 137-250-067, Solvang Area, Santa Barbara County, California. See Figure 1: Site Location Map for the general location of the project area. Figure 1: Site Location Map was obtained from the website application TopoView (USGS, 2013).

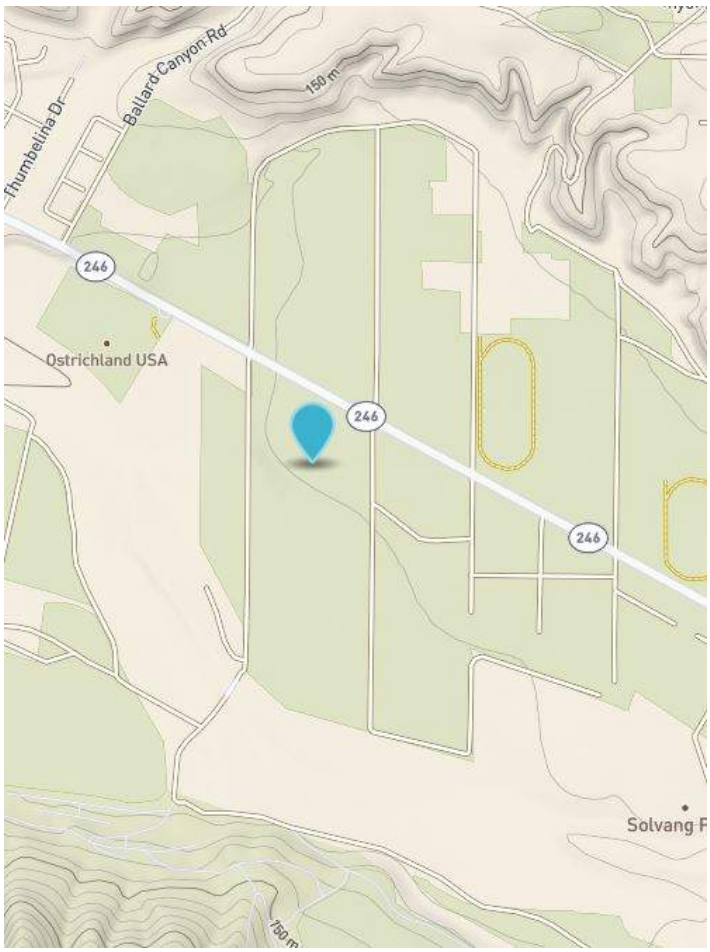


Figure 1: Site Location Map

1.1 Site Description

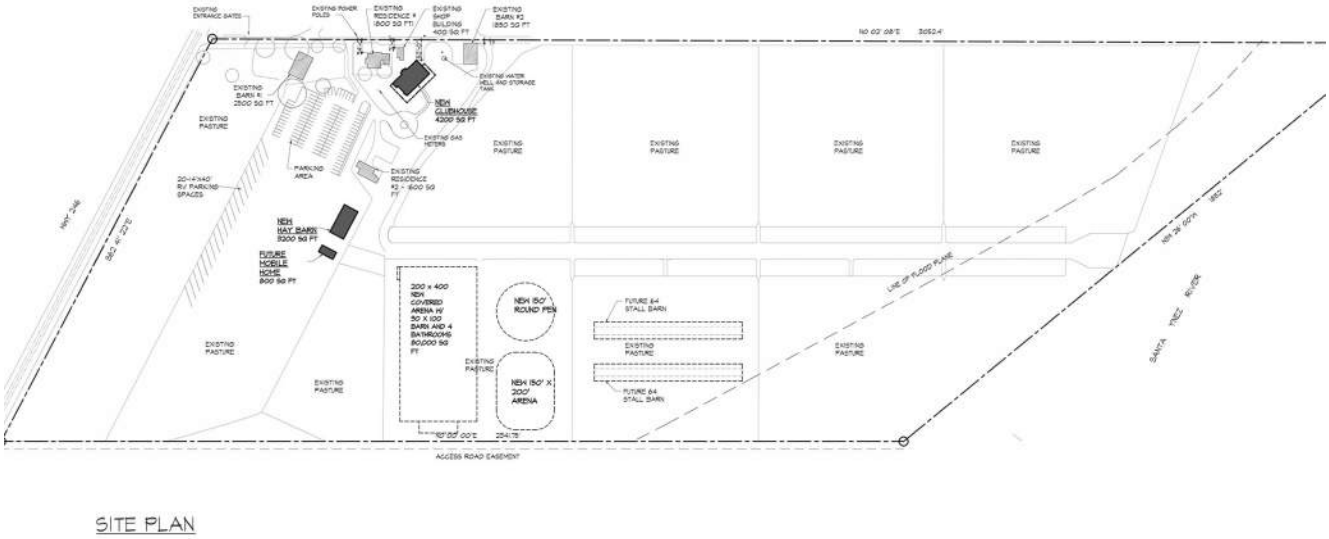
750 Highway 246 is located at 34.6030 degrees north latitude and -120.1723 degrees east longitude at a general elevation of 250 feet above mean sea level. The property is approximately rectangular in shape and 63.35 acres in size. The nearest intersection is where Highway 246 intersects Ballard Canyon Road north of the property. The project property will hereafter be referred to as the "Site." See Figure 2: Site Plan for the general layout of the Site.

The Site is currently being used as a horse ranch that consist of residential structures, barns, stables, corals and pastures. The Site consists of mainly two levels that will be referred to as the upper and lower Sites. The topography of the upper Site is generally level and is at approximately the same elevation of Highway 246. The majority of the structures are located along the eastern potion of the upper Site with the lower Site at an elevation greater than 10 feet below the upper Site and is currently being used as grazing pasture.

1.2 Project Description

It is our understanding the existing barn that is located in the eastern portion of the upper Site is to be converted into a new clubhouse with a new parking area located to the northwest of the proposed new club house. The new hay barn and mobile home are to be located to the west of the existing residence #2 in the existing horse pasture with the new covered area located on the lower Site. See Figure 2: Site Plan. At the time of the preparation of this report, the proposed new clubhouse, hay barn and covered arena is to be constructed using light wood framing and structural steel. Retaining walls are expected to be constructed as part of this project.

It is anticipated that the proposed new clubhouse, hay barn and covered arena will utilize a slab-on-grade and/or raised wood lower floor system. Dead and sustained live loads are currently unknown, but they are anticipated to be relatively light with maximum continuous footing and column loads estimated to be approximately 1.5 kips per linear foot and 15 kips, respectively.



SITE PLAN

Figure 2: Site Plan

2.0 PURPOSE AND SCOPE

The purpose of this study was to explore and evaluate the surface and sub-surface soil conditions at the Site and to develop geotechnical information and design criteria. The scope of this study includes the following items:

1. A literature review of available published and unpublished geotechnical data pertinent to the project site including geologic maps, and available on-line or in-house aerial photographs.

2. A field study consisting of site reconnaissance and subsurface exploration including exploratory borings in order to formulate a description of the sub-surface conditions at the Site.

3. Laboratory testing performed on representative soil samples that were collected during our field study.

4. Engineering analysis of the data gathered during our literature review, field study, and laboratory testing.

5. Development of recommendations for site preparation and grading as well as geotechnical design criteria for building foundations, retaining walls, pavement sections, underground utilities, and drainage facilities.

3.0 FIELD AND LABORATORY INVESTIGATION

The field investigation was conducted on February 10, 2021 using a Mobile B-24 drill rig. Six (6) six-inch diameter exploratory borings were advanced to a maximum depth of 25 feet below ground surface (bgs) at the approximate locations indicated on Figure 3: Field Investigation. Sampling methods included the Standard Penetration Test utilizing a standard split-spoon sampler (SPT) without liners and a Modified California sampler (CA) with liners. The Mobile B-24 drill rig was equipped with a safety hammer, which has an efficiency of approximately 60 percent and was used to obtain test blow counts in the form of N-values.

Figure 3: Field Investigation

Data gathered during the field investigation suggest that the soil materials at the Site consist of interbedded layers of alluvial soil. The surface material at the Site generally consisted of varying shades of brown silty SAND (SM), sandy SILT (ML) and sandy CLAY (CL) encountered in a dry to moist and loose to medium dense condition. The sub-surface materials consisted of olive brown and dark yellowish brown clayey SAND (SC), poorly graded SAND (SP) and sandy SILT (ML) encountered in a moist and medium denser to dense condition. See **Appendix A** for the Boring Logs from the field investigation.

Regional site geology was obtained from United States Geological Survey MapView internet application (USGS, 2013) which compiles existing geologic maps. Figure 4: Regional Geologic Map presents the geologic conditions in site vicinity as mapped on the *Geologic map of the Solvang and Gaviota quadrangles, Santa Barbara County, California* (Dibblee, 1988). The SAND and SILT and the majority of all underlying material at the Site was interpreted as surficial sediments.

Groundwater was not encountered in any of the borings. It should be expected that groundwater elevations may vary seasonally and with irrigation practices.

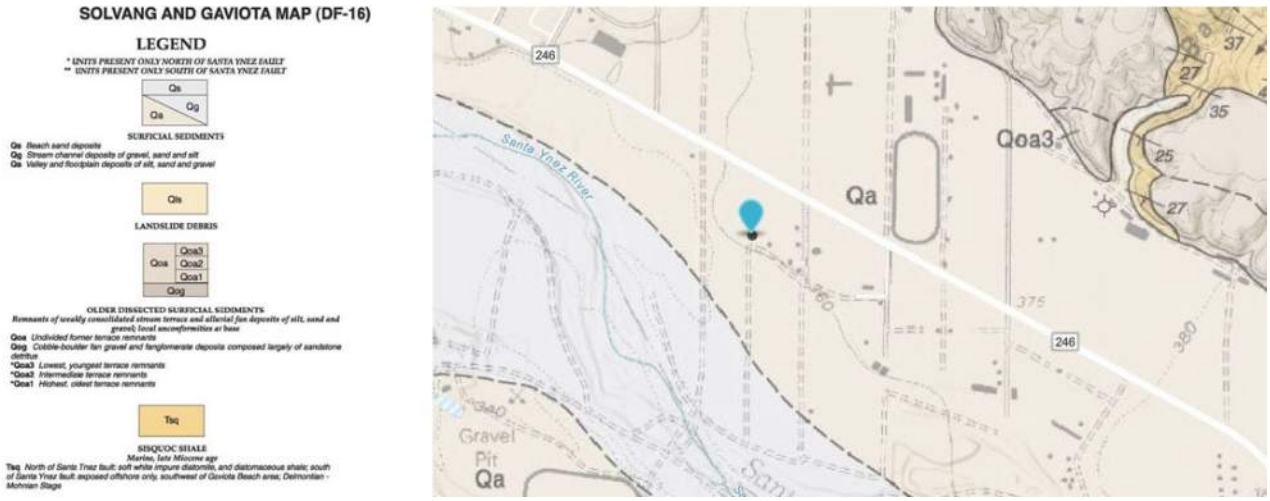


Figure 4: Regional Geologic Map

During the boring operations the soils encountered were continuously examined, visually classified, and sampled for general laboratory testing. A project engineer has reviewed a continuous log of the soils encountered at the time of field investigation.

Laboratory tests were performed on soil samples that were obtained from the Site during the field investigation. The results of these tests are listed below in Table 1: Engineering Properties. Laboratory data reports and detailed explanations of the laboratory tests performed during this investigation are provided in **Appendix B**.

Table 1: Engineering Properties

Sample Name	Sample Description	USCS Specification	Expansion Index	Expansion Potential	Maximum Dry Density, γ_d (pcf)	Optimum Moisture (%)	Angle of Internal Friction, ϕ (deg.)	Cohesion, c (psf)	Fines Content (%)
A	Dark Yellowish Brown Silty CLAY with Sand	CL-ML	20	Very Low	112.1	14.4	35.6	0	84.1
B	Dark Yellowish Brown Silty SAND	SM	2	Very Low	-	-	-	-	49.9
C	Dark Yellowish-Brown Sandy SILT	ML	15	Very Low	-	-	-	-	50.5
D	Dark Yellowish-Brown Silty CLAY with Sand	CL-ML	41	Low	-	-	-	-	81.6

4.0 SEISMIC DESIGN CONSIDERATIONS

Estimating the design ground motions at the Site depends on many factors including the distance from the Site to known active faults; the expected magnitude and rate of recurrence of seismic events produced on such faults; the source-to-site ground motion attenuation characteristics; and the Site soil profile characteristics. According to section 1613 of the 2019 CBC (CBSC, 2019), all structures and portions of structures should be designed to resist the effects of seismic loadings caused by earthquake

ground motions in accordance with the ASCE 7: Minimum Design Loads for Buildings and Other Structures, hereafter referred to as ASCE 7-16 (ASCE, 2016). The Site soil profile classification (Site Class) can be determined by the average soil properties in the upper 100 feet of the Site profile and the criteria provided in Table 20.3-1 of ASCE 7-16.

Spectral response accelerations and peak ground accelerations, provided in this report were obtained using the computer-based Seismic Design Maps tool available from the Structural Engineers Association of California (SEAOC, 2019). This program utilizes the methods developed in ASCE 7-16 in conjunction with user-inputted Site location to calculate seismic design parameters and response spectra (both for period and displacement) for soil profile Site Classes A through E.

Site coordinates of 34.6030 degrees north latitude and -120.1723 degrees east longitude were used in the web-based probabilistic seismic hazard analysis (SEAOC, 2019). Based on the results from the in-situ tests performed during the field investigation, the Site was defined as **Site Class D**, "Stiff Soil" profile per ASCE7-16, Chapter 20. Relevant seismic design parameters obtained from the program are summarized in Table 2: Seismic Design Parameters.

Table 2: Seismic Design Parameters

Site Class	**D "Stiff Soil"**
Seismic Design Category	**D**
1-Second Period Design Spectral Response Acceleration, S_{D1}	**(See Note 1)**
Short-Period Design Spectral Response Acceleration, S_{DS}	**0.985g**
Site Specific MCE Peak Ground Acceleration, PGA_M	**0.718g**

Note 1: It is assumed that this design-period acceleration will not be required for the project.

5.0 LIQUEFACTION HAZARD ASSESSMENT

Liquefaction occurs when saturated cohesionless soils lose shear strength due to earthquake shaking. Ground motion from an earthquake may induce cyclic reversals of shear stresses of large amplitude. Lateral and vertical movement of the soil mass combined with the loss of bearing strength can result from this phenomenon. Liquefaction potential of soil deposits during earthquake activity depends on soil type, void ratio, groundwater conditions, the duration of shaking, and confining pressures on the potentially liquefiable soil unit. Fine, poorly graded loose sand, shallow groundwater, high intensity earthquakes, and long duration of ground shaking are the principal factors leading to liquefaction.

Based on the consistency and relative density of the in-situ soils the potential for seismic liquefaction of soils at the Site is low. Assuming that the recommendations of the Soils Engineering Report are implemented, the potential for seismically induced settlement and differential settlement at the Site is considered to be low.

6.0 GENERAL SOIL-FOUNDATION DISCUSSION

It is anticipated that graded pads will be constructed for the proposed structures with all foundations excavated into engineered fill. All foundations are to be excavated into uniform material to limit the potential for distress of the foundation systems due to differential settlement. If cuts steeper than allowed by State of California Construction Safety Orders for "Excavations, Trenches, Earthwork" are proposed, a numerical slope stability analysis may be necessary for temporary construction slopes.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The Site is suitable for the proposed development provided the recommendations presented in this report are incorporated into the project plans and specifications.

The primary geotechnical concerns at the Site are:

1. The presence of loose surface and subsurface soils.

2. The presence of loose surface materials and potential for debris resulting from demolition and removal of the existing structures.

3. The presence of potentially expansive material. Influx of water from irrigation, leakage from the residence, or natural seepage could cause expansive soil problems. Foundations supported by expansive soils should be designed by a Structural Engineer in accordance with the 2019 California Building Code.

4. The potential for differential settlement occurring between foundations supported on two soil materials having different settlement characteristics, such as native soil and engineered fill. Therefore, it is important that all of the foundations are founded in equally competent uniform material in accordance with this report.

7.1 Preparation of Building Pads

1. It is anticipated that graded engineered fill pads will be developed for the proposed new clubhouse, hay barn and covered arena with footings founded in engineered fill.

2. For the development of an engineered fill pad, the native material should be over-excavated at least 60 inches below existing grade, 36 inches below the bottom of the footings, to competent material, or to two-thirds the depth of the deepest fill (measured from the bottom of the deepest footing); whichever is greatest.

3. The limits of over-excavation should extend a minimum of 5 feet beyond the perimeter foundation, to property lines, or existing improvements, whichever is least. The exposed surface should be scarified to a depth of 6 inches; moisture conditioned to 3% over optimum moisture content, and compacted to a minimum relative density of 90 percent (ASTM D1557-12). The over-excavated material may then be processed as engineered fill. Onsite soil and rock material is suitable as fill material provided it is processed to remove concentrations of organic material, debris, and other particles.

4. For prefabricated structures with footings sitting on grade a minimum of 12 inches of Class II aggregate base is recommended to cap the building pad.

5. Imported fill should meet the requirements of the grading plan. GeoSolutions, Inc. should be notified at least 72 hours prior to delivery to the site to sample and test proposed imported fill materials. Refer to Figure 6: Sub-Slab Detail for under-slab drainage material and **Appendix D** for more details on fill placement.

6. The ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than one unit vertical in 20 units horizontal (5 percent slope) for a minimum distance of 10 feet measured perpendicular to the exterior of the structure per Section 1804.3 of the 2019 CBC.

7. If fill areas are constructed on slopes greater than 10-to-1 (horizontal-to-vertical), we recommend that benches be cut every four (vertical) feet as fill is placed. Each bench shall be a minimum of 10 feet wide with a minimum of two percent gradient into the slope.

If fill areas are constructed on slopes greater than 5-to-1, we recommend that the toe of all areas to receive fill be keyed a minimum of 24 inches into underlying dense material. Sub-drains shall be placed in the keyway and benches as required. See **Appendix D**, Detail A, Key and Bench with Backdrain for details on key and bench construction.

7.2 Conventional Foundations

1. Conventional continuous and spread footings with grade beams may be used for support of the proposed structure(s). Isolated pad footings are not permitted.

2. Minimum footing and grade beam sizes and depths in engineered fill should conform to the following table, as observed and approved by a representative of GeoSolutions, Inc.

Table 3: Minimum Footing and Grade Beam Recommendations

	Perimeter Footings	Grade Beams
Minimum Width	15 inches (two story)	15 inches
Embedment Depth	18 inches (one story < 12-foot-high walls) 24 inches (two story or one story > 12-foot-high walls)	18 inches
Minimum Reinforcing*	4 #4 bars (2 top / 2 bottom)	4 #4 bars (2 top / 2 bottom)
Spacing	-	20 feet on-center each way
* Steel should be held in place by stirrups at appropriate spacing to ensure proper positioning of the steel (see WRI Design of Slab-on-Ground Foundations and ACI 318, Section 26.6.6 – Placing Reinforcement).		

3. Minimum reinforcing for footings should conform to the recommendations provided in Table 3: Minimum Footing and Grade Beam Recommendations which meets the specifications of Section 1808.6 of the 2019 California Building Code for the soil conditions at the Site. Reinforcing steel should be held in place by stirrups at appropriate spacing to ensure proper positioning of the steel in accordance with WRI Design of Slab-on-Ground Foundations, and ACI 318, Section 26.6.6 – Placing Reinforcement.

4. A representative of this firm should observe and approve all foundation excavations for required embedment depth prior to the placement of reinforcing steel and/or concrete. Concrete should be placed only in excavations that are free of loose, soft soil and debris and that have been lightly pre-moistened, with no associated testing required.

5. An allowable dead plus live load bearing pressure of **1,500 psf** may be used for the design of footings founded in engineered fill.

6. Allowable bearing capacities may be increased by one-third when transient loads such as wind and/or seismicity are included.

7. A total settlement of less than 1 inch and a differential settlement of less than 1 inch in 30 feet are anticipated.

8. Lateral forces on structures may be resisted by passive pressure acting against the sides of shallow footings and/or friction between the engineered fill and the bottom of the footings. For resistance to lateral loads, a friction factor of **0.35** may be utilized for sliding resistance at the base of footings extending a minimum of 12 inches into engineered fill. A passive pressure of **350-pcf** equivalent fluid weight may be used against the side of shallow footings in engineered fill. If friction and passive pressures are combined to resist lateral forces acting on shallow footings, the lesser value should be reduced by 50 percent.

9. Foundation excavations should be observed and approved by a representative of this firm prior to the placement of formwork, reinforcing steel and/or concrete.

10. Foundation design should conform to the requirements of Chapter 18 of the latest edition of the CBC (CBSC, 2019).

11. The base of all grade beams and footings should be level and stepped as required to accommodate any change in grade while still maintaining the minimum required footing embedment and slope setback distance.

12. The minimum footing setback distance from ascending or descending slope steeper than 3-to-1 (horizontal-to-vertical) but less than 1-to-1 must be maintained. See Figure 5: Setback Dimensions – Slope Gradients Between 3-to-1 and 1-to-1 Setback Dimensions – Slope Gradients Between 3-to-1 and 1-to-1 for the minimum horizontal setback distances from ascending and descending slopes steeper than 3-to-1 but not steeper than 1-to-1.

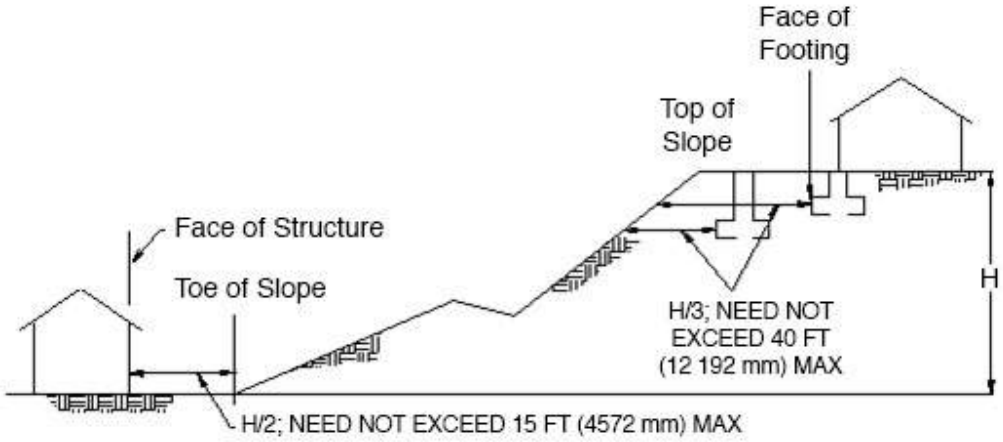


Figure 5: Setback Dimensions – Slope Gradients Between 3-to-1 and 1-to-1

13. If alternate footing setback distances from ascending or descending slopes are desired, GeoSolutions, Inc. may be contracted to perform an additional Numerical Slope Stability Study. Depending on the results of this study, alternate minimum footing setback distances from ascending or descending slopes may be provided.

7.3 Slab-On-Grade Construction

1. Concrete slabs-on-grade and flatwork should not be placed directly on unprepared native materials. Preparation of sub-grade to receive concrete slabs-on-grade and flatwork should be processed as discussed in the preceding sections of this report. Concrete slabs should be placed only over sub-grade that is free of loose, soft soil and debris and that has been lightly pre-moistened, with no associated testing required.

2. Concrete slabs-on-grade should be in conformance with the recommendations provided in Table 4: Minimum Slab Recommendations. Reinforcing should be placed on-center both ways at or slightly above the center of the structural section. Reinforcing bars should have a minimum clear cover of 1.5 inches. Where lapping of the slab steel is required, laps in adjacent bars should be staggered a minimum of every five feet (see WRI Design of Slab-on-Ground Foundations, Steel Placement). The recommended reinforcement may be used for anticipated uniform floor loads not exceeding 200 psf. If floor loads greater than 200 psf are anticipated, a Structural Engineer should evaluate the slab design.

Table 4: Minimum Slab Recommendations

Minimum Thickness	4 inches
Reinforcing*	#4 bars at 20 inches on-center each way
* Where lapping of the slab steel is required, laps in adjacent bars should be staggered a minimum of every five feet (see WRI/CSRI-81 recommendations for Steel Placement, Section 2).	

3. Concrete for all slabs should be placed at a maximum slump of less than 5 inches. Excessive water content is the major cause of concrete cracking. If fibers are used to aid in the control of cracking, a water-reducing admixture may be added to the concrete to increase slump while maintaining a water/cement ratio, which will limit excessive shrinkage. Control joints should be constructed as required to control cracking.

4. Where concrete slabs-on-grade are to be constructed for interior conditioned spaces, the slabs should be underlain by a minimum of four inches of clean free-draining material, such as a ¾ inch coarse aggregate mix, to serve as a cushion and a capillary break. Where moisture susceptible storage or floor coverings are anticipated, a 15-mil Stego Wrap membrane (or equivalent installed per manufacturer's specifications) should be placed between the free-draining material and the slab to minimize moisture condensation under the floor covering. See Figure 6: Sub-Slab Detail for the placement of under-slab drainage material. It is suggested, but not required, that a two-inch thick sand layer be placed on top of the membrane to assist in the curing of the concrete, increasing the depth of the under-slab material to a total of six inches. The sand should be lightly moistened prior to placing concrete.

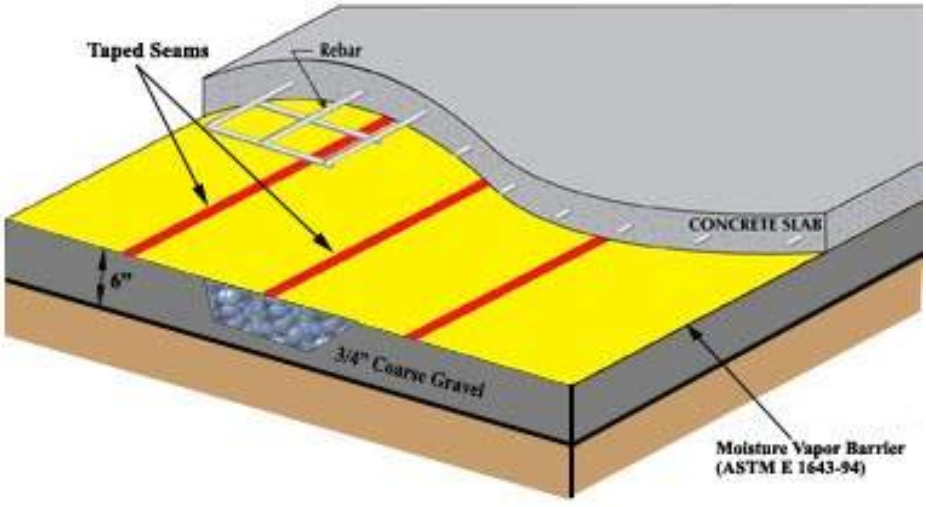


Figure 6: Sub-Slab Detail

5. It should be noted that for a vapor barrier installation to conform to manufacturer's specifications, sealing of penetrations, joints and edges of the vapor barrier membrane are typically required. As required by the California Building Code, joints in the vapor barrier should be lapped a minimum of 6 inches. If the installation is not performed in accordance with the manufacturer's specifications, there is an increased potential for water vapor to affect the concrete slabs and floor coverings.

6. The most effective method of reducing the potential for moisture vapor transmission through concrete slabs-on-grade would be to place the concrete directly on the surface of the vapor barrier membrane. However, this method requires a concrete mix design specific to this application with low water-cement ratio in addition to special concrete finishing and curing practices, to minimize the potential for concrete cracks and surface defects. The contractor should be familiar with current techniques to finish slabs poured directly onto the vapor barrier membrane.

7. Moisture condensation under floor coverings has become critical due to the use of water-soluble adhesives. Therefore, it is suggested that moisture sensitive slabs not be constructed during inclement weather conditions.

7.4 Exterior Concrete Flatwork (Hardscape)

1. Hardscape areas should be excavated a minimum of 12 inches below approximate sub-grade elevation, 24-inch existing grade or to competent material; whichever is deeper. The exposed surface should be scarified an additional depth of 6 inches, moisture conditioned to slightly above optimum moisture content, and compacted to a minimum relative density of 90 percent (ASTM D1557-12 test method).

2. Minimum flatwork for conventional pedestrian areas should be a minimum of 4 inches thick and consist of No. 3 (#3) rebar spaced at 24 inches on-center each-way at or slightly above the center of the structural section.

3. Flatwork should be constructed with frequent joints to allow for movement due to fluctuations in temperature and moisture content in the adjacent soils. Flatwork at doorways, driveways, curbs and other areas where restraining the elevation of the flatwork is desired, should be doweled to the perimeter foundation by a minimum of No. 3 reinforcing steel dowels, spaced at a maximum distance of 24 inches on-center.

4. As an alternative, interlocking concrete pavers may be utilized for exterior improvements in lieu of reinforced concrete flatwork. Concrete pavers, when installed in accordance with manufacturers' recommendations and industry standards (ICPI), allow for a greater degree of soil movement as they are part of a flexible system. If interlocking concrete pavers are selected for use in the driveway area, the structural section should be underlain by a woven geotextile fabric, such as Mirafi HP570 or equivalent, to function as a separation layer and to provide additional support for vehicle tire loads.

7.5 Retaining Walls

1. Retaining walls should be designed to resist lateral pressures from adjacent soils and surcharge loads applied behind the walls. We recommend using the lateral pressures presented in Table 5: Retaining Wall Design Parameters and Figure 7: Retaining Wall Detail for the design of retaining walls at the Site. The Active Case may be used for the design of unrestrained retaining walls, and the At-Rest Case may be used for the design of restrained retaining walls.

Table 5: Retaining Wall Design Parameters

Lateral Pressure and Condition	Equivalent Fluid Pressure, pcf
Static, Active Case, Engineered Fill ($\gamma' K_A$)	40
Static, At-Rest Case, Engineered Fill ($\gamma' K_O$)	60
Static, Passive Case, Engineered Fill ($\gamma' K_P$)	350

2. The above values for equivalent fluid pressure are based on retaining walls having level retained surfaces, having an approximately vertical surface against the retained material, and retaining granular backfill material or engineered fill composed of native soil within the active wedge. See Figure 7: Retaining Wall Detail and Figure 8: Retaining Wall Active and Passive Wedges for a description of the location of the active wedge behind a retaining wall.

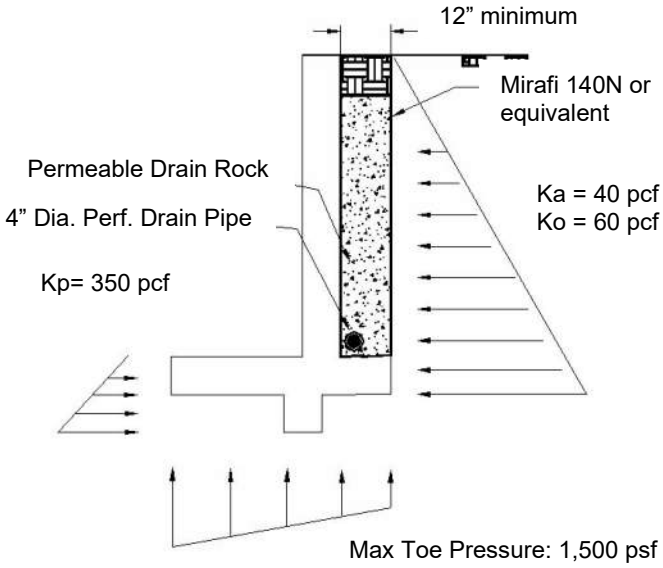


Figure 7: Retaining Wall Detail

3. Proposed retaining walls having a retained surface that slopes upward from the top of the wall should be designed for an additional equivalent fluid pressure of 1 pcf for the active case and 1.5 pcf for the at-rest case, for every degree of slope inclination.

4. We recommend that the proposed retaining walls at the Site have an approximately vertical surface against the retained material. If the proposed retaining walls are to have sloped surfaces against the retained material, the project designers should contact the Soils Engineer to determine the appropriate lateral earth pressure values for retaining walls located at the Site.

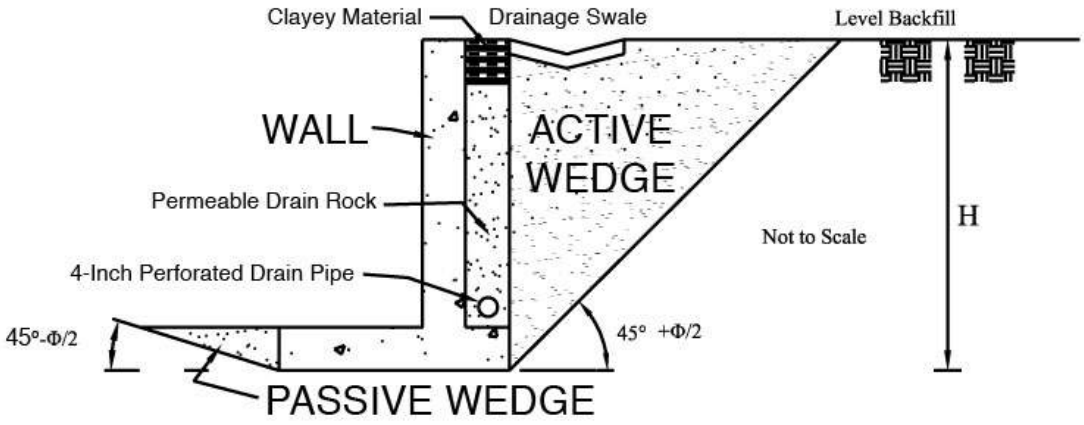


Figure 8: Retaining Wall Active and Passive Wedges

5. Retaining wall foundations should be founded a minimum of 18 inches below lowest adjacent grade in engineered fill prepared per Section 7.1 as observed, tested and approved by a representative of GeoSolutions, Inc. A coefficient of friction of **0.40** may be used between engineered fill and concrete footings. Project designers may use a maximum toe pressure of **1,500 psf** for the design of retaining wall footings founded in engineered fill.

6. For earthquake conditions, retaining walls greater than 6 feet in height should be designed to resist an additional seismic lateral soil pressure of **25 pcf** equivalent fluid pressure for unrestrained walls (active condition). The pressure resultant force from earthquake loading should be assumed to act a distance of $^1/_3H$ above the base of the retaining wall, where *H* is the height of the retaining wall. Seismic active lateral earth pressure values were determined using the simplified dynamic lateral force component (SEAOC 2010) utilizing the design peak ground acceleration, PGA_M, discussed in Section 4.0 (**PGA_M = 0.718g**). The dynamic increment in lateral earth pressure due to earthquakes should be considered during the design of retaining walls at the Site. Based on research presented by Dr. Marshall Lew (Lew et al., 2010), lateral pressures associated with seismic forces should not be applied to restrained walls (at-rest condition).

7. Seismically induced forces on retaining walls are considered to be short-term loadings. Therefore, when performing seismic analyses for the design of retaining wall footings, we recommend that the allowable bearing pressure and the passive pressure acting against the sides of retaining wall footings be increased by a factor of one-third.

8. In addition to the static lateral soil pressure values reported in Table 5: Retaining Wall Design Parameters, the retaining walls at the Site should be designed to support any design live load, such as from vehicle and construction surcharges, etc., to be supported by the wall backfill. If construction vehicles are required to operate within 10 feet of a retaining wall, supplemental pressures will be induced and should be taken into account in the design of the retaining wall.

9. The recommended lateral earth pressure values are based on the assumption that sufficient sub-surface drainage will be provided behind the walls to prevent the build-up of hydrostatic pressure. To achieve this we recommend that a granular filter material be placed behind all proposed walls. The blanket of granular filter material should be a minimum of 12 inches thick and should extend from the bottom of the wall to 12 inches

from the ground surface. The top 12 inches should consist of moisture conditioned, compacted, clayey soil. Neither spread nor wall footings should be founded in the granular filter material used as backfill.

10. A 4-inch diameter perforated or slotted drainpipe (ASTM D1785 PVC) should be installed near the bottom of the filter blanket with perforations facing down. The drainpipe should be underlain by at least 4 inches of filter type material and should daylight to discharge in suitably projected outlets with adequate gradients. The filter material should consist of a clean free-draining aggregate, such as a coarse aggregate mix. If the retaining wall is part of a structural foundation, the drainpipe must be placed below finished slab sub-grade elevation.

11. The filter material should be encapsulated in a permeable geotextile fabric. A suitable permeable geotextile fabric, such as non-woven needle-punched Mirafi 140N or equal, may be utilized to encapsulate the retaining wall drain material and should conform to Caltrans Standard Specification 88-1.03 for underdrains.

12. For hydrostatic loading conditions (i.e. no free drainage behind retaining wall), an additional loading of 45-pcf equivalent fluid weight should be added to the active and at-rest lateral earth pressures. If it is necessary to design retaining structures for submerged conditions, the allowed bearing and passive pressures should be reduced by 50 percent. In addition, soil friction beneath the base of the foundations should be neglected.

13. Precautions should be taken to ensure that heavy compaction equipment is not used adjacent to walls, so as to prevent undue pressure against, and movement of the walls.

14. The use of water-stops/impermeable barriers should be used for any basement construction, and for building walls that retain earth. Damproofing and waterproofing shall meet the minimum standards of Section 1805 of the 2019 California Building Code.

7.6 Preparation of Paved Areas

1. Pavement areas should be excavated a minimum of 12 inches below approximate sub-grade elevation, 24 inch existing grade or to competent material; whichever is deeper. The exposed surface should be scarified an additional depth of 6 inches, moisture conditioned to slightly above optimum moisture content, and compacted to a minimum relative density of 95 percent (ASTM D1557-12 test method). The top 12 inches of sub-grade soil under all pavement sections should be compacted to a minimum relative density of 95 percent based on the ASTM D1557-12 test method at slightly above optimum.

2. Sub-grade soils should not be allowed to dry out or have excessive construction traffic between moisture conditioning and compaction, and placement of the pavement structural section.

7.7 Pavement Design

1. All paving construction and materials used should conform to applicable sections of the latest edition of the State of California Department of Transportation Standard Specifications.

2. As indicated previously, the top 12 inches of sub-grade soil under asphaltic concrete pavement sections should be compacted to a minimum relative density of 95 percent based on the ASTM D1557-12 test method at slightly above optimum moisture content. Aggregate bases and sub-bases should also be compacted to a minimum relative density of 95 percent based on the aforementioned test method.

3. The following table provides the recommended Hot Mix Asphalt (HMA) pavement sections based on an assumed **R-Value of 15**.

4. All pavement sections should be crowned for good drainage. All pavement construction and materials used should conform to Sections 25, 26 and 39 of the latest edition of the State of California Department of Transportation Standard Specifications.

Table 6: Recommended Pavement Structural Sections

Traffic Index	Street Section Thickness in Inches	
	HMA	AB
4.0	2.50	6.00
4.5	3.00	6.50
5.0	3.00	8.00
6.0	3.00	11.50
6.5	3.50	12.50
7.0	4.00	13.00
HMA = Hot Mix Asphalt meeting Caltrans Specification HMA Type A ½ inch mix AB = Aggregate Base meeting Caltrans Specification for Class 2 aggregate base (R-Value = 78 Min)		

7.8 Portland Cement Concrete Pavement (PCCP) Design

1. For concrete slabs subjected to vehicle loading the sections provided in Table 7: Recommended PCCP Structural Sections for aggregate base and Portland Cement Concrete Pavement are recommended for the Site. Subgrade soils shall be processed per Section 7.7 of this report.

2. The aggregate base should extend a minimum of 24 inches beyond the edge of the proposed concrete driveway and be placed up to the top of concrete to provide lateral support along the edge of the concrete driveway, where a sidewalk is not present. Aggregate base should be placed over the native soils that have been scarified; moisture conditioned to 3-5 percent over optimum moisture content and compacted to a minimum relative density of 95 percent (ASTM D1557-07).

3. Transverse and longitudinal joints, dowel bar lubrication, embedment depths, and spacing should be designed per Caltrans 2010 Revised Standard Plan. http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/stdplns-US-customary-units-new10.htm#pavement

Table 7: Recommended PCCP Structural Sections

Portland Cement Concrete Pavement (PCCP)	R-Value (Assumed)	Expansion Potential	PCCP (inches) 3,000 psi	A.B. (inches)	Reinforcing Schedule
Continuously Concrete Pavement Reinforced (CRCP)	15	Low	6	6	#4 rebar at 18 inches on center
Portland Cement Concrete Pavement (PCCP) = (PCCP) meeting Caltrans Specification for Class II Asphalt Concrete A.B. = Aggregate Base meeting Caltrans Specification for Class II Aggregate Base (Assumed R-Value = 15)					

7.9 Onsite Stormwater Infiltration Systems

1. Onsite stormwater infiltration systems shall be set back a minimum distance of 10 feet from any foundation system. Where the 10-foot set back is not possible an 18-inch wide 3-sack slurry cut off trench shall be placed between the infiltration system and foundation extending to a minimum depth of 12 inches below the bottom of the foundation of 12 inches below the bottom of the infiltration system, whichever is greater.

2. Geogrids shall be placed at the bottom of all stormwater retention systems where pedestrian or vehicular traffic is expected.

3. GeoSolutions, Inc. should observe and approve the grading and drainage plan prior to starting construction.

8.0 ADDITIONAL GEOTECHNICAL SERVICES

The recommendations contained in this report are based on a limited number of borings and on the continuity of the sub-surface conditions encountered. GeoSolutions, Inc. assumes that it will be retained to provide additional services during future phases of the proposed project. These services would be provided by GeoSolutions, Inc. as required by the County of Santa Barbara, the 2019 CBC, and/or industry standard practices. These services would be in addition to those included in this report and would include, but are not limited to, the following services:

1. Consultation during plan development.

2. Plan review of grading and foundation documents prior to construction and a report certifying that the reviewed plans are in conformance with our geotechnical recommendations.

3. Construction inspections and testing, as required, during all grading and excavating operations beginning with the stripping of vegetation at the Site, at which time a site meeting or pre-job meeting would be appropriate.

4. Special inspection services during construction of reinforced concrete, structural masonry, high strength bolting, epoxy embedment of threaded rods and reinforcing steel, and welding of structural steel.

5. Preparation of construction reports certifying that building pad preparation and foundation excavations are in conformance with our geotechnical recommendations.

6. Preparation of special inspection reports as required during construction.

7. In addition to the construction inspections listed above, section 1705.6 of the 2019 CBC (CBSC, 2019) requires the following inspections by the Soils Engineer for controlled fill thicknesses greater than 12 inches as shown in Table 8: Required Special Inspections and Tests of Soils:

Table 8: Required Special Inspections and Tests of Soils

Verification and Inspection Task	Continuous During Task Listed	Periodically During Task Listed
1. Verify materials below footings are adequate to achieve the design bearing capacity.	-	X
2. Verify excavations are extended to proper depth and have reached proper material.	-	X
3. Perform classification and testing of controlled fill materials.	-	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.	X	-
5. Prior to placement of controlled fill, observe sub-grade and verify that site has been prepared properly.	-	X

9.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed during our study. Should any variations or undesirable conditions be encountered during the development of the Site, GeoSolutions, Inc. should be notified immediately and GeoSolutions, Inc. will provide supplemental recommendations as dictated by the field conditions.

2. This report is issued with the understanding that it is the responsibility of the owner or his/her representative to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project, and incorporated into the project plans and specifications. The owner or his/her representative is responsible to ensure that the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. As of the present date, the findings of this report are valid for the property studied. With the passage of time, changes in the conditions of a property can occur whether they are due to natural processes or to the works of man on this or adjacent properties. Therefore, this report should not be relied upon after a period of 3 years without our review nor should it be used or is it applicable for any properties other than those studied. However many events such as floods, earthquakes, grading of the adjacent properties and building and municipal code changes could render sections of this report invalid in less than 3 years.

REFERENCES

REFERENCES

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APPENDIX A

Field Investigation

Soil Classification Chart

Boring Logs

FIELD INVESTIGATION

The field investigation was conducted February 10, 2021 using a Mobile B-24 drill rig. The surface and sub-surface conditions were studied by advancing six exploratory borings. This exploration was conducted in accordance with presently accepted geotechnical engineering procedures consistent with the scope of the services authorized to GeoSolutions, Inc.

The Mobile B-24 drill rig with a six-inch diameter solid-stem continuous flight auger advanced six exploratory borings near the approximate locations indicated on Figure 3: Field Investigation. The drilling and field observation were performed under the direction of the project engineer. A representative of GeoSolutions, Inc. maintained a log of the soil conditions and obtained soil samples suitable for laboratory testing. The soils were classified in accordance with the Unified Soil Classification System. See the Soil Classification Chart in this appendix.

Standard Penetration Tests with a two-inch outside diameter standard split tube sampler (SPT) without liners (ASTM D1586) and a three-inch outside diameter Modified California (CA) split tube sampler with liners (ASTM D3550) were performed to obtain field indication of the in-situ density of the soil and to allow visual observation of at least a portion of the soil column. Soil samples obtained with the split spoon sampler are retained for further observation and testing. The split spoon samples are driven by a 140-pound hammer free falling 30 inches. The sampler is initially seated six inches to penetrate any loose cuttings and is then driven an additional 12 inches with the results recorded in the boring logs as N-values, which area the number of blows per foot required to advance the sample the final 12 inches.

The CA sampler is a larger diameter sampler than the standard (SPT) sampler with a two-inch outside diameter and provides additional material for normal geotechnical testing such as in-situ shear and consolidation testing. Either sampler may be used in the field investigation, but the N-values obtained from using the CA sampler will be greater than that of the SPT. The N-values for samples collected using the CA can be roughly correlated to SPT N-values using a conversion factor that may vary from about 0.5 to 0.7. A commonly used conversion factor is 0.67 ($^2/_3$). More information about standardized samplers can be found in ASTM D1586 and ASTM D3550.

Disturbed bulk samples are obtained from cuttings developed during boring operations. The bulk samples are selected for classification and testing purposes and may represent a mixture of soils within the noted depths. Recovered samples are placed in transport containers and returned to the laboratory for further classification and testing.

Logs of the borings showing the approximate depths and descriptions of the encountered soils, applicable geologic structures, recorded N-values, and the results of laboratory tests are presented in this appendix. The logs represent the interpretation of field logs and field tests as well as the interpolation of soil conditions between samples. The results of laboratory observations and tests are also included in the boring logs. The stratification lines recorded in the boring logs represent the approximate boundaries between the surface soil types. However, the actual transition between soil types may be gradual or varied.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS		LABORATORY CLASSIFICATION CRITERIA		GROUP SYMBOLS	PRIMARY DIVISIONS
COARSE GRAINED SOILS More than 50% retained on No. 200 sieve	GRAVELS More than 50% of coarse fraction retainined on No. 4 (4.75mm) sieve	Clean gravels (less than 5% fines*)	C_u greater than 4 and C_z between 1 and 3	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
			Not meeting both criteria for GW	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
		Gravel with fines (more than 12% fines*)	Atterberg limits plot below "A" line or plasticity index less than 4	GM	Silty gravels, gravel-sand-silt mixtures
			Atterberg limits plot below "A" line and plasticity index greater than 7	GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS More than 50% of coarse fraction passes No. 4 (4.75mm) sieve	Clean sand (less than 5% fines*)	C_u greater than 6 and C_z between 1 and 3	SW	Well graded sands, gravely sands, little or no fines
			Not meeting both criteria for SW	SP	Poorly graded sands and gravelly and sands, little or no fines
		Sand with fines (more than 12% fines*)	Atterberg limits plot below "A" line or plasticity index less than 4	SM	Silty sands, sand-silt mixtures
			Atterberg limits plot above "A" line and plasticity index greater than 7	SC	Clayey sands, sand-clay mixtures
FINE GRAINED SOILS 50% or more passes No. 200 sieve	SILTS AND CLAYS (liquid limit less than 50)	Inorganic soil	PI < 4 or plots below "A"-line	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands
		Inorganic soil	PI > 7 and plots on or above "A" line**	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		Organic Soil	LL (oven dried)/LL (not dried) < 0.75	OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS (liquid limit 50 or more)	Inorganic soil	Plots below "A" line	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
		Inorganic soil	Plots on or above "A" line	CH	Inorganic clays of high plasticity, fat clays
		Organic Soil	LL (oven dried)/LL (not dried) < 0.75	OH	Organic silts and organic clays of high plasticity
Peat	Highly Organic	Primarily organic matter, dark in color, and organic odor		PT	Peat, muck and other highly organic soils

*Fines are those soil particles that pass the No. 200 sieve. For gravels and sands with between 5 and 12% fines, use of dual symbols is required (I.e. GW-GM, GW-GC, GP-GM, or GP-GC).

**If the plasticity index is between 4 and 7 and it plots above the "A" line, then dual symbols (I.e. CL-ML) are required.

the "A" line, then dual symbols (I.e. CL-ML) are required.

CONSISTENCY

CLAYS AND PLASTIC SILTS	STRENGTH TON/SQ. FT ++	BLOWS/ FOOT +
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	Over 4	Over 32

RELATIVE DENSITY

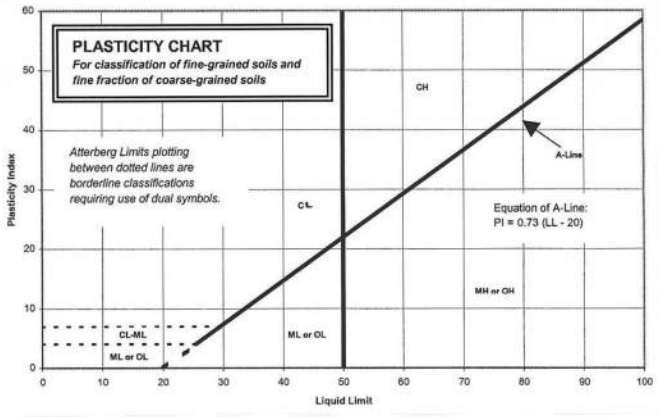
SANDS, GRAVELS AND NON-PLASTIC SILTS	BLOWS/ FOOT +
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	Over 50

+ Number of blows of a 140-pound hammer falling 30-inches to drive a 2-inch O.D. (1-3/8-inch I.D.) split spoon (ASTM D1586).

++ Unconfined compressive strength in tons/sq.ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D1586), pocket penetrometer, torvane, or visual observation.

CLASSIFICATIONS BASED ON PERCENTAGE OF FINES

Less than 5%, Pass No. 200 (75mm)sieve)	GW, GP, SW, SP
More than 12% Pass N. 200 (75 mm) sieve	GM, GC, SM, SC
5%-12% Pass No. 200 (75 mm) sieve	Borderline Classification requiring use of dual symbols



Drilling Notes:

1. Sampling and blow counts
   a. California Modified – number of blows per foot of a 140 pound hammer falling 30 inches
   b. Standard Penetration Test – number of blows per 12 inches of a 140 pound hammer falling 30 inches

Types of Samples:
X – Sample
SPT - Standard Penetration
CA - California Modified
N - Nuclear Gauge
PO – Pocket Penetrometer (tons/sq.ft.)

GEO SOLUTIONS
220 High Street, San Luis Obispo, CA 93401
Phone: 805-543-8539
1021 Tama Lane, Ste 105, Santa Maria, CA 93455
Phone: 805-614-6333
201 S. Milpas St, Ste 103, Santa Barbara, CA 93103
Phone: 805-966-2200

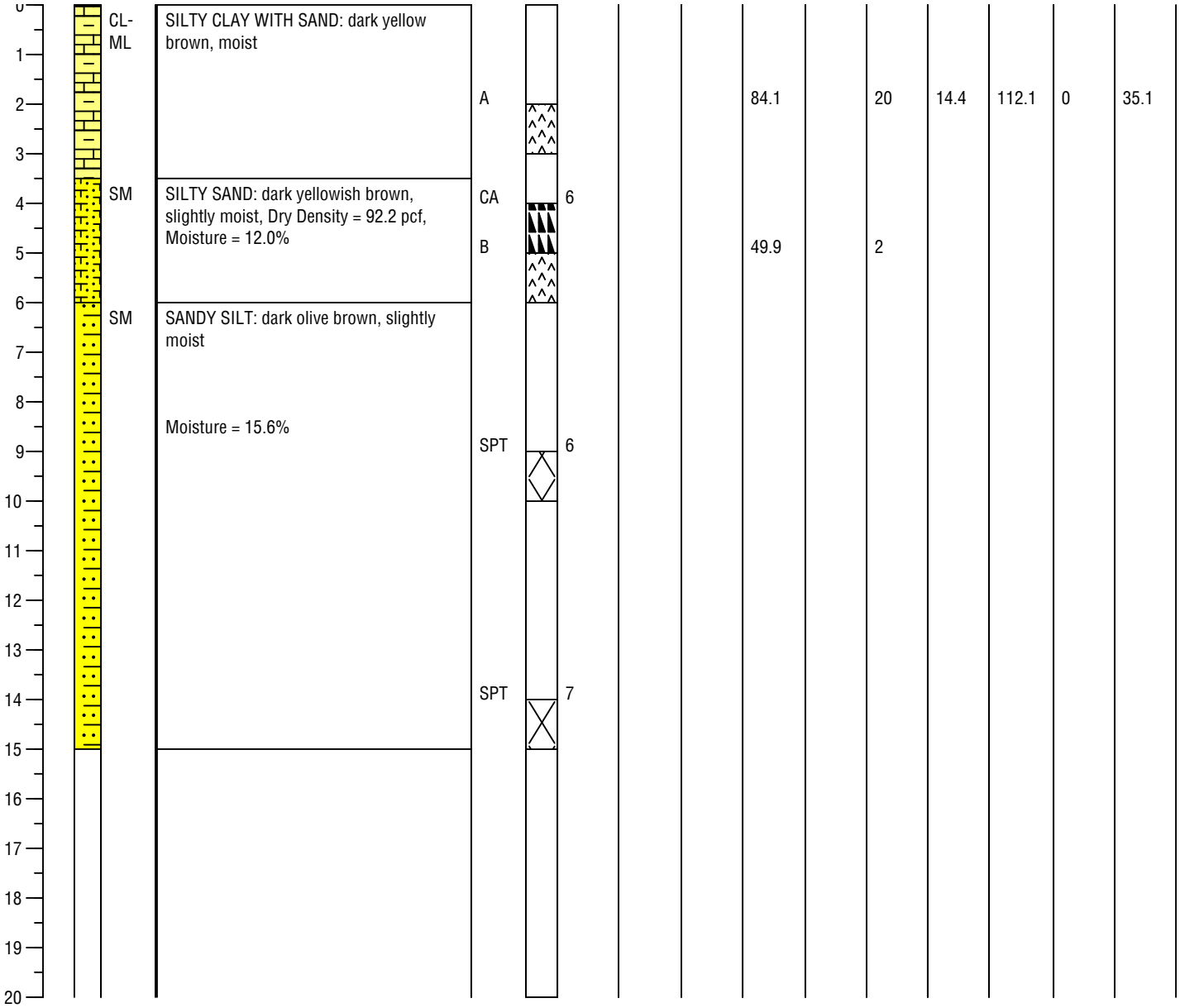
BORING LOG

BORING NO. B-1
JOB NO. SM00410-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**750 Highway 246**	DRILL RIG:	**Mobile B-24**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**6 inches**
DATE DRILLED:	**February 10, 2021**	SAMPLING METHOD:	**SPT & CA**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**6 inches**

Depth of Groundwater: **Not Encountered** Boring Terminated At: **15 feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0–3		CL-ML	SILTY CLAY WITH SAND: dark yellow brown, moist	A					84.1		20	14.4	112.1	0	35.1
3–6		SM	SILTY SAND: dark yellowish brown, slightly moist, Dry Density = 92.2 pcf, Moisture = 12.0%	CA B		6			49.9		2				
6–15		SM	SANDY SILT: dark olive brown, slightly moist Moisture = 15.6%	SPT SPT		6 7									



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Phone: 805-966-2200

BORING LOG

BORING NO. B-2
JOB NO. SM00410-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**750 Highway 246**	DRILL RIG:	**Mobile B-24**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**6 inches**
DATE DRILLED:	**February 10, 2021**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**6 inches**

Depth of Groundwater: **Not Encountered** Boring Terminated At: **15 feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0		CL-ML	SILTY CLAY WITH SAND: dark olive brown, moist												
3		ML	SANDY SILT: dark yellowish brown, soft, Moisture = 17.7%	SPT		2			58.7						
8			Moisture = 18.2%												
9			moist	SPT		6			54.2						
14		ML	SANDY SILT: dark yellowish brown, moist	SPT		6			94.7						
15															
20															

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Phone: 805-966-2200

BORING LOG

BORING NO. B-3
JOB NO. SM00410-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**750 Highway 246**	DRILL RIG:	**Mobile B-24**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**6 inches**
DATE DRILLED:	**February 10, 2021**	SAMPLING METHOD:	**Bag**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**6 inches**

Depth of Groundwater: **Not Encountered** Boring Terminated At: **25 feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0–3		SM	SILTY SAND: light olive brown, slightly moist soft						27.4						
3–25		SP-SM	POORLY GRADED SAND W/SILT: light olive brown, moist, cobbles						5.4						
9			many cobbles, difficult drilling												
14									11.3						

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BORING LOG

BORING NO. B-4
JOB NO. SM00410-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**750 Highway 246**	DRILL RIG:	**Mobile B-24**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**6 inches**
DATE DRILLED:	**February 10, 2021**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**6 inches**

Depth of Groundwater: **Not Encountered** Boring Terminated At: **15 feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0		ML	SANDY SILT: dark yellowish brown												
2				C					50.5		15				
4				SPT		6									
5		SM	SILTY SAND: grayish brown												
8			cobbles, Moisture = 15.6%												
9				SPT		17									
11		SC	CLAYEY SAND: olive brown, moist												
13			Moisture = 27.1%, gravel & coarse sand terminated on boulder												
14				SPT		39									
15															
20															

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BORING LOG

BORING NO. B-5
JOB NO. SM00410-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**750 Highway 246**	DRILL RIG:	**Mobile B-24**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**6 inches**
DATE DRILLED:	**February 10, 2021**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**6 inches**

Depth of Groundwater: **Not Encountered** Boring Terminated At: **15 feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0			GRASS												
1		CL-ML	SILTY CLAY WITH SAND: dark yellowish brown, moist												
2				D					81.6		41				
3															
4		ML	SANDY SILT: dark olive brown	SPT		2									
5															
6				E											
7															
8															
9				SPT		8									
10															
11															
12		SP-SM	POORLY GRADED SAND W/SILT: dark brown												
13															
14				SPT		11									
15															
16															
17															
18															
19															
20															

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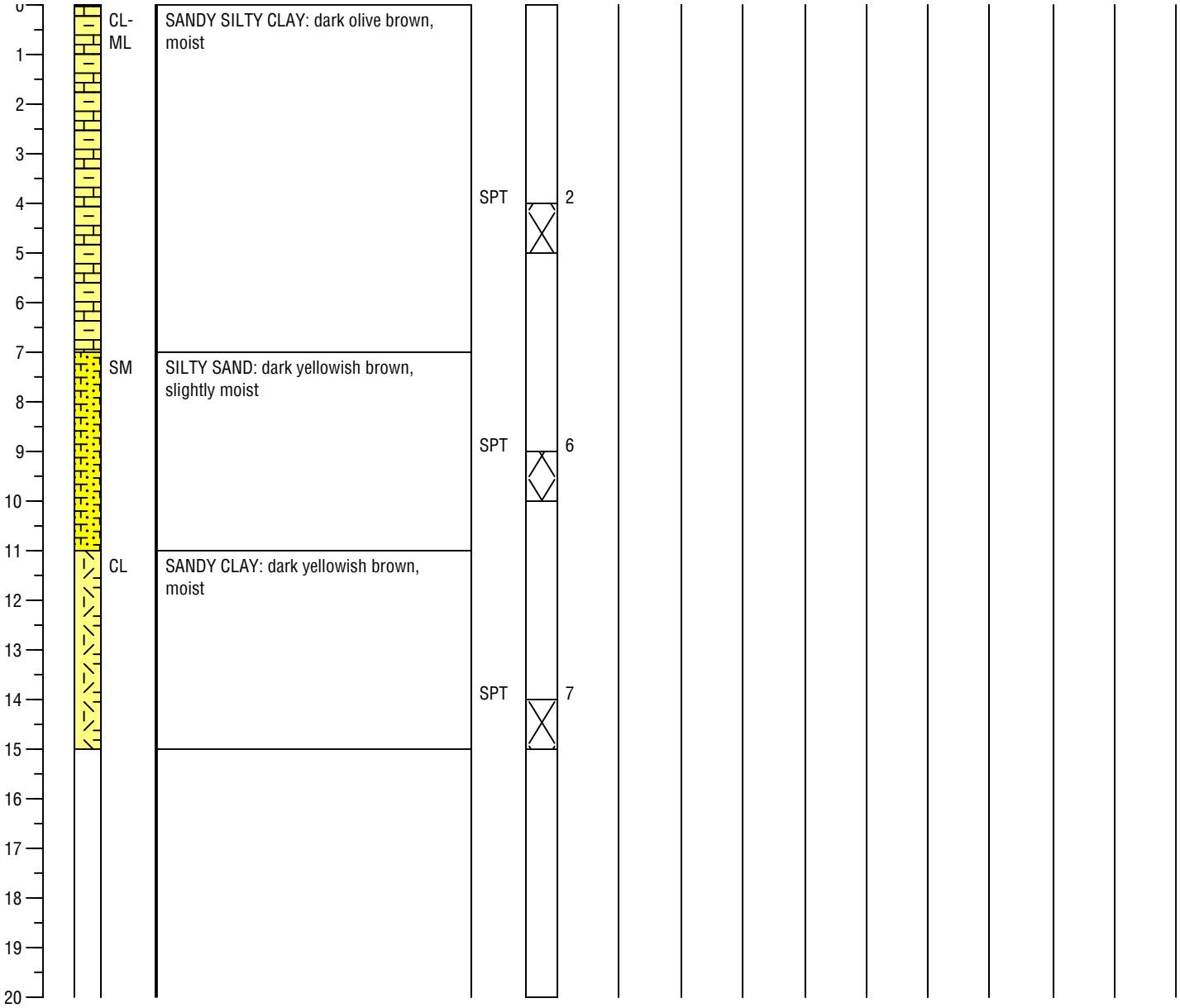
BORING LOG

BORING NO. B-6
JOB NO. SM00410-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**750 Highway 246**	DRILL RIG:	**Mobile B-24**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**6 inches**
DATE DRILLED:	**February 10, 2021**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**Not Recorded**

Depth of Groundwater: **Not Encountered** Boring Terminated At: **15 feet**



APPENDIX B

Laboratory Testing

Soil Test Reports

LABORATORY TESTING

This appendix includes a discussion of the test procedures and the laboratory test results performed as part of this investigation. The purpose of the laboratory testing is to assess the engineering properties of the soil materials at the Site. The laboratory tests are performed using the currently accepted test methods, when applicable, of the American Society for Testing and Materials (ASTM).

Undisturbed and disturbed bulk samples used in the laboratory tests are obtained from various locations during the course of the field exploration, as discussed in **Appendix A** of this report. Each sample is identified by sample letter and depth. The Unified Soils Classification System is used to classify soils according to their engineering properties. The various laboratory tests performed are described below:

Expansion Index of Soils (ASTM D4829) is conducted in accordance with the ASTM test method and the California Building Code Standard, and are performed on representative bulk and undisturbed soil samples. The purpose of this test is to evaluate expansion potential of the site soils due to fluctuations in moisture content. The sample specimens are placed in a consolidometer, surcharged under a 144-psf vertical confining pressure, and then inundated with water. The amount of expansion is recorded over a 24-hour period with a dial indicator. The expansion index is calculated by determining the difference between final and initial height of the specimen divided by the initial height.

Laboratory Compaction Characteristics of Soil Using Modified Effort (ASTM D1557) is performed to determine the relationship between the moisture content and density of soils and soil-aggregate mixtures when compacted in a standard size mold with a 10-lbf hammer from a height of 18 inches. The test is performed on a representative bulk sample of bearing soil near the estimated footing depth. The procedure is repeated on the same soil sample at various moisture contents sufficient to establish a relationship between the maximum dry unit weight and the optimum water content for the soil. The data, when plotted, represents a curvilinear relationship known as the moisture density relations curve. The values of optimum water content and modified maximum dry unit weight can be determined from the plotted curve.

Direct Shear Tests of Soils Under Consolidated Drained Conditions (ASTM D3080) is performed on undisturbed and remolded samples representative of the foundation material. The samples are loaded with a predetermined normal stress and submerged in water until saturation is achieved. The samples are then sheared horizontally at a controlled strain rate allowing partial drainage. The shear stress on the sample is recorded at regular strain intervals. This test determines the resistance to deformation, which is shear strength, inter-particle attraction or cohesion c, and resistance to interparticle slip called the angle of internal friction ϕ.

Particle Size Analysis of Soils (ASTM D422) is used to determine the particle-size distribution of fine and coarse aggregates. In the test method the sample is separated through a series of sieves of progressively smaller openings for determination of particle size distribution. The total percentage passing each sieve is reported and used to determine the distribution of fine and coarse aggregates in the sample.

Density of Soil in Place by the Drive-Cylinder Method (ASTM D2937) and **Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass** (ASTM D2216) are used to obtain values of in-place water content and in-place density. Undisturbed samples, brought from the field to the laboratory, are weighed, the volume is calculated, and they are placed in the oven to dry. Once the samples have been dried, they are weighed again to determine the water content, and the in-place density is then calculated. The moisture density tests allow the water content and in-place densities to be obtained at required depths.

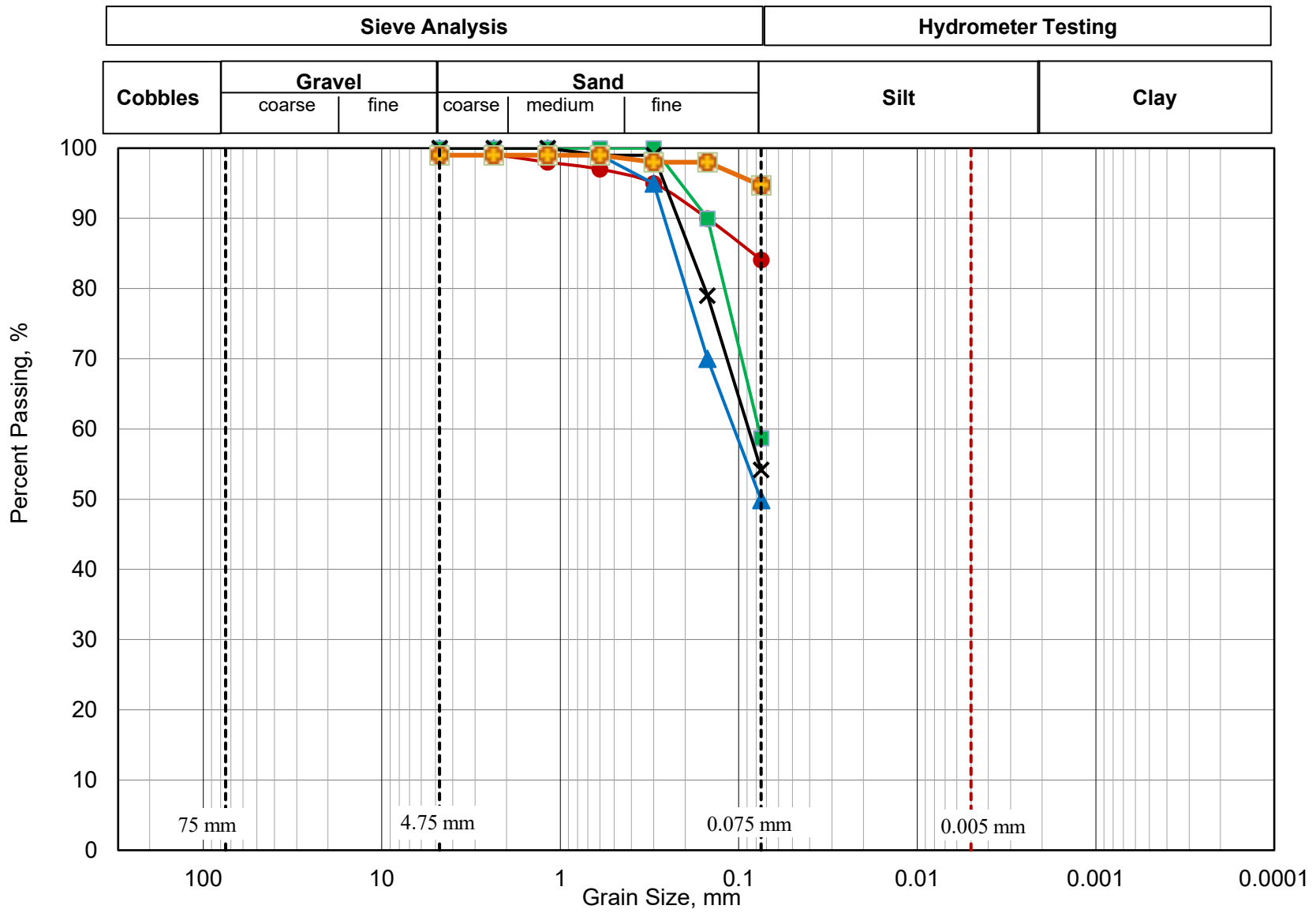
GeoSolutions, Inc. | **LABORATORY SUMMARY REPORT SHEET** | **(805) 543 - 8539**

Project: 750 Highway 246 | Lab #: 394
Client: Lisa Novatt | Date: 3/8/21
Job #: SM00410-1 | Checked By: AE

Sample ID			Material Description	USCS Specifications	Dry Density (pcf)	Moisture Content (%)	% Fines	Atterberg Limits		Compaction Test		Direct Shear		Compressive Strength		Expansion Index	R-Value
Boring Hole	Depth (ft)	Sample No.						LL	PI	γ_{d_max} (pcf)	ω_{c_opt} (%)	C (psf)	ø (deg)	q_u (psf)	S_u (psf)		
B-1	0-4'	A	Dark Yellowish Brown Silty CLAY with Sand	CL-ML			84.1			112.1	14.4	0	35.6			20	
B-1	4'		Dark Yellowish Brown Silty SAND	SM	92.2	12.0											
B-1	4-6'	B	Dark Yellowish Brown Silty SAND	SM			49.9									2	
B-1	9'		Dark Yellowish Brown Silty SAND	SM		15.6											
B-2	4'		Dark Olive Brown Sandy SILT	ML		17.7	58.7										
B-2	9'		Dark Olive Brown Sandy SILT	ML		18.2	54.2										
B-2	14'		Dark Yellowish Brown SILT	ML			94.7										
B-3	2'		Light Olive Brown Silty SAND	SM			27.4										
B-3	5'		Light Olive Brown Poorly Graded SAND with Silt	SP-SM			5.4										
B-3	13'		Light Olive Brown Poorly Graded SAND with Silt	SP-SM			11.3										
B-4	0-5'	C	Dark Yellowish Brown Sandy SILT	ML			50.5									15	
B-4	4'		Dark Grayish Brown Silty SAND	SM		15.6											
B-4	9'		Grayish Brown Silty SAND	SM		15.6											
B-4	14'		Olive Brown Clayey SAND	SC		27.1											
B-5	0-5'	D	Dark Yellowish Brown Silty CLAY with Sand	CL-ML			81.6									41	

GeoSolutions, Inc.	PARTICLE SIZE ANALYSIS SUMMARY REPORT	(805) 543-8539

Project: 750 Highway 246
Client: Lisa Novatt — Date: 3/8/2021
Project #: SM00410-1 — Checked By: AE



LEGEND

symbol	location	depth	SAMPLE DESCRIPTION	PLASTICITY (FINER FRACTION) Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)	Expansion Index (EI)
●	B-1	0-4'	Dark Yellowish Brown Silty CLAY with Sand	-	-	-	20
▲	B-1	4-6'	Dark Yellowish Brown Silty SAND	-	-	-	2
■	B-2	4'	Dark Yellowish Brown Sandy SILT	-	-	-	-
×	B-2	9'	Dark Olive brown Sandy SILT	-	-	-	-
✚	B-2	14'	Dark Yellowish Brown SILT	-	-	-	-

LEGEND — **PARTICLE SIZE ANALYSIS SUMMARY**

symbol	location	depth	D_{100}	D_{60}	D_{30}	D_{10}	C_u	C_c	% Gravel	% Sand	% Passing No. 200	% Silt	% Clay
●	B-1	0-4'	#N/A	0.054	NA	NA	NA	NA	1.0	14.9	84.1	NM	NA
▲	B-1	4-6'	1.2	0.113	NA	NA	NA	NA	0.0	50.1	49.9	NM	NA
■	B-2	4'	0.3	0.078	NA	NA	NA	NA	0.0	41.3	58.7	NM	NA
×	B-2	9'	1.2	0.093	NA	NA	NA	NA	0.0	45.8	54.2	NM	NA
✚	B-2	14'	#N/A	0.048	NA	NA	NA	NA	1.0	4.3	94.7	NM	NA

Remarks: Testing was performed in accordance with ASTM D422 and D4318 (where applicable)

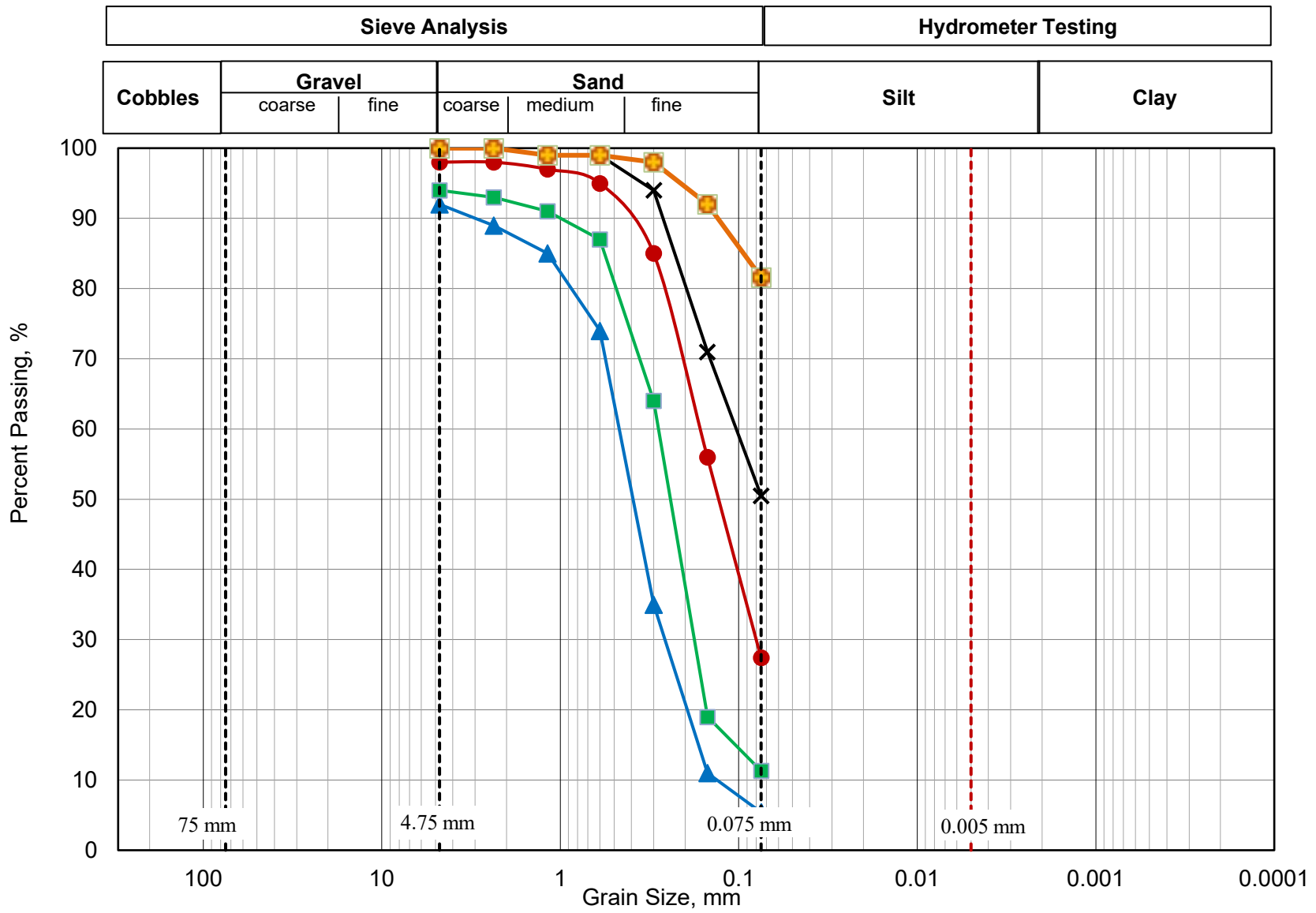
NP - non-plastic
NA - not available (could not be calculated from data)

D_{100} - grain size diameter corresponding to 100% passing (mm)
D_{60} - grain size diameter corresponding to 60% passing (mm)
D_{30} - grain size diameter corresponding to 30% passing (mm)
D_{10} - grain size diameter corresponding to 30% passing (mm)

C_c - coefficient of curvature: $C_c = (D_{30})^2 / (D_{60}*D_{10})$
Cu - coefficient of uniformity: $C_u = D_{60} / D_{10}$

GeoSolutions, Inc.	PARTICLE SIZE ANALYSIS SUMMARY REPORT	(805) 543-8539

Project: 750 Highway 246
Client: Lisa Novatt
Project #: SM00410-1
Date: 3/8/2021
Checked By: AE



LEGEND

symbol	location	depth	SAMPLE DESCRIPTION	PLASTICITY (FINER FRACTION) Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)	Expansion Index (EI)
●	B-3	2'	Light Olive Brown Silty SAND	-	-	-	-
▲	B-3	5'	Light Olive brown Poorly Graded SAND with Silt	-	-	-	-
■	B-3	13'	Light Olive brown Poorly Graded SAND with Silt	-	-	-	-
✕	B-4	0-5'	Dark Yellowish Borwn Sandy SILT	-	-	-	15
✚	B-5	0-5'	Dark Yellowish Brown Silty CLAY with Sand	-	-	-	41

LEGEND / **PARTICLE SIZE ANALYSIS SUMMARY**

symbol	location	depth	D_{100}	D_{60}	D_{30}	D_{10}	C_u	C_c	% Gravel	% Sand	% Passing No. 200	% Silt	% Clay
●	B-3	2'	#N/A	0.171	0.082	NA	NA	NA	2.0	70.6	27.4	NM	NA
▲	B-3	5'	#N/A	#######	0.269	0.137	###	###	8.0	86.6	5.4	NM	NA
■	B-3	13'	#N/A	0.287	0.187	NA	NA	NA	6.0	82.7	11.3	NM	NA
✕	B-4	0-5'	2.4	0.110	NA	NA	NA	NA	0.0	49.5	50.5	NM	NA
✚	B-5	0-5'	2.4	0.055	NA	NA	NA	NA	0.0	18.4	81.6	NM	NA

Remarks: Testing was performed in accordance with ASTM D422 and D4318 (where applicable)

NP - non-plastic
NA - not available (could not be calculated from data)

D_{100} - grain size diameter corresponding to 100% passing (mm)
D_{60} - grain size diameter corresponding to 60% passing (mm)
D_{30} - grain size diameter corresponding to 30% passing (mm)
D_{10} - grain size diameter corresponding to 30% passing (mm)

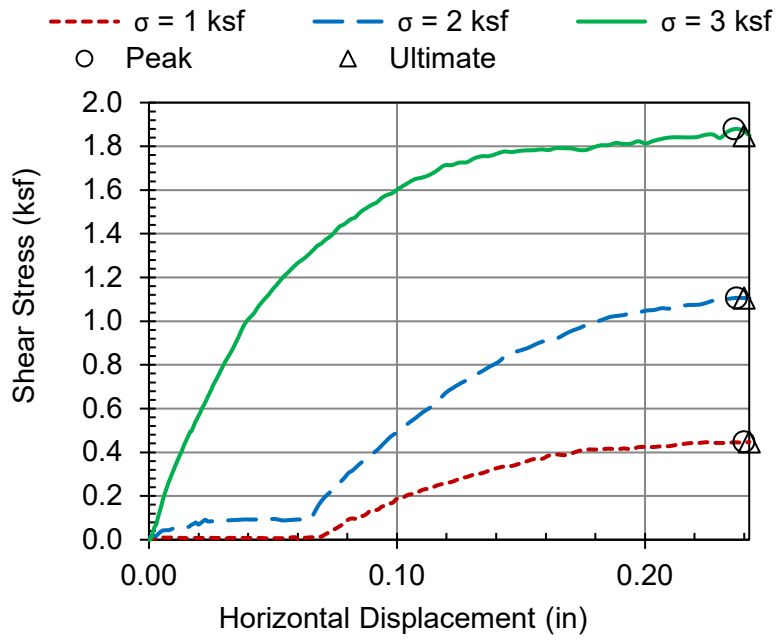
C_c - coefficient of curvature: $C_c = (D_{30})^2 / (D_{60}*D_{10})$
Cu - coefficient of uniformity: $C_u = D_{60} / D_{10}$

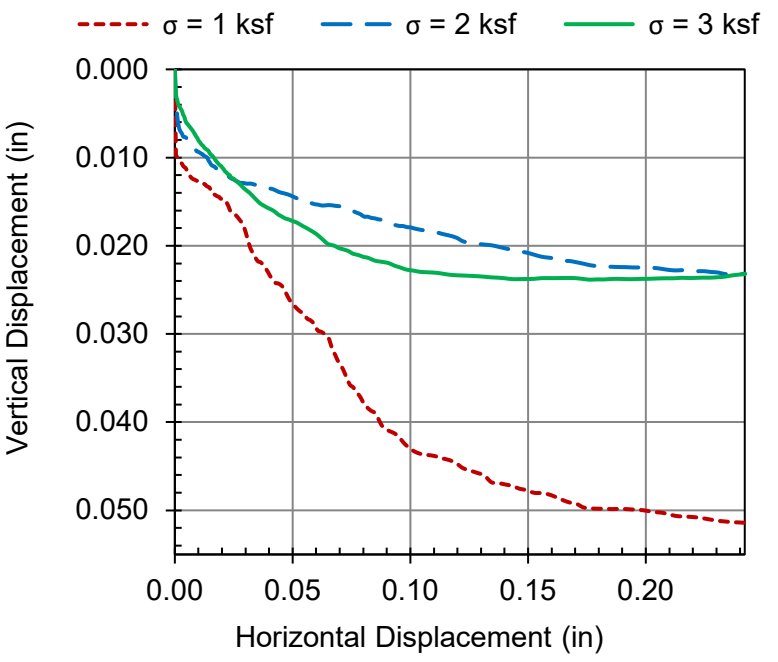
GeoSolutions, Inc.	DIRECT SHEAR TEST SUMMARY REPORT (ASTM D3080)	(805) 543-8539

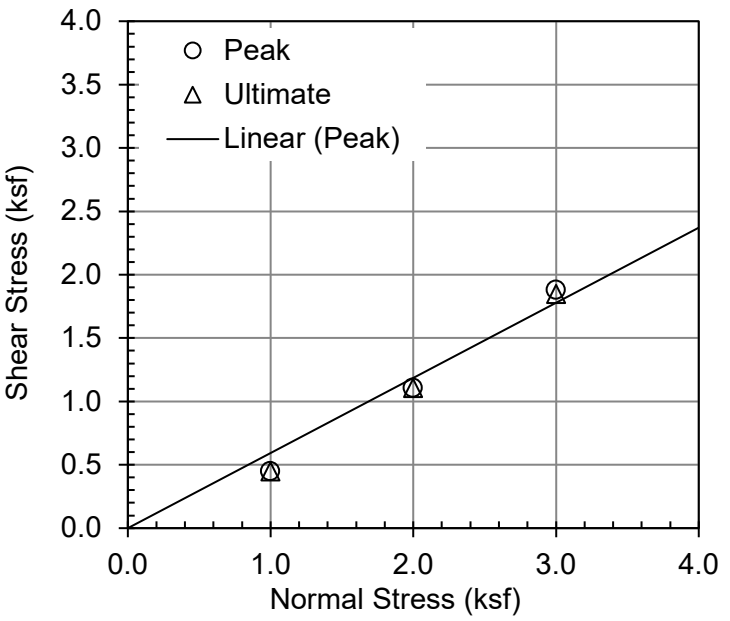
Project:	750 Highway 246			Project #:	SM00410-1
Client:	Lisa Novatt			Date Tested:	2/24/2021
Sample:	A	Depth:	0.0 to 4.0 Feet	Lab #:	394
Location:	B-1			Checked By:	AE

MATERIAL DESCRIPTION	LL	PL	PI	% passing No. 200	Gs *	Sample Type
Dark Yellowish Brown Silty CLAY with Sand	nm	nm	nm	84.1	2.7	remolded

* Gs = assumed; nm = not measured







Initial Conditions	Specimen No. 1	2	3
Dry Density	100.9	100.9	100.9
Water Content (%)	16.4	16.4	16.4
Diameter (in)	2.42	2.42	2.42
Sample Height (in)	1.00	1.00	1.00

Test Data	Specimen No. 1	2	3
Normal Stress (ksf)	1.00	2.00	3.00
Peak Shear Stress (ksf)	0.447	1.106	1.879
Horiz. Displacenent at Peak Shear (in)	0.240	0.237	0.236
Ultimate Shear Stress (ksf)	0.447	1.105	1.849
Horiz. Displ. at Ult. Shear (in)	0.242	0.240	0.240
Rate of Deformation (in/min)	0.004	0.004	0.004

	Peak	Ultimate
Angle of Internal Friction, $ø_{peak}$ (degrees):	**35.6**	**35.0**
Cohesion, C_{peak} (psf)	**0**	**0**

Remarks: Saturated

APPENDIX C

Seismic Hazard Analysis

Design Map Summary (SEAOC, 2019)

SEISMIC HAZARD ANALYSIS

According to section 1613 of the 2019 CBC (CBSC, 2019), all structures and portions of structures should be designed to resist the effects of seismic loadings caused by earthquake ground motions in accordance with the *ASCE 7: Minimum Design Loads for Buildings and Other Structures*, hereafter referred to as ASCE7-16 (ASCE, 2016). Estimating the design ground motions at the Site depends on many factors including the distance from the Site to known active faults; the expected magnitude and rate of recurrence of seismic events produced on such faults; the source-to-site ground motion attenuation characteristics; and the Site soil profile characteristics. As per section 1613.2.2 of the 2019 CBC, the Site soil profile classification is determined by the average soil properties in the upper 100 feet of the Site profile and can be determined based on the criteria provided in Table 20.3-1 of ASCE7-16.

ASCE7-16 provides recommendations for estimating site-specific ground motion parameters for seismic design considering a Risk-targeted Maximum Considered Earthquake (MCE_R) in order to determine *design spectral response accelerations* and a Maximum Considered Earthquake Geometric Mean (MCE_G) in order to determine probabilistic geometric mean *peak ground accelerations*.

Spectral accelerations from the MCE_R are based on a 5% damped acceleration response spectrum and a 1% probability of exceedance in 50 years. *Maximum* short period (S_s) and 1-second period (S_1) spectral accelerations are interpolated from the MCE_R-based ground motion parameter maps for bedrock, provided in ASCE7-16. These spectral accelerations are then multiplied by site-specific coefficients (F_a, F_v), based on the Site soil profile classification and the maximum spectral accelerations determined for bedrock, to yield the *maximum* short period (S_{MS}) and 1-second period (S_{M1}) spectral response accelerations at the Site. According to section 11 of ASCE7-16 and section 1613 of the 2019 CBC, buildings and structures should be specifically proportioned to resist *design* earthquake ground motions. Section 1613.2.4 of the 2019 CBC indicates the site-specific *design* spectral response accelerations for short (S_{DS}) and 1-second (S_{D1}) periods can be taken as two-thirds of *maximum* ($S_{DS} = 2/3*S_{MS}$ and $S_{D1} = 2/3*S_{M1}$).

Per ASCE7-16, Section 21.5, the probabilistic maximum mean peak ground acceleration (PGA) corresponding to the MCE_G can be computed assuming a 2% probability of exceedance in 50 years (2475-year return period) and is initially determined from mapped ground accelerations for bedrock conditions. The site-specific peak ground acceleration (PGA_M) is then determined by multiplying the PGA by the site-specific coefficient F_h (where F_h is a function of Site Class and PGA).

Spectral response accelerations and peak ground accelerations, provided in this report were obtained using the computer-based Seismic Design Maps tool available from the Structural Engineers Association of California (SEAOC, 2019). This program utilizes the methods developed in ASCE 7-16 in conjunction with user-inputted Site location to calculate seismic design parameters and response spectra (both for period and displacement) for soil profile Site Classes A through E.

750 Highway 246

Latitude, Longitude: 34.602322, -120.171156

Date	3/18/2021, 11:22:03 AM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S_S	1.478	MCE_R ground motion. (for 0.2 second period)
S_1	0.54	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.478	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	0.985	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.653	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA
PGA_M	0.718	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
SsRT	1.478	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.668	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	2.809	Factored deterministic acceleration value. (0.2 second)
S1RT	0.54	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.606	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.883	Factored deterministic acceleration value. (1.0 second)
PGAd	1.138	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.886	Mapped value of the risk coefficient at short periods
C_{R1}	0.891	Mapped value of the risk coefficient at a period of 1 s

DISCLAIMER

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APPENDIX D

Preliminary Grading Specifications

Key and Bench with Backdrain

PRELIMINARY GRADING SPECIFICATIONS

A. General

1. These preliminary specifications have been prepared for the subject site; GeoSolutions, Inc. should be consulted prior to the commencement of site work associated with site development to ensure compliance with these specifications.

2. GeoSolutions, Inc. should be notified at least 72 hours prior to site clearing or grading operations on the property in order to observe the stripping of surface materials and to coordinate the work with the grading contractor in the field.

3. These grading specifications may be modified and/or superseded by recommendations contained in the text of this report and/or subsequent reports.

4. If disputes arise out of the interpretation of these grading specifications, the Soils Engineer shall provide the governing interpretation.

B. Obligation of Parties

1. The Soils Engineer should provide observation and testing services and should make evaluations to advise the client on geotechnical matters. The Soils Engineer should report the findings and recommendations to the client or the authorized representative.

2. The client should be chiefly responsible for all aspects of the project. The client or authorized representative has the responsibility of reviewing the findings and recommendations of the Soils Engineer. During grading the client or the authorized representative should remain on-site or should remain reasonably accessible to all concerned parties in order to make decisions necessary to maintain the flow of the project.

3. The contractor is responsible for the safety of the project and satisfactory completion of all grading and other operations on construction projects, including, but not limited to, earthwork in accordance with project plans, specifications, and controlling agency requirements.

C. Site Preparation

1. The client, prior to any site preparation or grading, should arrange and attend a meeting which includes the grading contractor, the design Structural Engineer, the Soils Engineer, representatives of the local building department, as well as any other concerned parties. All parties should be given at least 72 hours' notice.

2. All surface and sub-surface deleterious materials should be removed from the proposed building and pavement areas and disposed of off-site or as approved by the Soils Engineer. This includes, but is not limited to, any debris, organic materials, construction spoils, buried utility line, septic systems, building materials, and any other surface and subsurface structures within the proposed building areas. Trees designated for removal on the construction plans should be removed and their primary root systems grubbed under the observations of a representative of GeoSolutions, Inc. Voids left from site clearing should be cleaned and backfilled as recommended for structural fill.

3. Once the Site has been cleared, the exposed ground surface should be stripped to remove surface vegetation and organic soil. A representative of GeoSolutions, Inc. should determine the required depth of stripping at the time of work being completed. Strippings may either be disposed of off-site or stockpiled for future use in landscape areas, if approved by the landscape architect.

D. Site Protection

1. Protection of the Site during the period of grading and construction should be the responsibility of the contractor.

2. The contractor should be responsible for the stability of all temporary excavations.

3. During periods of rainfall, plastic sheeting should be kept reasonably accessible to prevent unprotected slopes from becoming saturated. Where necessary during periods of rainfall, the contractor should install check-dams, de-silting basins, sand bags, or other devices or methods necessary to control erosion and provide safe conditions.

E. Excavations

1. Materials that are unsuitable should be excavated under the observation and recommendations of the Soils Engineer. Unsuitable materials include, but may not be limited to: 1) dry, loose, soft, wet, organic, or compressible natural soils; 2) fractured, weathered, or soft bedrock; 3) non-engineered fill; 4) other deleterious materials; and 5) materials identified by the Soils Engineer or Engineering Geologist.

2. Unless otherwise recommended by the Soils Engineer and approved by the local building official, permanent cut slopes should not be steeper than 2:1 (horizontal to vertical). Final slope configurations should conform to section 1804 of the 2019 California Building Code unless specifically modified by the Soil Engineer/Engineering Geologist.

3. The Soil Engineer/Engineer Geologist should review cut slopes during excavations. The contractor should notify the Soils Engineer/Engineer Geologist prior to beginning slope excavations.

F. Structural Fill

1. Structural fill should not contain rocks larger than 3 inches in greatest dimension, and should have no more than 15 percent larger than 2.5 inches in greatest dimension.

2. Imported fill should be free of organic and other deleterious material and should have very low expansion potential, with a plasticity index of 12 or less. Before delivery to the Site, a sample of the proposed import should be tested in our laboratory to determine its suitability for use as structural fill.

G. Compacted Fill

1. Structural fill using approved import or native should be placed in horizontal layers, each approximately 8 inches in thickness before compaction. On-site inorganic soil or approved imported fill should be conditioned with water to produce a soil water content near optimum moisture and compacted to a minimum relative density of 90 percent based on ASTM D1557-12$_{e1}$.

2. Fill slopes should not be constructed at gradients greater than 2-to-1 (horizontal to vertical). The contractor should notify the Soils Engineer/Engineer Geologist prior to beginning slope excavations.

3. If fill areas are constructed on slopes greater than 10-to-1 (horizontal to vertical), we recommend that benches be cut every 4 feet as fill is placed. Each bench shall be a minimum of 10 feet wide with a minimum of 2 percent gradient into the slope.

4. If fill areas are constructed on slopes greater than 5-to-1, we recommend that the toe of all areas to receive fill be keyed a minimum of 24 inches into underlying dense material. Key depths are to be observed and approved by a representative of GeoSolutions, Inc. Sub-drains shall be placed in the keyway and benches as required.

H. Drainage

1. During grading, a representative of GeoSolutions, Inc. should evaluate the need for a sub-drain or back-drain system. Areas of observed seepage should be provided with sub-surface drains to release the hydrostatic pressures. Sub-surface drainage facilities may include gravel blankets, rock filled trenches or Multi-Flow systems or equal. The drain system should discharge in a non-erosive manner into an approved drainage area.

2. All final grades should be provided with a positive drainage gradient away from foundations. Final grades should provide for rapid removal of surface water runoff. Ponding of water should not be allowed on building pads or adjacent to foundations. Final grading should be the responsibility of the contractor, general Civil Engineer, or architect.

3. Concentrated surface water runoff within or immediately adjacent to the Site should be conveyed in pipes or in lined channels to discharge areas that are relatively level or that are adequately protected against erosion.

4. Water from roof downspouts should be conveyed in solid pipes that discharge in controlled drainage localities. Surface drainage gradients should be planned to prevent ponding and promote drainage of surface water away from building foundations, edges of pavements and sidewalks. For soil areas we recommend that a minimum of 2 percent gradient be maintained.

5. Attention should be paid by the contractor to erosion protection of soil surfaces adjacent to the edges of roads, curbs and sidewalks, and in other areas where hard edges of structures may cause concentrated flow of surface water runoff. Erosion resistant matting such as Miramat, or other similar products, may be considered for lining drainage channels.

6. Sub-drains should be placed in established drainage courses and potential seepage areas. The location of sub-drains should be determined after a review of the grading plan. The sub-drain outlets should extend into suitable facilities or connect to the proposed storm drain system or existing drainage control facilities. The outlet pipe should consist of a non-perforated pipe the same diameter as the perforated pipe.

I. Maintenance

1. Maintenance of slopes is important to their long-term performance. Precautions that can be taken include planting with appropriate drought-resistant vegetation as recommended by a landscape architect, and not over-irrigating, a primary source of surficial failures.

2. Property owners should be made aware that over-watering of slopes is detrimental to long term stability of slopes.

J. Underground Facilities Construction

1. The attention of contractors, particularly the underground contractors, should be drawn to the State of California Construction Safety Orders for “Excavations, Trenches, Earthwork.” Trenches or excavations greater than 5 feet in depth should be shored or sloped back in accordance with OSHA Regulations prior to entry.

2. Bedding is defined as material placed in a trench up to 1 foot above a utility pipe and backfill is all material placed in the trench above the bedding. Unless concrete bedding is required around utility pipes, free-draining sand should be used as bedding. Sand to be used as bedding should be tested in our laboratory to verify its suitability and to measure its compaction characteristics. Sand bedding should be compacted by mechanical means to achieve at least 90 percent relative density based on ASTM D1557-12$_{e1}$.

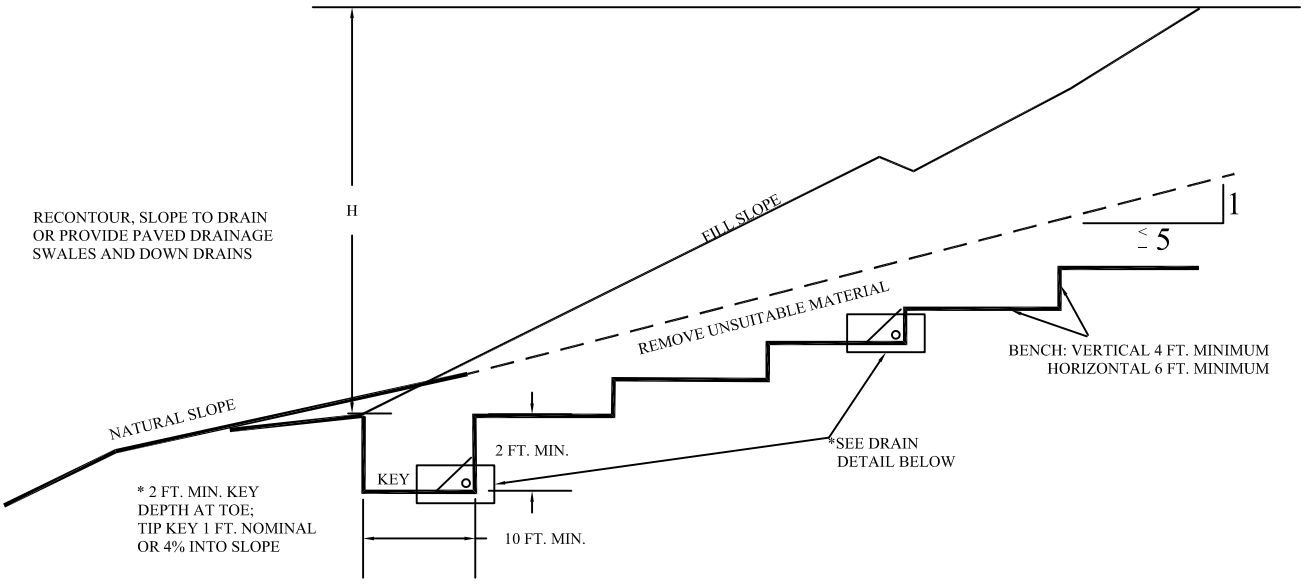
3. On-site inorganic soils, or approved import, may be used as utility trench backfill. Proper compaction of trench backfill will be necessary under and adjacent to structural fill, building foundations, concrete slabs, and vehicle pavements. In these areas, backfill should be conditioned with water (or allowed to dry), to produce a soil water content of about 2 to 3 percent above the optimum value and placed in horizontal layers, each not exceeding 8 inches in thickness before compaction. Each layer should be compacted to at least 90 percent relative density based on ASTM D1557-12$_{e1}$. The top lift of trench backfill under vehicle pavements should be compacted to the requirements given in report under Preparation of Paved Areas for vehicle pavement sub-grades. Trench walls must be kept moist prior to and during backfill placement.

K. Completion of Work

1. After the completion of work, a report should be prepared by the Soils Engineer retained to provide such services. The report should including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, and comments on any changes made during grading and their effect on the recommendations made in the approved Soils Engineering Report.

2. Soils Engineers shall submit a statement that, to the best of their knowledge, the work within their area of responsibilities is in accordance with the approved soils engineering report and applicable provisions within Chapter 18 of the 2019 CBC.

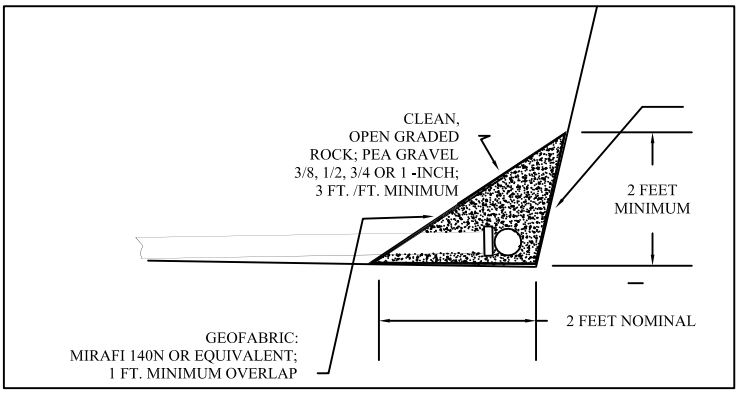
FILL OVER SLOPE



NOTES:

*BACKDRAIN AS RECOMMENDED BY GEOTECHNICAL PER DETAIL.

DRAIN DETAIL



NTS

GeoSolutions, Inc.
220 High Street
San Luis Obispo, CA 93401
(805) 543-8539 Fax: (805) 543-2171

KEY AND BENCH WITH BACKDRAIN

DETAIL
A

Attachment 7: Acoustic Report dated November 2021

Kuntz Acoustical Engineering
P.O. Box 357, Santa Ynez, CA 93460-0357
805-570-1502
http://www.KuntzAcoustical.com
Herb.KAE@gmail..com

TO: Gordon Statler
Statler Design Solutions
1795 Ocean Oaks Road
Carpenteria, CA 93013

SUBJECT: Novatt Commercial Equestrian Project
Happy N River Ranch
750 E. Hwy 246
Solvang, CA

BACKGROUND

The property is located at 750 E. Hwy 246 in Solvang, CA. The owner's intent is to have musical events during the year and to have a DJ, or musicians, play for the participants. This analysis is to determine compliance with the county noise guidelines (Ref. 1). The following analysis is to estimate the sound levels which could be expected on the property. In addition, sound levels at sensitive locations on the adjoining property are estimated.

ANALYSIS

Two locations were explored. The first location is for a proposed reception hall near the east side of the property. The southwest side of this building is proposed to have recorded, amplified music to be directed toward the southwest. The second location is for a proposed covered arena near the west side of the property. Two types of music are proposed for the arena. The first is amplified music, similar to that near the reception hall and the other is the use of live bands with amplified music. In these latter two cases, the music source will be directed toward the south and be located at the center of the northern edge of the arena.

The directivity of a single loudspeaker system (JBL Professional PRX635, Ref. 2) was used in the analysis of the amplified music. This loudspeaker has known sound directivities at the octave-band center frequencies. The sound level at 10 feet from the front of the loudspeaker is calculated to be 90 dBA. The sound spectrum used in the analysis is listed in Table I. (Should multiple loudspeakers be used, the directivity of the sound is altered somewhat, but, if the sound levels at the center line reference location at 10 feet in front of the speakers is kept at 90 dBA, the results will be similar.) These sound levels are used for both daytime (0700 to 1900 hours) and evening (1900 to 2200 hours) music. Music is not to be played between (2200 and 0700 hours).

Frequency [Hz]	Sound Pressure Level [dB re. 20 Pa] at 10 ft
63	82
125	88
250	90
500	89
1000	86
2000	76
4000	72
8000	66

Table I: Sound pressure level spectrum of the sound source generating a 90 dBA sound level at 10 feet in front of the JBL Professional PRX635 loudspeaker.

Previous measurements of a live rock band with drums and amplified sound were made at another location and the results of these measurements are used to estimate the highest, constant sound levels from a live band located at the north end of the arena. This live rock band is to play only during the daytime hours.

Propagated sound is attenuated by spherical spreading of the sound. Spherical spreading of sound reduces the sound level by 6 dB for every doubling of distance from the source. In addition, atmospheric attenuation of the sound is included for the propagating sound (Ref. 3). There is little atmospheric attenuation at low frequencies and the attenuation increases with frequency. Absorption of the sound by the ground and foliage were not taken into account. Reflections and shielding by the proposed building structures were taken into account, as they affect the sound pattern of the music.

Figure 1 is an illustration of the calculated sound levels with the amplified music at the southwest side of the proposed reception hall (blue rectangle). (The background map in these figures is from Ref. 4) The loudspeakers are directed to the southwest over an open area. The reception hall shields the areas to the northeast and reduces the sound from the music in this direction. The following sound levels include the 5 dB CNEL evening correction (Ref. 1). The calculated 65 dBA sound level contour (violet line) does not reach the property lines in any direction. At the closest property line location from the music position the sound

level is 61 dBA. The property lines to the east, south, west, and north are much farther away from the proposed venue, and, as a result, the sound levels are less than 65 dBA at those property lines. There are two buildings on the property to the east of the proposed reception hall. The hexagonal building is approximately 274 feet from the music source and the winery is approximately 852 feet from the music source. The hexagonal building is partially shielded from the music source by the reception hall and the evening corrected CNEL sound level is estimated to be 48 dBA. The evening corrected CNEL sound level at the winery is calculated to be approximately 56 dBA. These two sound levels are noted in Fig. 1. A 24 hour CNEL calculation will be much lower than the 65 dBA indicated in Fig. 1.

Figure 1: Calculated, evening corrected CNEL sound levels of amplified music from proposed reception hall.

Figure 2 is an illustration of the calculated sound levels for amplified music at the center of the north end of the arena (blue rectangle). The sound is directed toward the south. The east and west walls of the arena reduce the sound levels to the east and west and reflect sound toward the southwest and southeast. The evening corrected CNEL 65 dBA sound level contour (violet line) does not reach the property lines in any direction. The property lines to the east, south, west, and north are much farther away from the proposed venue, and, as a result, the sound levels are less than an evening corrected 65 dBA at those property lines.

A 24 hour CNEL calculation will be much lower than the 65 dBA indicated in Fig. 1.

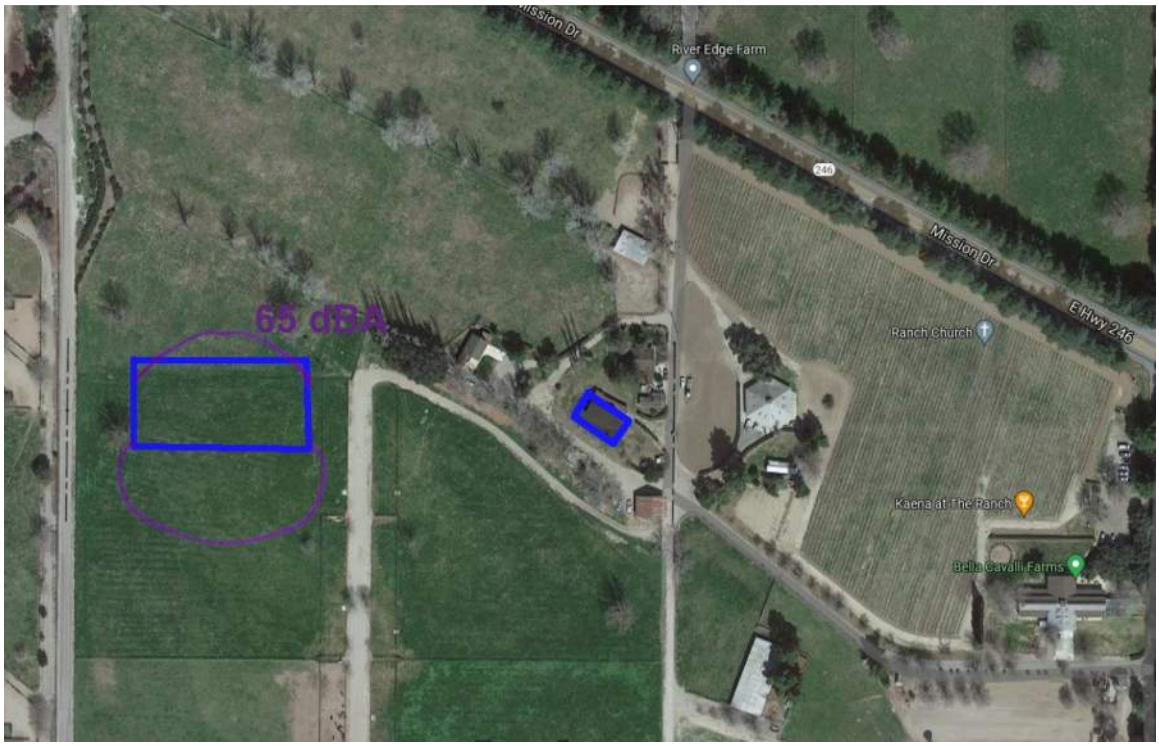


Figure 2: Calculated, evening corrected CNEL sound levels of amplified music from proposed arena.

Figure 3 is an illustration of the calculated CNEL 65 dB for daytime live rock band music and evening amplified music (Fig. 2). Both music sources are located at the center of the north end of the arena (blue rectangle). The band and loudspeakers face toward the south. The drums of the band are the major sound source projecting to the north. The east and west walls of the arena reduce the sound levels to the east and west and reflect sound toward the southwest and southeast. The calculated CNEL 65 dB contour (orange line) does not cross any property line.

Several inputs to the CNEL calculation were used at the location of this contour line. Data from the traffic study of Ref. 5 was used in the FHA Traffic Noise Model (Ref. 6). The peak traffic sound level at northern edge of this contour is 48 dBA for two hours a day (morning and afternoon) and 43 dBA for traffic noise during the remaining daytime hours. Traffic noise has negligible effect on the CNEL.

Although all music fluctuates greatly in sound level, the live band music on the orange contour line was taken at the highest, constant level of 70 dBA for four daytime hours. As a simplified, worst case, the amplified music from Fig. 2 was taken to be a constant 60 dBA on the orange contour line for the three evening hours.

The nighttime sound level was taken as 40 dBA. The resulting CNEL contour line is calculated to be 65 dB. Since, as noted, band music is not constant and this calculation takes all music to be at a high, constant level, the actual contour CNEL will be lower than 65 dB. The CNEL level will be much lower at the northern, eastern, and southern property lines.

Figure 3: Calculated CNEL 65 dB contour of a live rock band during the daytime and limited amplified music in the evening in the proposed area. This contour is for constant level music.

CONCLUSIONS

The A-weighted, amplified music source sound level of 90 dBA at 10 feet should be considered as an upper sound level limit to the music at the proposed recreation hall. This sound level is a high enough sound level which can be easily heard over the entertainment areas and still not exceed the 65 dBA nighttime sound level at the property lines.

This, same amplified music source can be used in the arena and not exceed the 65 dBA nighttime sound level at the property lines.

A live rock band with drums may be used in the arena, but only in the daytime with a limit of four hours. The amplified music used in the two, above examples may be used during the evening hours.

The property to the east contains two sensitive structures. The property line and sensitive structure CNEL levels do not exceed 65 dB for any of the three analyzed cases.

Herbert Kuntz

REFERENCES

1. County of Santa Barbara Environmental Thresholds and Guidelines Manual (January 2021).

2. https://www.princeton.edu/3D3A/Directivity/JBL%20Professional%20PRX635/index_H.html

3. ANSI S1.26-1995, "American National Standard method for calculation of the absorption of sound by the atmosphere (Acoustical Society of America, New York, 1995), 59F and 70%RH.

4. Google maps: https://www.google.com .

5. Santa Ynez Valley Traffic Circulation & Safety Study, Final Report (June 2, 2020), Tables 3, 6, and 7.

6. Federal Highway Administration's Traffic Noise Model 3.0, U.S. Department of Transportation (https://www.fhwa.dot.gov/environment/noise/traffic_noise_model/ 2019)

Attachment 8: Tier 2 Stormwater Control Plan dated December 2022

Draft Stormwater Control Plan
Happy N. River Ranch

750 East Highway 246
APN: 137-250-067

December 19, 2022

Client: Lisa Novatt

Prepared By: Coast Engineering & Survey, Inc.
Lydia Lynch, PE
Todd Robinson, PE
todd@coast-inc.com

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I. Project Data

Table 1: Project Data

Project Name/Project Case Number	Happy N. River Ranch
Project Location	750 East Highway 246
Project Phase No.	N/A
Project Type and Description	Proposed Clubhouse/Event center and covered arena.
New Impervious Surface Area (sf)	49,004 sf
Replaced Impervious Surface Area (sf)	2,320 sf
Pre-Project Impervious Surface Area (sf)	2,320 sf
Post-Project Impervious Surface Area (sf)	51,324
"Net Impervious" Area, if applicable	N/A
Watershed Management Zone(s)	WMA 1
Tier	Tier 2
Design Storm Frequency Used (85th or 95th percentile) and Design Strom Depth (in)	85th
Urban Sustainability Area, if applicable	N/A

II. Setting

II.A. Project Location and Description

The project is located east of Buellton on highway 246. A clubhouse and covered arena are proposed. The site will be used as a venue, as well as a location for equestrian events. The Santa Ynez River runs along the southern property line. The regulatory floodway and zone AE are both located on the property. The Arena is located within Zone AE.

The covered arena is 45,000 square feet and the proposed clubhouse and associated impervious flatwork create 6,324 square feet.

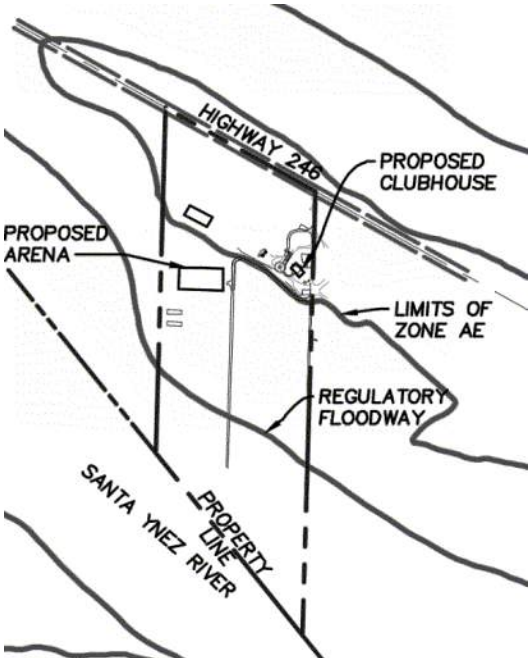


Figure 1: Vicinity Map

II.B. Existing site Features and Conditions

The site has two main areas. The upper area, where the clubhouse and other buildings are located, is outside of Zone AE. The lower field is located within zone AE and is

about 15’ below the upper, northerly portion. A well is located to the east of the clubhouse and is shown on the site improvement plans. The lower area is currently fields, with a few barns. The site consists of class A, B, and C soils, according to web soil survey, see attached. Class A soils are located at the southern end of the property. Class B soils make up the rest of the property, except for the central Mu soils that are Class C.

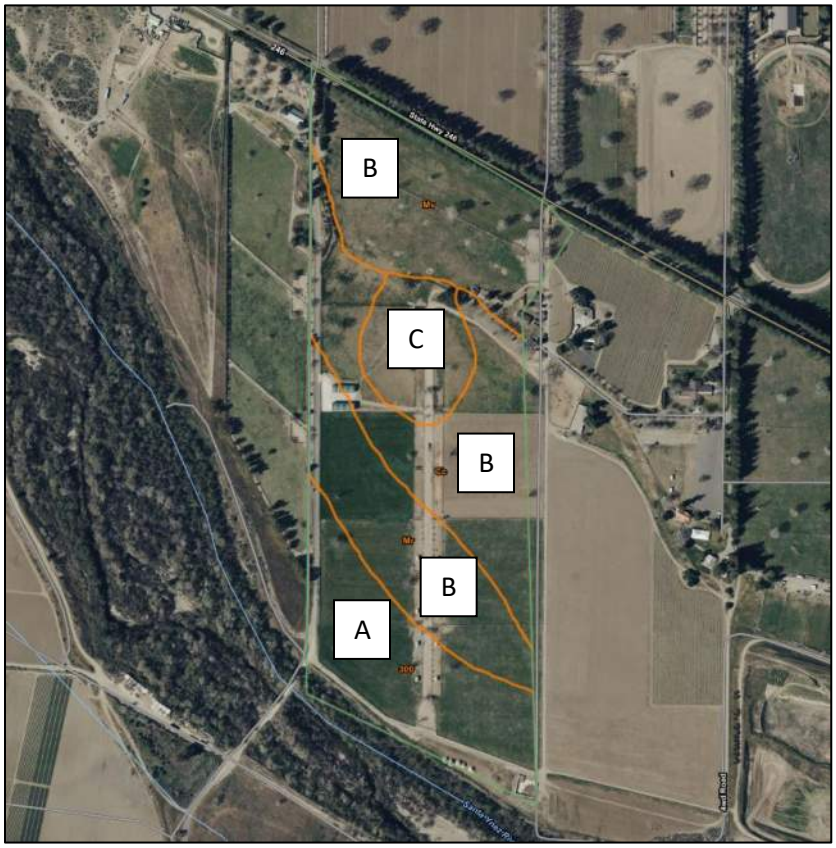


Figure 2: Hydraulic Soil Group

II.C. Opportunities and constraints for Stormwater Control

There is a lot of open space to drain to. The lower field has large areas of class B soils, and sits below the clubhouse which provides opportunities for drainage to the field. The close proximity of the well to the clubhouse limits locations where direct infiltration and bioretention can be used. Any bioretention or infiltration facilities must be 10’ from the building foundation.

II.D. Summary of Design Approach for Meeting the Post-Construction Requirements

The large, gently sloping fields will be used as large self-retaining areas. The fields consist of class B soils. The class C soils in the middle of the field are located away from the drainage path of the clubhouse discharge and the arena discharge.

III. Low Impact Design Development Design Strategies

III.A. Site Design and Runoff Reduction (Performance Requirement No. 1)

III.A.1. Limit disturbance to creeks and natural drainage features, if applicable

Stormwater runoff will be discharge far away from the Santa Ynez River top of bank. There are no other natural drainage features on site.

III.A.2. Minimize compaction of highly permeable soils, if applicable

The clubhouse is proposed to be built in the same spot as an existing barn, so that additional areas are not disturbed. The class A soils at the southern end of the site will not be disturbed.

III.A.3. Limit of clearing and grading of native vegetation to minimum area needed, if applicable

All trees on site will be protected. Native grasses will be reestablished where disturbed from construction.

III.A.4. Apply setbacks from creeks, wetlands, and riparian habitats, if applicable

There is a 200' setback from the Santa Ynez River. All proposed improvements are far away from the 200' setback.

III.A.5. Minimize stormwater runoff using one or more of the following site design measures

Roof runoff from both the arena and clubhouse will be discharged (10' from the foundation) to vegetated area, so it has an opportunity to infiltrate prior to being conveyed to the self-retaining areas.

III.A.6. Consideration of drainage as a design element within the project

All impervious areas are meant to be separated, so runoff from impervious can flow to vegetation prior to being captured and conveyed to the self-retaining areas.

III.B. Site Constraints

III.B.1. Limitation of development envelope due to site constraints including:

A well is located near the clubhouse, which limits infiltration opportunities near the clubhouse.

III.C. Dispersal of Runoff to Pervious Areas

III.C.1. Reduce amount of runoff for which Structural Control Measures are required.

Self retaining areas will be used so that Structural Control Measures are not required.

IV. Documentation of Drainage Design

IV.A. Descriptions of each Drainage Management Area

Table 2: Drainage Management Areas

2. DMA Characterization			Add DMA Row	Remove DMA Row	
Name	**DMA Type**	**Area (ft2)**	**Surface Type**	**New, Replaced?**	**Connection**
Arena North	Drains to Self-Retaining	22500	Roof		L1
Arena South	Drains to Self-Retaining	22500	Roof		L2
Clubhouse	Drains to Self-Retaining	6324	Roof		L3
L1	Self-Retaining	12000			
L2	Self-Retaining	12000			
L3	Self-Retaining	4000			

Drainage Management Area Narrative Descriptions

DMA Arena North, totaling 22,500 square feet, drains the northern half of the covered arena. DMA Arena North drains to Self-retaining L1.

DMA Arena South, totaling 22,500 square feet, drains the southern half of the covered arena. DMA Arena North drains to Self-retaining L2.

DMA Clubhouse, totaling 6,324 square feet, drains the roof of the clubhouse and porch. DMA Clubhouse drains to Self-retaining area L3.

DMA L1, totaling at least 12,000 square feet, drains the landscape area on the northern side of the covered arena. DMA L1 is a self-retaining area.

DMA L2, totaling at least 12,000 square feet, drains the landscape area on the northern side of the covered arena. DMA L2 is a self-retaining area.

DMA L3, totaling at least 4,000 square feet, drains the landscape area on the northern side of the covered arena. DMA L3 is a self-retaining area.

IV.B. Description of each Stormwater Structural Control Measure

Self retaining areas are used to treat all stormwater runoff, so Structural Control Measures are not required.

IV.C. Tabulation and Sizing Calculations for Structural Control Measures

Table 3: Sizing Calculator

Central Coast Region Stormwater Control Measure Sizing Calculator

1. Project Information

Project name:	Happp N. River Ranch
Project location:	750 East Highway 246
Tier 2/Tier 3:	Tier 2 - Treatment
Design rainfall depth (in):	1.1
Total project area (ft2):	
Total DMA area (ft2):	79324
Total new impervious area (ft2):	51324
Total replaced impervious within a USA (ft2):	
Total replaced impervious not in a USA (ft2):	
Total pervious/landscape area (ft2):	28000
Total SCM area (ft2):	

2. DMA Characterization

Add DMA Row | Remove DMA Row

Name	DMA Type	Area (ft2)	Surface Type	New, Replaced?	Connection
Arena North	Drains to Self-Retaining	22500	Roof		L1
Arena South	Drains to Self-Retaining	22500	Roof		L2
Clubhouse	Drains to Self-Retaining	6324	Roof		L3
L1	Self-Retaining	12000			
L2	Self-Retaining	12000			
L3	Self-Retaining	4000			

DMA Summary Area	
Total assigned DMA area (ft2):	79324
New impervious area (ft2):	51324
Replaced impervious within a USA (ft2):	0
Replaced impervious not in a USA (ft2):	0
Total pervious/landscape area (ft2):	28000

6. Self-Retaining Area Sizing Checks

Self-Retaining DMA Name	Self-Retaining DMA Area (ft2)	Tributary DMA Name(s)	Eff. Tributary DMA Area (ft2)	Effective Tributary / SRA Area Ratio
L1	12000	Arena North	22500	1.88
L2	12000	Arena South	22500	1.88
L3	4000	Clubhouse	6324	1.58

The following note is included on the plans.

Self-Retaining Areas shall be protected during construction from sediment and erosion. Heavy machinery will not compact soils in areas of infiltration. If any sediment discharges into LID facility, contractor shall restore to performance design specifications as verified by civil engineer. Contractor shall notify grading or building inspector 24-hours prior to installation of gravel and bioretention soil to verify material quality.

V. Source Control Measures

V.A. Site Activities and potential sources of pollutants

[See the instructions on page 3-6 of the Stormwater Technical Guide and the checklist in Appendix A.]

[Describe potential source of pollutants, and both Structural Source Control measures as well as any operational BMPs. Include features, materials, and methods of construction of Source Control BMPs. Refer to Appendix A for typical pollutants and BMPs.]

V.B. Source Control BMPs Table

Table 4: Source Control BMPs

Potential source of runoff pollutants	Permanent source control BMPs	Operational Source Control BMPs
Onsite storm drain inlets	Mark all inlets with the words "no dumping, drains to creek"	• Maintain and periodically repaint or replace inlet markings. • Provide stormwater pollution prevention information to new site owners, lessees, or operators. • Include the following in lease agreement . " tenant shall not allow anyone to discharge anything to storm drains or to store deposit materials so as to create potential discharge to storm drains. • Please see attached SC-44 Fact Sheet
Landscape/Outdoor Pesticide Use/ Building grounds maintenance	Final landscape plans shall accomplish all of the following: • Preserve existing native tress, shrubs, ad ground covert to the maximum extent possible. • Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. • Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions • Consider using pest-resistant plants, especially adjacent to hardscape	• Maintain landscaping using minimum or no pesticides. • Provide IPM information to new owners, lessees and operators. • Please see attached SC-41 Fact Sheet.

	• To ensure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	
Plazas, sidewalks, and parking lots		• Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect Wash water Containing any cleaning agent or degreaser and discharge to sanitary sewer, not to storm drain.
Compost Area	Berm around compost area to prevent runon through and runoff from leaving.	• Check berm for signs of erosion.

VI. Stormwater Facility Maintenance

VI.A. Maintenance Activities

The site shall be maintained such that harmful pesticides and chemicals are not used in areas that drain to the self-retaining areas. The self-retaining areas shall be clear of debris and trash.

- Remove any soil or debris blocking catch basin inlets. Remove trash that typically collects in inlets or gets caught in vegetation.
- Prune or cut back plants for health and to ensure flow into inlets and across surface of facility. Remove and replant as necessary. When replanting, maintain the design surface elevation and minimize the introduction of soil.
- Control weeds by manual methods and soil amendment. In response to problem areas or threatening invasions, corn gluten, white vinegar, vinegar-based products such as Burnout, or non-selective natural herbicides such as Safer's Sharpshooter may be used.

VI.B. Maintenance Schedule:

The self-retaining areas shall be maintained on the following schedule at a minimum.

VI.B.1. Routine Activities (monthly)

- Trash removal from any of the catch basin inlets.
- Conduct vegetation management during the growing season by removing weeds and excessive vegetation including but not limited to: drainage inlets, swales, outlet devices, and energy dissipation devices.
- Inspect and stabilize any eroded areas.
- Inspect catch basins to ensure compliance with the following.
    - Cleaning before sump is 40% full.

- Immediate repair of any deterioration threatening structural integrity.
- Stenciling of catch basins and inlets.

VI.B.2. After significant rain events (any storm that is greater than 1.2" rainfall event):

- Inspect energy dissipating rip rap and storm drains for sediment and debris accumulation. Remove any sediment or debris and replace rock as necessary.

VI.B.3. Prior to start of rainy season (September of each year)

- Inspect downspouts and storm drain inlets. Remove any obstructions in the downspouts grates, and pipes. Inspect dry well for erosion, blockages at inlets and outlets.
- Clean catch basins, storm drain inlets, and other conveyance structures before wet season to remove sediments and debris accumulated during summer
- Check and vacuum accumulated trash, debris, and sediment in the sedimentation chamber and drywell.
- Check condition of the conveyance pipe and remove any accumulated material, as necessary.
- Check signage for graffiti or damage. Sign to read "No Dumping, Drains to Groundwater."

VII. Stormwater Control Plan/Construction Documents Cross-Checklist

[See the instructions on page 3-7 of the Stormwater Technical Guide.]

Table 5: Stormwater Control Plan/Construction Documents Cross-Checklist

Stormwater Control Plan Page #	Source Control or LID Facility	See Plan Sheet #s
4	Self Retaining areas	C6

VIII. Certifications

The preliminary design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the current edition of the Santa Barbara County Project Clean Water's Stormwater Technical Guide.

Attachment A: Web Soil Survey Report

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.

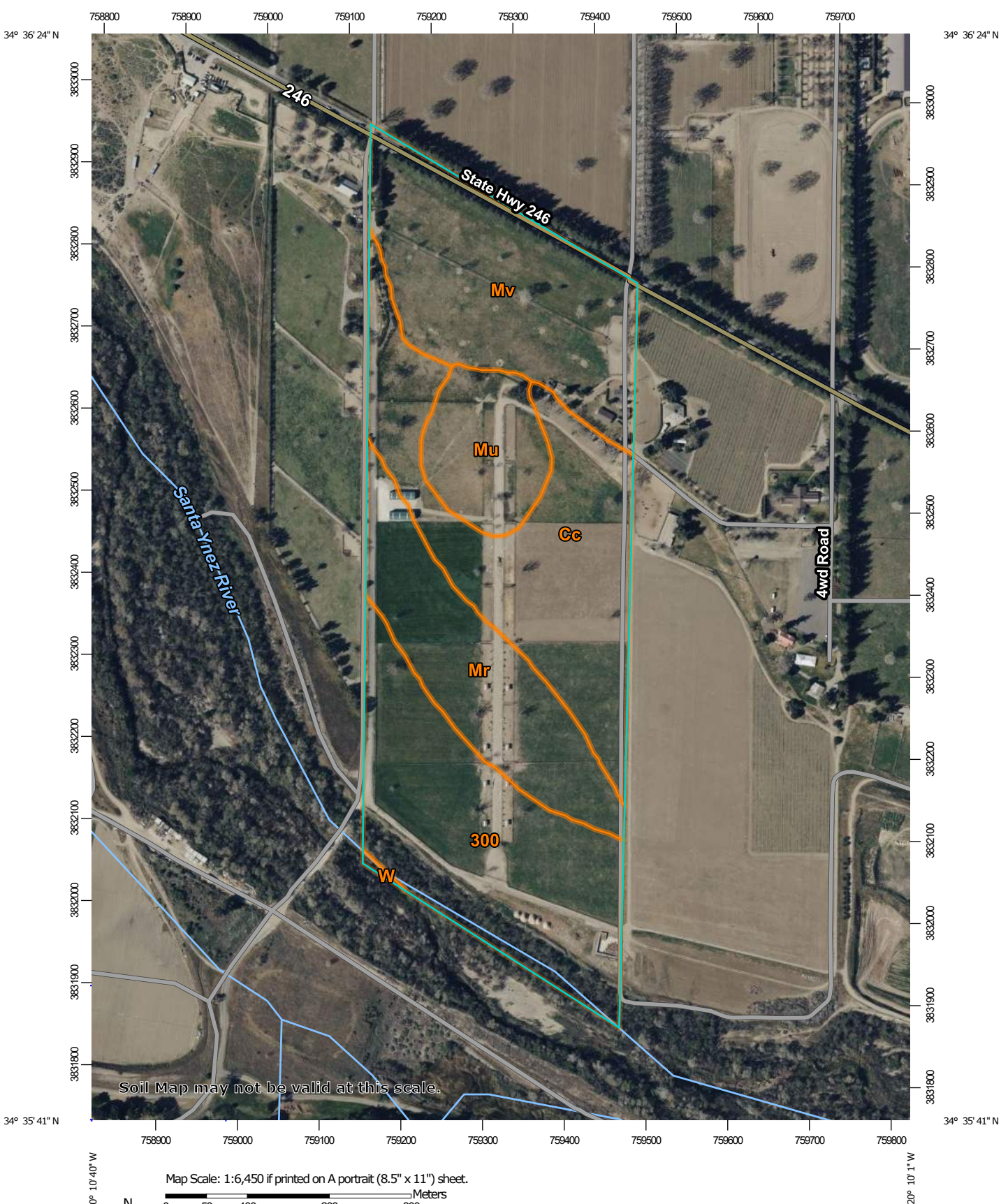
Hydrologic Soil Group and Surface Runoff–Northern Santa Barbara Area, California			
Map symbol and soil name	**Pct. of map unit**	**Surface Runoff**	**Hydrologic Soil Group**

Hydrologic Soil Group and Surface Runoff–Northern Santa Barbara Area, California			
Map symbol and soil name	**Pct. of map unit**	**Surface Runoff**	**Hydrologic Soil Group**
300—Corducci and Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14			
Corducci	50	Very low	A
Typic xerofluvents	30	Very low	A
Cc—Camarillo very fine sandy loam			
Camarillo	85	Negligible	B
Mr—Mocho sandy loam, overflow			
Mocho	85	Negligible	B
Mu—Mocho fine sandy loam, 0 to 2 percent slopes, MLRA 14			
Mocho	85	Low	C
Mv—Mocho loam, 0 to 2 percent slopes, MLRA 14			
Mocho	85	Negligible	B
W—Water			
Water	100	—	—

Data Source Information

Soil Survey Area: Northern Santa Barbara Area, California
Survey Area Data: Version 17, Sep 14, 2022

Custom Soil Resource Report
Soil Map



Map Scale: 1:6,450 if printed on A portrait (8.5" x 11") sheet.

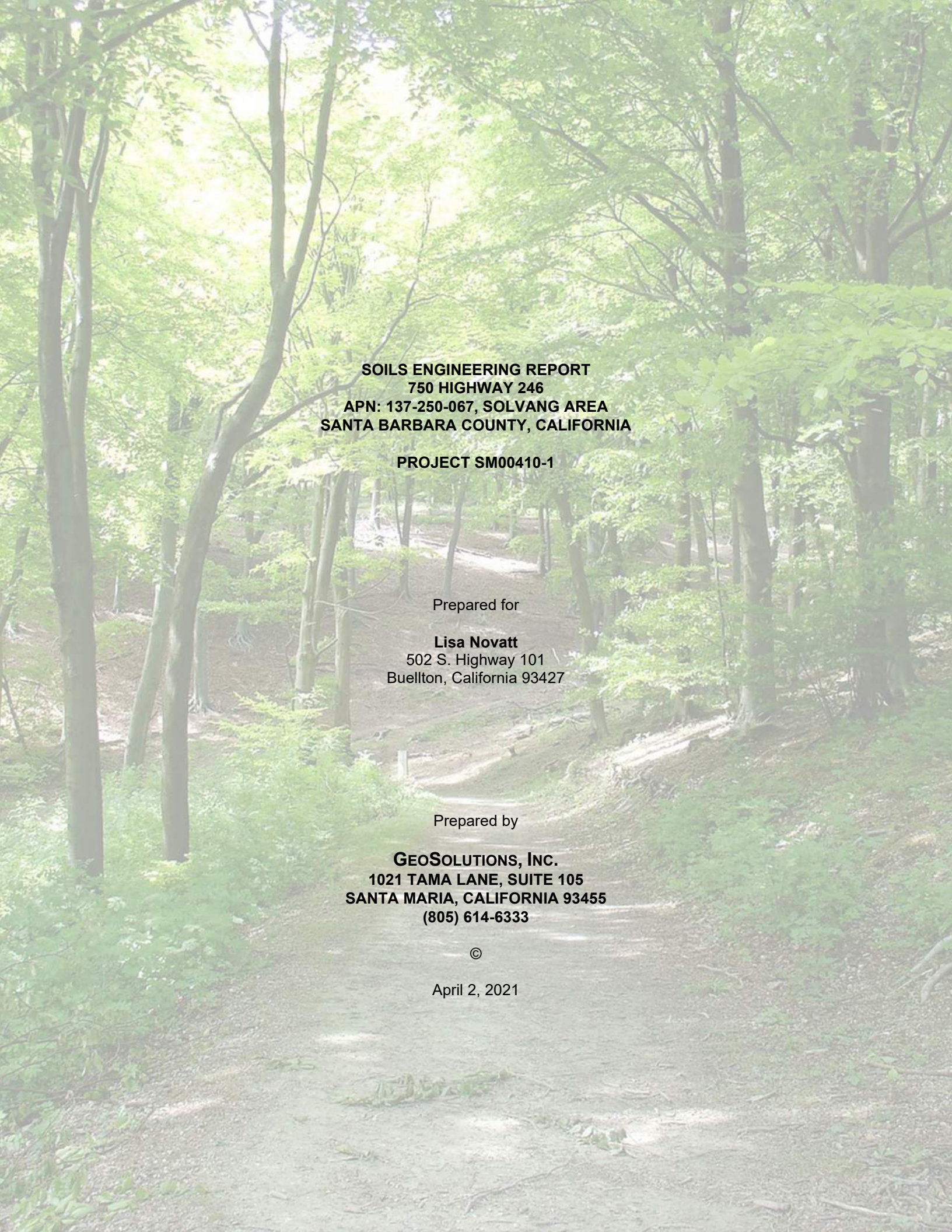
N

Meters: 0 50 100 200 300

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

Attachment B: Geotechnical Report



SOILS ENGINEERING REPORT
750 HIGHWAY 246
APN: 137-250-067, SOLVANG AREA
SANTA BARBARA COUNTY, CALIFORNIA

PROJECT SM00410-1

Prepared for

Lisa Novatt
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Buellton, California 93427

Prepared by

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©

April 2, 2021

DATE:
April 2, 2021

PROJECT NUMBER:
SM00410-1

CLIENT:
Lisa Novatt
502 S. Highway 101
Buellton, California 93427

PROJECT NAME:
750 Highway 246
APN: 137-250-067
Solvang Area,
Santa Barbara County,
California

SOILS ENGINEERING REPORT

Dear Ms. Novatt:

This Soils Engineering Report has been prepared for the proposed new clubhouse, hay barn and covered arena to be located at 750 Highway 246, APN: 137-250-067, Solvang Area, Santa Barbara County, California. Geotechnically, the site is suitable for the proposed development provided the recommendations in this report for site preparation, earthwork, foundations, slabs, retaining walls, and pavement sections are incorporated into the design.

It is anticipated that a graded pad will be constructed for the proposed new clubhouse, hay barn, mobile home, and covered arena with all foundations excavated into engineered fill.

All foundations are to be excavated into uniform material to limit the potential for distress of the foundation systems due to differential settlement. If cuts steeper than allowed by State of California Construction Safety Orders for "Excavations, Trenches, Earthwork" are proposed, a numerical slope stability analysis may be necessary for temporary construction slopes.

Thank you for the opportunity to have been of service in preparing this report. If you have any questions, please contact the undersigned at (805) 614-6333.

Sincerely,
GeoSolutions, Inc.

Bradley J. Bucher, PE
Principal, C81927

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SOILS ENGINEERING REPORT
750 HIGHWAY 246
APN: 137-250-067, SOLVANG AREA
SANTA BARBARA COUNTY, CALIFORNIA

PROJECT SM00410-1

1.0 INTRODUCTION

This report presents the results of the geotechnical investigation for the proposed new clubhouse, hay barn and covered arena to be located at 750 Highway 246, APN: 137-250-067, Solvang Area, Santa Barbara County, California. See Figure 1: Site Location Map for the general location of the project area. Figure 1: Site Location Map was obtained from the website application TopoView (USGS, 2013).

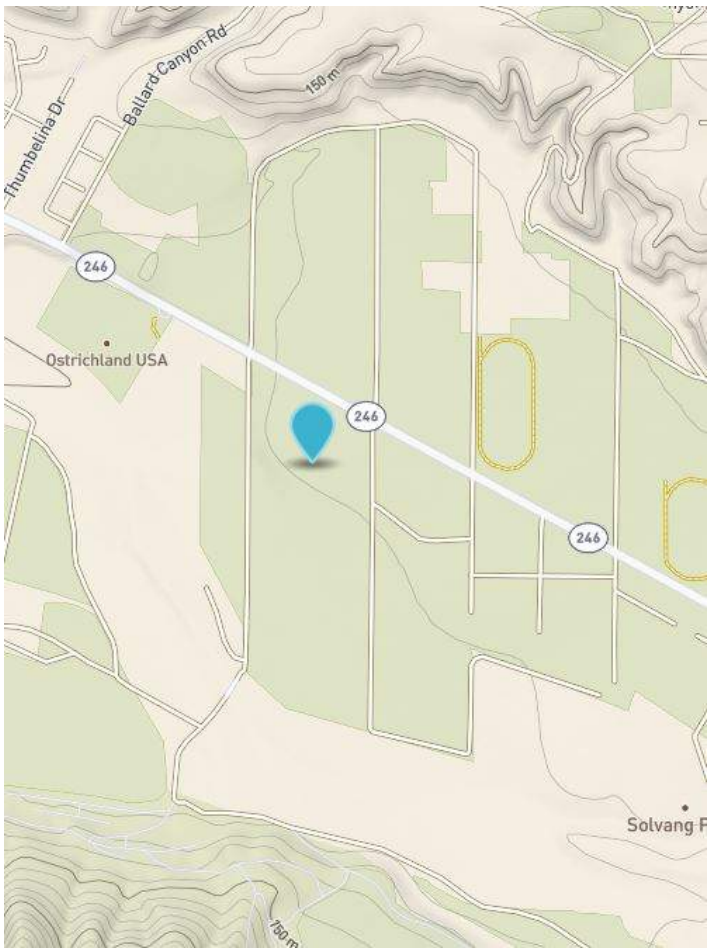


Figure 1: Site Location Map

1.1 Site Description

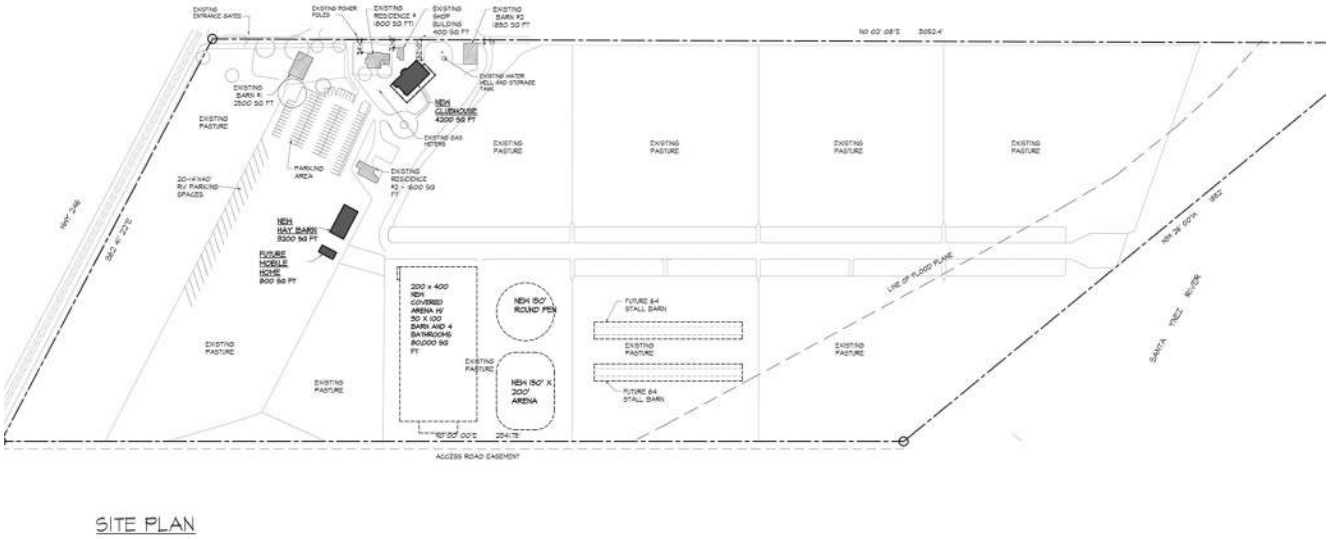
750 Highway 246 is located at 34.6030 degrees north latitude and -120.1723 degrees east longitude at a general elevation of 250 feet above mean sea level. The property is approximately rectangular in shape and 63.35 acres in size. The nearest intersection is where Highway 246 intersects Ballard Canyon Road north of the property. The project property will hereafter be referred to as the "Site." See Figure 2: Site Plan for the general layout of the Site.

The Site is currently being used as a horse ranch that consist of residential structures, barns, stables, corals and pastures. The Site consists of mainly two levels that will be referred to as the upper and lower Sites. The topography of the upper Site is generally level and is at approximately the same elevation of Highway 246. The majority of the structures are located along the eastern potion of the upper Site with the lower Site at an elevation greater than 10 feet below the upper Site and is currently being used as grazing pasture.

1.2 Project Description

It is our understanding the existing barn that is located in the eastern portion of the upper Site is to be converted into a new clubhouse with a new parking area located to the northwest of the proposed new club house. The new hay barn and mobile home are to be located to the west of the existing residence #2 in the existing horse pasture with the new covered area located on the lower Site. See Figure 2: Site Plan. At the time of the preparation of this report, the proposed new clubhouse, hay barn and covered arena is to be constructed using light wood framing and structural steel. Retaining walls are expected to be constructed as part of this project.

It is anticipated that the proposed new clubhouse, hay barn and covered arena will utilize a slab-on-grade and/or raised wood lower floor system. Dead and sustained live loads are currently unknown, but they are anticipated to be relatively light with maximum continuous footing and column loads estimated to be approximately 1.5 kips per linear foot and 15 kips, respectively.



SITE PLAN

Figure 2: Site Plan

2.0 PURPOSE AND SCOPE

The purpose of this study was to explore and evaluate the surface and sub-surface soil conditions at the Site and to develop geotechnical information and design criteria. The scope of this study includes the following items:

1. A literature review of available published and unpublished geotechnical data pertinent to the project site including geologic maps, and available on-line or in-house aerial photographs.

2. A field study consisting of site reconnaissance and subsurface exploration including exploratory borings in order to formulate a description of the sub-surface conditions at the Site.

3. Laboratory testing performed on representative soil samples that were collected during our field study.

4. Engineering analysis of the data gathered during our literature review, field study, and laboratory testing.

5. Development of recommendations for site preparation and grading as well as geotechnical design criteria for building foundations, retaining walls, pavement sections, underground utilities, and drainage facilities.

3.0 FIELD AND LABORATORY INVESTIGATION

The field investigation was conducted on February 10, 2021 using a Mobile B-24 drill rig. Six (6) six-inch diameter exploratory borings were advanced to a maximum depth of 25 feet below ground surface (bgs) at the approximate locations indicated on Figure 3: Field Investigation. Sampling methods included the Standard Penetration Test utilizing a standard split-spoon sampler (SPT) without liners and a Modified California sampler (CA) with liners. The Mobile B-24 drill rig was equipped with a safety hammer, which has an efficiency of approximately 60 percent and was used to obtain test blow counts in the form of N-values.

Figure 3: Field Investigation

Data gathered during the field investigation suggest that the soil materials at the Site consist of interbedded layers of alluvial soil. The surface material at the Site generally consisted of varying shades of brown silty SAND (SM), sandy SILT (ML) and sandy CLAY (CL) encountered in a dry to moist and loose to medium dense condition. The sub-surface materials consisted of olive brown and dark yellowish brown clayey SAND (SC), poorly graded SAND (SP) and sandy SILT (ML) encountered in a moist and medium denser to dense condition. See **Appendix A** for the Boring Logs from the field investigation.

Regional site geology was obtained from United States Geological Survey MapView internet application (USGS, 2013) which compiles existing geologic maps. Figure 4: Regional Geologic Map presents the geologic conditions in site vicinity as mapped on the *Geologic map of the Solvang and Gaviota quadrangles, Santa Barbara County, California* (Dibblee, 1988). The SAND and SILT and the majority of all underlying material at the Site was interpreted as surficial sediments.

Groundwater was not encountered in any of the borings. It should be expected that groundwater elevations may vary seasonally and with irrigation practices.

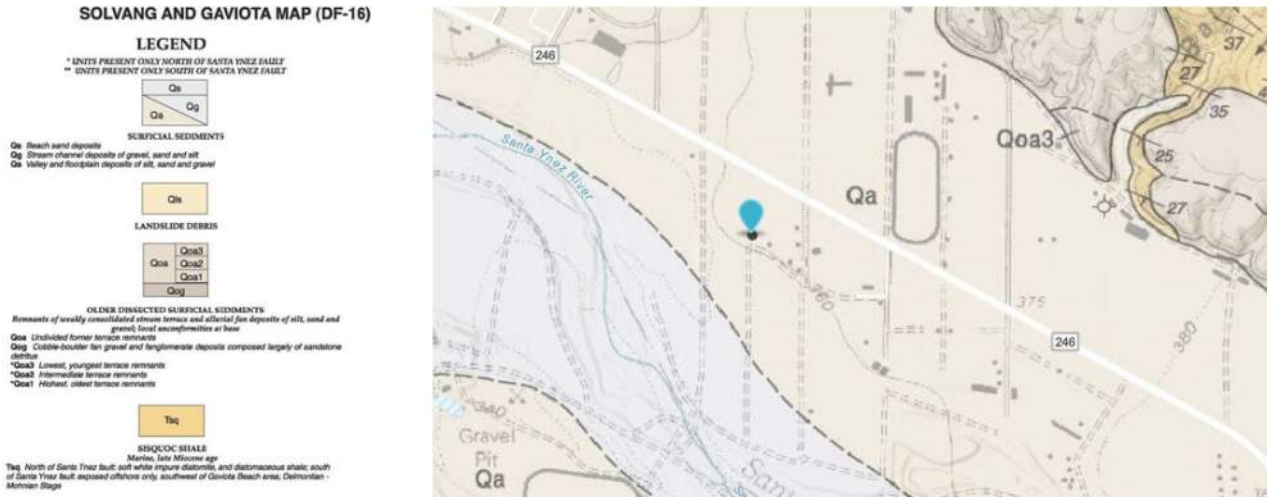


Figure 4: Regional Geologic Map

During the boring operations the soils encountered were continuously examined, visually classified, and sampled for general laboratory testing. A project engineer has reviewed a continuous log of the soils encountered at the time of field investigation.

Laboratory tests were performed on soil samples that were obtained from the Site during the field investigation. The results of these tests are listed below in Table 1: Engineering Properties. Laboratory data reports and detailed explanations of the laboratory tests performed during this investigation are provided in **Appendix B**.

Table 1: Engineering Properties

Sample Name	Sample Description	USCS Specification	Expansion Index	Expansion Potential	Maximum Dry Density, γ_d (pcf)	Optimum Moisture (%)	Angle of Internal Friction, ϕ (deg.)	Cohesion, c (psf)	Fines Content (%)
A	Dark Yellowish Brown Silty CLAY with Sand	CL-ML	20	Very Low	112.1	14.4	35.6	0	84.1
B	Dark Yellowish Brown Silty SAND	SM	2	Very Low	-	-	-	-	49.9
C	Dark Yellowish-Brown Sandy SILT	ML	15	Very Low	-	-	-	-	50.5
D	Dark Yellowish-Brown Silty CLAY with Sand	CL-ML	41	Low	-	-	-	-	81.6

4.0 SEISMIC DESIGN CONSIDERATIONS

Estimating the design ground motions at the Site depends on many factors including the distance from the Site to known active faults; the expected magnitude and rate of recurrence of seismic events produced on such faults; the source-to-site ground motion attenuation characteristics; and the Site soil profile characteristics. According to section 1613 of the 2019 CBC (CBSC, 2019), all structures and portions of structures should be designed to resist the effects of seismic loadings caused by earthquake

ground motions in accordance with the ASCE 7: Minimum Design Loads for Buildings and Other Structures, hereafter referred to as ASCE 7-16 (ASCE, 2016). The Site soil profile classification (Site Class) can be determined by the average soil properties in the upper 100 feet of the Site profile and the criteria provided in Table 20.3-1 of ASCE 7-16.

Spectral response accelerations and peak ground accelerations, provided in this report were obtained using the computer-based Seismic Design Maps tool available from the Structural Engineers Association of California (SEAOC, 2019). This program utilizes the methods developed in ASCE 7-16 in conjunction with user-inputted Site location to calculate seismic design parameters and response spectra (both for period and displacement) for soil profile Site Classes A through E.

Site coordinates of 34.6030 degrees north latitude and -120.1723 degrees east longitude were used in the web-based probabilistic seismic hazard analysis (SEAOC, 2019). Based on the results from the in-situ tests performed during the field investigation, the Site was defined as **Site Class D**, "Stiff Soil" profile per ASCE7-16, Chapter 20. Relevant seismic design parameters obtained from the program are summarized in Table 2: Seismic Design Parameters.

Table 2: Seismic Design Parameters

Site Class	**D "Stiff Soil"**
Seismic Design Category	**D**
1-Second Period Design Spectral Response Acceleration, S_{D1}	**(See Note 1)**
Short-Period Design Spectral Response Acceleration, S_{DS}	**0.985g**
Site Specific MCE Peak Ground Acceleration, PGA_M	**0.718g**

Note 1: It is assumed that this design-period acceleration will not be required for the project.

5.0 LIQUEFACTION HAZARD ASSESSMENT

Liquefaction occurs when saturated cohesionless soils lose shear strength due to earthquake shaking. Ground motion from an earthquake may induce cyclic reversals of shear stresses of large amplitude. Lateral and vertical movement of the soil mass combined with the loss of bearing strength can result from this phenomenon. Liquefaction potential of soil deposits during earthquake activity depends on soil type, void ratio, groundwater conditions, the duration of shaking, and confining pressures on the potentially liquefiable soil unit. Fine, poorly graded loose sand, shallow groundwater, high intensity earthquakes, and long duration of ground shaking are the principal factors leading to liquefaction.

Based on the consistency and relative density of the in-situ soils the potential for seismic liquefaction of soils at the Site is low. Assuming that the recommendations of the Soils Engineering Report are implemented, the potential for seismically induced settlement and differential settlement at the Site is considered to be low.

6.0 GENERAL SOIL-FOUNDATION DISCUSSION

It is anticipated that graded pads will be constructed for the proposed structures with all foundations excavated into engineered fill. All foundations are to be excavated into uniform material to limit the potential for distress of the foundation systems due to differential settlement. If cuts steeper than allowed by State of California Construction Safety Orders for "Excavations, Trenches, Earthwork" are proposed, a numerical slope stability analysis may be necessary for temporary construction slopes.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The Site is suitable for the proposed development provided the recommendations presented in this report are incorporated into the project plans and specifications.

The primary geotechnical concerns at the Site are:

1. The presence of loose surface and subsurface soils.

2. The presence of loose surface materials and potential for debris resulting from demolition and removal of the existing structures.

3. The presence of potentially expansive material. Influx of water from irrigation, leakage from the residence, or natural seepage could cause expansive soil problems. Foundations supported by expansive soils should be designed by a Structural Engineer in accordance with the 2019 California Building Code.

4. The potential for differential settlement occurring between foundations supported on two soil materials having different settlement characteristics, such as native soil and engineered fill. Therefore, it is important that all of the foundations are founded in equally competent uniform material in accordance with this report.

7.1 Preparation of Building Pads

1. It is anticipated that graded engineered fill pads will be developed for the proposed new clubhouse, hay barn and covered arena with footings founded in engineered fill.

2. For the development of an engineered fill pad, the native material should be over-excavated at least 60 inches below existing grade, 36 inches below the bottom of the footings, to competent material, or to two-thirds the depth of the deepest fill (measured from the bottom of the deepest footing); whichever is greatest.

3. The limits of over-excavation should extend a minimum of 5 feet beyond the perimeter foundation, to property lines, or existing improvements, whichever is least. The exposed surface should be scarified to a depth of 6 inches; moisture conditioned to 3% over optimum moisture content, and compacted to a minimum relative density of 90 percent (ASTM D1557-12). The over-excavated material may then be processed as engineered fill. Onsite soil and rock material is suitable as fill material provided it is processed to remove concentrations of organic material, debris, and other particles.

4. For prefabricated structures with footings sitting on grade a minimum of 12 inches of Class II aggregate base is recommended to cap the building pad.

5. Imported fill should meet the requirements of the grading plan. GeoSolutions, Inc. should be notified at least 72 hours prior to delivery to the site to sample and test proposed imported fill materials. Refer to Figure 6: Sub-Slab Detail for under-slab drainage material and **Appendix D** for more details on fill placement.

6. The ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than one unit vertical in 20 units horizontal (5 percent slope) for a minimum distance of 10 feet measured perpendicular to the exterior of the structure per Section 1804.3 of the 2019 CBC.

7. If fill areas are constructed on slopes greater than 10-to-1 (horizontal-to-vertical), we recommend that benches be cut every four (vertical) feet as fill is placed. Each bench shall be a minimum of 10 feet wide with a minimum of two percent gradient into the slope.

If fill areas are constructed on slopes greater than 5-to-1, we recommend that the toe of all areas to receive fill be keyed a minimum of 24 inches into underlying dense material. Sub-drains shall be placed in the keyway and benches as required. See **Appendix D**, Detail A, Key and Bench with Backdrain for details on key and bench construction.

7.2 Conventional Foundations

1. Conventional continuous and spread footings with grade beams may be used for support of the proposed structure(s). Isolated pad footings are not permitted.

2. Minimum footing and grade beam sizes and depths in engineered fill should conform to the following table, as observed and approved by a representative of GeoSolutions, Inc.

Table 3: Minimum Footing and Grade Beam Recommendations

	Perimeter Footings	Grade Beams
Minimum Width	15 inches (two story)	15 inches
Embedment Depth	18 inches (one story < 12-foot-high walls) 24 inches (two story or one story > 12-foot-high walls)	18 inches
Minimum Reinforcing*	4 #4 bars (2 top / 2 bottom)	4 #4 bars (2 top / 2 bottom)
Spacing	-	20 feet on-center each way
* Steel should be held in place by stirrups at appropriate spacing to ensure proper positioning of the steel (see WRI Design of Slab-on-Ground Foundations and ACI 318, Section 26.6.6 – Placing Reinforcement).		

3. Minimum reinforcing for footings should conform to the recommendations provided in Table 3: Minimum Footing and Grade Beam Recommendations which meets the specifications of Section 1808.6 of the 2019 California Building Code for the soil conditions at the Site. Reinforcing steel should be held in place by stirrups at appropriate spacing to ensure proper positioning of the steel in accordance with WRI Design of Slab-on-Ground Foundations, and ACI 318, Section 26.6.6 – Placing Reinforcement.

4. A representative of this firm should observe and approve all foundation excavations for required embedment depth prior to the placement of reinforcing steel and/or concrete. Concrete should be placed only in excavations that are free of loose, soft soil and debris and that have been lightly pre-moistened, with no associated testing required.

5. An allowable dead plus live load bearing pressure of **1,500 psf** may be used for the design of footings founded in engineered fill.

6. Allowable bearing capacities may be increased by one-third when transient loads such as wind and/or seismicity are included.

7. A total settlement of less than 1 inch and a differential settlement of less than 1 inch in 30 feet are anticipated.

8. Lateral forces on structures may be resisted by passive pressure acting against the sides of shallow footings and/or friction between the engineered fill and the bottom of the footings. For resistance to lateral loads, a friction factor of **0.35** may be utilized for sliding resistance at the base of footings extending a minimum of 12 inches into engineered fill. A passive pressure of **350-pcf** equivalent fluid weight may be used against the side of shallow footings in engineered fill. If friction and passive pressures are combined to resist lateral forces acting on shallow footings, the lesser value should be reduced by 50 percent.

9. Foundation excavations should be observed and approved by a representative of this firm prior to the placement of formwork, reinforcing steel and/or concrete.

10. Foundation design should conform to the requirements of Chapter 18 of the latest edition of the CBC (CBSC, 2019).

11. The base of all grade beams and footings should be level and stepped as required to accommodate any change in grade while still maintaining the minimum required footing embedment and slope setback distance.

12. The minimum footing setback distance from ascending or descending slope steeper than 3-to-1 (horizontal-to-vertical) but less than 1-to-1 must be maintained. See Figure 5: Setback Dimensions – Slope Gradients Between 3-to-1 and 1-to-1 Setback Dimensions – Slope Gradients Between 3-to-1 and 1-to-1 for the minimum horizontal setback distances from ascending and descending slopes steeper than 3-to-1 but not steeper than 1-to-1.

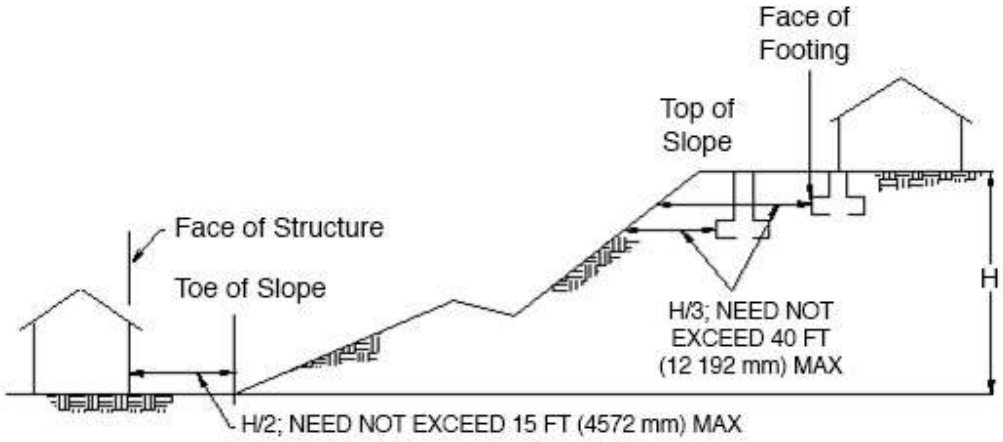


Figure 5: Setback Dimensions – Slope Gradients Between 3-to-1 and 1-to-1

13. If alternate footing setback distances from ascending or descending slopes are desired, GeoSolutions, Inc. may be contracted to perform an additional Numerical Slope Stability Study. Depending on the results of this study, alternate minimum footing setback distances from ascending or descending slopes may be provided.

7.3 Slab-On-Grade Construction

1. Concrete slabs-on-grade and flatwork should not be placed directly on unprepared native materials. Preparation of sub-grade to receive concrete slabs-on-grade and flatwork should be processed as discussed in the preceding sections of this report. Concrete slabs should be placed only over sub-grade that is free of loose, soft soil and debris and that has been lightly pre-moistened, with no associated testing required.

2. Concrete slabs-on-grade should be in conformance with the recommendations provided in Table 4: Minimum Slab Recommendations. Reinforcing should be placed on-center both ways at or slightly above the center of the structural section. Reinforcing bars should have a minimum clear cover of 1.5 inches. Where lapping of the slab steel is required, laps in adjacent bars should be staggered a minimum of every five feet (see WRI Design of Slab-on-Ground Foundations, Steel Placement). The recommended reinforcement may be used for anticipated uniform floor loads not exceeding 200 psf. If floor loads greater than 200 psf are anticipated, a Structural Engineer should evaluate the slab design.

Table 4: Minimum Slab Recommendations

Minimum Thickness	4 inches
Reinforcing*	#4 bars at 20 inches on-center each way
* Where lapping of the slab steel is required, laps in adjacent bars should be staggered a minimum of every five feet (see WRI/CSRI-81 recommendations for Steel Placement, Section 2).	

3. Concrete for all slabs should be placed at a maximum slump of less than 5 inches. Excessive water content is the major cause of concrete cracking. If fibers are used to aid in the control of cracking, a water-reducing admixture may be added to the concrete to increase slump while maintaining a water/cement ratio, which will limit excessive shrinkage. Control joints should be constructed as required to control cracking.

4. Where concrete slabs-on-grade are to be constructed for interior conditioned spaces, the slabs should be underlain by a minimum of four inches of clean free-draining material, such as a ¾ inch coarse aggregate mix, to serve as a cushion and a capillary break. Where moisture susceptible storage or floor coverings are anticipated, a 15-mil Stego Wrap membrane (or equivalent installed per manufacturer's specifications) should be placed between the free-draining material and the slab to minimize moisture condensation under the floor covering. See Figure 6: Sub-Slab Detail for the placement of under-slab drainage material. It is suggested, but not required, that a two-inch thick sand layer be placed on top of the membrane to assist in the curing of the concrete, increasing the depth of the under-slab material to a total of six inches. The sand should be lightly moistened prior to placing concrete.

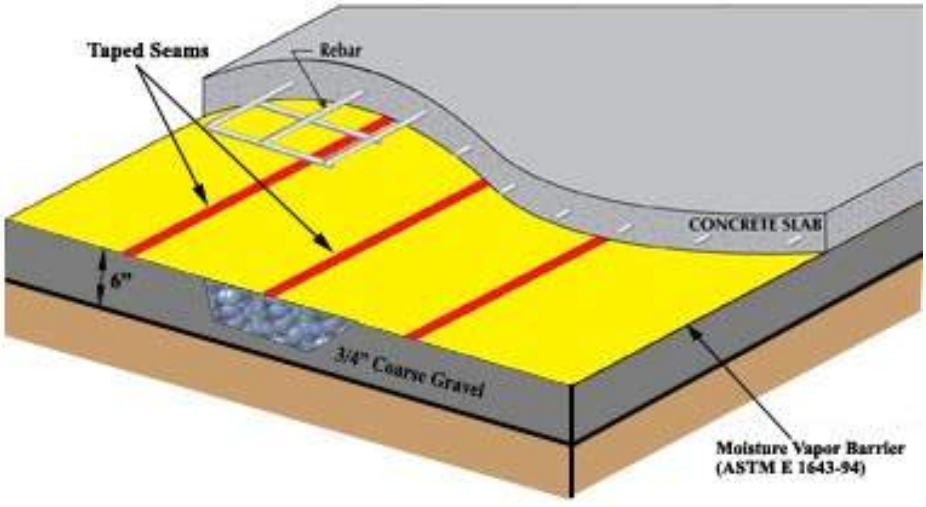


Figure 6: Sub-Slab Detail

5. It should be noted that for a vapor barrier installation to conform to manufacturer's specifications, sealing of penetrations, joints and edges of the vapor barrier membrane are typically required. As required by the California Building Code, joints in the vapor barrier should be lapped a minimum of 6 inches. If the installation is not performed in accordance with the manufacturer's specifications, there is an increased potential for water vapor to affect the concrete slabs and floor coverings.

6. The most effective method of reducing the potential for moisture vapor transmission through concrete slabs-on-grade would be to place the concrete directly on the surface of the vapor barrier membrane. However, this method requires a concrete mix design specific to this application with low water-cement ratio in addition to special concrete finishing and curing practices, to minimize the potential for concrete cracks and surface defects. The contractor should be familiar with current techniques to finish slabs poured directly onto the vapor barrier membrane.

7. Moisture condensation under floor coverings has become critical due to the use of water-soluble adhesives. Therefore, it is suggested that moisture sensitive slabs not be constructed during inclement weather conditions.

7.4 Exterior Concrete Flatwork (Hardscape)

1. Hardscape areas should be excavated a minimum of 12 inches below approximate sub-grade elevation, 24-inch existing grade or to competent material; whichever is deeper. The exposed surface should be scarified an additional depth of 6 inches, moisture conditioned to slightly above optimum moisture content, and compacted to a minimum relative density of 90 percent (ASTM D1557-12 test method).

2. Minimum flatwork for conventional pedestrian areas should be a minimum of 4 inches thick and consist of No. 3 (#3) rebar spaced at 24 inches on-center each-way at or slightly above the center of the structural section.

3. Flatwork should be constructed with frequent joints to allow for movement due to fluctuations in temperature and moisture content in the adjacent soils. Flatwork at doorways, driveways, curbs and other areas where restraining the elevation of the flatwork is desired, should be doweled to the perimeter foundation by a minimum of No. 3 reinforcing steel dowels, spaced at a maximum distance of 24 inches on-center.

4. As an alternative, interlocking concrete pavers may be utilized for exterior improvements in lieu of reinforced concrete flatwork. Concrete pavers, when installed in accordance with manufacturers' recommendations and industry standards (ICPI), allow for a greater degree of soil movement as they are part of a flexible system. If interlocking concrete pavers are selected for use in the driveway area, the structural section should be underlain by a woven geotextile fabric, such as Mirafi HP570 or equivalent, to function as a separation layer and to provide additional support for vehicle tire loads.

7.5 Retaining Walls

1. Retaining walls should be designed to resist lateral pressures from adjacent soils and surcharge loads applied behind the walls. We recommend using the lateral pressures presented in Table 5: Retaining Wall Design Parameters and Figure 7: Retaining Wall Detail for the design of retaining walls at the Site. The Active Case may be used for the design of unrestrained retaining walls, and the At-Rest Case may be used for the design of restrained retaining walls.

Table 5: Retaining Wall Design Parameters

Lateral Pressure and Condition	Equivalent Fluid Pressure, pcf
Static, Active Case, Engineered Fill ($\gamma' K_A$)	40
Static, At-Rest Case, Engineered Fill ($\gamma' K_O$)	60
Static, Passive Case, Engineered Fill ($\gamma' K_P$)	350

2. The above values for equivalent fluid pressure are based on retaining walls having level retained surfaces, having an approximately vertical surface against the retained material, and retaining granular backfill material or engineered fill composed of native soil within the active wedge. See Figure 7: Retaining Wall Detail and Figure 8: Retaining Wall Active and Passive Wedges for a description of the location of the active wedge behind a retaining wall.

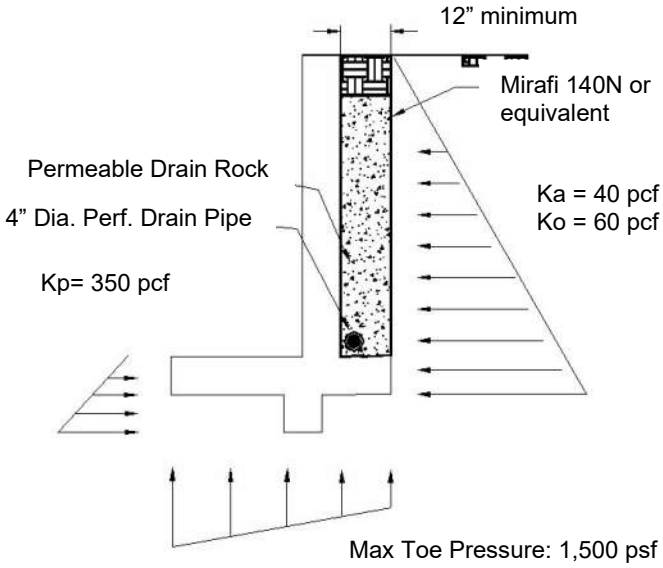


Figure 7: Retaining Wall Detail

3. Proposed retaining walls having a retained surface that slopes upward from the top of the wall should be designed for an additional equivalent fluid pressure of 1 pcf for the active case and 1.5 pcf for the at-rest case, for every degree of slope inclination.

4. We recommend that the proposed retaining walls at the Site have an approximately vertical surface against the retained material. If the proposed retaining walls are to have sloped surfaces against the retained material, the project designers should contact the Soils Engineer to determine the appropriate lateral earth pressure values for retaining walls located at the Site.

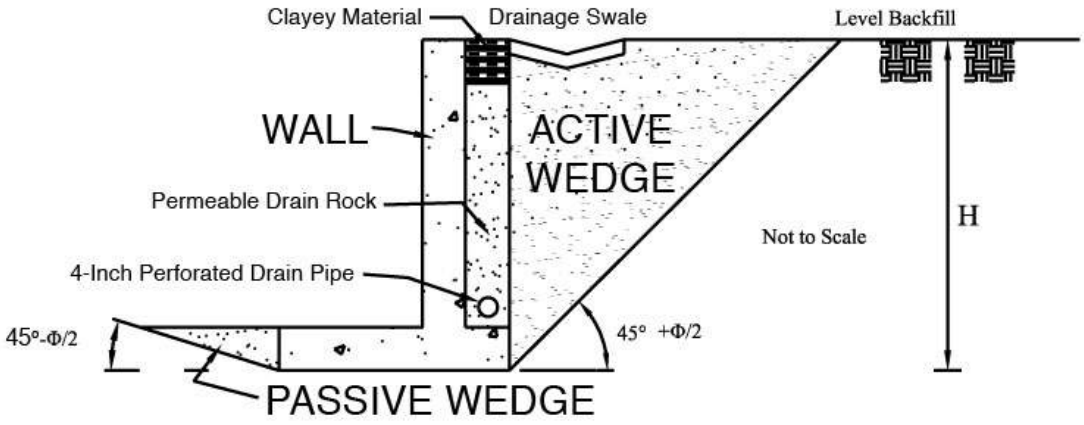


Figure 8: Retaining Wall Active and Passive Wedges

5. Retaining wall foundations should be founded a minimum of 18 inches below lowest adjacent grade in engineered fill prepared per Section 7.1 as observed, tested and approved by a representative of GeoSolutions, Inc. A coefficient of friction of **0.40** may be used between engineered fill and concrete footings. Project designers may use a maximum toe pressure of **1,500 psf** for the design of retaining wall footings founded in engineered fill.

6. For earthquake conditions, retaining walls greater than 6 feet in height should be designed to resist an additional seismic lateral soil pressure of **25 pcf** equivalent fluid pressure for unrestrained walls (active condition). The pressure resultant force from earthquake loading should be assumed to act a distance of $^1/_3H$ above the base of the retaining wall, where *H* is the height of the retaining wall. Seismic active lateral earth pressure values were determined using the simplified dynamic lateral force component (SEAOC 2010) utilizing the design peak ground acceleration, PGA_M, discussed in Section 4.0 (**PGA_M = 0.718g**). The dynamic increment in lateral earth pressure due to earthquakes should be considered during the design of retaining walls at the Site. Based on research presented by Dr. Marshall Lew (Lew et al., 2010), lateral pressures associated with seismic forces should not be applied to restrained walls (at-rest condition).

7. Seismically induced forces on retaining walls are considered to be short-term loadings. Therefore, when performing seismic analyses for the design of retaining wall footings, we recommend that the allowable bearing pressure and the passive pressure acting against the sides of retaining wall footings be increased by a factor of one-third.

8. In addition to the static lateral soil pressure values reported in Table 5: Retaining Wall Design Parameters, the retaining walls at the Site should be designed to support any design live load, such as from vehicle and construction surcharges, etc., to be supported by the wall backfill. If construction vehicles are required to operate within 10 feet of a retaining wall, supplemental pressures will be induced and should be taken into account in the design of the retaining wall.

9. The recommended lateral earth pressure values are based on the assumption that sufficient sub-surface drainage will be provided behind the walls to prevent the build-up of hydrostatic pressure. To achieve this we recommend that a granular filter material be placed behind all proposed walls. The blanket of granular filter material should be a minimum of 12 inches thick and should extend from the bottom of the wall to 12 inches

from the ground surface. The top 12 inches should consist of moisture conditioned, compacted, clayey soil. Neither spread nor wall footings should be founded in the granular filter material used as backfill.

10. A 4-inch diameter perforated or slotted drainpipe (ASTM D1785 PVC) should be installed near the bottom of the filter blanket with perforations facing down. The drainpipe should be underlain by at least 4 inches of filter type material and should daylight to discharge in suitably projected outlets with adequate gradients. The filter material should consist of a clean free-draining aggregate, such as a coarse aggregate mix. If the retaining wall is part of a structural foundation, the drainpipe must be placed below finished slab sub-grade elevation.

11. The filter material should be encapsulated in a permeable geotextile fabric. A suitable permeable geotextile fabric, such as non-woven needle-punched Mirafi 140N or equal, may be utilized to encapsulate the retaining wall drain material and should conform to Caltrans Standard Specification 88-1.03 for underdrains.

12. For hydrostatic loading conditions (i.e. no free drainage behind retaining wall), an additional loading of 45-pcf equivalent fluid weight should be added to the active and at-rest lateral earth pressures. If it is necessary to design retaining structures for submerged conditions, the allowed bearing and passive pressures should be reduced by 50 percent. In addition, soil friction beneath the base of the foundations should be neglected.

13. Precautions should be taken to ensure that heavy compaction equipment is not used adjacent to walls, so as to prevent undue pressure against, and movement of the walls.

14. The use of water-stops/impermeable barriers should be used for any basement construction, and for building walls that retain earth. Damproofing and waterproofing shall meet the minimum standards of Section 1805 of the 2019 California Building Code.

7.6 Preparation of Paved Areas

1. Pavement areas should be excavated a minimum of 12 inches below approximate sub-grade elevation, 24 inch existing grade or to competent material; whichever is deeper. The exposed surface should be scarified an additional depth of 6 inches, moisture conditioned to slightly above optimum moisture content, and compacted to a minimum relative density of 95 percent (ASTM D1557-12 test method). The top 12 inches of sub-grade soil under all pavement sections should be compacted to a minimum relative density of 95 percent based on the ASTM D1557-12 test method at slightly above optimum.

2. Sub-grade soils should not be allowed to dry out or have excessive construction traffic between moisture conditioning and compaction, and placement of the pavement structural section.

7.7 Pavement Design

1. All paving construction and materials used should conform to applicable sections of the latest edition of the State of California Department of Transportation Standard Specifications.

2. As indicated previously, the top 12 inches of sub-grade soil under asphaltic concrete pavement sections should be compacted to a minimum relative density of 95 percent based on the ASTM D1557-12 test method at slightly above optimum moisture content. Aggregate bases and sub-bases should also be compacted to a minimum relative density of 95 percent based on the aforementioned test method.

3. The following table provides the recommended Hot Mix Asphalt (HMA) pavement sections based on an assumed **R-Value of 15**.

4. All pavement sections should be crowned for good drainage. All pavement construction and materials used should conform to Sections 25, 26 and 39 of the latest edition of the State of California Department of Transportation Standard Specifications.

Table 6: Recommended Pavement Structural Sections

Traffic Index	Street Section Thickness in Inches	
	HMA	AB
4.0	2.50	6.00
4.5	3.00	6.50
5.0	3.00	8.00
6.0	3.00	11.50
6.5	3.50	12.50
7.0	4.00	13.00
HMA = Hot Mix Asphalt meeting Caltrans Specification HMA Type A ½ inch mix AB = Aggregate Base meeting Caltrans Specification for Class 2 aggregate base (R-Value = 78 Min)		

7.8 Portland Cement Concrete Pavement (PCCP) Design

1. For concrete slabs subjected to vehicle loading the sections provided in Table 7: Recommended PCCP Structural Sections for aggregate base and Portland Cement Concrete Pavement are recommended for the Site. Subgrade soils shall be processed per Section 7.7 of this report.

2. The aggregate base should extend a minimum of 24 inches beyond the edge of the proposed concrete driveway and be placed up to the top of concrete to provide lateral support along the edge of the concrete driveway, where a sidewalk is not present. Aggregate base should be placed over the native soils that have been scarified; moisture conditioned to 3-5 percent over optimum moisture content and compacted to a minimum relative density of 95 percent (ASTM D1557-07).

3. Transverse and longitudinal joints, dowel bar lubrication, embedment depths, and spacing should be designed per Caltrans 2010 Revised Standard Plan. http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/stdplns-US-customary-units-new10.htm#pavement

Table 7: Recommended PCCP Structural Sections

Portland Cement Concrete Pavement (PCCP)	R-Value (Assumed)	Expansion Potential	PCCP (inches) 3,000 psi	A.B. (inches)	Reinforcing Schedule
Continuously Concrete Pavement Reinforced (CRCP)	15	Low	6	6	#4 rebar at 18 inches on center
Portland Cement Concrete Pavement (PCCP) = (PCCP) meeting Caltrans Specification for Class II Asphalt Concrete A.B. = Aggregate Base meeting Caltrans Specification for Class II Aggregate Base (Assumed R-Value = 15)					

7.9 Onsite Stormwater Infiltration Systems

1. Onsite stormwater infiltration systems shall be set back a minimum distance of 10 feet from any foundation system. Where the 10-foot set back is not possible an 18-inch wide 3-sack slurry cut off trench shall be placed between the infiltration system and foundation extending to a minimum depth of 12 inches below the bottom of the foundation of 12 inches below the bottom of the infiltration system, whichever is greater.

2. Geogrids shall be placed at the bottom of all stormwater retention systems where pedestrian or vehicular traffic is expected.

3. GeoSolutions, Inc. should observe and approve the grading and drainage plan prior to starting construction.

8.0 ADDITIONAL GEOTECHNICAL SERVICES

The recommendations contained in this report are based on a limited number of borings and on the continuity of the sub-surface conditions encountered. GeoSolutions, Inc. assumes that it will be retained to provide additional services during future phases of the proposed project. These services would be provided by GeoSolutions, Inc. as required by the County of Santa Barbara, the 2019 CBC, and/or industry standard practices. These services would be in addition to those included in this report and would include, but are not limited to, the following services:

1. Consultation during plan development.

2. Plan review of grading and foundation documents prior to construction and a report certifying that the reviewed plans are in conformance with our geotechnical recommendations.

3. Construction inspections and testing, as required, during all grading and excavating operations beginning with the stripping of vegetation at the Site, at which time a site meeting or pre-job meeting would be appropriate.

4. Special inspection services during construction of reinforced concrete, structural masonry, high strength bolting, epoxy embedment of threaded rods and reinforcing steel, and welding of structural steel.

5. Preparation of construction reports certifying that building pad preparation and foundation excavations are in conformance with our geotechnical recommendations.

6. Preparation of special inspection reports as required during construction.

7. In addition to the construction inspections listed above, section 1705.6 of the 2019 CBC (CBSC, 2019) requires the following inspections by the Soils Engineer for controlled fill thicknesses greater than 12 inches as shown in Table 8: Required Special Inspections and Tests of Soils:

Table 8: Required Special Inspections and Tests of Soils

Verification and Inspection Task	Continuous During Task Listed	Periodically During Task Listed
1. Verify materials below footings are adequate to achieve the design bearing capacity.	-	X
2. Verify excavations are extended to proper depth and have reached proper material.	-	X
3. Perform classification and testing of controlled fill materials.	-	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.	X	-
5. Prior to placement of controlled fill, observe sub-grade and verify that site has been prepared properly.	-	X

9.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed during our study. Should any variations or undesirable conditions be encountered during the development of the Site, GeoSolutions, Inc. should be notified immediately and GeoSolutions, Inc. will provide supplemental recommendations as dictated by the field conditions.

2. This report is issued with the understanding that it is the responsibility of the owner or his/her representative to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project, and incorporated into the project plans and specifications. The owner or his/her representative is responsible to ensure that the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. As of the present date, the findings of this report are valid for the property studied. With the passage of time, changes in the conditions of a property can occur whether they are due to natural processes or to the works of man on this or adjacent properties. Therefore, this report should not be relied upon after a period of 3 years without our review nor should it be used or is it applicable for any properties other than those studied. However many events such as floods, earthquakes, grading of the adjacent properties and building and municipal code changes could render sections of this report invalid in less than 3 years.

REFERENCES

REFERENCES

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APPENDIX A

Field Investigation

Soil Classification Chart

Boring Logs

FIELD INVESTIGATION

The field investigation was conducted February 10, 2021 using a Mobile B-24 drill rig. The surface and sub-surface conditions were studied by advancing six exploratory borings. This exploration was conducted in accordance with presently accepted geotechnical engineering procedures consistent with the scope of the services authorized to GeoSolutions, Inc.

The Mobile B-24 drill rig with a six-inch diameter solid-stem continuous flight auger advanced six exploratory borings near the approximate locations indicated on Figure 3: Field Investigation. The drilling and field observation were performed under the direction of the project engineer. A representative of GeoSolutions, Inc. maintained a log of the soil conditions and obtained soil samples suitable for laboratory testing. The soils were classified in accordance with the Unified Soil Classification System. See the Soil Classification Chart in this appendix.

Standard Penetration Tests with a two-inch outside diameter standard split tube sampler (SPT) without liners (ASTM D1586) and a three-inch outside diameter Modified California (CA) split tube sampler with liners (ASTM D3550) were performed to obtain field indication of the in-situ density of the soil and to allow visual observation of at least a portion of the soil column. Soil samples obtained with the split spoon sampler are retained for further observation and testing. The split spoon samples are driven by a 140-pound hammer free falling 30 inches. The sampler is initially seated six inches to penetrate any loose cuttings and is then driven an additional 12 inches with the results recorded in the boring logs as N-values, which area the number of blows per foot required to advance the sample the final 12 inches.

The CA sampler is a larger diameter sampler than the standard (SPT) sampler with a two-inch outside diameter and provides additional material for normal geotechnical testing such as in-situ shear and consolidation testing. Either sampler may be used in the field investigation, but the N-values obtained from using the CA sampler will be greater than that of the SPT. The N-values for samples collected using the CA can be roughly correlated to SPT N-values using a conversion factor that may vary from about 0.5 to 0.7. A commonly used conversion factor is 0.67 ($^2/_3$). More information about standardized samplers can be found in ASTM D1586 and ASTM D3550.

Disturbed bulk samples are obtained from cuttings developed during boring operations. The bulk samples are selected for classification and testing purposes and may represent a mixture of soils within the noted depths. Recovered samples are placed in transport containers and returned to the laboratory for further classification and testing.

Logs of the borings showing the approximate depths and descriptions of the encountered soils, applicable geologic structures, recorded N-values, and the results of laboratory tests are presented in this appendix. The logs represent the interpretation of field logs and field tests as well as the interpolation of soil conditions between samples. The results of laboratory observations and tests are also included in the boring logs. The stratification lines recorded in the boring logs represent the approximate boundaries between the surface soil types. However, the actual transition between soil types may be gradual or varied.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS		LABORATORY CLASSIFICATION CRITERIA		GROUP SYMBOLS	PRIMARY DIVISIONS
COARSE GRAINED SOILS More than 50% retained on No. 200 sieve	GRAVELS More than 50% of coarse fraction retainined on No. 4 (4.75mm) sieve	Clean gravels (less than 5% fines*)	C_u greater than 4 and C_z between 1 and 3	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
			Not meeting both criteria for GW	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
		Gravel with fines (more than 12% fines*)	Atterberg limits plot below "A" line or plasticity index less than 4	GM	Silty gravels, gravel-sand-silt mixtures
			Atterberg limits plot below "A" line and plasticity index greater than 7	GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS More than 50% of coarse fraction passes No. 4 (4.75mm) sieve	Clean sand (less than 5% fines*)	C_u greater than 6 and C_z between 1 and 3	SW	Well graded sands, gravely sands, little or no fines
			Not meeting both criteria for SW	SP	Poorly graded sands and gravelly and sands, little or no fines
		Sand with fines (more than 12% fines*)	Atterberg limits plot below "A" line or plasticity index less than 4	SM	Silty sands, sand-silt mixtures
			Atterberg limits plot above "A" line and plasticity index greater than 7	SC	Clayey sands, sand-clay mixtures
FINE GRAINED SOILS 50% or more passes No. 200 sieve	SILTS AND CLAYS (liquid limit less than 50)	Inorganic soil	PI < 4 or plots below "A"-line	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands
		Inorganic soil	PI > 7 and plots on or above "A" line**	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		Organic Soil	LL (oven dried)/LL (not dried) < 0.75	OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS (liquid limit 50 or more)	Inorganic soil	Plots below "A" line	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
		Inorganic soil	Plots on or above "A" line	CH	Inorganic clays of high plasticity, fat clays
		Organic Soil	LL (oven dried)/LL (not dried) < 0.75	OH	Organic silts and organic clays of high plasticity
Peat	Highly Organic	Primarily organic matter, dark in color, and organic odor		PT	Peat, muck and other highly organic soils

*Fines are those soil particles that pass the No. 200 sieve. For gravels and sands with between 5 and 12% fines, use of dual symbols is required (I.e. GW-GM, GW-GC, GP-GM, or GP-GC).

**If the plasticity index is between 4 and 7 and it plots above the "A" line, then dual symbols (I.e. CL-ML) are required.

the "A" line, then dual symbols (I.e. CL-ML) are required.

CONSISTENCY

CLAYS AND PLASTIC SILTS	STRENGTH TON/SQ. FT ++	BLOWS/ FOOT +
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	Over 4	Over 32

RELATIVE DENSITY

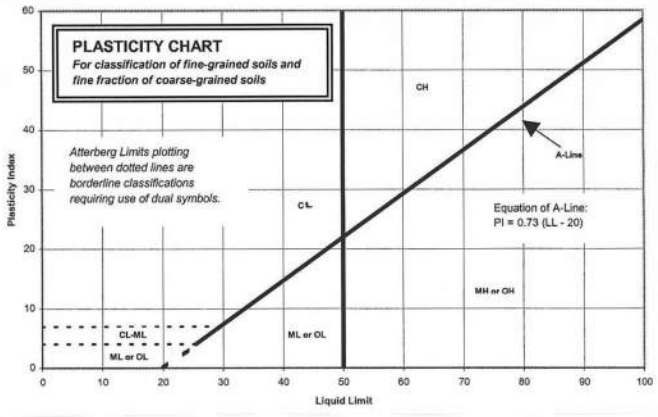
SANDS, GRAVELS AND NON-PLASTIC SILTS	BLOWS/ FOOT +
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	Over 50

+ Number of blows of a 140-pound hammer falling 30-inches to drive a 2-inch O.D. (1-3/8-inch I.D.) split spoon (ASTM D1586).

++ Unconfined compressive strength in tons/sq.ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D1586), pocket penetrometer, torvane, or visual observation.

CLASSIFICATIONS BASED ON PERCENTAGE OF FINES

Less than 5%, Pass No. 200 (75mm)sieve)	GW, GP, SW, SP
More than 12% Pass N. 200 (75 mm) sieve	GM, GC, SM, SC
5%-12% Pass No. 200 (75 mm) sieve	Borderline Classification requiring use of dual symbols



Drilling Notes:

1. Sampling and blow counts
   a. California Modified – number of blows per foot of a 140 pound hammer falling 30 inches
   b. Standard Penetration Test – number of blows per 12 inches of a 140 pound hammer falling 30 inches

Types of Samples:
X – Sample
SPT - Standard Penetration
CA - California Modified
N - Nuclear Gauge
PO – Pocket Penetrometer (tons/sq.ft.)

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Phone: 805-966-2200

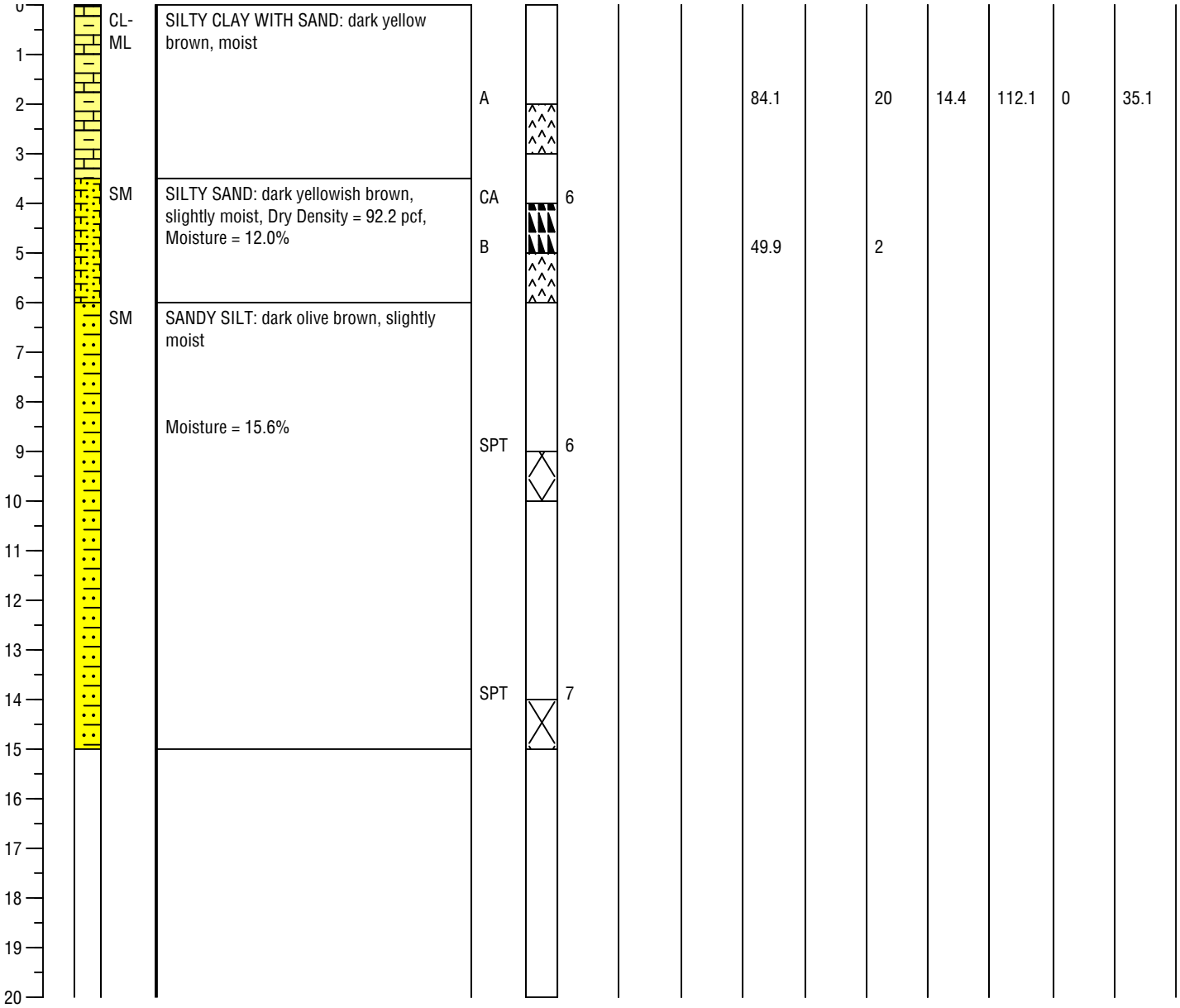
BORING LOG

BORING NO. B-1
JOB NO. SM00410-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**750 Highway 246**	DRILL RIG:	**Mobile B-24**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**6 inches**
DATE DRILLED:	**February 10, 2021**	SAMPLING METHOD:	**SPT & CA**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**6 inches**

Depth of Groundwater: **Not Encountered** Boring Terminated At: **15 feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0–3		CL-ML	SILTY CLAY WITH SAND: dark yellow brown, moist	A					84.1		20	14.4	112.1	0	35.1
3–6		SM	SILTY SAND: dark yellowish brown, slightly moist, Dry Density = 92.2 pcf, Moisture = 12.0%	CA B		6			49.9		2				
6–15		SM	SANDY SILT: dark olive brown, slightly moist Moisture = 15.6%	SPT SPT		6 7									



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BORING LOG

BORING NO. B-2
JOB NO. SM00410-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**750 Highway 246**	DRILL RIG:	**Mobile B-24**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**6 inches**
DATE DRILLED:	**February 10, 2021**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**6 inches**

Depth of Groundwater: **Not Encountered** Boring Terminated At: **15 feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0		CL-ML	SILTY CLAY WITH SAND: dark olive brown, moist												
3		ML	SANDY SILT: dark yellowish brown, soft, Moisture = 17.7%	SPT		2			58.7						
8			Moisture = 18.2%												
9			moist	SPT		6			54.2						
14		ML	SANDY SILT: dark yellowish brown, moist	SPT		6			94.7						
15															
20															

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BORING LOG

BORING NO. B-3
JOB NO. SM00410-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**750 Highway 246**	DRILL RIG:	**Mobile B-24**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**6 inches**
DATE DRILLED:	**February 10, 2021**	SAMPLING METHOD:	**Bag**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**6 inches**

Depth of Groundwater: **Not Encountered** Boring Terminated At: **25 feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0–3		SM	SILTY SAND: light olive brown, slightly moist soft						27.4						
3–25		SP-SM	POORLY GRADED SAND W/SILT: light olive brown, moist, cobbles						5.4						
9			many cobbles, difficult drilling												
14									11.3						

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BORING LOG

BORING NO. B-4
JOB NO. SM00410-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**750 Highway 246**	DRILL RIG:	**Mobile B-24**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**6 inches**
DATE DRILLED:	**February 10, 2021**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**6 inches**

Depth of Groundwater: **Not Encountered** Boring Terminated At: **15 feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0		ML	SANDY SILT: dark yellowish brown												
2				C					50.5		15				
4				SPT		6									
5		SM	SILTY SAND: grayish brown												
8			cobbles, Moisture = 15.6%												
9				SPT		17									
11		SC	CLAYEY SAND: olive brown, moist												
13			Moisture = 27.1%, gravel & coarse sand terminated on boulder												
14				SPT		39									
15															
20															

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BORING LOG

BORING NO. B-5
JOB NO. SM00410-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**750 Highway 246**	DRILL RIG:	**Mobile B-24**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**6 inches**
DATE DRILLED:	**February 10, 2021**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**6 inches**

Depth of Groundwater: **Not Encountered** Boring Terminated At: **15 feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0			GRASS												
1		CL-ML	SILTY CLAY WITH SAND: dark yellowish brown, moist												
2				D					81.6		41				
3															
4		ML	SANDY SILT: dark olive brown	SPT		2									
5															
6				E											
7															
8															
9				SPT		8									
10															
11															
12		SP-SM	POORLY GRADED SAND W/SILT: dark brown												
13															
14				SPT		11									
15															
16															
17															
18															
19															
20															

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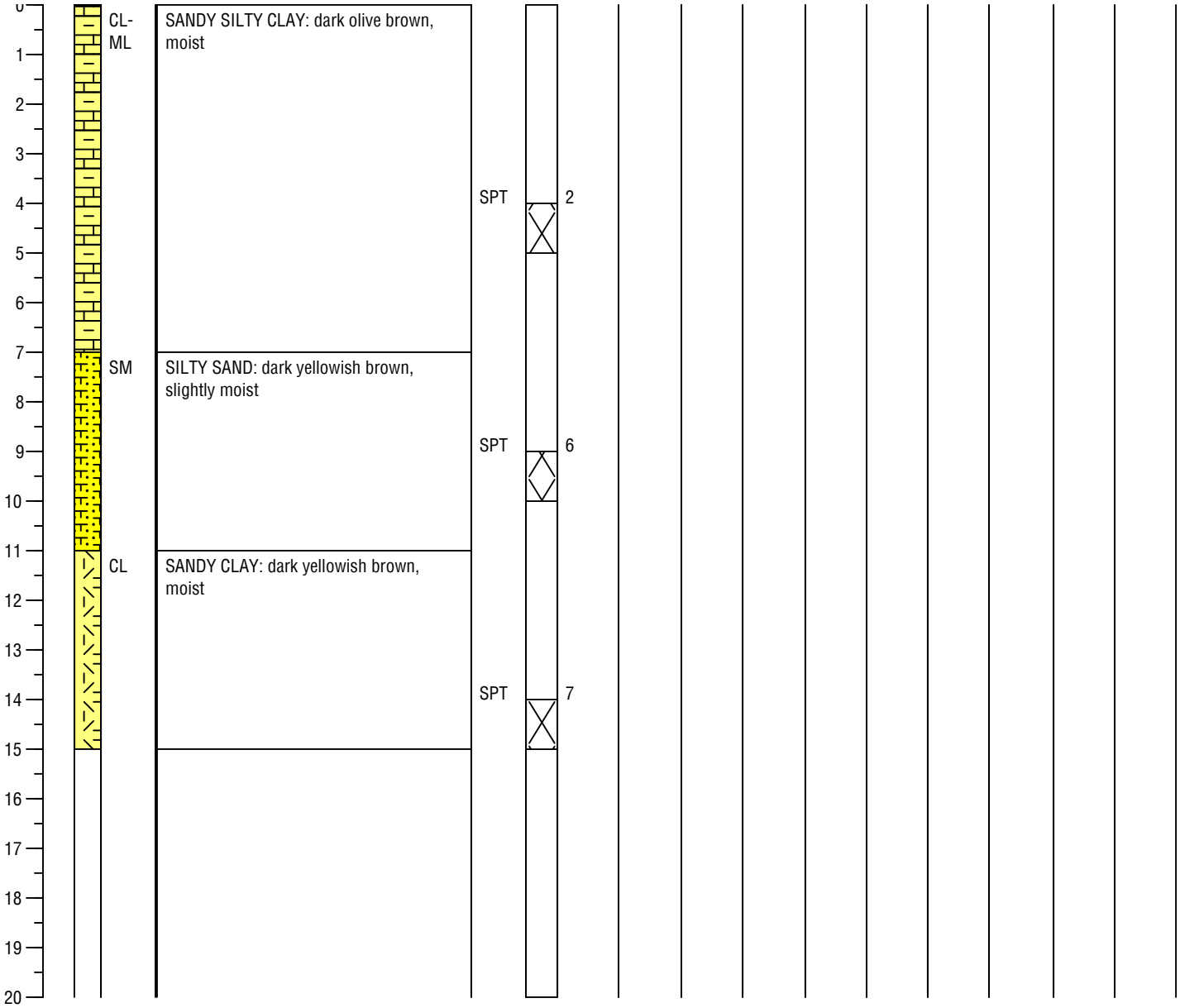
BORING LOG

BORING NO. B-6
JOB NO. SM00410-1

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**750 Highway 246**	DRILL RIG:	**Mobile B-24**
DRILLING LOCATION:	**See Figure 3: Field Investigation**	HOLE DIAMETER:	**6 inches**
DATE DRILLED:	**February 10, 2021**	SAMPLING METHOD:	**SPT**
LOGGED BY:	**GV**	APPROX. ELEVATION:	**Not Recorded**

Depth of Groundwater: **Not Encountered** Boring Terminated At: **15 feet**



APPENDIX B

Laboratory Testing

Soil Test Reports

LABORATORY TESTING

This appendix includes a discussion of the test procedures and the laboratory test results performed as part of this investigation. The purpose of the laboratory testing is to assess the engineering properties of the soil materials at the Site. The laboratory tests are performed using the currently accepted test methods, when applicable, of the American Society for Testing and Materials (ASTM).

Undisturbed and disturbed bulk samples used in the laboratory tests are obtained from various locations during the course of the field exploration, as discussed in **Appendix A** of this report. Each sample is identified by sample letter and depth. The Unified Soils Classification System is used to classify soils according to their engineering properties. The various laboratory tests performed are described below:

Expansion Index of Soils (ASTM D4829) is conducted in accordance with the ASTM test method and the California Building Code Standard, and are performed on representative bulk and undisturbed soil samples. The purpose of this test is to evaluate expansion potential of the site soils due to fluctuations in moisture content. The sample specimens are placed in a consolidometer, surcharged under a 144-psf vertical confining pressure, and then inundated with water. The amount of expansion is recorded over a 24-hour period with a dial indicator. The expansion index is calculated by determining the difference between final and initial height of the specimen divided by the initial height.

Laboratory Compaction Characteristics of Soil Using Modified Effort (ASTM D1557) is performed to determine the relationship between the moisture content and density of soils and soil-aggregate mixtures when compacted in a standard size mold with a 10-lbf hammer from a height of 18 inches. The test is performed on a representative bulk sample of bearing soil near the estimated footing depth. The procedure is repeated on the same soil sample at various moisture contents sufficient to establish a relationship between the maximum dry unit weight and the optimum water content for the soil. The data, when plotted, represents a curvilinear relationship known as the moisture density relations curve. The values of optimum water content and modified maximum dry unit weight can be determined from the plotted curve.

Direct Shear Tests of Soils Under Consolidated Drained Conditions (ASTM D3080) is performed on undisturbed and remolded samples representative of the foundation material. The samples are loaded with a predetermined normal stress and submerged in water until saturation is achieved. The samples are then sheared horizontally at a controlled strain rate allowing partial drainage. The shear stress on the sample is recorded at regular strain intervals. This test determines the resistance to deformation, which is shear strength, inter-particle attraction or cohesion c, and resistance to interparticle slip called the angle of internal friction ϕ.

Particle Size Analysis of Soils (ASTM D422) is used to determine the particle-size distribution of fine and coarse aggregates. In the test method the sample is separated through a series of sieves of progressively smaller openings for determination of particle size distribution. The total percentage passing each sieve is reported and used to determine the distribution of fine and coarse aggregates in the sample.

Density of Soil in Place by the Drive-Cylinder Method (ASTM D2937) and **Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass** (ASTM D2216) are used to obtain values of in-place water content and in-place density. Undisturbed samples, brought from the field to the laboratory, are weighed, the volume is calculated, and they are placed in the oven to dry. Once the samples have been dried, they are weighed again to determine the water content, and the in-place density is then calculated. The moisture density tests allow the water content and in-place densities to be obtained at required depths.

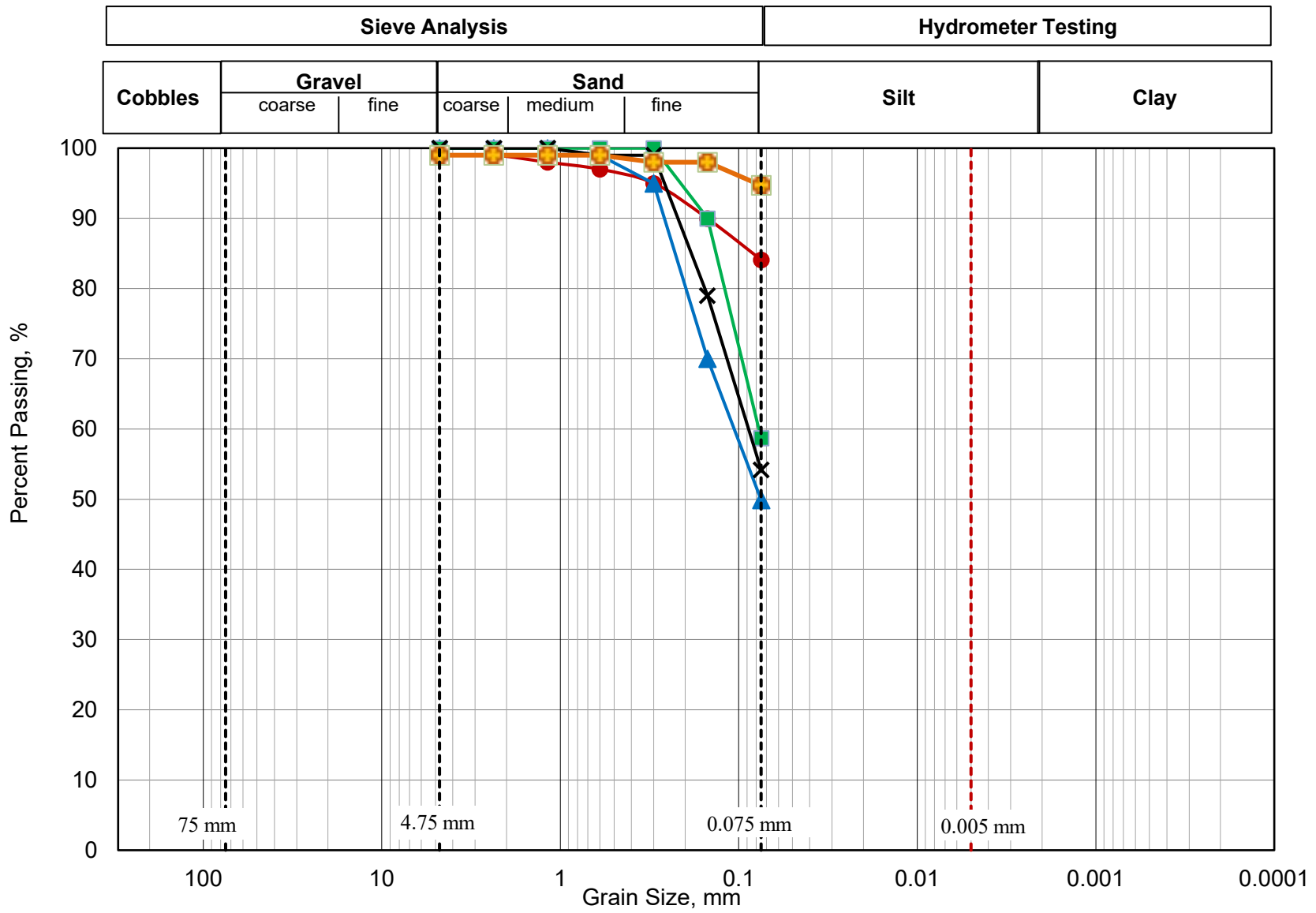
GeoSolutions, Inc. | **LABORATORY SUMMARY REPORT SHEET** | **(805) 543 - 8539**

Project: 750 Highway 246 | Lab #: 394
Client: Lisa Novatt | Date: 3/8/21
Job #: SM00410-1 | Checked By: AE

Sample ID			Material Description	USCS Specifications	Dry Density (pcf)	Moisture Content (%)	% Fines	Atterberg Limits		Compaction Test		Direct Shear		Compressive Strength		Expansion Index	R-Value
Boring Hole	Depth (ft)	Sample No.						LL	PI	γ_{d_max} (pcf)	ω_{c_opt} (%)	C (psf)	ø (deg)	q_u (psf)	S_u (psf)		
B-1	0-4'	A	Dark Yellowish Brown Silty CLAY with Sand	CL-ML			84.1			112.1	14.4	0	35.6			20	
B-1	4'		Dark Yellowish Brown Silty SAND	SM	92.2	12.0											
B-1	4-6'	B	Dark Yellowish Brown Silty SAND	SM			49.9									2	
B-1	9'		Dark Yellowish Brown Silty SAND	SM		15.6											
B-2	4'		Dark Olive Brown Sandy SILT	ML		17.7	58.7										
B-2	9'		Dark Olive Brown Sandy SILT	ML		18.2	54.2										
B-2	14'		Dark Yellowish Brown SILT	ML			94.7										
B-3	2'		Light Olive Brown Silty SAND	SM			27.4										
B-3	5'		Light Olive Brown Poorly Graded SAND with Silt	SP-SM			5.4										
B-3	13'		Light Olive Brown Poorly Graded SAND with Silt	SP-SM			11.3										
B-4	0-5'	C	Dark Yellowish Brown Sandy SILT	ML			50.5									15	
B-4	4'		Dark Grayish Brown Silty SAND	SM		15.6											
B-4	9'		Grayish Brown Silty SAND	SM		15.6											
B-4	14'		Olive Brown Clayey SAND	SC		27.1											
B-5	0-5'	D	Dark Yellowish Brown Silty CLAY with Sand	CL-ML			81.6									41	

GeoSolutions, Inc.	PARTICLE SIZE ANALYSIS SUMMARY REPORT	(805) 543-8539

Project: 750 Highway 246
Client: Lisa Novatt — Date: 3/8/2021
Project #: SM00410-1 — Checked By: AE



LEGEND

symbol	location	depth	SAMPLE DESCRIPTION	PLASTICITY (FINER FRACTION) Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)	Expansion Index (EI)
●	B-1	0-4'	Dark Yellowish Brown Silty CLAY with Sand	-	-	-	20
▲	B-1	4-6'	Dark Yellowish Brown Silty SAND	-	-	-	2
■	B-2	4'	Dark Yellowish Brown Sandy SILT	-	-	-	-
×	B-2	9'	Dark Olive brown Sandy SILT	-	-	-	-
✚	B-2	14'	Dark Yellowish Brown SILT	-	-	-	-

LEGEND — **PARTICLE SIZE ANALYSIS SUMMARY**

symbol	location	depth	D_{100}	D_{60}	D_{30}	D_{10}	C_u	C_c	% Gravel	% Sand	% Passing No. 200	% Silt	% Clay
●	B-1	0-4'	#N/A	0.054	NA	NA	NA	NA	1.0	14.9	84.1	NM	NA
▲	B-1	4-6'	1.2	0.113	NA	NA	NA	NA	0.0	50.1	49.9	NM	NA
■	B-2	4'	0.3	0.078	NA	NA	NA	NA	0.0	41.3	58.7	NM	NA
×	B-2	9'	1.2	0.093	NA	NA	NA	NA	0.0	45.8	54.2	NM	NA
✚	B-2	14'	#N/A	0.048	NA	NA	NA	NA	1.0	4.3	94.7	NM	NA

Remarks: Testing was performed in accordance with ASTM D422 and D4318 (where applicable)

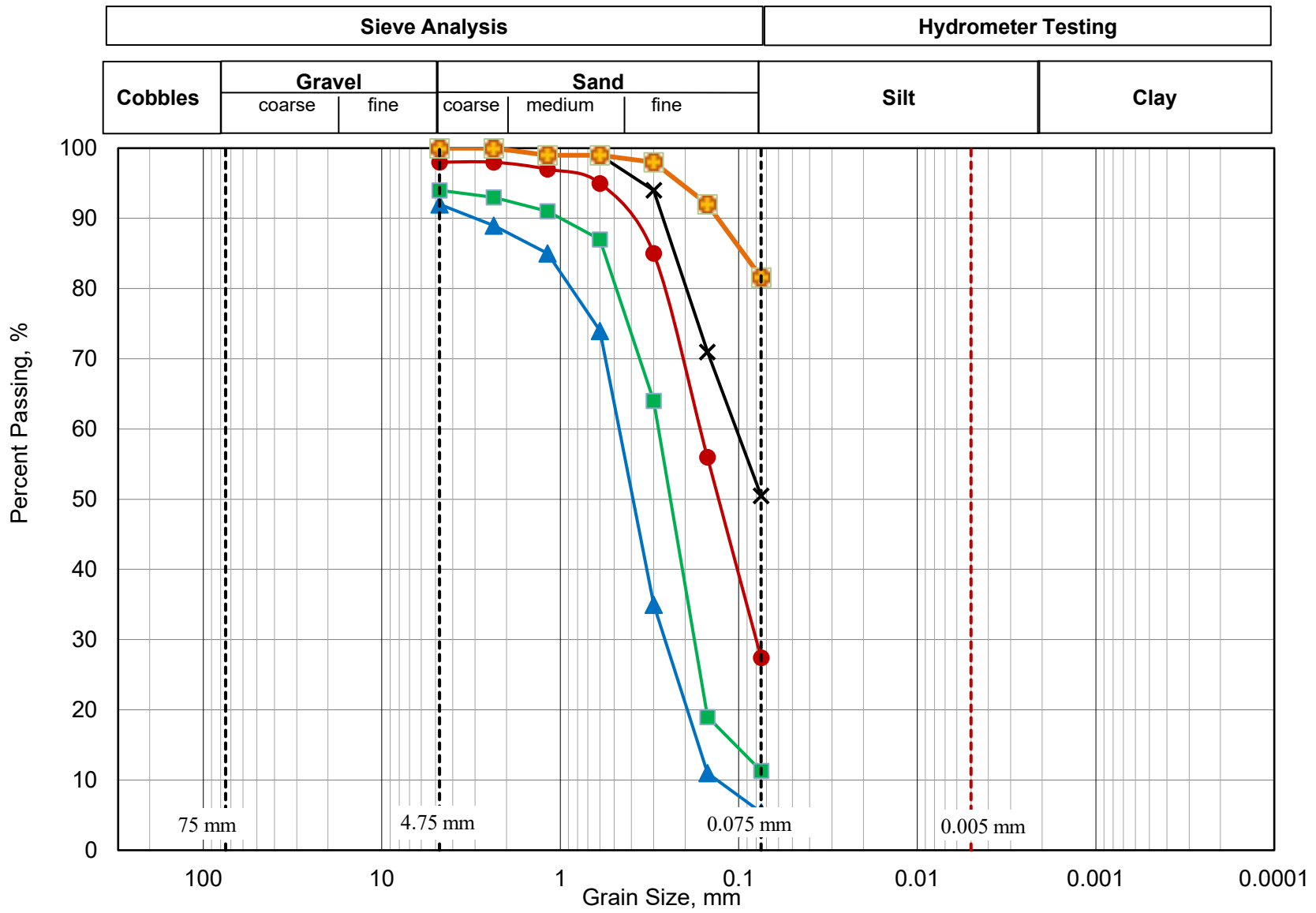
NP - non-plastic
NA - not available (could not be calculated from data)

D_{100} - grain size diameter corresponding to 100% passing (mm)
D_{60} - grain size diameter corresponding to 60% passing (mm)
D_{30} - grain size diameter corresponding to 30% passing (mm)
D_{10} - grain size diameter corresponding to 30% passing (mm)

C_c - coefficient of curvature: $C_c = (D_{30})^2 / (D_{60}*D_{10})$
Cu - coefficient of uniformity: $C_u = D_{60} / D_{10}$

GeoSolutions, Inc.	PARTICLE SIZE ANALYSIS SUMMARY REPORT	(805) 543-8539

Project: 750 Highway 246
Client: Lisa Novatt
Project #: SM00410-1
Date: 3/8/2021
Checked By: AE



LEGEND

symbol	location	depth	SAMPLE DESCRIPTION	PLASTICITY (FINER FRACTION) Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)	Expansion Index (EI)
●	B-3	2'	Light Olive Brown Silty SAND	-	-	-	-
▲	B-3	5'	Light Olive brown Poorly Graded SAND with Silt	-	-	-	-
■	B-3	13'	Light Olive brown Poorly Graded SAND with Silt	-	-	-	-
✕	B-4	0-5'	Dark Yellowish Borwn Sandy SILT	-	-	-	15
✚	B-5	0-5'	Dark Yellowish Brown Silty CLAY with Sand	-	-	-	41

LEGEND / **PARTICLE SIZE ANALYSIS SUMMARY**

symbol	location	depth	D_{100}	D_{60}	D_{30}	D_{10}	C_u	C_c	% Gravel	% Sand	% Passing No. 200	% Silt	% Clay
●	B-3	2'	#N/A	0.171	0.082	NA	NA	NA	2.0	70.6	27.4	NM	NA
▲	B-3	5'	#N/A	#######	0.269	0.137	###	###	8.0	86.6	5.4	NM	NA
■	B-3	13'	#N/A	0.287	0.187	NA	NA	NA	6.0	82.7	11.3	NM	NA
✕	B-4	0-5'	2.4	0.110	NA	NA	NA	NA	0.0	49.5	50.5	NM	NA
✚	B-5	0-5'	2.4	0.055	NA	NA	NA	NA	0.0	18.4	81.6	NM	NA

Remarks: Testing was performed in accordance with ASTM D422 and D4318 (where applicable)

NP - non-plastic
NA - not available (could not be calculated from data)

D_{100} - grain size diameter corresponding to 100% passing (mm)
D_{60} - grain size diameter corresponding to 60% passing (mm)
D_{30} - grain size diameter corresponding to 30% passing (mm)
D_{10} - grain size diameter corresponding to 30% passing (mm)

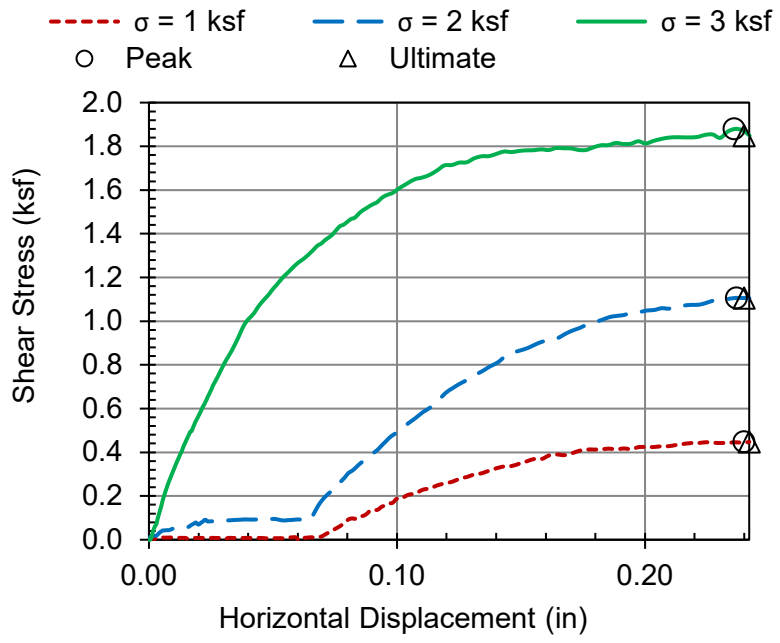
C_c - coefficient of curvature: $C_c = (D_{30})^2 / (D_{60}*D_{10})$
Cu - coefficient of uniformity: $C_u = D_{60} / D_{10}$

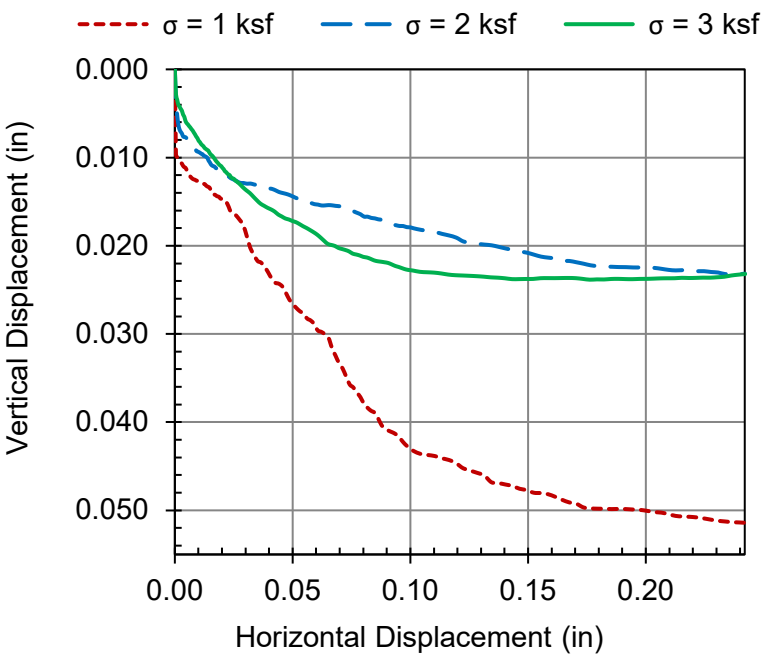
GeoSolutions, Inc.	DIRECT SHEAR TEST SUMMARY REPORT (ASTM D3080)	(805) 543-8539

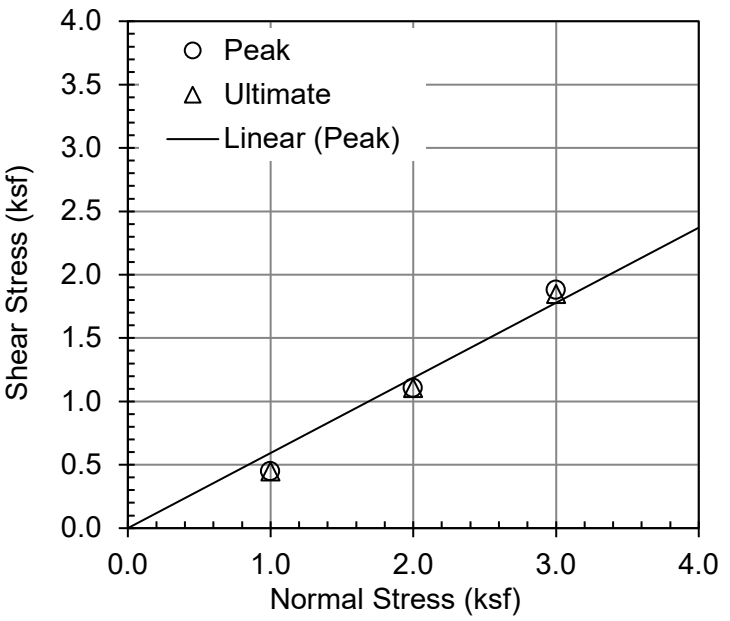
Project:	750 Highway 246			Project #:	SM00410-1
Client:	Lisa Novatt			Date Tested:	2/24/2021
Sample:	A	Depth:	0.0 to 4.0 Feet	Lab #:	394
Location:	B-1			Checked By:	AE

MATERIAL DESCRIPTION	LL	PL	PI	% passing No. 200	Gs *	Sample Type
Dark Yellowish Brown Silty CLAY with Sand	nm	nm	nm	84.1	2.7	remolded

* Gs = assumed; nm = not measured







Initial Conditions	Specimen No. 1	2	3
Dry Density	100.9	100.9	100.9
Water Content (%)	16.4	16.4	16.4
Diameter (in)	2.42	2.42	2.42
Sample Height (in)	1.00	1.00	1.00

Test Data	Specimen No. 1	2	3
Normal Stress (ksf)	1.00	2.00	3.00
Peak Shear Stress (ksf)	0.447	1.106	1.879
Horiz. Displacenent at Peak Shear (in)	0.240	0.237	0.236
Ultimate Shear Stress (ksf)	0.447	1.105	1.849
Horiz. Displ. at Ult. Shear (in)	0.242	0.240	0.240
Rate of Deformation (in/min)	0.004	0.004	0.004

	Peak	Ultimate
Angle of Internal Friction, $ø_{peak}$ (degrees):	**35.6**	**35.0**
Cohesion, C_{peak} (psf)	**0**	**0**

Remarks: Saturated

APPENDIX C

Seismic Hazard Analysis

Design Map Summary (SEAOC, 2019)

SEISMIC HAZARD ANALYSIS

According to section 1613 of the 2019 CBC (CBSC, 2019), all structures and portions of structures should be designed to resist the effects of seismic loadings caused by earthquake ground motions in accordance with the *ASCE 7: Minimum Design Loads for Buildings and Other Structures*, hereafter referred to as ASCE7-16 (ASCE, 2016). Estimating the design ground motions at the Site depends on many factors including the distance from the Site to known active faults; the expected magnitude and rate of recurrence of seismic events produced on such faults; the source-to-site ground motion attenuation characteristics; and the Site soil profile characteristics. As per section 1613.2.2 of the 2019 CBC, the Site soil profile classification is determined by the average soil properties in the upper 100 feet of the Site profile and can be determined based on the criteria provided in Table 20.3-1 of ASCE7-16.

ASCE7-16 provides recommendations for estimating site-specific ground motion parameters for seismic design considering a Risk-targeted Maximum Considered Earthquake (MCE_R) in order to determine *design spectral response accelerations* and a Maximum Considered Earthquake Geometric Mean (MCE_G) in order to determine probabilistic geometric mean *peak ground accelerations*.

Spectral accelerations from the MCE_R are based on a 5% damped acceleration response spectrum and a 1% probability of exceedance in 50 years. *Maximum* short period (S_s) and 1-second period (S_1) spectral accelerations are interpolated from the MCE_R-based ground motion parameter maps for bedrock, provided in ASCE7-16. These spectral accelerations are then multiplied by site-specific coefficients (F_a, F_v), based on the Site soil profile classification and the maximum spectral accelerations determined for bedrock, to yield the *maximum* short period (S_{MS}) and 1-second period (S_{M1}) spectral response accelerations at the Site. According to section 11 of ASCE7-16 and section 1613 of the 2019 CBC, buildings and structures should be specifically proportioned to resist *design* earthquake ground motions. Section 1613.2.4 of the 2019 CBC indicates the site-specific *design* spectral response accelerations for short (S_{DS}) and 1-second (S_{D1}) periods can be taken as two-thirds of *maximum* ($S_{DS} = 2/3*S_{MS}$ and $S_{D1} = 2/3*S_{M1}$).

Per ASCE7-16, Section 21.5, the probabilistic maximum mean peak ground acceleration (PGA) corresponding to the MCE_G can be computed assuming a 2% probability of exceedance in 50 years (2475-year return period) and is initially determined from mapped ground accelerations for bedrock conditions. The site-specific peak ground acceleration (PGA_M) is then determined by multiplying the PGA by the site-specific coefficient F_h (where F_h is a function of Site Class and PGA).

Spectral response accelerations and peak ground accelerations, provided in this report were obtained using the computer-based Seismic Design Maps tool available from the Structural Engineers Association of California (SEAOC, 2019). This program utilizes the methods developed in ASCE 7-16 in conjunction with user-inputted Site location to calculate seismic design parameters and response spectra (both for period and displacement) for soil profile Site Classes A through E.

750 Highway 246

Latitude, Longitude: 34.602322, -120.171156

Date	3/18/2021, 11:22:03 AM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S_S	1.478	MCE_R ground motion. (for 0.2 second period)
S_1	0.54	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.478	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	0.985	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.653	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA
PGA_M	0.718	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
SsRT	1.478	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.668	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	2.809	Factored deterministic acceleration value. (0.2 second)
S1RT	0.54	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.606	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.883	Factored deterministic acceleration value. (1.0 second)
PGAd	1.138	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.886	Mapped value of the risk coefficient at short periods
C_{R1}	0.891	Mapped value of the risk coefficient at a period of 1 s

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APPENDIX D

Preliminary Grading Specifications

Key and Bench with Backdrain

PRELIMINARY GRADING SPECIFICATIONS

A. General

1. These preliminary specifications have been prepared for the subject site; GeoSolutions, Inc. should be consulted prior to the commencement of site work associated with site development to ensure compliance with these specifications.

2. GeoSolutions, Inc. should be notified at least 72 hours prior to site clearing or grading operations on the property in order to observe the stripping of surface materials and to coordinate the work with the grading contractor in the field.

3. These grading specifications may be modified and/or superseded by recommendations contained in the text of this report and/or subsequent reports.

4. If disputes arise out of the interpretation of these grading specifications, the Soils Engineer shall provide the governing interpretation.

B. Obligation of Parties

1. The Soils Engineer should provide observation and testing services and should make evaluations to advise the client on geotechnical matters. The Soils Engineer should report the findings and recommendations to the client or the authorized representative.

2. The client should be chiefly responsible for all aspects of the project. The client or authorized representative has the responsibility of reviewing the findings and recommendations of the Soils Engineer. During grading the client or the authorized representative should remain on-site or should remain reasonably accessible to all concerned parties in order to make decisions necessary to maintain the flow of the project.

3. The contractor is responsible for the safety of the project and satisfactory completion of all grading and other operations on construction projects, including, but not limited to, earthwork in accordance with project plans, specifications, and controlling agency requirements.

C. Site Preparation

1. The client, prior to any site preparation or grading, should arrange and attend a meeting which includes the grading contractor, the design Structural Engineer, the Soils Engineer, representatives of the local building department, as well as any other concerned parties. All parties should be given at least 72 hours' notice.

2. All surface and sub-surface deleterious materials should be removed from the proposed building and pavement areas and disposed of off-site or as approved by the Soils Engineer. This includes, but is not limited to, any debris, organic materials, construction spoils, buried utility line, septic systems, building materials, and any other surface and subsurface structures within the proposed building areas. Trees designated for removal on the construction plans should be removed and their primary root systems grubbed under the observations of a representative of GeoSolutions, Inc. Voids left from site clearing should be cleaned and backfilled as recommended for structural fill.

3. Once the Site has been cleared, the exposed ground surface should be stripped to remove surface vegetation and organic soil. A representative of GeoSolutions, Inc. should determine the required depth of stripping at the time of work being completed. Strippings may either be disposed of off-site or stockpiled for future use in landscape areas, if approved by the landscape architect.

D. Site Protection

1. Protection of the Site during the period of grading and construction should be the responsibility of the contractor.

2. The contractor should be responsible for the stability of all temporary excavations.

3. During periods of rainfall, plastic sheeting should be kept reasonably accessible to prevent unprotected slopes from becoming saturated. Where necessary during periods of rainfall, the contractor should install check-dams, de-silting basins, sand bags, or other devices or methods necessary to control erosion and provide safe conditions.

E. Excavations

1. Materials that are unsuitable should be excavated under the observation and recommendations of the Soils Engineer. Unsuitable materials include, but may not be limited to: 1) dry, loose, soft, wet, organic, or compressible natural soils; 2) fractured, weathered, or soft bedrock; 3) non-engineered fill; 4) other deleterious materials; and 5) materials identified by the Soils Engineer or Engineering Geologist.

2. Unless otherwise recommended by the Soils Engineer and approved by the local building official, permanent cut slopes should not be steeper than 2:1 (horizontal to vertical). Final slope configurations should conform to section 1804 of the 2019 California Building Code unless specifically modified by the Soil Engineer/Engineering Geologist.

3. The Soil Engineer/Engineer Geologist should review cut slopes during excavations. The contractor should notify the Soils Engineer/Engineer Geologist prior to beginning slope excavations.

F. Structural Fill

1. Structural fill should not contain rocks larger than 3 inches in greatest dimension, and should have no more than 15 percent larger than 2.5 inches in greatest dimension.

2. Imported fill should be free of organic and other deleterious material and should have very low expansion potential, with a plasticity index of 12 or less. Before delivery to the Site, a sample of the proposed import should be tested in our laboratory to determine its suitability for use as structural fill.

G. Compacted Fill

1. Structural fill using approved import or native should be placed in horizontal layers, each approximately 8 inches in thickness before compaction. On-site inorganic soil or approved imported fill should be conditioned with water to produce a soil water content near optimum moisture and compacted to a minimum relative density of 90 percent based on ASTM D1557-12$_{e1}$.

2. Fill slopes should not be constructed at gradients greater than 2-to-1 (horizontal to vertical). The contractor should notify the Soils Engineer/Engineer Geologist prior to beginning slope excavations.

3. If fill areas are constructed on slopes greater than 10-to-1 (horizontal to vertical), we recommend that benches be cut every 4 feet as fill is placed. Each bench shall be a minimum of 10 feet wide with a minimum of 2 percent gradient into the slope.

4. If fill areas are constructed on slopes greater than 5-to-1, we recommend that the toe of all areas to receive fill be keyed a minimum of 24 inches into underlying dense material. Key depths are to be observed and approved by a representative of GeoSolutions, Inc. Sub-drains shall be placed in the keyway and benches as required.

H. Drainage

1. During grading, a representative of GeoSolutions, Inc. should evaluate the need for a sub-drain or back-drain system. Areas of observed seepage should be provided with sub-surface drains to release the hydrostatic pressures. Sub-surface drainage facilities may include gravel blankets, rock filled trenches or Multi-Flow systems or equal. The drain system should discharge in a non-erosive manner into an approved drainage area.

2. All final grades should be provided with a positive drainage gradient away from foundations. Final grades should provide for rapid removal of surface water runoff. Ponding of water should not be allowed on building pads or adjacent to foundations. Final grading should be the responsibility of the contractor, general Civil Engineer, or architect.

3. Concentrated surface water runoff within or immediately adjacent to the Site should be conveyed in pipes or in lined channels to discharge areas that are relatively level or that are adequately protected against erosion.

4. Water from roof downspouts should be conveyed in solid pipes that discharge in controlled drainage localities. Surface drainage gradients should be planned to prevent ponding and promote drainage of surface water away from building foundations, edges of pavements and sidewalks. For soil areas we recommend that a minimum of 2 percent gradient be maintained.

5. Attention should be paid by the contractor to erosion protection of soil surfaces adjacent to the edges of roads, curbs and sidewalks, and in other areas where hard edges of structures may cause concentrated flow of surface water runoff. Erosion resistant matting such as Miramat, or other similar products, may be considered for lining drainage channels.

6. Sub-drains should be placed in established drainage courses and potential seepage areas. The location of sub-drains should be determined after a review of the grading plan. The sub-drain outlets should extend into suitable facilities or connect to the proposed storm drain system or existing drainage control facilities. The outlet pipe should consist of a non-perforated pipe the same diameter as the perforated pipe.

I. Maintenance

1. Maintenance of slopes is important to their long-term performance. Precautions that can be taken include planting with appropriate drought-resistant vegetation as recommended by a landscape architect, and not over-irrigating, a primary source of surficial failures.

2. Property owners should be made aware that over-watering of slopes is detrimental to long term stability of slopes.

J. Underground Facilities Construction

1. The attention of contractors, particularly the underground contractors, should be drawn to the State of California Construction Safety Orders for “Excavations, Trenches, Earthwork.” Trenches or excavations greater than 5 feet in depth should be shored or sloped back in accordance with OSHA Regulations prior to entry.

2. Bedding is defined as material placed in a trench up to 1 foot above a utility pipe and backfill is all material placed in the trench above the bedding. Unless concrete bedding is required around utility pipes, free-draining sand should be used as bedding. Sand to be used as bedding should be tested in our laboratory to verify its suitability and to measure its compaction characteristics. Sand bedding should be compacted by mechanical means to achieve at least 90 percent relative density based on ASTM D1557-12$_{e1}$.

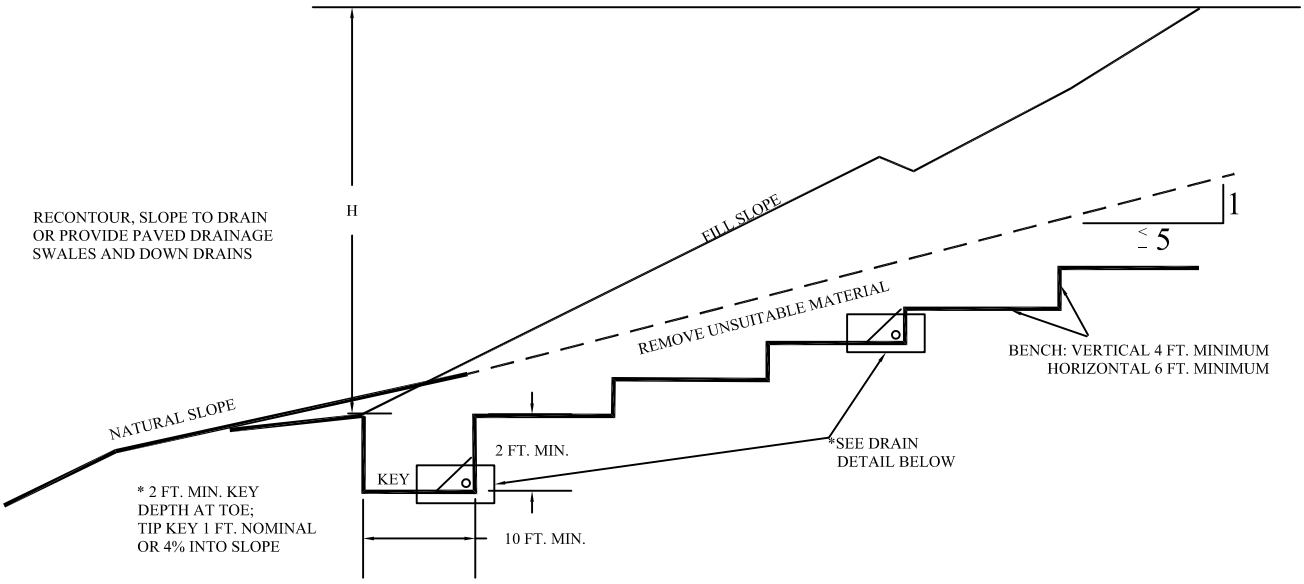
3. On-site inorganic soils, or approved import, may be used as utility trench backfill. Proper compaction of trench backfill will be necessary under and adjacent to structural fill, building foundations, concrete slabs, and vehicle pavements. In these areas, backfill should be conditioned with water (or allowed to dry), to produce a soil water content of about 2 to 3 percent above the optimum value and placed in horizontal layers, each not exceeding 8 inches in thickness before compaction. Each layer should be compacted to at least 90 percent relative density based on ASTM D1557-12$_{e1}$. The top lift of trench backfill under vehicle pavements should be compacted to the requirements given in report under Preparation of Paved Areas for vehicle pavement sub-grades. Trench walls must be kept moist prior to and during backfill placement.

K. Completion of Work

1. After the completion of work, a report should be prepared by the Soils Engineer retained to provide such services. The report should including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, and comments on any changes made during grading and their effect on the recommendations made in the approved Soils Engineering Report.

2. Soils Engineers shall submit a statement that, to the best of their knowledge, the work within their area of responsibilities is in accordance with the approved soils engineering report and applicable provisions within Chapter 18 of the 2019 CBC.

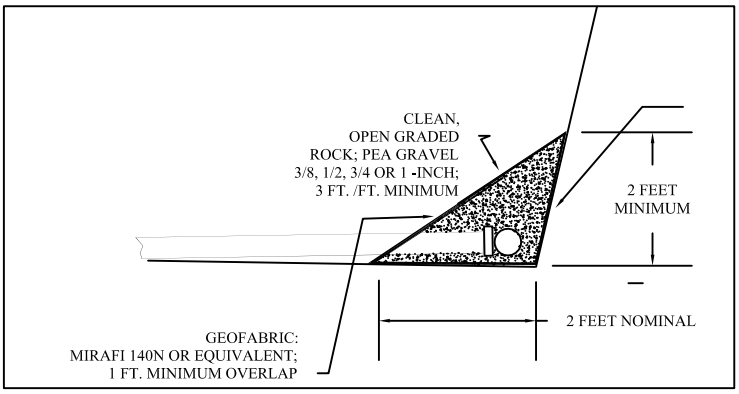
FILL OVER SLOPE



NOTES:

*BACKDRAIN AS RECOMMENDED BY GEOTECHNICAL PER DETAIL.

DRAIN DETAIL



NTS

GeoSolutions, Inc.
220 High Street
San Luis Obispo, CA 93401
(805) 543-8539 Fax: (805) 543-2171

KEY AND BENCH WITH BACKDRAIN

DETAIL
A

Attachment C: Site Improvement Plan