Environmental Checklist Form (Initial Study)

County of Los Angeles, Department of Regional Planning

Project title: Brookview Ranch Project / Project No. 2019-000358-(3) / Permit No. RPPL2019000683 / Case No(s). RPPL2019004075

Lead agency name and address: Los Angeles County Department of Regional Planning. 320 West Temple Street, Los Angeles, California 90012

Contact Person and phone number: Contact Mr. William Chen, AICP, Senior Regional Planner, Coastal Permits Section, County of Los Angeles Department of Regional Planning. Phone Number (213) 974-0051.

Project sponsor's name and address: Kathleen O'Prey Truman, Truman & Elliott LLP. 626 Wilshire Boulevard, Suite 550, Los Angeles, California 90017.

Project location:
APN: 2063-003-026 and 2063-003-028. *USGS Quad*: Point Dume and Thousand Oaks (within and adjacent to Section 32, Township 1 North, Range 18 West).

Gross Acreage: 23 acres.

General plan designation: Mountain Lands; N-20 (Mountain Lands, not to exceed a maximum residential density of one dwelling unit per 20 acres).

Community/Area wide Plan designation: N-20 per the Santa Monica Mountains North Area Plan.

Zoning: Resort and Recreation; R-R-20. Santa Monica Mountains North Area Community Standards District (SMMNACSD).

Description of project: Brookview Ranch, LLC (Brookview Ranch, or Brookview), the Owner of Brookview Ranch located at 2972 Triunfo Canyon Road, Agoura Hills and the Applicant, seeks a Significant Ecological Area (SEA) Conditional Use Permit (CUP) from the County of Los Angeles (County) Department of Regional Planning (DRP) to convert an existing outdoor dance pavilion used for outdoor weddings into an event facility with a sound-insulated event facility reception building and ancillary structures, reconstruct structures damaged in the 2018 Woolsey Fire, install an access bridge over Triunfo Creek, and improve water and wastewater infrastructure on 23 acres of land. The Project site is currently used as an outdoor dance pavilion and equestrian facility. It contains outdoor dance pavilion facilities, equestrian barns, and ancillary structures associated with the outdoor dance pavilion, equestrian uses, or both, as well as a Caretaker's Residence. Twenty-one structures that support these uses are located on the Project site with two structures damaged by the 2018 Woolsey Fire to be reconstructed as part of the Project. Of the total Project site building area of 54,150 square feet (sf), 7,907 sf support the outdoor dance pavilion uses; 45,120 sf support the equestrian uses; and 1,123 sf comprise the Caretaker's Residence. The Project would demolish five existing structures. In the same location as some of the structures that would be demolished, the Project would construct a sound-insulated event facility reception building. The Project would also construct a new Caretaker's Residence in the same location as the existing Caretaker's Residence and replace the Bride's Dressing Room and a horse barn that were damaged in the Woolsey Fire. At Project completion, there would be 20 structures on the

Project site, with a total of 55,557 sf. Of the Project site building area, 8,891 sf would support the event uses; 43,342 sf would support the equestrian uses; and 3,324 sf would comprise the Caretaker's Residence.
In summary, the Project would:

1) Demolish an existing 1,008-square foot (sf) refreshment stand (Building #4)[1] (also referred to as the Avalon Break Room Barn), a 144-sf storage facility (Building #4B), a 4,859-sf barn (Building #5), a 273-sf hay shed/storage facility (Building #5A), and a 1,123-sf Caretaker's Residence (Building #12);
2) Decommission and repurpose an existing 3,600-sf covered dance pavilion structure (Building #17) into an open-sided longeing area to exercise horses;
3) Construct, in the same location as the existing 4,859-sf barn (Building #5), 1,008-sf refreshment stand (Building #4), 144-sf storage facility (Building #4B), and 273-sf hay shed/storage facility (Building #5A), a 5,605-sf sound-insulated event facility reception building, which would include a 3,600-sf event dance area, 400-sf catering buffet area, 628-sf catering staging area, two sound-insulating foyers totaling 485 sf, three restrooms totaling 387 sf, and a 105 sf storage facility;
4) Construct, in the same location as the 1,123-sf Caretaker's Residence (Building #12), a new 3,324-sf Caretaker's Residence;
5) Replace a 1,741-sf Bride's Dressing Room (Building #10) damaged in the Woolsey Fire with a 1,728-sf Bride's Dressing Room and replace one horse barn (Building #15) damaged in the Woolsey Fire with materials from the demolished Avalon Barn (previously and proposed to be 4,713-sf);
6) Construct an approximately 196-foot (ft.) by 20-ft. steel bridge with a concrete deck over an existing concrete swale (or Arizona crossing) in Triunfo Creek as the new means of ingress and egress to Brookview Ranch, and construct an additional water main and new hydrants, as required by the County of Los Angeles Fire Department (LACoFD) to provide all-weather access[2] and improve public safety;
7) Permit three existing equestrian structures that are currently without permits, including a 143-sf horse shed (Building #9), a 456-sf tack/storage room (Building #16), and a 456-sf shelter (Building #19); and
8) Abandon the existing private on-site wastewater treatment system (OWTS) and connect to local municipal wastewater infrastructure.

Earthwork activities for Project development are anticipated to require 650 cubic yards (cy) of cut and 700 cy of fill, with 50 cy of imported soils.

Surrounding land uses and setting: The area immediately surrounding the Project site consists of low-density residences and the Santa Monica Mountains. The site's adjacent use directly to the west includes Triunfo Canyon Road. The adjacent use directly to the north of the site includes a residence, and open space of the Santa Monica Mountains exists adjacent to the site to the east. Residences are located directly to the south of the Project site.

[1] The # designation in this list of Project components corresponds to the building numbers that are used on the Project site plans provided by Eric Charles Parlee Architect, March 2021.

[2] The Los Angeles County Fire Department has required an all-weather access bridge over Triunfo Creek as a condition of Project approval. However, Triunfo Canyon Road falls within the Los Angeles County capital flood plain and would be under three feet of water in that event; therefore, all-weather access as typically defined is not feasible in this location. For purposes of this Project Description and the environmental analysis for the Project, "all-weather access" is interpreted as the bridge being passable when Triunfo Canyon Road is passable.

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

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

The County of Los Angeles Department of Regional Planning will initiate Tribal cultural consultation pursuant to Assembly Bill 52. Refer to Section 18 of the Initial Study for additional details.

Other public agencies whose approval may be required (e.g., permits, financing approval, or participation agreement):

Public Agency	*Approval Required*
RWQCB	Clean Water Act Section 401 Permit
ACOE	Clean Water Act Section 404 Permit
CDFW	California Fish and Game Code Section 1600 et seq. Streambed Alteration Agreement

Major projects in the area:

Project/Case No.	*Description and Status*
RPPL2020000603 -	APN: 2063002097 & 2063002098 - Goldenheart Ranch SEACUP Adult Residential Facility
RPPL2018005146 -	APN: 2063001023 & 2063001018 - Massilia CUP Private Recreation Club
RPPL2017006006 -	APN: 2063001025 & 2063001021 - Verdugo CUP Wellness Rehabilitation Center
RPPL2016004022 -	APN: 2063001019 - CUP Treatment Center
RPAP2020008733 -	APN: 2063003036 - VASA CUP Private Recreation Club
RCUP201500048 -	APN: 2063003018, 2063003016, 2063003017, 2063003020, 2063003015 - TCV CUP Winery & Tasting Room

Reviewing Agencies: [*See* **CEQA Appendix B** *to help determine which agencies should review your project***]**

Responsible Agencies

- ☐ None
- Regional Water Quality Control Board:
  - ☒ Los Angeles Region
  - ☐ Lahontan Region
- ☐ Coastal Commission
- ☒ Army Corps of Engineers
- ☐ LAFCO

Special Reviewing Agencies

- ☐ None
- ☐ Santa Monica Mountains Conservancy
- ☐ National Parks
- ☐ National Forest
- ☐ Edwards Air Force Base
- ☐ Resource Conservation District of Santa Monica Mountains Area

Regional Significance

- ☐ None
- ☐ SCAG Criteria
- ☐ Air Quality
- ☐ Water Resources
- ☒ Santa Monica Mtns. Area

Trustee Agencies

- ☐ None
- ☒ State Dept. of Fish and Wildlife
- ☐ State Dept. of Parks and Recreation
- ☐ State Lands Commission
- ☐ University of California (Natural Land and Water Reserves System)

County Reviewing Agencies

- ☒ DPW
- ☒ Fire Department
  (delete those that don't apply)
  - Forestry, Environmental Division
  - Planning Division
  - Land Development Unit
- ☒ Sanitation District
- ☒ Public Health/Environmental Health Division: Land Use Program (OWTS), Drinking Water Program (Private Wells), Toxics Epidemiology Program (Noise)
- ☒ Sheriff Department
- ☒ Parks and Recreation
- ☐ Subdivision Committee

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially significant impacts affected by this project.

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

As evaluated in the following Initial Study, the Project's Hydrology/Water Quality and Transportation impacts would be less than significant. However, for informational purposes, the Environmental Impact Report (EIR) also will include limited analyses of these environmental factors. Hazards and Hazardous Materials impacts will be addressed in the EIR Land Use and Planning, Transportation, and/or Wildfire sections. Physical impacts associated with the installation/extension of utilities will be evaluated throughout the EIR, where applicable.

DETERMINATION: (To be completed by the Lead Department.)
On the basis of this initial evaluation:

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

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

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

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

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

William Chen — Signature (Prepared by)

03/25/2021 — Date

Martin Gies — Signature (Approved by)

03/25/2021 — Date

PROJECT DESCRIPTION:

Brookview Ranch, LLC (Brookview Ranch, or Brookview), the Owner of Brookview Ranch located at 2972 Triunfo Canyon Road, Agoura Hills and the Applicant, seeks a Significant Ecological Area (SEA) Conditional Use Permit (CUP) from the County of Los Angeles (County) Department of Regional Planning (DRP) to:

1) Demolish an existing 1,008-square foot (sf) refreshment stand (Building #4)[3] (also referred to as the Avalon Break Room Barn), a 144-sf storage facility (Building #4B), a 4,859-sf barn (Building #5), a 273-sf hay shed/storage facility (Building #5A), and a 1,123-sf Caretaker's Residence (Building #12);[4]
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7) Permit three existing equestrian structures that are currently without permits, including a 143-sf horse shed (Building #9), a 456-sf tack/storage room (Building #16), and a 456-sf shelter (Building #19); and
8) Abandon the existing private on-site wastewater treatment system (OWTS) and connect to local municipal wastewater infrastructure.

These eight elements are collectively referred to as the Brookview Ranch Project or Project. Approval of the Project would allow Brookview to continue its on-site event venue and equestrian center operations on the Project site, which have been operating since May 2016.

[3] The # designation in this list of Project components corresponds to the building numbers that are used on the Project site plans provided by Eric Charles Parlee Architect, March 2021.

[4] For purposes of providing a conservative analysis, the Draft EIR will analyze the demolition of the existing structure and replacement with a larger structure that may include a second story in the future.

[5] The Los Angeles County Fire Department has required an all-weather access bridge over Triunfo Creek as a condition of Project approval. However, Triunfo Canyon Road falls within the Los Angeles County capital flood plain and would be under three feet of water in that event; therefore, all-weather access as typically defined is not feasible in this location. For purposes of this Project Description and the environmental analysis for the Project, "all-weather access" is interpreted as the bridge being passable when Triunfo Canyon Road is passable.

EXISTING CONDITIONS

Project Location and Existing Setting

The subject property is located at 2972 Triunfo Canyon Road (Project site) on 23 acres of land in the unincorporated Agoura Hills area of the County within the Santa Monica Mountains. The Project location is identified by the County Office of the Assessor as Assessor's Parcel Numbers (APNs) 2063-003-026 and 2063-003-028, as shown in **Figure 1, Project Site Location**. The Project site is bounded by Triunfo Canyon Road to the southwest, an existing residence to the northwest, the Santa Monica Mountains to the east and northeast, and an existing residence to the south.

Regional and Local Access

Primary regional access to the Project site is provided by the U.S. Highway 101, which is located approximately 1.5 miles (aerial) north of the Project site. Alternatively, regional access may be provided by the Pacific Coast Highway, or Highway 1, which is located seven miles (aerial) to the south. Local street access is provided by Kanan Road (1.5 miles to the southeast) and Triunfo Canyon Road, which connects to an existing driveway on the Project site. Kanan Road connects directly to both U.S. Highway 101 and Highway 1.

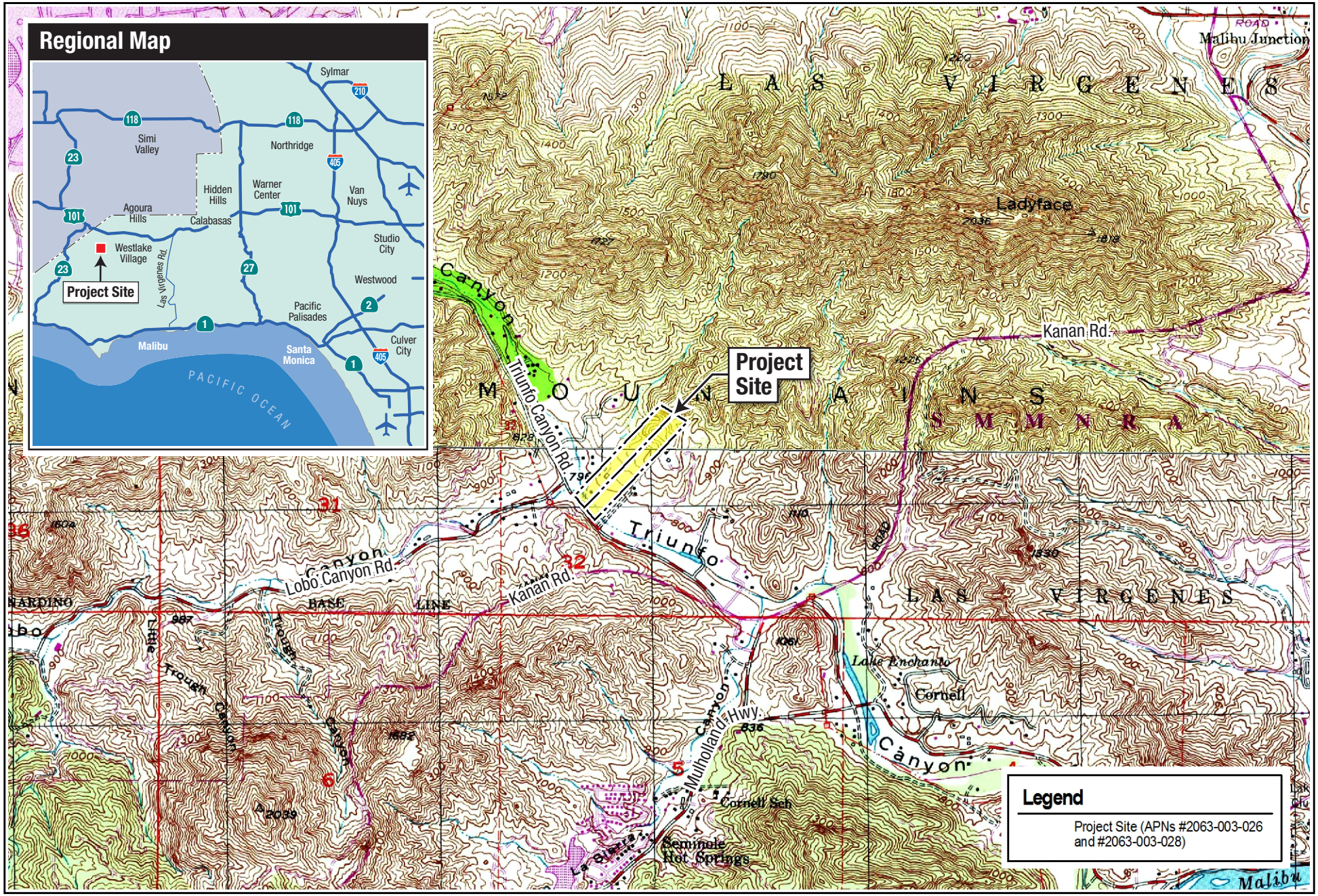
Project Land Use Designation and Zoning

The Project site is located in the Resort and Recreation (R-R-20) zone. According to Title 22, Planning and Zoning, of the County Code, the R-R Zone is established to provide for outdoor recreation and agricultural uses that are suitable for development without significant impairment to the resources of the area.[6] Zone R-R-20 also allows other uses, including single-family residences, additional recreation uses, and limited commercial and public service facilities, subject to review and conditions to protect natural scenic or recreational value. Riding academies and stables with horse boarding are allowed as a principal use in the R-R zone with Site Plan Review (SPR) (with a minimum lot size of five acres), as are outdoor dance pavilions (with a minimum lot size of one acre). Caretaker's residences are allowed in the R-R zone with a CUP, while refreshment stands are allowed as accessory structures with SPR. As such, Brookview's existing outdoor events, equestrian operations, and the Caretaker's Residence are consistent with the Project site's zoning.

The Project site is also located within the Santa Monica Mountains North Area Plan (SMMNAP) and the Santa Monica Mountains North Area Community Standards District (SMMNACSD). The Project site land use designation per the SMMNAP is N-20 (Mountain Lands, not to exceed a maximum residential density of one dwelling unit per 20 acres). Per the currently adopted SMMNAP, permitted uses in the Mountain Lands area include low density single-family housing, agriculture, equestrian uses, retreats, monasteries, private campgrounds, bed and breakfast lodging, low intensity conference centers, public and private schools, water tanks, telecommunications facilities, and other local serving commercial and public facilities. Finally, the Project site is located within the County-designated Santa Monica Mountains SEA (SEA #22a), which is a mapped area of biological sensitivity.

The County Board of Supervisors (Board) placed a moratorium on the establishment of new or expanded outdoor dance pavilions through Interim Ordinance No. 2017-0033U on August 8, 2017. The moratorium was to be in effect until regulations for events facilities were considered by the Board through the updated SMMNAP and SMMNACSD. However, due to the Woolsey Fire of 2018, these planning efforts experienced delays and the event facility regulations that were intended to address land use compatibility issues (such as noise), did not become effective before the Interim Ordinance expired on June 23, 2019. Therefore, the County adopted an amendment to the SMMNACSD, Chapter 22.336 of the County

[6] County of Los Angeles Department of Regional Planning. Title 22, Planning and Zoning, Volume 1 (effective February 28, 2019).



BROOKVIEW RANCH

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Project Site Location

0 1,000 2,000 Feet

FIGURE 1

Zoning Code, to prohibit the establishment of new or expanded outdoor dance pavilions in the area. The amendment does not affect existing legally-established outdoor dance pavilions.

The existing land uses, consisting of the outdoor dance pavilion and equestrian operations and the Caretaker's Residence, are consistent with the Project site's zoning as R-R-20 and land use designation of N-20 as designated by the SMMNAP and SMMNACSD. However, the proposed indoor event facility reception building, which would replace the existing outdoor dance pavilion and would reduce noise effects in the Project site's vicinity, is not currently permitted in the R-R zone. However, the DRP is proposing a comprehensive update to the SMMNAP to address community concerns and to strengthen existing policies that would ensure the continued protection of environmental resources and the region's rural and semi-rural lifestyle. Corresponding changes to the SMMNACSD also are proposed to implement the updated SMMNAP policies. The comprehensive update would allow the construction and operation of the proposed indoor event facility reception building through the newly established "Event Facility" land use. The completion date of these long-range planning efforts was November 2020, with drafts of the SMMNAP and SMMNACSD made available to the public in October 2018, with revisions made in August 2019 and further revisions made in May 2020. The Draft Environmental Impact Report (EIR) for the SMMNAP and CSD Update was circulated for public review and comment by the DRP from May 14, 2020 through June 30, 2020. The Final EIR for the SMMNAP and CSD update was made available on September 3, 2020, with a public hearing before the Regional Planning Commission conducted on October 7, 2020 and the Board of Supervisors on November 24, 2020. The effective date of the updated SMMNAP and SMMNACSD are anticipated for 2021 once they are adopted by the Board of Supervisors.

The land use and zoning designations of the site are shown in **Table 1, Project Site Land Use Designation and Zoning**.

Table 1, Project Site Land Use Designation and Zoning

APN	Existing General Plan Land Use Designation	Existing Zoning
2063-003-028	N-20	R-R-20
2063-003-026		
Source: County of Los Angeles Department of Regional Planning. GIS-Net Public. Available at: http://planning.lacounty.gov/gis/interactive. Accessed on September 29, 2020.		

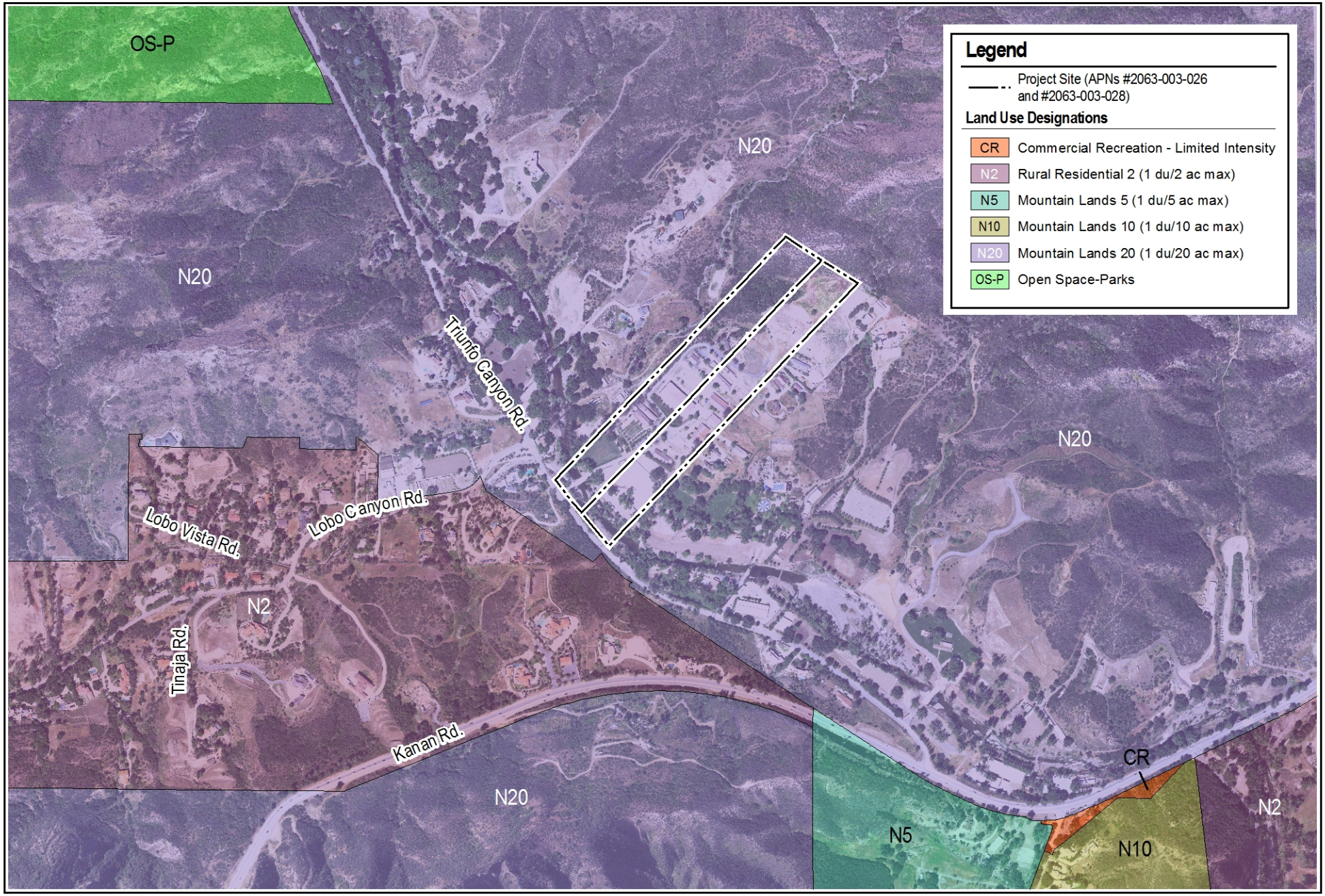
Surrounding uses located to the north, west, and south of the Project site are also zoned as R-R-20. The land to the east of the Project site is classified as Light Agricultural (A-1-20).[7] **Figure 2, Santa Monica Mountains North Area Plan Land Use Designations**, and **Figure 3, Los Angeles County Zoning Designations,** depict the existing General Plan land use designations and County zoning for the Project site and immediately surrounding area.

Project Site Existing Land Uses

Existing Land Uses

The Project site is currently populated by an outdoor dance pavilion and associated buildings, barns, and ancillary structures associated with event uses, equestrian uses, or both, as well as the Caretaker's Residence as shown in **Figure 4, Existing Project Site and Surrounding Area Land Uses** and **Figure 5, Existing Site Plan. Table 2, Existing Land Uses** provides a full account of all existing buildings located on the Project site, summarizes existing land use areas, and indicates whether the land use is associated with events (EV), equestrian (EQ) uses, or both.

[7] County of Los Angeles Department of Regional Planning. GIS-Net Public. Available at: http://planning.lacounty.gov/gis/interactive. Accessed on September 29, 2020.



Source: Valtus Imagery Services: Hexagon Imagery Program (HxIP), 2017. Data Source: Los Angeles County GIS Data Portal, 2018.

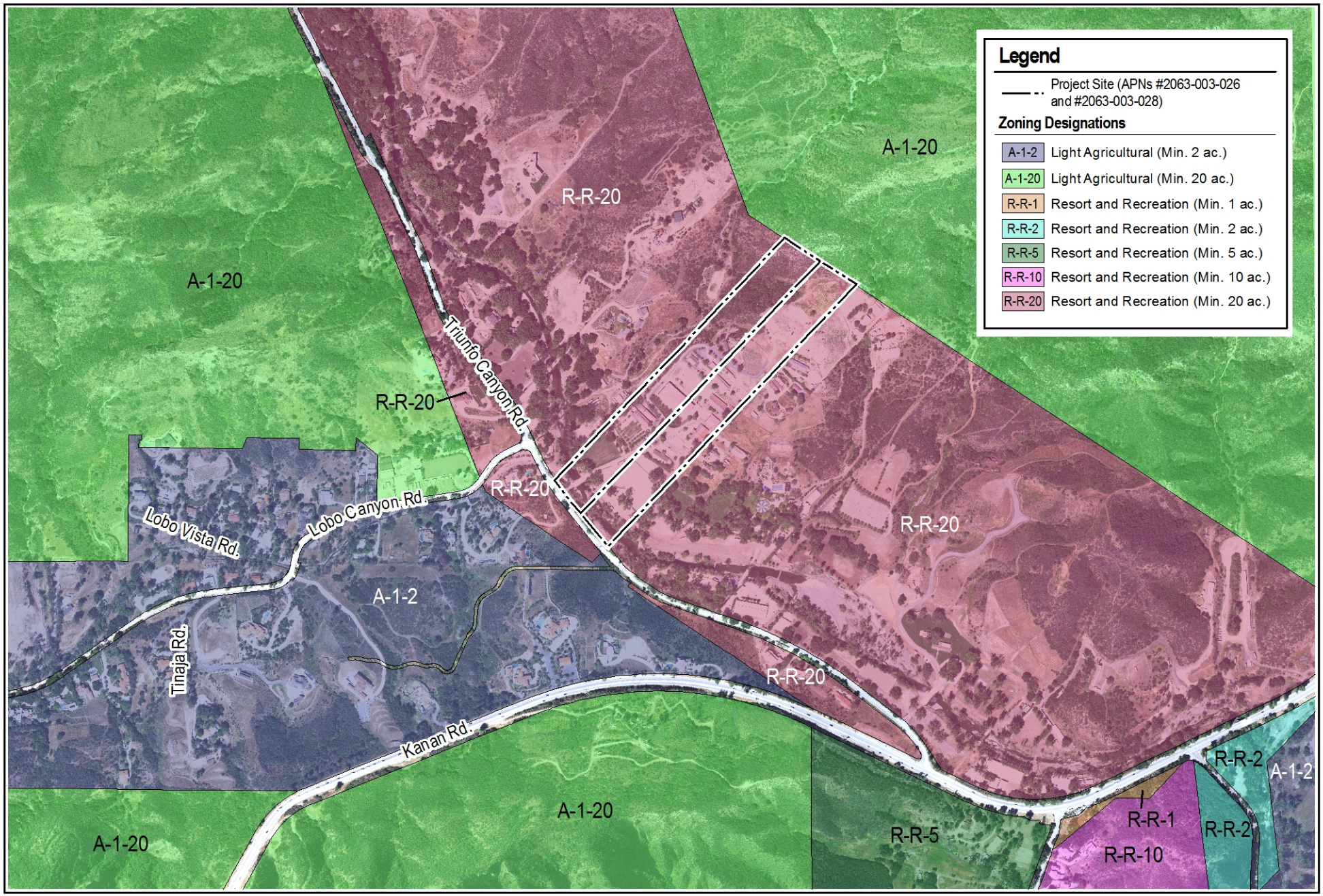
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Santa Monica Mountains North Area Plan Land Use Designations

0 375 750 Feet

FIGURE 2



Source: Valtus Imagery Services: Hexagon Imagery Program (HxIP), 2017. Data Source: Los Angeles County GIS Data Portal, 2018.

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Los Angeles County Zoning Designations

0 375 750 Feet

FIGURE 3



Aerial Base Source: Google Earth Pro, Jan. 3, 2019. Map Source: Los Angeles County Department of Regional Planning. GIS-NET Public. Accessed on Aug. 6, 2019.

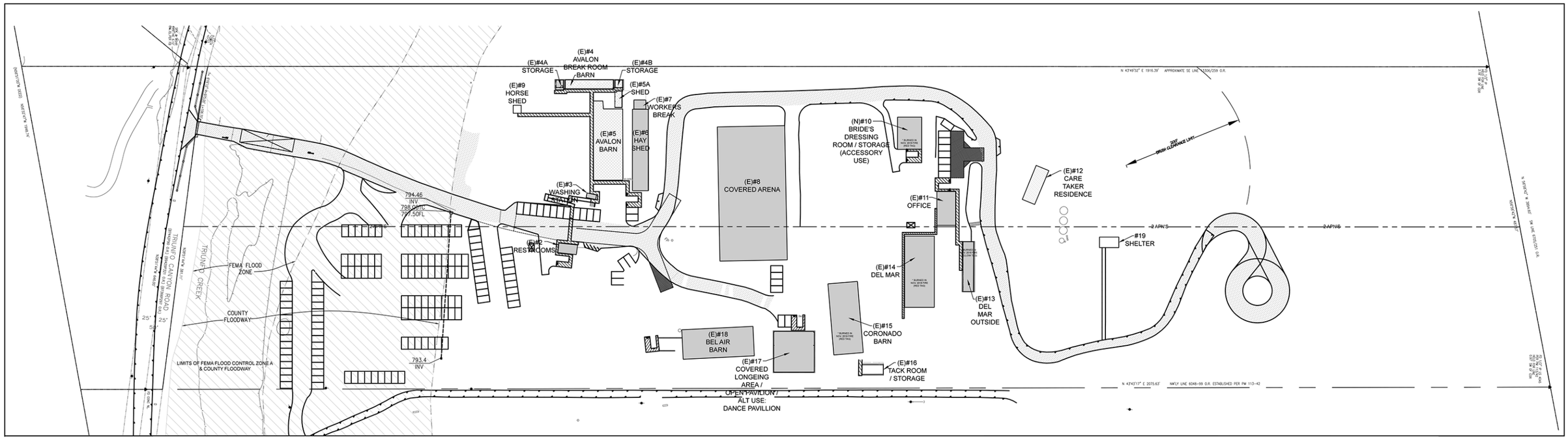
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Existing Project Site and Surrounding Area Land Uses

FEET 0 400 800

FIGURE 4



Source: Eric Charles Parlee Architect, Overall Site Plan.

SITE INFORMATION

ASSESSOR'S PARCEL: 2063-003-026 & -028
THOMAS GUIDE REFERENCE: PG. 587 E2

BUILDING & SAFETY OFFICE: CALABASAS
USE ZONING: R-R-20

LOT AREA: GROSS= 22.06 +/- ACRES
NET= 16.51 +/- ACRES

BLDG #	NAME	USE	AREA	EXISTING EVENT	EXISTING EQUESTRIAN	PROPOSED
1	-					
2	RESTROOMS		406 SF	X	X	
3	WASHING STATION		102 SF	----------	X-----	TO BE DEMOLISHED
4	AVALON STORAGE RM BARN / REFRESHMENT STAND	U	1,008 SF	----------X----------	X-----	TO BE DEMOLISHED
4A	AVALON STORAGE ROOM	S-1	144 SF		X	
4B	AVALON STORAGE ROOM	S-1	144 SF	----------	X-----	TO BE DEMOLISHED
5	AVALON BARN	U	4,859 SF	----------	X-----	TO BE DEMOLISHED
5A	HAY SHED	S-1	273 SF	----------	X-----	TO BE DEMOLISHED
6	HAY SHED BARN	S-1	3,172 SF		X	
7	WORKERS BREAK ROOM	B	205 SF		X	
8	COVERED ARENA	U	20,209 SF		X	
9	HORSE SHED	U	143 SF		X	

BLDG #	NAME	USE	AREA	EVENT	EQUESTRIAN
10	STORAGE / BRIDE'S DRESSING ROOM	S-1/A-3	1,741 SF	X	X
11	OFFICE	B	1,152 SF	X	X
12	CARETAKERS RESIDENCE	R-1	1,123 SF		
13	DEL MAR BARN	U	864 SF		X
14	DEL MAR	U	4,688 SF		X
15	CORONADO BARN	U	4,713 SF		X
16	TACK ROOM / STORAGE	S-1	456 SF		X
17	DANCE PAVILION	U/A-3	3,600SF	X	
18	BEL AIR BARN	U	4,692 SF		X
19	SHELTER	U	456 SF		X

TOTAL AREA (EVENT) 7,907 SF
TOTAL AREA (EQUESTRIAN) 45,120 SF
TOTAL AREA (CARETAKER'S RES.) 1,123 SF

TOTAL AREA OF ALL EXISTING SHEDS, BARNS, & OTHER STRUCTURES: 54,150 S.F.

LEGEND

- EXISTING & PERMITTED
- EXISTING & TO BE PERMITTED W/ CURRENT APPLICATION
- LIMITS OF FEMA FLOOD CONTROL ZONE A & COUNTY FLOODWAY
- EXISTING BUILDINGS TO BE DEMOLISHED
- EXISTING CARETAKER'S RESIDENCE

Table 2, Existing Land Uses

Number	Use	Area (sf)	EV	EQ
2	Restrooms	406	X	X
3	Washing Station[1]	102		X
4	Avalon Storage/Refreshment Stand[1]	1,008	X	X
4A	Avalon Storage Room	144		X
4B	Avalon Storage Room[1]	144		X
5	Avalon Barn[1]	4,859		X
5A	Hay Shed/Storage[1]	273		X
6	Hay Shed Barn	3,172		X
7	Worker's Break Room	205		X
8	Covered Arena	20,209		X
9	Horse Shed[2]	143		X
10	Storage/Bride's Dressing Room[3]	1,741	X	X
11	Office	1,152	X	X
12	Caretaker's Residence[1]	1,123	N/A	
13	Del Mar Barn Outside	864		X
14	Del Mar Barn[4]	4,688		X
15	Coronado Barn[3]	4,713		X
16	Tack Room/Storage[2]	456		X
17	Dance Pavilion[5]	3,600	X	
18	Bel Air Barn	4,692		X
19	Shelter[2]	456		X
	Total Existing Uses Area	**54,150**	N/A	

Breakdown of Event, Equestrian, and Residential Land Uses[6]	**Area (sf)**
Total Areas for Events	7,907
Total Areas for Equestrian Uses	45,120
Total Area for Residential Uses	1,123

[1] To be demolished as part of the Project.
[2] To be permitted with the requested CUP.
[3] Previously burned, cleared, and to be rebuilt as part of the Project.
[4] Previously burned, rebuilt, and not a part of the Project.
[5] To be repurposed as currently constructed as part of the equestrian facility.
[6] Event uses include the restrooms, Avalon storage/refreshment stand, office, dance pavilion, and Bride's Dressing Room. Residential uses include the Caretaker's Residence. The equestrian uses are comprised of the remaining structures.

Due to the Woolsey Fire, which occurred on November 8, 2018, multiple structures at Brookview Ranch suffered significant fire damage or were completely destroyed. Two existing horse barns, housing up to 22 horses each, and one 1,741-sf Bride's Dressing Room were burned, and the remaining fire-damaged structures were demolished. The Del Mar Barn (Building #14), which was damaged in the Woolsey Fire, has been rebuilt and is not part of the Project. Brookview requests approval to construct/replace the Coronado Barn (Building #15) and Bride's Dressing Room (Building #10), which also were damaged in the Woolsey Fire, of similar sizes and in the same locations, as part of the Project. Pieces of the existing Avalon Barn (Building #5) would be used in the reconstruction of the Coronado Barn (Building #15). For purposes of this description and following environmental analyses, these fire-damaged structures are treated as previously existing uses, as they were operating uses up to the time of the 2018 fire.

Existing Land Use Operations

As a goodwill gesture to neighbors and the County, in December 2018, Brookview voluntarily agreed to stop holding events at Brookview Ranch while the County processes Brookview's request for a CUP for its sound-insulated indoor event facility reception building. Previously, Brookview hosted events at the Project site from March 15th to November 30th, with a maximum of 100 events per year. Typically, two to three events were held per weekend (i.e., Fridays, Saturdays, and/or Sundays); however, only one event occurred per day. An event typically hosted up to 130 people, with a maximum of 240 people hosted during an event. Brookview hosted up to 300 guests at times. Use of the Project site as an event venue typically occurred from approximately 9:00 a.m. to 11:00 p.m. Amplified music ceased immediately at 10:00 p.m. On the day of an event, the event party typically arrived at the Project site between 9:00 a.m. and 12:00 p.m. to prepare for the event. Guests typically arrived between 4:00 p.m. and 5:30 p.m., depending on the season. On-site parking attendants guided all incoming cars to the designated parking area on the southeast side of the Project site or valet-parked the guest's vehicles. Generally, the event ceremonies occurred outside between 3:30 p.m. and 5:30 p.m. on the grass lawn located on the western portion of the Project site. Following the ceremony, guests were directed to the grass area next to the Avalon Barn (#5) for a "cocktail hour" and reception. All amplified music would cease promptly at 10:00 p.m. and all guests would exit Brookview Ranch by 11:00 p.m.

In the ceremony area on the western lawn, two speakers, facing away from Triunfo Canyon Road and towards the interior of the Project site, played low-level background music during ceremonies. Alternatively, live string instrumental music was played without the use of speakers. During cocktail hour on the smaller lawn, low-level background music was played over four speakers mounted on 20-foot poles placed at the four corners of the lawn and directed downwards toward the lawn, or live string instrumental music was played without the use of speakers. The speakers at the smaller lawn included an automatic limiter built into the system to prevent the noise from going above a certain level. All amplified music ceased promptly at 10:00 p.m. and all guests exited Brookview Ranch by 11:00 p.m.

In addition, the Project site currently serves as a private use equestrian facility with approximately 44 privately-owned horses and two trainers in the northern part of the Project site. The horses are privately owned, and there is no general public access to the equestrian facility. Horse operations generally occur between the hours of 8 a.m. and 4 p.m., when a majority of riders access the site to check on their horses, ride, or take lessons. Additionally, individuals come occasionally at night to check on their horses. All riding is contained on the property in two riding arenas, and there are roughly twelve lessons scheduled per day. As previously stated, one horse barn damaged by the Woolsey Fire, was reconstructed, and is not included in the Project (Del Mar Barn, #14).

Parking and Internal Circulation

Access to the Project site is provided from a driveway along Triunfo Canyon Road near the western boundary of the site and includes a coded gate with a camera, as well as fire key access. The Project maintains 171 parking spaces in a surface parking lot with striped spaces. During prior events, on-site parking attendants guided incoming cars to the designated parking area on the southeast side of the Project site or valet-parked the guest's vehicles.

Landscaping and Vegetation

The Project site is primarily landscaped with European olive (*Olea europaea*) and Peruvian pepper trees (*Schinus molle*). Project site landscaping also includes Scrub Oak (*Quercus berberidifolia*), Pine trees (*Pinus sp.*), Bigleaf Maples (*Acer macrophylium*), and Eucalyptus trees (*Eucalyptus sp.*). Non-landscaped portions of the Project site are located along Triunfo Creek and in the northern portions of Brookview Ranch. While fire damage is prevalent in the undeveloped portions of the Project site, a review of aerial photographs prior to the Woolsey

Fire indicates historic native habitats in the undeveloped areas of the Project site included scrub oak chaparral, coastal scrubs, woodlands, annual grasslands, riparian woodlands, and individual oak trees.

Utilities and Service Systems

Wastewater System

Brookview Ranch is currently not connected to municipal wastewater infrastructure and instead operates a private OWTS. The permitted OWTS is comprised of two, 1,500-gallon septic tanks; one is located directly north and adjacent to the Del Mar Barn (Building #14) and serves the office (Building #11) and Caretaker's Residence (Building #12), and one is located west of the restrooms (Building #2) and serves that structure. Both septic tanks are connected to the on-site leach field, which is located west of the restrooms (Building #2) and westerly of the septic tank, in the vicinity of the parking area.

Water Supply and Fire Water Availability

Three 10,000-gallon water storage tanks are located on-site and draw groundwater for site irrigation from a one-inch line. The 10,000-gallon water storage tanks also gravity feed water to two fire hydrants located on the Project site. One hydrant is located southeast of the hay shed (Building #6) and the other hydrant is located east of the Bride's Dressing Room (Building #10) parking area. One 5,000-gallon aboveground water pump is also located on-site and draws from the existing Las Virgenes Municipal Water District (LVMWD) water main to provide potable water to the Project site.[8] The existing LVMWD water main is buried in the Arizona crossing. Potable water is supplied to the Del Mar Barn (Building #14), Coronado Barn (Building #15),[9] Bel Air Barn (Building #18), office (Building #11), Avalon Barn (Building #5), Caretaker's Residence (Building #12), and Bride's Dressing Room (Building #10).[10] The potable water is fed with a ¾-inch line, and a pump pressurizes the water for the Project site.[11] According to the LACoFD Fire Prevention Division, the closest off-site fire hydrant to the Project site is located at the southwest corner of the intersection of Triunfo Canyon Road and Lobo Canyon Road, 252 ft. northwest of the site boundary. The fire flow services are provided from a 10-inch diameter water main. The fire flow from this hydrant is 1,250 gallons per minute (gpm) at 20 pounds per square inch (PSI) residual for two hours at 189 PSI static.[12]

Gas, Fuel, and Electric Supply

Electrical service is supplied to the Project site by Southern California Edison (SCE). One 250-gallon above ground storage tank supplies propane for site uses (i.e., heating). Amerigas services the tank approximately twice per year, once in the spring and once in the fall.[13] Fuel for farm equipment is stored on-site, including one 50-gallon above ground gas tank and one 100-gallon above ground diesel tank, which are filled once per month by Geiger Enterprises, along with farm equipment, as needed.[14]

Trash and Recycling

Trash and recycling services are supplied to the site by Waste Management. In addition to general commercial and residential waste, Waste Management removes a 40-cubic yard (cy), open top container of manure every two weeks and replaces it with an empty container to serve the on-site equestrian use.

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8 Knapp, Tom. Phone correspondence with Envicom Corporation. August 1, 2019.

9 The Coronado barn was damaged by the Woolsey Fire and currently does not generate a demand for potable water.

10 The Bride's Dressing Room was damaged by the Woolsey Fire and currently does not generate a demand for potable water.

11 Knapp, Tommy. Phone correspondence with Envicom Corporation. July 7, 2020.

12 County of Los Angeles Fire Department, Fire Prevention Division. 2020. Information on Fire Flow Availability for Building Permit. January 28.

13 Brookview Ranch. Email correspondence with Envicom Corporation. July 19, 2019.

14 Ibid.

Surrounding Land Uses

The area immediately surrounding the Project site consists of low-density residences and the Santa Monica Mountains, as shown in Figure 4. The site's adjacent uses directly to the west include Triunfo Canyon Road. The adjacent use directly to the north of the site includes a residence, and open space of the Santa Monica Mountains exists adjacent to the site to the east. Residences are located directly to the south of the Project site.

PROPOSED PROJECT

Construction Period

Construction of the Project is anticipated to begin in 2021 and be completed by the end of 2022. Construction of the Project would take place in two separate phases, with one phase consisting of the placement of an approximately 196-ft. by 20-ft. steel bridge with a concrete deck over the existing concrete swale (or Arizona crossing) in Triunfo Creek at the entrance to the Project site, to serve as the new means of ingress and egress from the Project site, in order to provide all-weather access and improve public safety. The proposed bridge would be wide enough to provide access for LACoFD trucks to the Project site, as well as to other properties on that side of the creek. The proposed bridge would provide a safer crossing than the existing concrete swale, especially during rain events. Construction of the bridge would occur over approximately four months.

Construction of the bridge would require establishment of a means of temporary access to the Project site during the construction period for construction vehicles and equipment, and a temporary parking area and means of access to the Project site for employees and users of the Project site (related to existing equestrian uses). To establish a means of temporary access to the Project site during the construction period for construction vehicles and equipment, the Applicant proposes to install a temporary earthen access road and pad along the northern side of the existing Arizona crossing during the construction period. This access road and pad would be utilized by construction vehicles and equipment, to provide access between Triunfo Canyon Road and the Project site, as well as to provide a place to station equipment adjacent to the Arizona crossing and bridge location to install the bridge sections. A temporary access road and pad are required during the construction period adjacent to the Arizona crossing and proposed bridge location, as the equipment necessary to lift the three bridge sections into place would be required to be stationed in this area. Installation of the temporary access road and pad would require the placement of a plastic tarp under the temporary earthen access road and pad and 50 cy of imported soils, as well as the use of on-site soils for bridge construction. Earthwork necessary to construct the bridge also involves improvements to the entry driveway/fire access road immediately east of the bridge, to join the proposed bridge to the existing roadway. The existing corrugated pipes in the Arizona crossing would be extended through the length of the temporary earthen access road and pad to divert water during construction. The Applicant would prepare and implement a Water Diversion Plan, as well as a Restoration Plan, to restore the pre-existing contours and restore areas previously vegetated with native species.

The other construction phase would consist of demolition and site preparation activities and development of the remaining Project site components, which are described in detail in the following section. In addition to the earthwork necessary to construct the bridge, site preparation activities would include minor earthwork to provide dead-end fire apparatus access turnarounds (south of the proposed Event Barn and east of the Bride's Dressing Room) and a six-foot retaining wall east of the Caretaker's Residence. This phase of construction would occur over approximately one year.

In addition to the bridge and other structures to be developed on-site, the Project includes the installation of water and sewer lines, which would connect to existing LVMWD connections in Triunfo Canyon Road (crossing Triunfo Creek beneath, and attached to, the proposed bridge). Trenching, installation, and

resurfacing activities for such infrastructure would occur simultaneously with the other two construction phases.

The chronology of the construction phases would be subject to the timing of Project approvals and the Triunfo Creek conditions at the time of development (i.e., grading activities and bridge construction in particular cannot proceed during the rainy season). However, as the LACoFD requires Brookview to provide a bridge prior to construction of a structure on the property 1,000-sf in size or greater, if the other Project site structures are constructed prior to the bridge, the County shall not provide a Certificate of Occupancy until the bridge is operational.

Earthwork activities for Project development are anticipated to require 650 cy of cut and 700 cy of fill, with 50 cy of imported soils.

The following Project Design Feature (PDF), **PDF-TRANS-1**, is proposed as part of the Project to avoid temporary construction-related transportation and parking impacts:

PDF-TRANS-1 Construction Transportation Management Plan: A detailed Construction Transportation Management Plan, including but not limited to, construction phase lane closure or modification information, hauling, staging, and temporary access and parking plans, as necessary, shall be prepared by the Registered Engineer or Project construction contractor, as appropriate, and submitted to the County Department of Public Works for review and approval. The Construction Transportation Management Plan shall convey the specific actions of the construction process, with focus on the activities that may potentially affect off-site rights-of-way. The Construction Transportation Management Plan shall be based on the nature and timing of the specific construction activities and other projects in the vicinity of the Project site, and shall include, but not be limited to, the following elements, as appropriate:

- Construction worker parking on nearby residential streets shall be prohibited.
- Construction vehicle and equipment parking or staging on surrounding public streets shall be minimized to the extent feasible.
- Temporary vehicular traffic controls (such as signage and/or flag persons) during construction activities adjacent to public rights-of-way to improve traffic flow on public roadways shall be implemented.
- Although no formal sidewalks and bicycle lanes exist along Triunfo Canyon Road, safety precautions for pedestrians and bicyclists, through such measures as signage and protection barriers, shall be implemented, as appropriate.
- Construction-related activities (such as deliveries and/or hauling) shall be scheduled to occur outside the commuter peak hours to the extent feasible.

Project Components

The construction period would involve demolition of an existing 102-sf washing station, 1,008-sf refreshment stand, 144-sf storage facility, 273-sf hay shed, and 1,123-sf Caretaker's Residence, as shown in **Table 3, Buildings to be Demolished.** The Applicant plans to disassemble the existing Avalon Barn (Building #5) and use most of its materials to reconstruct the fire-damaged Coronado Barn (Building #15), following approval to construct the indoor event facility reception building. However, for purposes of providing a conservative analysis, the Draft EIR will analyze the demolition of the existing Avalon Barn (Building #5), and consider the Coronado Barn (Building #15) new construction.

The Project would construct, in the same location as the existing barn, refreshment stand, storage facility, and hay shed, a 5,605-sf sound-insulated event facility reception building, which would be comprised of a 3,600-sf dance pavilion, 400-sf catering buffet area, 628-sf catering staging area, two sound-insulating foyers totaling 485 sf, three restrooms totaling 387 sf, and a 105-sf storage facility. Entry foyers at the east and south entrances of the building would be constructed as double-entry foyers to further promote sound insulation and ensure sound would not escape the facility when the outside doors were opened. Additionally, the Project would demolish the existing 1,123-sf Caretaker's Residence and construct a 3,324-sf Caretaker's Residence in the same location, increasing the size of the existing residence, by 2,201 sf. The fire-damaged Bride's Dressing Room would be reconstructed with a slightly reduced size of 1,728 sf. Following construction of the 5,605-sf event facility reception building, the existing 3,600-sf covered dance pavilion would be decommissioned and repurposed as a barn for the equestrian facility. Project construction would occur within previously developed and disturbed areas of the Project site.

Table 3, Buildings to be Demolished

Number	Use	Area (sf)	EV	EQ
Existing Structures to be Demolished				
3	Washing Station	102		X
4	Avalon Storage Room/Refreshment Stand	1,008	X	X
4B	Avalon Storage	144		X
5	Avalon Barn[1]	4,859		X
5A	Hay Shed/Storage	273		X
12	Caretaker's Residence[2]	1,123	N/A	
Total Area to be Demolished		**7,509**	**N/A**	
Structures Damaged by the Woolsey Fire and Subsequently Removed				
10	Bride's Dressing Room	1,741	X	
15	Coronado Barn	4,713		X
Total Area of Fire-Damaged/Removed Structures		**6,454**	**N/A**	

[1] The Applicant plans to disassemble the Avalon Barn to reconstruct the Coronado Barn, following approval of the indoor event facility reception building/Project. However, demolition of the Avalon Barn is assumed, and the Coronado Barn is considered new construction, for purposes of presenting the more conservative environmental analysis.

[2] Modifications to the Caretaker's Residence may include an addition to the existing structure that would increase the total area from 1,123 sf to 2,000 sf (a one-story option), or, alternatively, it would include the demolition of the existing 1,123-sf residence and construction of a 3,324-sf residence (a two-story option). For purposes of presenting the more conservative environmental analysis, this document assumes that the existing structure would be demolished and replaced with the two-story option, as this action involves additional demolition and also represents a greater net increase in the building's square footage.

Table 4, Proposed Uses and Net Increase in Site Development lists the existing and proposed land uses and also includes the proposed change in development area on the site with the Project.[15] The Project is shown in **Figure 6, Project Site Plan**, and **Figure 7, Project Bridge Plan**. As shown in Table 3 and Table 4, the Project would demolish more existing development square footage than it would add, ultimately resulting in a net increase of 1,407-sf of site development. The event uses would increase by 984 sf, which is attributed to the Project's provision of an indoor, sound-insulated event facility reception building. However, as shown in Table 4, the main reception area would be comprised of 3,600 sf, which is the same as in the existing condition. The Caretaker's Residence would increase by 2,201 sf, and the equestrian uses would decrease by 1,178 sf with the Project.

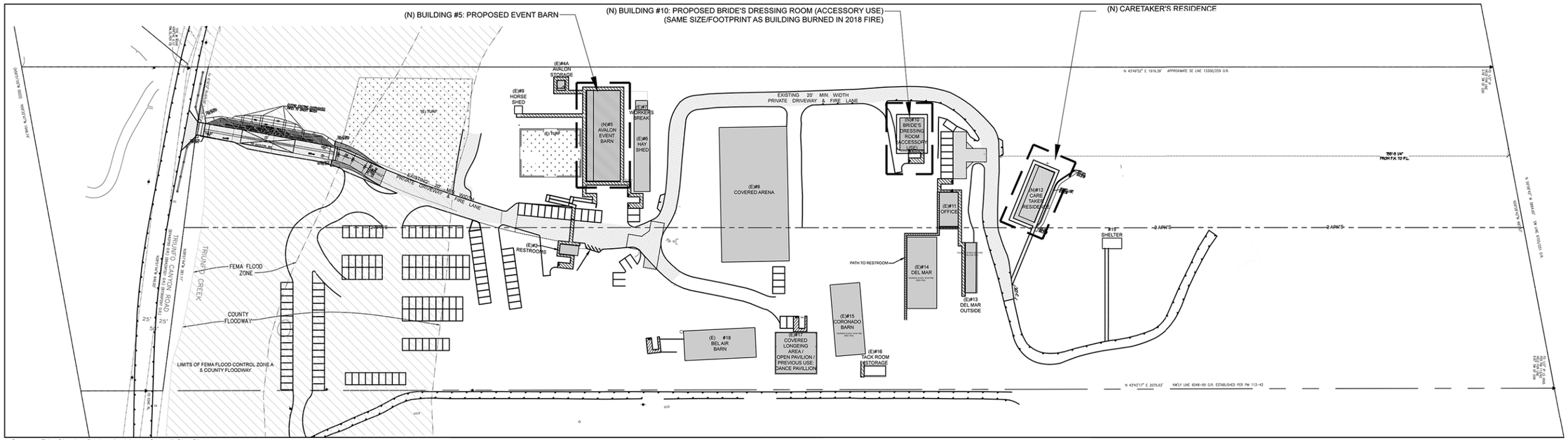
[15] Table 4 provides a summary of the existing and proposed building areas. The EIR will analyze the impacts from construction and operation of this development, as well as from the proposed bridge and earthwork activities.

Table 4, Proposed Uses and Net Increase in Site Development

Number	Use	Existing Area (sf)	Proposed Area (sf)	Net Change (sf)	EV	EQ
2	Restrooms	406	406	0	X	X
3	Washing Station	102	0	(102)	N/A	
4	Avalon Storage Room/Refreshment Stand	1,008	0	(1,008)	N/A	
4A	Avalon Storage Room	144	144	0		X
4B	Avalon Storage Room	144	0	(144)	N/A	
5	**Avalon Event Barn**				X	
	Avalon Barn	4,859	0	(4,859)		
	Catering Buffet Area	0	400	400		
	Catering Staging Area	0	628	628		
	Reception/Event Area	3,600 (currently comprises #17, Outdoor Dance Pavilion)	3,600	0		
	Foyer	0	485	485		
	Restrooms	0	387	387		
	Storage	0	105	105		
	Hay Shed/Storage	273	0	(273)		
6	Hay Shed Barn	3,172	3,172	0		X
7	Worker's Break Room	205	205	0		X
8	Covered Arena	20,209	20,209	0		X
9	Horse Shed[1]	143	143	0		X
10	Storage/Bride's Dressing Room[2]	1,741	1,728	(13)	X	X
11	Office	1,152	1,152	0	X	X
12	Caretaker's Residence	1,123	3,324	2,201	N/A	
13	Del Mar Barn Outside	864	864	0		X
14	Del Mar Barn[3]	4,688	4,688	0		X
15	Coronado Barn[2]	4,713	4,713	0		X
16	Tack Room/Storage[1]	456	456	0		X
17	Longeing Area[4]	0 (included above with #5)	3,600	3,600		X
18	Bel Air Barn	4,692	4,692	0		X
19	Shelter[1]	456	456	0		X
	Total Areas	**54,150**	**55,557**	**1,407**	**N/A**	

Breakdown of Event, Equestrian, and Residential Land Uses[5]	**Existing Area (sf)**	**Proposed Area (sf)**	**Net Change (sf)**
Total Areas for Events	7,907	8,891	984
Total Areas for Equestrian Uses	45,120	43,342	(1,778)
Total Area for Residential Uses	1,123	3,324	2,201

[1] Buildings without permits (permits pending).
[2] Previously burned, cleared, and to be rebuilt as part of the Project.
[3] Previously burned, rebuilt, and not a part of the Project.
[4] To be repurposed (i.e., the existing use is for events and equestrian operations, but the proposed use would be limited to equestrian uses).
[5] Proposed event uses include the restrooms, Avalon Event Barn, storage/Bride's Dressing Room, and office. Residential uses include the Caretaker's Residence. The equestrian uses are comprised of the remaining structures.



Source: Eric Charles Parlee Architect, Overall Site Plan.

SITE INFORMATION

ASSESSOR'S PARCEL: 2063-003-026 & -028
THOMAS GUIDE REFERENCE: PG. 587 E2

BUILDING & SAFETY OFFICE: CALABASAS
USE ZONING: R-R-20

LOT AREA: GROSS= 22.06 +/- ACRES
NET= 16.51 +/- ACRES

BLDG #	NAME	USE	EXISTING AREA	PROPOSED AREA	EVENT	EQUESTRIAN	
1	-						
2	RESTROOMS		406 SF	406 SF	X	X	
3	WASHING STATION		102 SF	----------	----------	X-----	TO BE DEMOLISHED
4	AVALON STORAGE RM BARN / REFRESHEMENT STAND	U	1,008 SF	----------	----------X	X-----	TO BE DEMOLISHED
4A	AVALON STORAGE ROOM	S-1	144 SF	144 SF		X	
4B	AVALON STORAGE ROOM	S-1	144 SF	----------	----------	X-----	TO BE DEMOLISHED
5 (E)	AVALON BARN	U	4,859 SF	----------	----------	X-----	TO BE DEMOLISHED
5 (N)	AVALON EVENT BARN	A-2			X		
	RECEPTION/EVENT AREA			3,600 SF			
	CATERING BUFFET AREA			400 SF			
	CATERING STAGING AREA			628 SF			
	FOYERS			485 SF			
	BATHROOMS			387 SF			
	STORAGE			105 SF			

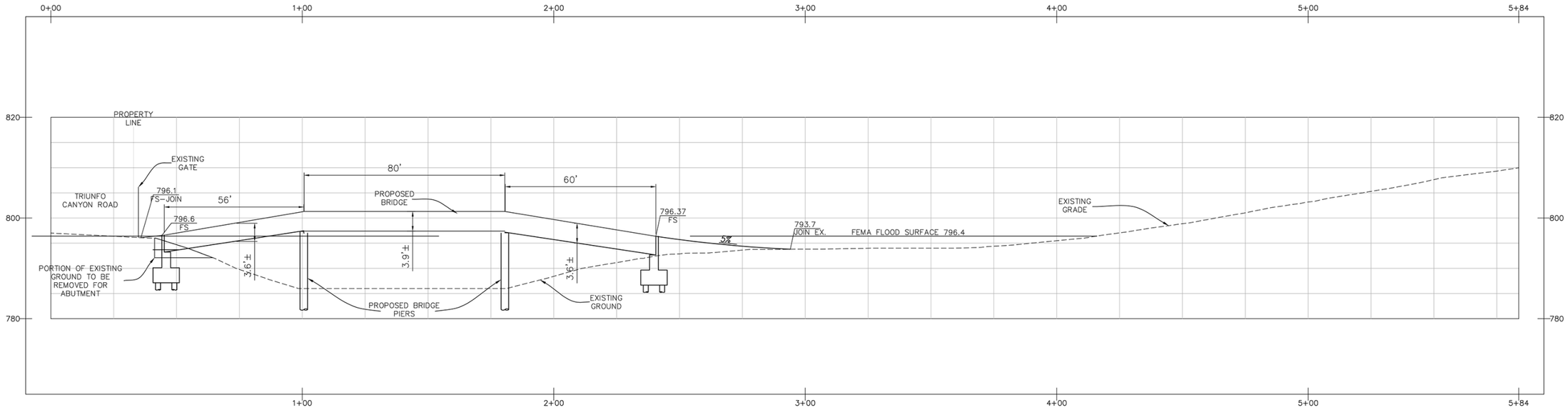
BLDG #	NAME	USE	EXISTING AREA	PROPOSED AREA	EVENT	EQUESTRIAN	
5A	HAY SHED	S-1	273 SF	----------	----------	X-----	TO BE DEMOLISHED
6	HAY SHED BARN	S-1	3,172 SF	3,172 SF		X	
7	WORKERS BREAK ROOM	B	205 SF	205 SF		X	
8	COVERED ARENA	U	20,209 SF	20,209 SF		X	
9	HORSE SHED	U	143 SF	143 SF		X	
10	STORAGE / BRIDE'S DRESSING ROOM	S-1/A-3	1,741 SF	1,728 SF	X	X	
11	OFFICE	B	1,152 SF	1,152 SF	X	X	
12	CARETAKERS RESIDENCE	R-1	1,123 SF	3,324 SF			
13	DEL MAR BARN	U	864 SF	864 SF		X	
14	DEL MAR	U	4,688 SF	4,688 SF		X	
15	CORONADO BARN	U	4,713 SF	4,713 SF		X	
16	TACK ROOM / STORAGE	S-1	456 SF	456 SF		X	
17	LONGEING AREA	U/A-3	3,600 SF	3,600 SF		X	
18	BEL AIR BARN	U	4,692 SF	4,692 SF		X	
19	SHELTER	U	456 SF	456 SF		X	

TOTAL AREA (EVENT + CARETAKER'S RES.)	12,215 SF
TOTAL AREA (EQUESTRIAN)	43,342 SF

TOTAL AREA OF ALL EXISTING & PROPOSED SHEDS, BARNS, & OTHER STRUCTURES: 55,557 S.F.

LEGEND

- EXISTING & PERMITTED
- EXISTING & TO BE PERMITTED W/ CURRENT CUP APPLICATION
- LIMITS OF FEMA FLOOD CONTROL ZONE A & COUNTY FLOODWAY
- NEW PROPOSED BUILDINGS
- NEW PROPOSED CARETAKER'S RESIDENCE



CONSTRUCTION NOTES: ON–SITE

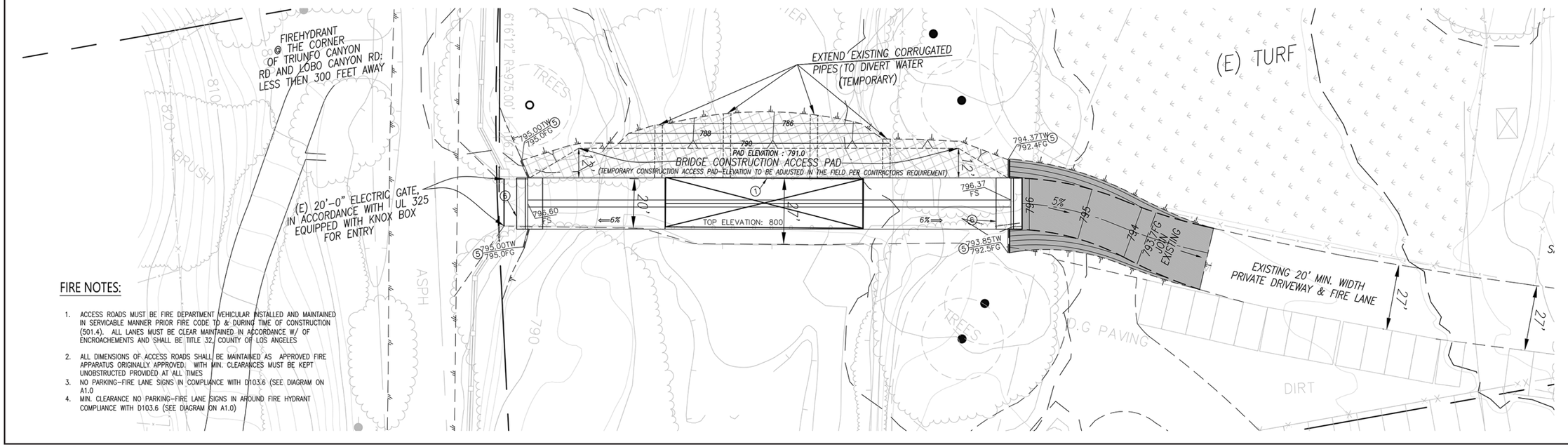
1. BRIDGE BY SEPARATE PERMIT
2. FORCE MAIN BY SEPARATE PERMIT
3. 6" SEWER LINE
4. SEWER CLEANOUTS
5. VARIABLE HEIGHT BRIDGE WING WALLS PER SEPARATE PERMIT
6. BRIDGE ABUTMENTS PER STRUCTURAL PLAN

BRIDGE CROSS-SECTION

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'

LEGEND:

TEMPORARY ACCESS PAD AND GRADING FOR BRIDGE CONSTRUCTION. TEMPORARY EXTENSION OF EXISTING CORRUGATED PIPES TO DIVERT WATER DURING BRIDGE CONSTRUCTION



FIRE NOTES:

1. ACCESS ROADS MUST BE FIRE DEPARTMENT VEHICULAR INSTALLED AND MAINTAINED IN SERVICABLE MANNER PRIOR FIRE CODE TO & DURING TIME OF CONSTRUCTION (501.4). ALL LANES MUST BE CLEAR MAINTAINED IN ACCORDANCE W/ OF ENCROACHEMENTS AND SHALL BE TITLE 32, COUNTY OF LOS ANGELES
2. ALL DIMENSIONS OF ACCESS ROADS SHALL BE MAINTAINED AS APPROVED FIRE APPARATUS ORIGINALLY APPROVED; WITH MIN. CLEARANCES MUST BE KEPT UNOBSTRUCTED PROVIDED AT ALL TIMES
3. NO PARKING–FIRE LANE SIGNS IN COMPLIANCE WITH D103.6 (SEE DIAGRAM ON A1.0
4. MIN. CLEARANCE NO PARKING–FIRE LANE SIGNS IN AROUND FIRE HYDRANT COMPLIANCE WITH D103.6 (SEE DIAGRAM ON A1.0)

Source: Sikand Engineering Associates, Rough Grading Plan.

Proposed Land Use Operations

The Project would not increase the capacity of events (i.e., the number guests), the operating hours of the events, or the number of events held per year. The purpose of the Project is to move elevated amplified music during receptions inside the sound-insulated event reception facility building, in accordance with the noise requirements of the new SMMNACSD. With the Project, following a wedding ceremony taking place on the grass lawn located on the western portion of the Project site, guests would be directed to the grass area next to the new event facility reception building for a "cocktail hour." Consistent with past operations, live string acoustic instrumental music, or low-level background/recorded music, would be played during the ceremony and cocktail hour.

In addition to the existing sound limiters on the four speakers at the cocktail hour lawn, the Project would install a new sound system at the ceremony lawn, which would include master controls and short-distance speakers to assure that sound levels do not exceed the allowable levels of the SMMNACSD. The backside of outdoor speakers will also be wrapped in sound-attenuating blankets, as required by the SMMNACSD. Furthermore, to ensure that the allowable SMMNACSD sound levels are maintained by the speakers and acoustic instruments, outdoor sound levels will be monitored during the first ten events following Project and CUP approval to fine tune the sound system sound levels for the particular equipment utilized and to note proper system settings, including the allowable number and types of acoustic instruments. After the cocktail hour, guests would be directed into the sound-insulated event facility reception building for the reception, music, and dancing. Tables for dinner might be located on the grass area next to the event facility reception building for dinner; however, only low-level background music would be produced on the small grass area. All outdoor amplified music would comply with the SMMNACSD requirements and would cease by 8:00 p.m.; however, all elevated amplified music during the reception would occur inside the sound-insulated event facility reception building. All guests would exit the Project site by 11:00 p.m. In the past, up to 300 guests have attended events at Brookview, however, the Applicant proposes a maximum of 200 guests with the Project.[16] Events at the Project site would occur from March 15th to November 30th, generally twice per month on Friday through Sunday, and twice per month on Friday through Saturday, with a maximum of 100 events per year.

Proposed Parking and Internal Circulation

Vehicle Parking

As the use and occupancy of the Project site would be similar to that which currently exists, Brookview would continue to maintain the existing 171 parking spaces on the Project site in a surface parking lot with striped spaces. Brookview also would continue to implement a traffic management plan for events, with Brookview staff directing guests to the appropriate parking area before the start of an event and limiting the number of guests exiting the site at one time after the event.

Access and Internal Circulation

Access to the Project site would continue to be provided from a driveway along Triunfo Canyon Road near the western boundary of the Project site, which includes a coded gate with a camera, as well as fire key access on the gate. The Project also would provide widening and improvements for fire safety purposes including additional paving in two areas for dead-end and intermediate fire apparatus access road turnarounds (refer to Figure 6, Project Site Plan). As previously described, the LACoFD would require Brookview to provide a bridge over Triunfo Creek; therefore, as part of the Project, Brookview would construct an approximately 196-ft. by 20-ft. steel bridge with a concrete deck over an existing concrete swale (or Arizona crossing) in Triunfo Creek as the new means of ingress and egress from the Project site. Triunfo Creek is an intermittent stream, and the proposed bridge would be located at the entrance to the Project site.

[16] The Project includes a request that this maximum guest count not include event staff, including caterers, photographers, and similar vendors.

Proposed Landscaping, Vegetation, and Fuel Modification

Similar to the existing uses, the Project site would be primarily landscaped with existing European olive (*Olea europaea*) and Peruvian pepper trees (*Schinus molle*). Project site landscaping includes Scrub Oak (*Quercus berberidifolia*), Pine trees (*Pinus sp.*), Bigleaf Maples (*Acer macrophylium*), and Eucalyptus trees (*Eucalyptus sp.*). Per the LACoFD regulations, landscaping and vegetation located within Fuel Modification Zone A[17] would consist primarily of lawns and ground covers not exceeding six inches in height and trees would generally not be recommended to ensure defensible space in a fire environment. As noted on the approved Project Fuel Modification Plans provided on **Figure 8, Approved Fuel Modification Plan**, non-compliant vegetation located within Zone A would be removed.

Proposed Utilities and Service Systems

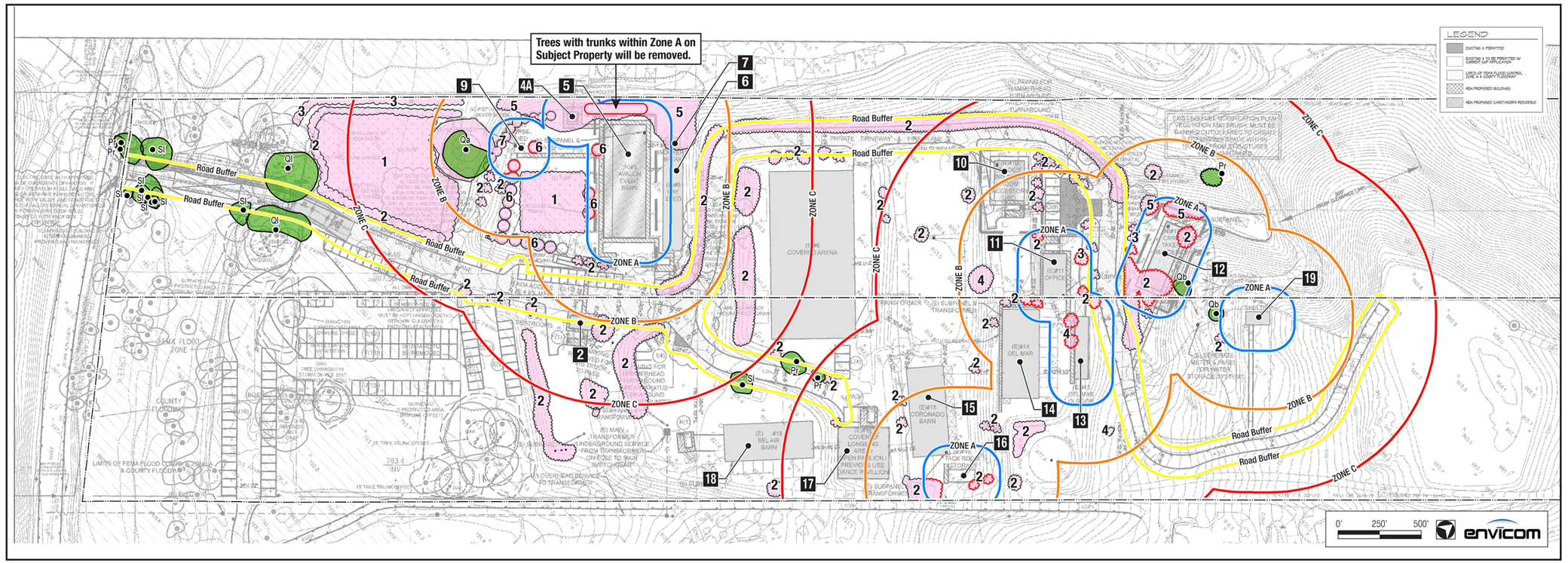
As previously described, three 10,000-gallon water storage tanks are located on-site and draw groundwater for site irrigation. The 10,000-gallon water storage tanks also gravity feed water to two fire hydrants located on the Project site. One 5,000-gallon aboveground water pump is located on-site and draws from the existing LVMWD water main (buried in the Arizona crossing) to provide potable water to the Project site, including the Del Mar Barn (Building #14), Coronado Barn (Building #15),[18] Bel Air Barn (Building #18), office (Building #11), Avalon Barn (Building #5), Caretaker's Residence (Building #12), and Bride's Dressing Room (Building #10).[19] This potable water is fed with a ¾-inch line, and a pump pressurizes the water for the Project site.

The Project would continue to use the existing provider for potable water and fire water, the LVMWD, and Brookview would continue to irrigate the site from its groundwater wells. However, as required by the LACoFD, Brookview proposes to construct a six-inch water main across the bridge and onto the property, and to replace the two existing hydrants with two new hydrants to support LACoFD's fire-fighting capabilities. Rather than being fed by the three 10,000-gallon water tanks, the two new hydrants would be fed directly from the new water main that would extend through the Project site from a point of connection with an existing water main in Triunfo Canyon Road, to assure adequate fire flow and pressure meeting LACoFD fire flow standards. The proposed water main across the bridge would be used only for firefighting purposes. This water main also would provide fire water service to the fire sprinkler systems to be installed in the office (Building #11), hay shed (Building #6), Bride's Dressing Room (Building #10), Caretaker's Residence (Building #12), and Avalon Event Barn (Building #5). The locations of the proposed water lines and fire hydrants are shown on **Figure 9, Proposed Water Plan**. Potable water service would be provided to the Avalon Event Barn (#5) and the new Caretaker's Residence (Building #12) by the same water line that currently serves the structures at these locations, added to the Tack/Storage Room (#16) (as an extension to the existing service from the Coronado Barn (#15), and re-established for the remaining uses that were damaged in the Woolsey Fire that would be reconstructed (the previous water lines remain intact). As described above, the Project does not propose an increase in the number of events held per year, nor to the number of guests, and there would be no changes to the equestrian operations. Therefore, the water demand of the Project would be similar to existing conditions.

[17] Zone A (Setback Zone) extends 30 feet beyond the edge of any combustible structure, accessory structure, appendage or projection.

[18] The Coronado barn was damaged by the Woolsey Fire and currently does not generate a demand for potable water. However, the water infrastructure to this facility remains intact.

[19] The Bride's Dressing Room was damaged by the Woolsey Fire and currently does not generate a demand for potable water. However, the water infrastructure to this facility remains intact.



Brookview Ranch

APN 2063-003-026, APN 2063-003-028

2972 Triunfo Canyon Road, Agoura Hills, Ca 91301

Fuel Modification Zones

- **Zone A –** Setback Zone (30-Ft.)
- **Zone B –** Irrigated Zone (100-Ft.)
- **Zone C –** Native Brush Thinning Zone (200-Ft.)
- **Road Buffer –** Setback from Road (10-Ft.)

Vegetation

Surveyed Existing Native Species

- **Pr -** Western Sycamore *(Platanus racemosa)*
- **Sl -** Arroyo Willow *(Salix lasiolepis)*
- **Qa -** Coast Live Oak *(Quercus agrifolia)*
- **Ql -** Valley Oak *(Quercus lobata)*
- **Qb -** Scrub Oak *(Quercus berberidifolia)*

Existing Ornamental Vegetation & Landscaping

- **1 -** Turf
- **2 -** Peruvian Peppertree *(Schinus molle)*
- **3 -** Pine *(Pinus sp.)*
- **4 -** Bigleaf Maple *(Acer macrophyllum)*
- **5 -** Eucalyptus *(Eucalyptus sp.)*
- **6 -** Common Olive *(Olea europaea)*
- **7 -** Silver Sheen *(Pittosporum tenuifolium)*
- Tree To Be Removed (Located within Zone A)
- # Building Callouts

3955

COUNTY OF LOS ANGELES
FIRE DEPARTMENT
PREVENTION SERVICES BUREAU
FINAL
FUEL MODIFICATION PLAN
APPROVED

By R Walker Date 2/3/2021
FUEL MODIFICATION UNIT

The stamping of this plan and specifications SHALL NOT be held to permit or to be an approval of the violation of any provisions of any County/City or State law

- Existing vegetation to be evaluated during an on-site inspection. Extent of modification required, if any, to be determined during on-site inspection.
- Owner/contractor may request on-site inspection at any time.

ASSESSMENT NOTES AND MAINTENANCE AGREEMENT FOR FUEL MODIFICATION PLAN

Zone A – Setback Zone

- Extends 30 feet beyond the edge of any combustible structure, accessory structure, appendage or projection. Overhangs or parts of structures not accurately reflected on the plans may negate the approval of plant location on the approved plan.
- Irrigation by automatic or manual systems shall be provided to maintain healthy vegetation and fire resistance.
- Vegetation in this zone shall consist primarily of green lawns, ground covers not exceeding 6 inches in height, and adequately spaced shrubs. The overall landscape characteristics shall provide adequate defensible space in a fire environment.
- Plants in Zone A shall be inherently highly fire resistant and appropriately spaced. Species selection should reference the Fuel Modification Plant List. Other species may be used subject to approval. Plans re-submitted 6 months after the initial review will be evaluated based on the current Fuel Modification Plant List, available from the Fuel Modification Unit.
- Trees are generally not recommended, except for dwarf varieties or mature trees small in stature.
- Target species will typically not be allowed within 30 feet of combustible structures and may require removal if existing.
- Vines and climbing plants shall not be allowed on any combustible structure requiring review.

Zone B – Irrigated Zone

- Extends from the outer edge of Zone A to 100 feet from structures.
- Irrigation by automatic or manual systems shall be provided to maintain healthy vegetation and fire resistance.
- Vegetation in this zone shall primarily consist of green lawns, ground covers, and adequately spaced shrubs and trees.
- Unless otherwise approved, ground covers shall be maintained at a height not to exceed 6 inches. On slopes, 12 inches is acceptable within 50 feet of a structure, and 18 inches beyond 50 feet. The overall landscape characteristics shall provide adequate defensible space in a fire environment. Specimen native plants may be approved to remain if properly maintained for adequate defensible space. Annual grasses or weeds shall be maintained at a height not to exceed 3 inches.
- Plants shall be fire resistant and appropriately spaced. Plant selection should reference the Fuel Modification Plant List. Other plants may be used subject to approval.
- Replacement planting to meet minimum City or County slope coverage requirements or ordinances will be considered. In all cases, the overall landscape characteristics shall provide adequate defensible space in a fire environment.
- Target species may require removal within 50 feet of structures, depending on site conditions.
- All trees, unless otherwise approved, shall be planted far enough from structures and Fire access roads, as to not overhang any structure or access at maturity.

Zone C – Thinning Zone

- Extends from the outer edge of Zone B up to 200 feet from structures or to the property line.
- Required thinning and clearance will be determined upon inspection.
- Irrigation systems are not required.
- Vegetation may consist of modified existing native plants, adequately spaced ornamental shrubs and trees, or both. Replacement planting to meet minimum City or County slope coverage requirements or ordinances will be considered. In all cases, the overall landscape characteristics shall provide adequate defensible space in a fire environment.
- Extends from the outer edge of Zone B up to 200 feet from structures or to the property line.
- Required thinning and clearance will be determined upon inspection.
- Irrigation systems are not required.
- Vegetation may consist of modified existing native plants, adequately spaced ornamental shrubs and trees, or both. Replacement planting to meet minimum City or County slope coverage requirements or ordinances will be considered. In all cases, the overall landscape characteristics shall provide adequate defensible space in a fire environment.
- Plants shall be spaced appropriately. Existing native vegetation shall be modified by thinning and removal of plants constituting a fire risk; these include, but are not limited to: chamise, sage, sage brush, and buckwheat.
- General spacing for existing native shrubs or groups of shrubs is 15 feet between canopies. Native plants may be thinned by reduced amounts as the distance from development increases.
- Annual grasses and weeds shall be maintained at a height not to exceed 3 inches.
- General spacing for existing native trees or groups of trees is 30 feet between canopies. This distance may vary depending on the slope, arrangement of trees in relation to slope, and the tree species.

Fire Access Road Zone

- Extends a minimum of 10 feet from the edge of any public or private road used by fire-fighting resources.
- Clear and remove flammable growth for a minimum of 10 feet on each side of Fire Access Roads (Fire Code 325.10). Additional clearance beyond 10 feet may be required upon inspection.
- Fire Access Roads, driveways and turnarounds shall be maintained in accordance with Fire Code. Fire Access Roads shall have unobstructed vertical clearance clear to the sky for a width of 20 feet (Fire Code 503.2.1).
- Remaining plants shall be appropriately spaced and maintained to provide safe egress in wildland fire environments.
- All trees, unless otherwise approved, shall be planted far enough from structures and Fire Access Roads, as to not overhang any structure or access at maturity.

Maintenance

Routine maintenance shall be regularly performed in all zones. Requirements include items in the Fuel Modification Guidelines and those outlined below:

- Removal or thinning of undesirable combustible vegetation and removal of dead or dying plants to meet minimum brush clearance requirements.
- Pruning and thinning to reduce the overall fuel load and continuity of fuels.
- Fuel loads shall be reduced by pruning lower branches of trees and tree-form shrubs to 1/3 of their height, or 6 feet from lowest hanging branches to the ground, to help prevent fire from spreading and make maintenance easier. Trees with understory plants should be limbed up at least three times the height of the underlying vegetation or up to one third the height of the tree, whichever is less, to help prevent fire from spreading upward into the crown.
- Accumulated plant litter and dead wood shall be removed. Debris and trimmings produced by maintenance should be removed from the site or chipped and evenly dispersed in the same area to a maximum depth of 6 inches.
- All invasive species and their parts should be removed from the site.
- Manual and automatic irrigation systems shall be maintained for operational integrity and programming. Effectiveness should be regularly evaluated to avoid over or under-watering.
- Compliance with the Fire Code is a year-round responsibility. Enforcement will occur following inspection by the Fire Department. Annual inspections for brush clearance code requirements are conducted following the natural drying of grasses and fine fuels, between the months of April and June depending on geographic region. Inspection for compliance with an approved Fuel Modification Plan may occur at any time of year.
- Brush Clearance enforcement issues on adjacent properties should be directed to

the County of Los Angeles Fire Department's Brush Clearance Unit at (626) 969-2375.

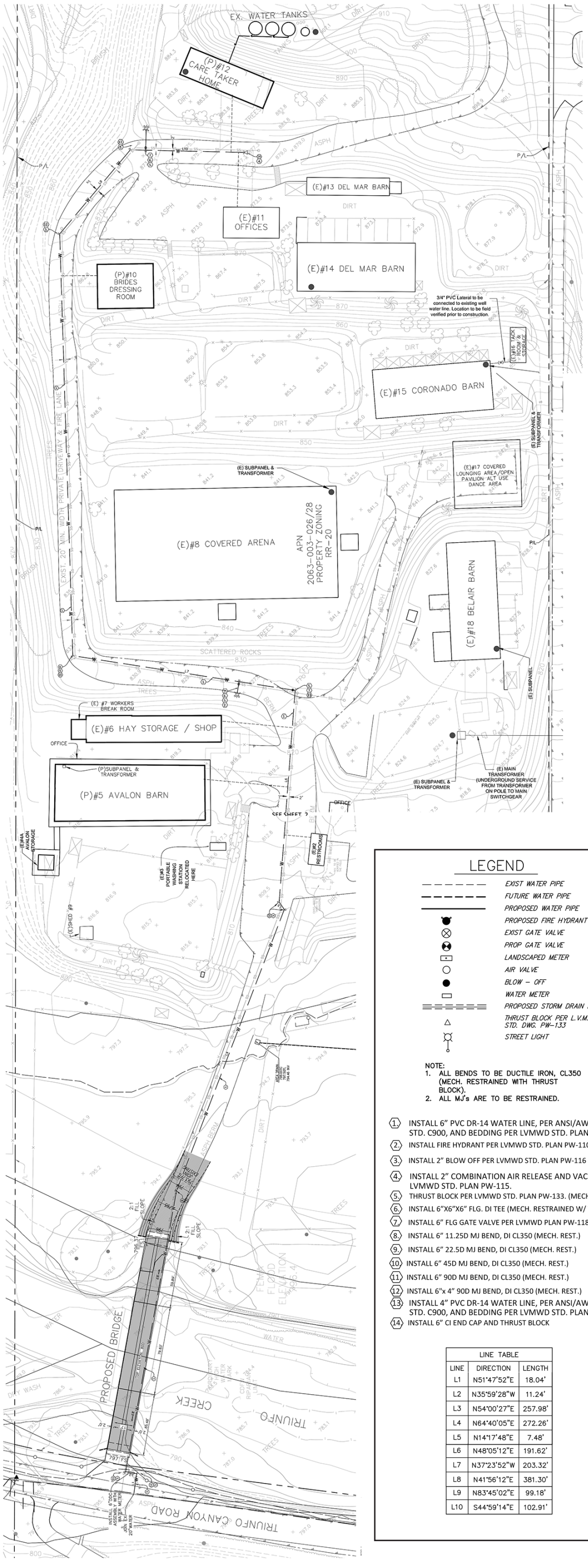
- All future plantings shall be in accordance with the County of Los Angeles Fire Department Fuel Modification Guidelines and approved prior to installation. Changes to the approved plan which require an additional plan review will incur a plan review fee.
- Questions regarding landscape planting and maintenance with regard to fire safety should be directed to the Fire Department's Fuel Modification Unit at (626) 969-5205.

Sensitive Natural Vegetation Communities / Vegetation

Riparian Habitat, Oak Trees / Scrub Oaks, and Oak Woodlands occur within the fuel modification zones and in the vicinity of roadways that may be used as access for fire-fighting apparatus or resources. Requirements to protect these resources during fuel modification maintenance activities include the following:

- Riparian Habitats – Fuel modification maintenance activities within riparian habitats shall be limited to the removal of deadwood and debris.
- Oak Species – Fuel modification activities within close proximity of oak trees and scrub oaks in native habitats shall be limited to the removal of deadwood, debris, invasive weeds, and particularly flammable species. Oak trees and scrub oaks in native habitats shall not be removed or pruned except to relieve a potential safety hazard. Pruning of native oaks must be approved via permit through the LACoFD Forestry Environmental Review Unit and shall be performed in accordance with International Society of Arboriculture Pruning Standards and ANSI A-300 Pruning Guidelines.
- Oak Woodlands – Fuel modification activities within oak woodlands shall be limited to the removal of deadwood, debris, invasive weeds, and particularly flammable species, as to prevent the laddering of fuels. To the extent possible, native shrubs and herbs in oak woodlands shall be retained.

Approval of this Fuel Modification Plan constitutes approval for only those Codes reviewed as part of the Fuel Modification process and does not replace the needed approval of any other office or agency with jurisdiction and review responsibility for those items which may or may not be illustrated on the plan.



LEGEND

- EXIST WATER PIPE
- FUTURE WATER PIPE
- PROPOSED WATER PIPE
- PROPOSED FIRE HYDRANT
- EXIST GATE VALVE
- PROP GATE VALVE
- LANDSCAPED METER
- AIR VALVE
- BLOW – OFF
- WATER METER
- PROPOSED STORM DRAIN PIPE
- THRUST BLOCK PER L.V.M.W.D. STD. DWG. PW-133
- STREET LIGHT

NOTE:
1. ALL BENDS TO BE DUCTILE IRON, CL350 (MECH. RESTRAINED WITH THRUST BLOCK).
2. ALL MJ's ARE TO BE RESTRAINED.

1. INSTALL 6" PVC DR-14 WATER LINE, PER ANSI/AWWA STD. C900, AND BEDDING PER LVMWD STD. PLAN PW-101.
2. INSTALL FIRE HYDRANT PER LVMWD STD. PLAN PW-110.
3. INSTALL 2" BLOW OFF PER LVMWD STD. PLAN PW-116
4. INSTALL 2" COMBINATION AIR RELEASE AND VACUUM VALVE PER LVMWD STD. PLAN PW-115.
5. THRUST BLOCK PER LVMWD STD. PLAN PW-133. (MECH. REST.)
6. INSTALL 6"X6"X6" FLG. DI TEE (MECH. RESTRAINED W/ THRUST BLOCK)
7. INSTALL 6" FLG GATE VALVE PER LVMWD PLAN PW-118, W/ MJXFE ADAPTOR.
8. INSTALL 6" 11.25D MJ BEND, DI CL350 (MECH. REST.)
9. INSTALL 6" 22.5D MJ BEND, DI CL350 (MECH. REST.)
10. INSTALL 6" 45D MJ BEND, DI CL350 (MECH. REST.)
11. INSTALL 6" 90D MJ BEND, DI CL350 (MECH. REST.)
12. INSTALL 6"x 4" 90D MJ BEND, DI CL350 (MECH. REST.)
13. INSTALL 4" PVC DR-14 WATER LINE, PER ANSI/AWWA STD. C900, AND BEDDING PER LVMWD STD. PLAN PW-101.
14. INSTALL 6" CI END CAP AND THRUST BLOCK

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N51°47'52"E	18.04'
L2	N35°59'28"W	11.24'
L3	N54°00'27"E	257.98'
L4	N64°40'05"E	272.26'
L5	N14°17'48"E	7.48'
L6	N48°05'12"E	191.62'
L7	N37°23'52"W	203.32'
L8	N41°56'12"E	381.30'
L9	N83°45'02"E	99.18'
L10	S44°59'14"E	102.91'

Source: Sikand Engineering Associates, Water Plan.

SCE would continue to provide electricity and Waste Management would continue to provide trash and recycling services to the Project site after development of the Project. An additional 500-gallon aboveground propane tank to serve the site, which also would be serviced by Amerigas twice per year, would be added to the site, along with the existing propane tank. Brookview would continue to use Geiger to provide gas and diesel fuel for its farm equipment. As the Project would not increase the capacity or frequency of event or equestrian operations, it would not result in a substantial increase in the demand for these utilities or services.

As the Project proposes no changes in the frequency or capacity of existing event or equestrian operations, the existing permitted OWTS could continue to serve these land uses following Project approval. The wastewater generation of the Project would be similar to existing conditions. However, the County Public Health Department requires that Brookview Ranch connect to local municipal wastewater infrastructure, now that such a system exists in Triunfo Canyon Road. The components of the existing OWTS would be abandoned in place. The following buildings would be connected to the sanitary sewer infrastructure in Triunfo Canyon Road by four-inch or six-inch lines: the restrooms (Building #2), Avalon Event Barn (Building #5), hay shed (Building #6), Bride's Dressing Room (Building #10), office (Building #11), Caretaker's Residence (Building #12), tack room/storage (Building #16), and Bel Air Barn (Building #18). The location of the proposed sanitary sewer system is shown in **Figure 10, Proposed Sewer Plan**.

REQUIRED ACTIONS AND APPROVALS AND RELATED COUNTY COMMUNITY PLANNING EFFORTS

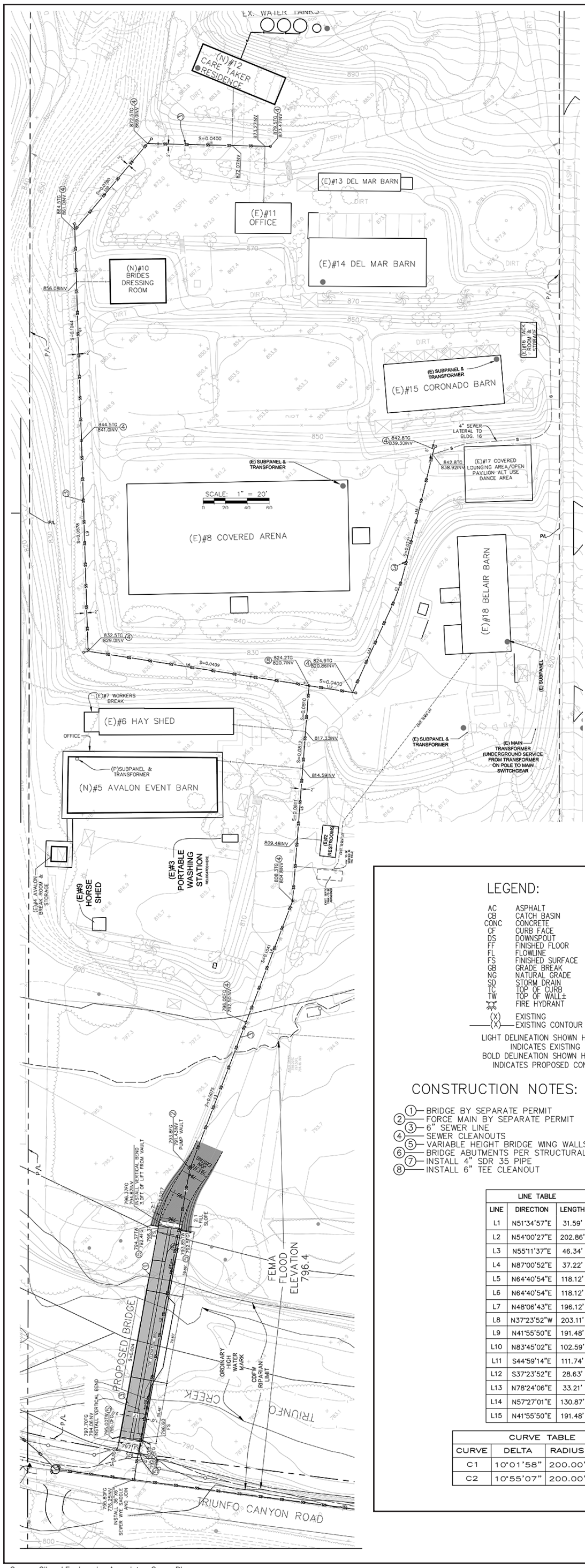
As previously stated, the Project site is located in the R-R zone and within the SMMNAP and SMMNACSD. The existing land uses, consisting of the outdoor event and equestrian operations and the Caretaker's Residence, are consistent with this zoning. The proposed indoor event facility reception building, which would replace the existing outdoor dance pavilion and would reduce noise effects in the Project site vicinity, is not currently permitted in the R-R zone.

However, the DRP is proposing a comprehensive update to the SMMNAP, in order to address community concerns and to strengthen existing policies that would ensure the continued protection of environmental resources and the region's rural and semi-rural lifestyle. Corresponding changes to the SMMNACSD also would be proposed to implement the updated SMMNAP policies. The completion date of these long-range planning efforts was November 2020, but drafts of the SMMNAP and SMMNACSD were made available to the public in October 2018, with revisions made in August 2019 and later in May 2020. The Final EIR for the SMMNAP and CSD update was made available on September 3, 2020, with a public hearing before the Regional Planning Commission conducted on October 7, 2020 and the Board of Supervisors on November 24, 2020. The effective date of the updated SMMNAP and SMMNACSD are anticipated for 2021 once they are adopted by the Board of Supervisors.

The draft revised language for Chapter 22.336 of the Zoning Code (SMMNACSD) provides a definition for event facilities, which does not currently exist in the Zoning Code:

> "Event Facility. A place of private or public assembly, either indoor or outdoor, that hosts functions which include, but are not limited to, weddings, receptions, wine clubs, banquets, anniversaries, meetings or conferences."

Per the draft revised language for Chapter 22.336.070 (F) (Community-wide Development Standards, Event Facilities) of the Zoning Code, a CUP is required to establish, maintain, or operate an event facility. The maximum number of attendees for a given event is limited to 200 persons, including, but not limited to, any event staff, caterers, photographers, and vendors. However, the number of attendees may be increased or decreased at the discretion of the County. In addition, all properties that currently operate as outdoor dance



LEGEND:

AC	ASPHALT
CB	CATCH BASIN
CONC	CONCRETE
CF	CURB FACE
DS	DOWNSPOUT
FF	FINISHED FLOOR
FL	FLOWLINE
FS	FINISHED SURFACE
GB	GRADE BREAK
NG	NATURAL GRADE
SD	STORM DRAIN
TC	TOP OF CURB
TW	TOP OF WALL±
	FIRE HYDRANT
(X)	EXISTING
(X)	EXISTING CONTOUR

LIGHT DELINEATION SHOWN HEREON INDICATES EXISTING
BOLD DELINEATION SHOWN HEREON INDICATES PROPOSED CONST.

CONSTRUCTION NOTES: ON-SITE

1. BRIDGE BY SEPARATE PERMIT
2. FORCE MAIN BY SEPARATE PERMIT
3. 6" SEWER LINE
4. SEWER CLEANOUTS
5. VARIABLE HEIGHT BRIDGE WING WALLS PER SEPARATE PERMIT
6. BRIDGE ABUTMENTS PER STRUCTURAL PLAN
7. INSTALL 4" SDR 35 PIPE
8. INSTALL 6" TEE CLEANOUT

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N51°34'57"E	31.59'
L2	N54°00'27"E	202.86'
L3	N55°11'37"E	46.34'
L4	N87°00'52"E	37.22'
L5	N64°40'54"E	118.12'
L6	N64°40'54"E	118.12'
L7	N48°06'43"E	196.12'
L8	N37°23'52"W	203.11'
L9	N41°55'50"E	191.48'
L10	N83°45'02"E	102.59'
L11	S44°59'14"E	111.74'
L12	S37°23'52"E	28.63'
L13	N78°24'06"E	33.21'
L14	N57°27'01"E	130.87'
L15	N41°55'50"E	191.48'

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	10°01'58"	200.00'	35.02'
C2	10°55'07"	200.00'	38.11'

Source: Sikand Engineering Associates, Sewer Plan.

pavilions or event venues shall be considered non-conforming and must obtain a CUP within three years of the effective date of the ordinance in order to operate.

The draft revised language for Chapter 22.336 of the Zoning Code (SMMNACSD) also defines horse boarding and riding academies, as follows:

> "Horse Boarding, Large. The maintenance and/or keeping of equines boarded with or without compensation as a primary use. Commercial boarding may include commercial training or riding of horses or other equines; or courses in horsemanship."
>
> "Horse Boarding, Small. The maintenance and/or keeping of equines owned by persons who are not owners or lessees of the lot or parcel upon which such actions are undertaken, boarded with or without compensation as an accessory to a primary residential use."
>
> "Riding Academies. Any establishment where horses are kept or maintained for the purpose of providing lessons or instruction in equestrianism, including but not limited to dressage and horse jumping."

The requirements for horse boarding facilities, including large and small boarding facilities, is a minimum lot size of one acre for equestrian facilities, and the number of equines permitted per lot shall be limited to one per 5,000 SF of lot area. At 23 acres in size, the Project site could house up to 200 horses. (Small horse boarding is limited to a maximum of 20 equines, including any equines owned by the owner or lessor of the property, and training of horses shall be limited to horses owned by the property owner or boarder). The draft revised language for Chapter 22.336 of the Zoning Code also states that all legally established non-conforming equestrian facilities may continue operation under the development standards in place at the time of establishment, subject to compliance with Best Management Practices (BMPs) that also would be included in the revised Zoning Code.

In addition, per Section 22.140.140 of the Zoning Code, the proposed Caretaker's Residence is allowed in the R-R zone.

It is anticipated that consideration of the Project would follow adoption of the revised SMMNAP and SMMNACSD. As such, the proposed uses would be substantially consistent with the site zoning, land use designation, and these applicable plans. However, the Project would require the following discretionary actions:

- A SEA CUP from the County of Los Angeles Department of Regional Planning to approve the proposed uses and continuation of operations within a SEA and permit an event facility reception building and Caretaker's Residence;
- Site Plan Review for horse boarding and riding academies;
- An Oak Tree Permit; and
- Certification of an EIR.

Water service from the LVMWD for fire suppression also would require the installation of a Detector Check Meter, an easement for the LVMWD for access to the Detector Check Meter, and the payment of plan check, inspection, and easement fees to the LVMWD. The Applicant also would be required to enter into a Financial Agreement with the LVMWD and to pay a sewer connection fee to establish a connection to LVMWD's sanitary sewer system.

In addition, the Project requires approval of an updated Fuel Modification Plan from the LACoFD, which was obtained on February 3, 2021 (refer to Figure 8). The Project also would require ministerial demolition, grading, and building permits from the Department of Public Works.

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources the Lead Department cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3) Once the Lead Department has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level. (Mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced.)
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA processes, an effect has been adequately analyzed in an earlier EIR or negative declaration. (State CEQA Guidelines § 15063(c)(3)(D).) In this case, a brief discussion should identify the following:
    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of, and adequately analyzed in, an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
7) The explanation of each issue should identify: the significance threshold, if any, used to evaluate each question, and; mitigation measures identified, if any, to reduce the impact to less than significant. Sources of thresholds include the County General Plan, other County planning documents, and County ordinances. Some thresholds are unique to geographical locations.

1. AESTHETICS

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐

Less Than Significant Impact. According to Chapter 9, Conservation and Natural Resources Element, of the County General Plan, scenic highways and corridors (or routes), hillsides, and ridgelines are recognized by the County as valuable scenic resources. In addition, Policy CO-77 of the September 2020 Draft SMMNAP, is to:

> "Protect public views within Scenic Areas and throughout the North Area. Places on, along, within, or visible from Scenic Routes, public parklands, public trails, and state waters that offer scenic vistas of the mountains, canyons, and other unique natural features are considered Scenic Resource Areas. Scenic Resource Areas do not include areas that are largely developed such as existing, predominantly built-out residential subdivisions."[20]

The County also identifies a scenic viewshed as a scenic vista (i.e., view) from a given location, such as a highway, a park, a hiking trail, river/waterway, or even from a particular neighborhood. Scenic viewsheds vary by location, and they may include ridgelines, unique rock outcroppings, waterfalls, ocean views, and other scenic landforms.[21] No specific views or corridors are identified by the County for conservation purposes.[22] The Project site is not located within the vicinity of a designated or eligible State scenic highway.[23] However, the Project site includes scenic resources in the form of vegetated hillsides, Triunfo Creek, and three County-designated significant ridgelines, in addition to Ladyface Ridge. The closest County-designated significant ridgeline is partially located on at the northeastern portion of the Project site, outside the development footprint.[24] Portions of the Project site are visible from Triunfo Canyon Road, Kanan Road (a County-designated scenic route), and ridgelines and trails in the Project vicinity, including the Westlake-Triunfo-Paramount Connector Trail.

As previously described, the Project site uses have been operated by Brookview Ranch since 2016, with several buildings associated with events and equestrian uses. This development is interspersed with landscaped areas in addition to natural vegetation, located along Triunfo Creek and in the northeastern portions of the site. While fire damage was prevalent in the non-developed portions of the Project site and survey area (which was comprised of a 200-foot buffer) during biological surveys conducted in 2019, a review of aerial photographs prior to the Woolsey Fire indicates historic native habitats included scrub oak chaparral, coastal scrub, woodlands, annual grasslands, riparian woodlands, and individual oak trees.

[20] Los Angeles County Department of Regional Planning. 2020. Draft Santa Monica Mountains North Area Plan. September.
[21] Los Angeles County. 2015. General Plan. Adopted October 6.
[22] County of Los Angeles. 2014. Los Angeles County General Plan Update Draft Environmental Impact Report. State Clearinghouse No. 2011081042. June.
[23] County of Los Angeles Department of Regional Planning. GIS-NET Public. Available at: http://planning.lacounty.gov/gis/interactive. Accessed on January 5, 2021.
[24] Ibid.

The Project involves the demolition or disassembly of multiple existing structures, reconstruction of fire-damaged structures, construction of a new indoor event facility reception building and new Caretaker's Residence, and construction of a bridge over the existing concrete Arizona crossing to improve public safety. These facilities would be constructed in the existing developed/disturbed areas of the Project site. The Project improvements would be compatible with the natural surroundings, reflecting a simple, contemporary style that includes plywood buildings, fiber cement walls, fiberglass or wood-clad windows and asphalt shingle cool roofing. Overall, the proposed indoor event facility reception building and replacement structures would increase the height of structures on the Project site. The new indoor event facility reception building would replace the existing 12-ft. and 6-in. high Avalon Barn with a 30-ft. high structure with three, 5-ft. accent cupolas. The new Bride's Dressing Room (21-ft. and 7-in. in height with two, 5-ft. and 2-in. accent cupolas) would replace the fire-damaged Bride's Dressing Room (12-ft. and 6-in. in height). The new Caretaker's Residence (27-ft. and 9-in. in height with a 3-ft. high chimney) would replace the existing Caretaker's Residence (12 ft. and 3 in. in height). The fire-damaged Coronado Barn (12-ft. and 6-in. in height) would be reconstructed from components of the Avalon Barn and also would be 12-ft. and 6-in. in height. However, existing structures on the Project site that would remain in place also include a variety of heights, including the office of 12 ft. in height; the Bel Air Barn of 14 ft. in height; the outdoor dance pavilion of 18 ft. in height (which would be repurposed into a horse barn but not modified structurally); the hay barn/storage structure of 20 ft. in height; Building 19 shelter of 13 ft. in height; and the indoor arena of 30 feet in height.

Due to the previously developed condition of the site and adjacent properties, trees that are located throughout the site that obscure views of several of these structures, variations in on- and off-site topography, and/or the distance of the structures from both Triunfo Canyon Road and Kanan Road and from public trails and significant ridgelines, the proposed structures and increases in height as proposed would not create new obstructions of views of scenic vistas, and the Project would have a less than significant impact on scenic vistas and would not conflict with the County General Plan or September 2020 Draft SMMNAP goals and policies related to scenic vistas. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

b) Be visible from or obstruct views from a regional riding, hiking, or multi-use trail?	☐	☐	☒	☐

Less Than Significant Impact. The Project site is located within the Santa Monica Mountains, which includes the Santa Monica Mountains National Recreational Area and several federal, State, and local parks and trails, which are used for hiking, equestrian riding, and bicycle riding.[25] The trail closest to the Project site, which is adjacent to the northeastern corner of the site, is the Westlake-Triunfo-Paramount Connector Trail.[26] This National Park Service (NPS) trail is located to the east of the Project and provides views of the Project site and surrounding areas.[27] Other trails within the vicinity include the Pentachaeta Trail, located northwest of the site, and the Paramount Ridge Trail and Chihuahua Trail, both located east of the Project site. The Project site is visible from portions of some of these public trails. However, as described above, the Project would not substantially alter existing views from trails. The proposed development would be consistent with existing land uses, would occur within the previously developed/disturbed portions of the site, and would be designed to be consistent in style and height with the existing structures and natural surroundings. The Project would result in a less than significant impact to views from riding or hiking trails. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

[25] Los Angeles County Department of Regional Planning. 2000. The Santa Monica Mountains North Area Plan. October 24.
[26] National Park Service Trail Inventory. 2012.
[27] Google Earth. 2017. 2927 Triunfo Canyon Road. Accessed on August 5, 2019.

c) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? ☐ ☐ ☐ ☒

No Impact. According to the California Scenic Highway Mapping System, there are no designated State Scenic Highways in the immediate vicinity of the Project site.[28] The nearest State Scenic Highway to the Project site is Mulholland Highway (from Highway 1 to Kanan Dume Road, and from west of Cornell Road to east of Las Virgenes Road), the closest segment of which is not included with the State Scenic Highway designation (the designation applies to only the two segments of the entire highway). Given that the Project site's distance to the nearest non-designated segment of Mulholland Highway is approximately 5,000 ft., the Project site is not visible from a designated State Scenic Highway. Therefore, the Project would result in no impact regarding substantial damage to a scenic resource within a State Scenic Highway. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

Kanan Road is a County-designated scenic route, and limited views of the Project site are visible from portions of Kanan Road (south of the Project site). However, as described above, due to the previously developed condition of the site, trees that are located throughout the site that obscure views of several of these structures, variations in on- and off-site topography, and/or the distance of the structures from Kanan Road, the proposed structures and increases in height as proposed would not create new obstructions of views from the Kanan Road scenic route.

d) Substantially degrade the existing visual character or quality of public views of the site and its surroundings because of height, bulk, pattern, scale, character, or other features and/or conflict with applicable zoning and other regulations governing scenic quality? (Public views are those that are experienced from publicly accessible vantage point) ☐ ☐ ☒ ☐

Less Than Significant Impact. The Project site is currently populated by event and equestrian buildings, barns, and ancillary structures associated with event uses, equestrian uses, or both. The Project includes the replacement and improvement of these facilities to support events and equestrian operations. As previously described, the Project would be developed in previously disturbed areas of the Project site and would be designed to be consistent with existing on-site structures in terms of style, height and massing. The Project improvements would be compatible with the natural surroundings, reflecting a simple, contemporary style that includes plywood buildings, fiber cement walls, fiberglass or wood-clad windows and asphalt shingle cool roofing. Therefore, the Project would have a less than significant impact related to the degradation of the existing visual character and quality of the site and its surroundings. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

e) Create a new source of substantial shadows, light, or glare which would adversely affect day or nighttime views in the area? ☐ ☐ ☒ ☐

Less Than Significant Impact. The Project site is currently developed and includes multiple structures, as well as landscaping and trees, that provide shading on-site. The structures are limited in height and do not cast shadows off-site that affect daytime views in the area. As previously described, the heights of the proposed

[28] CalTrans. California Scenic Highway Mapping System Los Angeles County. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm. Accessed on March 5, 2019.

and replacement structures on the Project site would increase incrementally, but not to an extent that would create shadows off-site that affect daytime views.

The Project site falls within the Rural Outdoor Lighting District, an amendment to Title 22 of the Los Angeles County Code, established to promote dark skies for the enjoyment and health of humans and wildlife while permitting reasonable uses of outdoor lighting for nighttime safety and security.[29] The Project will also be subject to the lighting standards of the Draft SMMNACSD for event facilities and for outdoor lighting, once adopted, which includes the provisions of the Rural Outdoor Lighting District, as well as limitations regarding the lighting of parcel perimeters, aesthetics, access roads and driveways, and equestrian pasture areas. The Draft SMMNACSD also includes additional lighting standards related to security and motion detection, walkways, light trespass, and hours of operation.[30] The Project site currently includes night lighting for security and wayfinding purposes, at the gate, parking lot, roadway, and ceremony areas. Existing lighting is hooded or shielded to focus light on-site and to avoid light trespass (i.e., spillover) onto adjacent properties, in compliance with Rural Outdoor Lighting District standards. The proposed replacement structures would require similar night lighting, which would be consistent with the intensity and coverage of existing on-site light sources and lighting in the surrounding community. Therefore, night lighting of the Project would be consistent with existing night lighting and would not substantially affect nighttime views in the Project area. The Project would comply with all regulations set forth by the Rural Outdoor Lighting District and the SMMNACSD, including limitations on allowable light trespass, fully shielding outdoor lighting, and imposing maximum heights on fixtures.[31] Compliance with County regulations would ensure the proposed exterior lighting would constitute a reasonable use of outdoor lighting and would ensure Project-related light sources remain directed on-site or on roadways, as appropriate.

With regard to glare, glare generation can occur from sunlight reflected from glass and other reflective materials that are sometimes utilized on buildings. Due to the relatively small size of the structures proposed for the site and minimal windows (as compared to multi-level buildings, for example), glare experienced as a result of sunlight reflecting off the structures would be temporary, changing with the movement of the sun throughout the course of the day and the seasons of the year. Glare associated with the Project would be minimal and no more than that typically associated with the existing Project site use and uses in the surrounding area. Project landscaping would further reduce the effects of glare by screening glare sources, such as windows. Therefore, potential glare impacts would be less than significant.

Based on the information above, the Project would result in a less than significant impact related to the creation of new sources of shadows, light, or glare that would adversely affect daytime or nighttime views in the Project area. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

[29] County of Los Angeles. Rural Outdoor Lighting District Map. Available at: http://planning.lacounty.gov/assets/upl/data/map_t07-rural_outdoor_lighting_district.pdf. Accessed on August 5, 2019.

[30] Los Angeles County Department of Regional Planning. 2020. Draft Santa Monica Mountains North Area Plan Community Standards District. November 24.

[31] Los Angeles County Department of Regional Planning. Rural Outdoor Lighting District Ordinance. Available at: http://planning.lacounty.gov/view/rural_outdoor_lighting_district_ordinance/. Accessed on August 5, 2019.

2. AGRICULTURE / FOREST

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project: **a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**	☐	☐	☐	☒

No Impact. According to the California Natural Resources Agency, Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program (FMMP), the Project site is not located within an area containing Prime Farmland, Unique Farmland, or other Farmland of Statewide Importance.[32] The Project site falls within the category "other land," which is land not included in other mapping categories and is vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres. No agricultural uses or related operations are present on the Project site or surrounding urban area. Therefore, the Project would result in no impact on FMMP-designated Important Farmlands and no mitigation measures are required. This topic does not warrant further environmental review in the EIR.

b) Conflict with existing zoning for agricultural use, with a designated Agricultural Resource Area, or with a Williamson Act contract?	☐	☐	☐	☒

No Impact. The Project site is located in the Resort and Recreation (R-R-20) zone. According to Title 22, Planning and Zoning, of the County Code, the R-R Zone is established to provide for outdoor recreation and agricultural uses that are suitable for development without significant impairment to the resources of the area.[33] Zone R-R-20 also recognizes some single-family residences, additional recreation uses, and limited commercial and public service facilities, subject to review and conditions to protect natural scenic or recreational value. The Project events and equestrian uses are consistent with the R-R-20 zoning.

Although the Project site and portions of the surrounding vicinity are zoned to allow agricultural uses, there is no farmland located at the Project site. The Project site is not located within Williamson Act Contract Land[34] and is mapped by the FMMP as and "other land," as described above. Therefore, as the Project would continue the existing on-site land uses, it would not conflict with zoning for agricultural use, with a designated

[32] California Natural Resources Agency. 2016. Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. Los Angeles County Important Farmland.
[33] County of Los Angeles Department of Regional Planning. Title 22, Planning and Zoning, Volume 1 (effective February 28, 2019).
[34] California Department of Conservation. 2017. State of California Williamson Act Contract Land.

Agricultural Resource Area, or with a Williamson Act contract. The Project would result in no impact and no mitigation measures are required. This topic does not warrant further environmental review in the EIR.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code § 12220 (g)), timberland (as defined in Public Resources Code § 4526), or timberland zoned Timberland Production (as defined in Government Code § 51104(g))?	☐	☐	☐	☒

No Impact. As described above, the Project site includes parcels that are zoned R-R-20. The Project site does not include parcels zoned for forest land, timberland, or timberland production by the County Zoning Code. In addition, per the California Public Resources Code (PRC), Division 10.5, California Forest Legacy Program Act of 2007, Chapter 1, General Provisions, Article 3, Definitions, Section 12220, forest land is "land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."[35] As Project site zoning does not allow for the management of forest resources, and since it is already developed, it does not meet the definition of forest land according to the PRC.

Furthermore, under the PRC, Division 4, Forests, Forestry and Range and Forage Lands, Part 2, Protection of Forests, Forestry and Range and Forage Lands, Chapter 8, Z'berg-Nejedly Forest Practice Act of 1973, Article 2, Definitions, timberland is "land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis."[36] As the Project site is not available for growing a crop of trees, it does not meet the PRC definition of timberland. Similarly, the Project site does not meet the definition of timberland production land, which is an area "…devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses," according to California Government Code, Title 5, Local Agencies, Division 1, Cities and Counties, Part 1, Duties and Powers Common to Cities and Counties, Chapter 6.7, Timberland, Article 1, General Provisions, Section 51104, Definitions.[37]

Based on the information provided above, the Project would have no impact related to forest land, timberland, or timberland production zoning and no mitigation measures are required. This topic does not warrant further environmental review in the EIR.

d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

No Impact. The Project would demolish, replace, and reconstruct facilities associated with outdoor events and equestrian operations. As described above, the Project site is not designated as forest land. Since the

[35] California Legislative Information. Public Resources Code, Division 10.5, Chapter 1, Article 3 (Section 12220g). Available at: https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PRC&division=10.5.&title=&part=&chapter=1.&article=3. Accessed on August 5, 2019.

[36] California Legislative Information. Public Resources Code, Division 4, Part 2, Chapter 8, Article 2. Available at: Available at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4526.&lawCode=PRC. Accessed on August 5, 2019.

[37] California Legislative Information. California Government Code, Title 5, Division 1, Part 1, Chapter 6.7, Article 1 (Section 51104g). Available at: https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=GOV&division=1.&title=5.&part=1.&chapter=6.7.&article=1. Accessed on August 5, 2019.

Project site would not result in the loss of forest land or convert designated forest land to non-forest use, it would result in no impact related to these issues and no mitigation measures are required. This topic does not warrant further environmental review in the EIR.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

No Impact. The Project site does not currently support agricultural uses. Furthermore, the Project site does not meet the State's definitions of forest land, timberland, or timberland production area. Therefore, the Project would not involve other changes to the existing environment that would result in the conversion of farmland to non-agricultural use or forest land to non-forest use. The Project would result in no impact to land designated for agriculture or forestry and no mitigation measures are required. This topic does not warrant further environmental review in the EIR.

3. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Conflict with or obstruct implementation of applicable air quality plans of either the South Coast AQMD (SCAQMD) or the Antelope Valley AQMD (AVAQMD)?	☐	☐	☒	☐

Less Than Significant Impact. The Project site is located within the South Coast Air Basin (SCAB), which is bounded by the Pacific Ocean to the south and west and mountains to the north and east. Air quality in the South Coast Air Basin is managed by the South Coast Air Quality Management District (SCAQMD). The SCAQMD and the Southern California Association of Governments (SCAG) are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the SCAB. On March 3, 2017, the SCAQMD approved the 2016 AQMP that includes the integrated strategies and measures needed to meet the National Ambient Air Quality Standards (NAAQS). The 2016 AQMP demonstrates attainment of the 1-hr and 8-hr ozone NAAQS as well as the latest 24-hour and annual 2.5-micron diameter particulate matter ($PM_{2.5}$) standards.[38]

Approval of the Project would reconstruct structures damaged by the Woolsey Fire, as well as provide other improvements on the site to allow the continuation of an existing on-site event venue (which has been operating since May 2016) and equestrian center operations, as well as to replace (and slightly enlarge) the existing Caretaker's Residence. Specifically, the Project would involve demolition of 7,509 sf of existing structures including the:

- 102-sf washing station;
- 1,008-sf refreshment stand;
- 144-sf storage facility;
- 273-sf hay shed;
- 1,123-sf Caretaker's Residence; and
- Disassembly of the 4,859-sf Avalon Barn (the materials are to be used to reconstruct an equestrian use barn (the Coronado Barn) recently damaged by the Woolsey Fire; however, this area is conservatively assumed as part of demolition).

Construction would include the:

- 4,713-sf Coronado Barn;
- 5,605-sf Avalon Event Barn;

[38] South Coast Air Quality Management District. AQMP. Available at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp. Accessed on July 21, 2020.

- 3,324-sf Caretaker's Residence; and
- 1,728-sf Bride's Dressing Room.

The Project would only marginally alter the overall square footage of on-site structures, with a net increase of approximately 1,407 sf. The Applicant proposes no changes to the equestrian operations, and the proposed event venue's main reception area would be the same as in the existing condition (3,600 sf) with event capacity also being restricted to attendance levels similar to average attendance levels currently served. As such, the proposed land use types, scale of development, and intensity of uses would not substantially differ from the existing conditions.

The Project also would construct a driveway bridge to fire department standards, which would require disposal of approximately six tons of debris, and import of approximately 50 cy of soil. All diesel-powered earth-moving equipment used during construction of all Project components, including the bridge, would be certified to meet Tier 4 emissions reduction standards of the U.S. Environmental Protection Agency (USEPA). Although construction of the bridge would not be anticipated to occur at the same time as the event center improvements, this evaluation combines the maximum daily construction emissions associated with the event center improvements and the bridge for a conservative evaluation of potential impacts if both components were constructed concurrently.

The Project site is located in the Resort and Recreation (R-R-20) zone. The Project's existing outdoor events, equestrian operations, and Caretaker's Residence are consistent with the Project site's zoning. The proposed uses would likewise be consistent with the allowed land uses for the site, with the exception of replacing the outdoor events pavilion with an indoor event facility reception building. However, this exception of providing an indoor event venue rather than an outdoor venue would not substantially conflict with the AQMP compared to the existing uses, as the intended use and allowed attendance levels would be similar to current operations under existing conditions.

Additionally, as evaluated below and supported by documentation provided in **Appendix A**, the Project's construction and operational daily maximum emission levels would not exceed SCAQMD significance thresholds and would be less than significant. Therefore, the Project would not conflict with or obstruct implementation of the applicable AQMP.

Based on the preceding evaluation, the potential for the Project to conflict with or obstruct implementation of the AQMP would be less than significant, no mitigation measures are required, and this issue does not warrant further analysis in the EIR.

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

Less Than Significant Impact. A Project-related air quality emissions analysis was performed using California Emissions Estimator Model (CalEEMod.2016.3.2), a model developed by the SCAQMD by which to calculate construction and operational emissions. The model calculates both the daily maximum and annual average emissions for criteria pollutants. Project CalEEMod output data is provided in Appendix A. The following analysis is based on a comparison of the Project's estimated emissions calculated by CalEEMod with SCAQMD Air Quality Significant Thresholds for construction and operations.

Construction Impacts

During construction, the Project would generate air pollutant emissions associated with the use of heavy equipment on the site during demolition of existing structures, grading, construction worker vehicle trips, construction of new buildings, repaving an asphalt driveway, and construction of a bridge. Common sources of emissions during construction include vehicle exhaust, fugitive dust from soil disturbance, and emissions from paints.

The SCAQMD's Rule 403 governs fugitive dust emissions from construction projects. This rule sets forth a list of control measures that must be undertaken for all construction projects to ensure that no dust emissions from the Project are visible beyond the property boundaries. Rule 403 dust control measures applicable to the Project during soil disturbance activities would include: (1) apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and (2) stabilize soils once earth-moving activities are complete. Additionally, track-out of soil and sediment from vehicle tires must be removed daily and not be allowed to extend on public roadways for 25 feet or more. Adherence to Rule 403 is mandatory.

The SCAQMD has also established thresholds for determining the significance of construction air quality impacts based on daily maximum emissions of criteria pollutants.[39] The construction emissions significance thresholds are:

- 75 pounds per day for reactive organic gases (ROG);
- 100 pounds per day for oxides of nitrogen (NOx);
- 550 pounds per day for carbon monoxide (CO);
- 150 pounds per day of oxides of sulfur (SOx);
- 150 pounds per day for respirable 10-micron diameter particulate matter (PM_{10}); and
- 55 pounds per day for respirable $PM_{2.5}$.

Table 5, Construction Activity Maximum Daily Emissions summarizes the Project's maximum daily emissions for construction activities estimated by CalEEMod. As it is anticipated that the proposed bridge would not be constructed concurrently with the other various components of the Project, emissions associated with the bridge construction have been estimated separately. However, for a conservative analysis, the estimated maximum daily emissions shown in Table 5 from the bridge construction as well as construction of the other Project components have been added together for the purposes of determining potential significance, assuming activities generating the highest level of emissions for any of the criteria pollutants may occur within the same day. If development of the bridge occurs at a separate time than the other components as anticipated, the maximum daily emissions shown in Table 5 would be lower. Based on the estimates shown in Table 5, all Project construction emissions would be substantially below their respective thresholds with compliance with regulatory requirements, even if occurring simultaneously. The Project's construction period air quality impact would therefore be less than significant.

[39] South Coast Air Quality Management District. 2019. SCAQMD Air Quality Significant Thresholds. April Revision.

Table 5, Construction Activity Maximum Daily Emissions

Project Component	Maximum Construction Daily Emissions (lbs/day)[a,b]					
	ROG	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Event and Equestrian Uses	15.4	27.5	19.2	0.1	4.0	2.4
Bridge	1.7	29.6	21.0	0.1	2.7	1.1
Total[c]	**17.1**	**56.9**	**40.2**	**0.2**	**6.7**	**3.5**
SCAQMD Thresholds	75	100	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod.2016.3.2 Output in Appendix A.

[a] Emissions estimates reflect mandatory compliance with SCAQMD regulations (Rule 403) for reducing construction dust emissions by watering exposed soils twice daily, and use of Tier 4 Interim diesel-powered earth moving equipment.

[b] Maximum estimated emissions for summer or winter seasons, whichever is greater.

[c] Assumes a conservative scenario in which bridge construction is concurrent with other construction activities.

Operational Impacts

Long-term, or operational, emissions generally result from mobile emissions from vehicle traffic, as well as stationary source emissions such as building heating and electrical systems and landscape maintenance activities. Operational emissions from energy sources are also generated off-site for electrical generation to serve the Project.

Operational air quality impacts are considered significant if they exceed any of the following maximum daily emissions thresholds that have been established by SCAQMD[40]:

- 55 pounds per day for ROG;
- 55 pounds per day for NOx;
- 550 pounds per day for CO;
- 150 pounds per day of SOx;
- 150 pounds per day for PM_{10}; and
- 55 pounds per day for $PM_{2.5}$.

The Project's operational emissions of criteria pollutants are summarized in **Table 6, Operational Maximum Daily Emissions**. For this evaluation, operational emissions were not calculated for the equestrian uses as this is an ongoing function of the existing facility, to which the Project proposes no operational changes that would intensify the use. As such, the Project would not result in changes to the emissions associated with the continued use of the equestrian facility. Although the Avalon Barn and the Caretaker's Residence are also existing uses on the site, for a conservative analysis, the emissions associated with these land uses have been estimated, as the event venue use would change from an outdoor use to a predominately indoor use, and the Caretaker's Residence would have a minor increase in square footage. The Bride's Dressing Room is not considered in the operational emissions estimates, as this is also an existing use, which would actually be reduced in size as compared to the existing condition.

The operational emissions for area sources and energy sources were estimated based on the total size of the new Caretaker's Residence, Avalon Event Barn, Bride's Dressing Room, and Coronado Barn, which total 14,046 sf, rather than the Project's net difference in square footage. As the net increase in square footage overall on the site with the Project would be 1,407 sf as shown in Table 4, the following analysis likely overestimates the operational period emissions as compared to the existing conditions. The operational mobile source emissions have been estimated based on the total trips generated by the event facility reception

[40] Ibid.

building as determined by the Traffic Analysis[41] and VMT Study[42] for the Brookview Ranch Project prepared by Associated Transportation Engineers, although this is an existing use with similar characteristics and attendance levels. Other facilities being constructed are not considered in the estimated mobile emissions as they are existing uses. As shown in Table 6, emissions of pollutants during operations would be far below the SCAQMD significance thresholds for operational daily emissions, even with the conservative assumptions listed above. Emissions based on the net difference in uses would be even lower. Therefore, the Project's air quality impacts during operations would be less than significant.

Table 6, Operational Maximum Daily Emissions

Source	Maximum Operational Emissions (lbs/day) [a]					
	ROG	**NOx**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Area	0.40	<0.01	0.34	<0.01	0.04	0.04
Energy	<0.01	0.07	0.06	<0.01	<0.01	<0.01
Mobile	0.33	1.54	3.77	0.01	1.04	0.29
Total	**0.74**	**1.62**	**4.17**	**0.01**	**1.09**	**0.33**
SCAQMD Thresholds	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod.2016.3.2 Output in Appendix A.
Totals may differ due to rounding.
[a] Maximum estimated emissions for summer or winter seasons, whichever is greater.

Based on the preceding evaluation, the potential for the Project to result in a cumulatively considerable net increase of any criteria pollutant would be less than significant, no mitigation measures are required, and this issue does not warrant further analysis in the EIR.

c) Expose sensitive receptors to substantial pollutant concentrations? ☐ ☐ ☒ ☐

Less Than Significant Impact. A significant impact may occur if a project were to generate pollutant concentrations to a degree that would significantly affect sensitive receptors. Sensitive receptors are populations that are generally more susceptible to the effects of air pollution than the population at large. Land uses considered to be sensitive receptors include residences, long-term care facilities, schools, playgrounds, parks, hospitals, and outdoor athletic facilities. The closest off-site sensitive receptors that could potentially be subject to localized air quality impacts associated with construction of the Project would be an existing residence located approximately 160 feet (or 50 meters) west of the proposed bridge.

Local Significance Thresholds (LST) Impacts

A LST analysis, using SCAQMD methodology, was conducted for the Project to determine whether off-site sensitive receptors could potentially be impacted by construction of the Project. LSTs are applicable for the following criteria pollutants: NO_X, CO, PM_{10}, and $PM_{2.5}$.[43] LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard, and they are developed based on the ambient concentrations of that pollutant for each source receptor area. Project-related emissions generated offsite, such as truck hauling of

[41] Associated Transportation Engineers. 2019. Traffic Analysis for the Brookview Ranch Project – Los Angeles County. February 21.
[42] Associated Transportation Engineers. 2021. VMT Study and Event Traffic and Parking Management Plan for the Brookview Ranch Project – Los Angeles County. February 10.
[43] South Coast Air Quality Management District. Localized Significance Thresholds. Available at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed on July 21, 2020.

materials to or from the site, are not evaluated for local impacts, as LST screening levels are based on proximity to sensitive receptors to a project site.

LST screening tables provide thresholds for 25, 50, 100, 200 and 500-meter source-receptor distances. Due to the existing residence location at approximately 50 meters from the proposed bridge, the 50-meter thresholds were considered for this Project. LST pollutant screening level concentration data is currently published for 1, 2 and 5-acre sites. For this Project, which has a 2.56-acre disturbance area, the LST screening levels for a two-acre site were used. **Table 7, Logical Significance Thresholds (LST)** presents the applicable LST screening levels used for this evaluation and summarizes the Project's maximum daily onsite emissions levels for construction activities as estimated by CalEEMod. Although the Project does not anticipate construction of the bridge and other Project site improvements would occur concurrently, the summary of on-site emissions shown in Table 7 includes a total of the maximum daily onsite emissions from these activities assuming they could occur simultaneously, for purposes of providing a conservative analysis. A comparison of the Project's maximum daily on-site construction emissions with the LST screening criteria shown in Table 7 indicates that the Project's emissions due to construction activities would not exceed screening criteria for LST impacts; therefore, LST impacts would be less than significant.

Based on the preceding evaluation, the potential for the Project to generate pollutant emissions that would significantly affect sensitive receptors would be less than significant, no mitigation measures are required, and this issue does not warrant further analysis in the EIR.

Table 7, Local Significance Thresholds (LST)

LST 2.0 acre/50 meters Northwest Coastal Los Angeles County	**Max. Daily On-site Construction Emissions[a,b]**			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
Event and Equestrian Uses	20.2	14.6	3.9	2.4
Bridge	11.0	15.4	0.4	0.4
Total[c]	**31.2**	**30.0**	**4.3**	**2.8**
LST Threshold	143	1,213	19	5
Exceeds Threshold?	No	No	No	No

Source: CalEEMod.2016.3.2 Output in Appendix A.
[a] Emissions estimates based on required dust emissions by watering exposed soils twice daily, and use of Tier 4 Interim diesel-powered earth moving equipment.
[b] Maximum estimated emissions for summer or winter seasons, whichever is greater.
[c] Assumes a conservative scenario in which bridge construction is concurrent with other construction activities.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Less Than Significant Impact. A significant impact may occur if objectionable odors would be emitted from the Project site and may impact sensitive receptors. Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling materials used in manufacturing processes, as well as some sewage treatment facilities and landfills.

During the construction phase, activities associated with the application of architectural coatings and other interior and exterior finishes, paving, or other construction activities may produce discernible odors typical of most construction sites. Such odors would be temporary and limited to the duration of each construction phase. As such, potential odor impacts from temporary construction would be less than significant.

Under existing conditions, the site features equestrian use facilities as well as an outdoor event venue. The Project would retain the equestrian uses on the site, and it also would retain the existing event venue use, although within an indoor facility. Existing equestrian uses on the Project site may generate odors that may be found objectionable to some; however, this is an existing condition and equestrian uses are fairly common within the overall Santa Monica Mountains region and with surrounding land uses adjacent to the Project Site. The use is also consistent with the site zoning and land use designation. Furthermore, trash and recycling services are supplied to the site by Waste Management, and, in addition to general commercial and residential waste, Waste Management removes a 40-cy, open top container of manure every two weeks and replaces it with an empty container to serve the on-site equestrian use. Such service would continue following implementation of the Project.

The Project also would abandon/plug the existing private on-site wastewater treatment system (OWTS) and connect to local municipal wastewater infrastructure. SCAQMD Rule 402, Nuisance, states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals."[44] As the proposed land uses would not substantially differ from existing conditions, and the site would connect to a municipal sewer treatment system rather than operating an OWTS, the Project impact related to operational period odor impacts would be less than significant.

Based on the preceding evaluation, Project odor impacts would be less than significant, no mitigation measures are required, and this issue does warrant further analysis in the EIR.

[44] South Coast Air Quality Management District. Rule 402, Nuisance. Available at: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf. Accessed on July 21, 2018.

4. BIOLOGICAL RESOURCES

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?	☒	☐	☐	☐

Potentially Significant Impact. A Project-specific Biological Constraints Analysis (BCA) and Biota Report will be prepared for the Project to determine if any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations or by the CDFW or USFWS are located within or near the Project site. The Project's potential to result in a substantial adverse effect on such species will be further evaluated in the EIR and mitigation measures shall be identified, as necessary.

b) Have a substantial adverse effect on any sensitive natural communities (e.g., riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, regulations or by CDFW or USFWS?	☒	☐	☐	☐

Potentially Significant Impact. A Project-specific BCA and Biota Report will be prepared for the Project to determine whether natural communities identified in local or regional plans, policies, regulations, or by the CDFW or USFWS are located within or near the Project site. The Project's potential to result in a substantial adverse effect on such sensitive natural communities will be further evaluated in the EIR and mitigation measures shall be identified, as necessary.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐

Potentially Significant Impact. A Project-specific BCA and Biota Report will be prepared for the Project to determine whether State or federally-protected (by the United States Army Corps of Engineers, Regional Water Quality Control Board, and/or CDFW) wetlands, including, but not limited to marshes, vernal pools, and designated Waters of the United States, are located within or near the Project site. The Project's potential to result in a substantial adverse effect on such protected wetlands or waters, as well as permitting requirements, will be further evaluated in the EIR, and mitigation measures shall be identified, as necessary.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? ☒ ☐ ☐ ☐

Potentially Significant Impact. The Los Angeles County General Plan 2035 Conservation and Natural Resources Element identifies the entire Santa Monica Mountains SEA as a regional habitat linkage.[45] A Project-specific BCA and Biota Report will be prepared to determine whether native resident or migratory fish or wildlife species with established native resident or migratory wildlife corridors are located within or near the Project site. The Project's potential to result in a substantial adverse effect on fish or wildlife movement will be further evaluated in the EIR and mitigation measures shall be identified, as necessary.

e) Convert oak woodlands (as defined by the state, oak woodlands are oak stands with greater than 10% canopy cover with oaks at least 5 inch in diameter measured at 4.5 feet above mean natural grade) or other unique native woodlands (juniper, Joshua, southern California black walnut, etc.)? ☒ ☐ ☐ ☐

Potentially Significant Impact. A Project-specific Protected Tree Report will be prepared to determine whether oak woodlands or other unique native woodlands are located within or near the Project site. The Project's potential to result in a substantial adverse effect on oak woodlands or other native woodlands will be further evaluated in the EIR and mitigation measures shall be identified, as necessary.

f) Conflict with any local policies or ordinances protecting biological resources, including Wildflower Reserve Areas (L.A. County Code, Title 12, Ch. 12.36), the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.174), the Significant Ecological Areas (SEAs) (L.A. County Code, Title 22, Ch. 102), Specific Plans (L.A. County Code, Title 22, Ch. 22.46), Community Standards Districts (L.A. County Code, Title 22, Ch. 22.300 et seq.), and/or Coastal Resource Areas (L.A. County General Plan, Figure 9.3)? ☒ ☐ ☐ ☐

Potentially Significant Impact. A Project-specific BCA and Biota Report will be prepared to determine whether the Project would conflict with any local policies or ordinances protecting biological resources, particularly, the Santa Monica Mountains SEA. The Project's potential to conflict with local policies or ordinances protecting biological resources will be further evaluated in the EIR and mitigation measures shall be identified, as necessary.

[45] Los Angeles County. 2015. General Plan Figure 9.2, Regional Habitat Linkages. Adopted October 6.

g) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved state, regional, or local habitat conservation plan?	☐	☐	☐	☒

No Impact. Based on a review of the CDFW's Biogeographic Information and Observation System (BIOS) dataset of Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) boundaries, there are no HCPs or NCCPs located in the Santa Monica Mountains, including the Project site and surrounding area.[46] Therefore, the Project would not conflict with the provisions of a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved State, regional or local conservation plan. The Project would result in no impact regarding conflicts with such plans. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

[46] California Department of Fish and Wildlife. BIOS. Conservation Plan Boundaries, HCP and NCCP. Available at: https://apps.wildlife.ca.gov/bios/?al=ds760. Accessed on August 20, 2019.

5. CULTURAL RESOURCES

The following evaluation is based on a Phase I Cultural Resource Assessment prepared by Envicom Corporation (September 2020), which is included in **Appendix B**. The Phase I Cultural Resource Assessment included a cultural resource record search conducted by the South Central Coast Information Center (SCCIC) and a Native American cultural resource record search of the Sacred Lands File (SLF) conducted by the Native American Heritage Commission (NAHC), in addition to historic map review and a site survey. On August 2, 2019, Envicom Corporation contacted both the SCCIC and NAHC with a request for all complete site records and cultural resources that directly involved the Project development footprint. The SCCIC record search was received on August 12, 2019 and the NAHC record search was received on August 19, 2019; both sources provided information related to the known cultural resources that are located within the Project site and the area within a 0.50-mile radius around the Project site (referred to as the study area). Additional databases examined during preparation of the Phase I Cultural Resource Assessment included historic regional maps, historic United States Geological Survey (USGS) maps, and historic Google Earth images to identify the cultural resource sensitivity of the Project region. The University of California Santa Barbara (UCSB) Library Historic Aerial Photograph Database also was examined. Lastly, a record search request also was submitted to the Natural History Museum of Los Angeles (NHM) to attain records of known paleontological resources in the Project area, if any. Envicom Corporation also conducted a physical cultural resource survey of the Project site and immediate surroundings on August 7, 2019 to determine if previously unrecorded prehistoric and historic cultural resources could be identified from surface observation of the area.

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines § 15064.5?	☐	☐	☒	☐

Less Than Significant Impact. A cultural resource generally includes a building, structure, object, or archaeological site older than 50-years in age and can include historic or prehistoric locations of human habitation. CEQA Guidelines Section 15064.5 addresses historical resources and archaeological sites; however, as archaeological resources are discussed in response to Section 5.b below, the following response focuses on historical resources. CEQA Guidelines Section 15064.5(a) defines a "historical resource" as:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources;
- A resource included in a local register of historical resources, as defined in the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant; or
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to

be "historically significant" if the resource meets these criteria for listing on the California Register of Historical Resources:

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

However, the fact that a resource is not listed in, or determined to be eligible for listing, in the California Register of Historical Resources or not included in a local register of historical resources does not preclude a lead agency from determining that the resource may be a historical resource as defined in the PRC.

As described in greater detail in the Phase I Cultural Resource Assessment (Appendix B), the 1900 Triunfo Pass USGS map shows the Project site with no development. The first historic map showing local residential development is the 1932 Triunfo Pass USGS map, which shows some development of buildings and roads in the local area, as well as development within the Project site. Several structures are shown, as are local roads, suggesting an active ranch or commercial development. The oldest aerial photograph in the UCSB Library's historic aerial photography database is from 1937 and also shows development on the Project site and in the local area. Examination of historic Google Earth satellite images shows that the previous Project site development was demolished by 1989; no previous buildings were present. By 1994, as shown by Google Earth satellite imagery, new development was present on the Project site. As the site was cleared and subsequently redeveloped between 1989 and 1990, the Project would result in a less than significant impact to aboveground historical resources, as the structures on-site are no older than 30 years in age. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR. Nevertheless, as site development dated to the 1930s, as evidenced by the review of historic maps, satellite images, and aerial images included in the Phase I Cultural Resource Assessment, the Project site could still contain buried historical archaeological resources associated with the previous aboveground development, which are addressed below in Section 5.b.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5?	☐	☒	☐	☐

Less Than Significant Impact with Mitigation Incorporated. As noted above, a field survey and NAHC and SCCIC information search were used to assess potential Project impacts to archaeological resources on the Project site. The Phase I Cultural Resource Assessment considered both prehistoric cultural resources and historic cultural resources, which are described below. The potential historic significance of the built environment is discussed in Section 5.a above.

The results of the NAHC record search yielded negative findings for cultural resources. Nevertheless, the Lead/Permitting Agency for the Project is required to complete consultation with Native American tribes associated with the Project area, pursuant to Assembly Bill 52 (AB 52), and all tribal and NAHC

correspondence will be made a part of the consultation/Project record. Refer also to Section 18, Tribal Cultural Resources.

The SCCIC record search found one previously identified cultural resource (CA-LAN-1011) located within the Project site but not within the Project development footprint. The SCCIC also identified that three cultural resource reports involved the Project site (LA-00474, LA-02182, and LA-02895). LA-00474 was an earlier study of the Project site from 1979 by archaeologist Clay Singer ("*Cultural Resource Survey and Impact Assessment for Tentative Tract. No. 35556 in Triunfo Canyon, Los Angeles County, California").* This cultural resource study first identified CA-LAN-1011, which was described as a small prehistoric site with lithic scatter. The site is 20-meters by 25-meters with 23 artifacts on the surface. The artifacts included three flakes, a quartz crystal rasp, and a delicate fused shale perforator. The artifacts were all burned, due to a fire in 1978. The clam shells and mollusks that were found were interpreted at the time as being modern. Mr. Singer recommended that the grading plan be altered to avoid the site, otherwise, the site would require further testing before grading was conducted. The next cultural resource report, LA-02182, involved the Phase II archaeological testing of CA-LAN-1011 by W & S Consultants in 1990 as part of a general development Project for the region. This report, "*Phase II Archaeological test excavations at CA-LAN-1011, Western Los Angeles County, California*," was limited to CA-LAN-1011. W & S Consultants preformed three test units within CA-LAN-1011, based on Mr. Singer's 1979 report findings. The conclusion of W & S Consultants was that CA-LAN-1011 was almost exclusively a surface site, which had already been subject to near 100 percent collection of associated artifacts. W & S Consultants therefore concluded that the site required no further archeological work, other than monitoring if subsurface grading was to occur. Finally, archaeologist Robert Wlodarski performed a record search for a proposed bridge replacement within the Project site in 1990. This study, titled "*Records Search for Land & Water Company Proposed Bridge Crossing*," involved only the immediate area around the bridge and did not identify any new cultural resources.

The SCCIC record search also identified seven cultural resources (all prehistoric lithic scatter) and no older historic cultural resources within the 0.50-mile portion of the study area. None of these additional cultural resources are located adjacent to or near the Project site, with the closest resource being roughly 1,000 feet distant. Sixteen other cultural resource reports involved parts of the Project study area, though none of these reports were determined to be of concern for the Project. Some of these cultural resources were negative findings reports, and some involved the prehistoric lithic scatters described above.

No prehistoric artifacts were identified within the Project work area boundaries during the field survey.

Although the record search and field survey results were negative for cultural resources, the Project would be located in an area of archaeological and Native American sensitivity. Younger alluvial soils underlying the Arizona crossing, and potentially underlying the driveway/road and slope behind the Caretaker's Residence, where earthwork is proposed, may contain intact native soils in the uppermost layers, which have the potential to uncover archaeological or Native American artifacts. Therefore, the Phase I Cultural Resource Assessment recommends archaeological and Native American monitoring and/or spot-checking of these subsurface activities, as appropriate, as well as measures that set forth discovery protocol in the event of a discovery of an artifact and/or human remain (see Appendix B). Following the implementation of these recommendations, grading activities associated with Project development would not cause a substantial adverse change in the significance of an archaeological resource. The Project impacts to archaeological resources would be less than significant with mitigation incorporated. However, this topic will be evaluated further in the EIR.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ☐ ☐ ☒ ☐

Less Than Significant Impact. The NHM record search findings were received on August 16, 2019, with negative findings of known vertebrate fossil localities that lie directly within the Project site boundaries. However, as described in detail in Appendix B, the NHM reported known vertebrate fossil localities nearby. The closest vertebrate fossil locality, in older Quaternary deposits (site LACM 3213), is located northwest of the Project site near the intersection of the Ventura Freeway (Highway 101) and South Westlake Boulevard, which produced a fossil specimen of ground sloth, *Paramylodon*. In addition, a vertebrate fossil locality, also in older sediments (LACM 7660), is located further northwest of the Project site between the Ventura Freeway (Highway 101) and East Thousand Oaks Boulevard east of Highway 23, which produced an uncommon fossil specimen of American mastodon, *Mammut americanum*. According to the NHM, the elevated terrain in the northeastern portion of the Project area contains bedrock exposures of the igneous Conejo Volcanics that will not contain recognizable fossils. The lower lying terrain of Triunfo Canyon in the southwestern portion of the Project site includes surface deposits of younger Quaternary Alluvium in the active drainage, which typically do not contain significant vertebrate fossil remains in the uppermost layers. The Geotechnical Report, Proposed Brookview Ranch Bridge, Agoura Hills, Los Angeles County, California, prepared by Leighton Consulting, Inc. (Geotechnical Report) (refer to **Appendix C1, Geotechnical Report** and **Appendix C2, Infiltration Testing Report**) confirmed these findings, also indicating, from both the geological map study and the geotechnical bores, that the Project site is covered with recent alluvial material and gravel, which overlays the Conejo Volcanics Formation. According to the NHM, deeper excavations into older sedimentary deposits have the potential to uncover significant vertebrate fossil remains. However, the Project's proposed grading activities, which entail excavations up to approximately 15 feet below the ground surface to construct the bridge piers and abutments and associated retaining features, to 4 feet to install utilities, and to 6 feet to construct a retaining wall by the Caretaker's Residence, would occur in recent alluvium. Therefore, grading and subsurface activities would be unlikely to uncover paleontological resources and would not directly or indirectly destroy a unique paleontological resource, site or unique geologic feature. Project impacts would be less than significant. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

d) Disturb any human remains, including those interred outside of dedicated cemeteries? ☐ ☒ ☐ ☐

Less Than Significant Impact with Mitigation Incorporated. There are no known human remains on-site and the findings from the Phase I Cultural Resource Assessment survey of the Project site were negative for prehistoric cultural resources. However, the inadvertent discovery of human remains is a possibility during ground disturbances associated with Project development, and the State of California Health and Safety Code Section 7050.5 addresses these potential findings. The Health and Safety Code states that, in the event that human remains are uncovered, no further disturbance shall occur until the County Coroner has made a determination as to the origin and disposition of the remains pursuant to Public Resources Code Section 5097.98. The Coroner must be notified of the find immediately, together with the City and the property owner. The recommendation of the Phase I Cultural Resource Assessment would be required to ensure proper protocol in the event that human remains are uncovered on the Project site. With mitigation incorporated, Project impacts to human remains would be less than significant. However, this topic will be evaluated further in the EIR.

6. ENERGY

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐

Less Than Significant Impact. Title 31 of the Los Angeles County Code, the Green Building Standards Code, is based on the State Green Building Standards Code and encourages sustainable construction practices in the categories of planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental air quality. The requirements of Title 31 work in concert with the provisions of other related Los Angeles County codes, including the Building Code, Electrical Code, Mechanical Code, and Plumbing Code, as well as the State Fire and Energy Codes. Low impact development, evaluated in more detail in Section 10, Hydrology and Water Quality, is also required under the Green Building Standards Code.

During construction, the Project shall comply with the Los Angeles County Green Building Code, which requires that newly-constructed projects and additions and alterations to existing buildings shall recycle, and/or salvage for reuse, a minimum of 65 percent of the non-hazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent.[47] The Project would be required to comply with the applicable State and County efficiency standards effective at the time building permits applications are submitted; namely, the Los Angeles County Green Building Code as well as the applicable version of the State's 2019 Building Energy Efficiency Standards, California Code of Regulations Title 24, Part 6. The applicable standards require incorporation of energy and water efficiency features, including but not limited to structural efficiency; energy and water efficient fixtures, appliances, and lighting; energy efficient heating and air conditioning; and water efficient landscaping.

Therefore, the Project would not involve the inefficient use of energy resources, and potential impacts would be less than significant. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

No Impact. As a new development, the Project would be required to comply with the Los Angeles County Green Building Code, as well as the California Code of Regulations Title 24, Part 6, (2016 Building Energy Efficiency Standards). For building permit applications submitted on or after January 1, 2020, the updated California Code of Regulations Title 24, Part 6, (2019 Building Energy Efficiency Standards) would apply. Consequently, the Project would result in no impact related to conflicts with the applicable State or County building standards for efficiency. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

[47] County of Los Angeles. 2019. Los Angeles County Code, Title 31, Green Building Standards Code. June 26.

7. GEOLOGY AND SOILS

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known active fault trace? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐

Less Than Significant Impact. The Project site is not located within an Earthquake Fault Zone of Required Investigation[48] or an Alquist-Priolo Earthquake Fault Zone.[49] According to the Geotechnical Report (refer to Appendix C1), a surface fault rupture hazard evaluation is not required for the site and the potential for surface fault rupture at the site is considered low. Nevertheless, the Project would be required to incorporate seismic design elements of the Office of Statewide Health Planning and Development, California Building Code, and Uniform Building Code and to implement the recommendations of the Geotechnical Report. Prior to issuance of a building permit, the County Building Official shall verify compliance with such requirements and recommendations. Therefore, the Project would result in a less than significant impact regarding rupture of a known earthquake fault. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

ii) Strong seismic ground shaking?	☐	☐	☒	☐

Less Than Significant Impact. As described above, the Project site is not located within an Earthquake Fault zone of Required Investigation or an Alquist-Priolo Earthquake Fault Zone. However, the site may be subject to ground shaking in the event of an earthquake, due to its location in the seismically-active Southern California region. The Project would be required to obtain a building permit and would be subject to the review and approval of the Los Angeles Department of Public Works (LADPW) to ensure the design conforms to seismic design standards and meets building standards to withstand seismic shaking. Further, all construction must adhere to the recommendations of the Geotechnical Report, as reviewed and approved by the LADPW. Therefore, the Project would have no impacts associated with strong seismic ground shaking. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

[48] California Geological Survey. Earthquake Zones of Required Investigation. Available at: https://maps.conservation.ca.gov/cgs/eqzapp/app/. Accessed on August 9, 2019.
[49] GeoSoils Consultants. 2018. LID Stormwater Infiltration Testing Report. January 17.

iii) Seismic-related ground failure, including liquefaction and lateral spreading? ☐ ☐ ☒ ☐

Less Than Significant Impact. Liquefaction is the sudden decrease of shearing resistance of loose-state, saturated and cohesionless soil under seismic condition. Fine sands and silts are potentially subject to liquefaction under seismic condition. Such soils may behave like a liquid when shaken by an earthquake. In the case of lateral spreading, the ground may slide down very gentle slopes or toward stream banks riding on a buried, liquefied layer.[50] Common hazards associated with soil liquefaction are reduction in bearing support of foundations, ground settlement and downdrag load on piles, slope instability (flow failure), and lateral spread in gently sloping ground.[51] According to the Department of Conservation, the southwestern portion of the Project site is located in a seismic liquefaction zone within the Point Dume USGS Quadrangle.[52]

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service's Web Soil Survey[53], the majority of the Project site, and locations of the proposed work areas, are located on Cotharian-Talepop association soils, 15-50 percent slopes. Cotharian soils types are well drained and not conducive to flooding or ponding. Talepop soil types are somewhat excessively drained and are also not conducive to flooding or ponding. The western portion of the property is comprised of Cumulic Haploxerollo soils, 0-9 percent slopes. These soils are also well drained, not conducive to flooding or ponding. Infiltration tests prepared for portions of the Project site near the southwestern end indicated that this area is underlain by artificial fill and alluvium.[54]

In particular, the alluvial soils along the proposed bridge alignment generally consist of medium dense silty sand and clayey sand with gravel with localized zones of cobbles and possible boulders. The sediments encountered below the channel consist of gravels with significant quantities of cobbles and probable boulder-size material overlying bedrock. Fine content of some of the alluvial soils was determined to be on the order of 45 percent. Based on the relative density of the alluvial soils encountered at the proposed abutment locations, the potential for liquefaction exists should the groundwater level exist above the contact with the bedrock at the time the design seismic event occurs. The occurrence of liquefaction would result in some additional load demand on the piles due to post-liquefaction settlement ("downdrag") that occurs as equilibrium is reestablished in the soils; and lateral displacement due to the sloping grade along the channel walls and the tendency for the overlying non-liquefied soils to move laterally toward the channel bank ("lateral spread").

Adherence to the recommendations of the Geotechnical Report and structural engineering plans,[55] which were prepared for the proposed bridge and submitted to the DRP as part of the Project Application, would assure that Project impacts associated with seismic ground failure, including liquefaction and lateral spreading, would be reduced to a less than significant level. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

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50 USGS. About Liquefaction. Available at: https://www.usgs.gov/faqs/what-liquefaction?qt-news_science_products=0#qt-news_science_products. Accessed on August 9, 2019.

51 Leighton Consulting, Inc. 2020. Geotechnical Report, Proposed Brookview Ranch Bridge, Agoura Hills, Los Angeles County, California. September.

52 California Geological Survey. Earthquake Zones of Required Investigation. Available at: https://maps.conservation.ca.gov/cgs/eqzapp/app/. Accessed on August 9, 2019.

53 United States Department of Agriculture. Natural Resources Conservation Service. Soil Data Explorer. Soil Properties and Qualities. Available at: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed on August 9, 2019.

54 GeoSoils Consultants. 2018. LID Stormwater Infiltration Testing Report. January 17.

55 SPECS and Big R. 2020. Brookview Ranch Plans for a Driveway Bridge over Triunfo Creek. September.

iv) Landslides? ☐ ☐ ☒ ☐

Less Than Significant Impact. The northeastern portion of the Project site is located within a landslide area according to the California Geologic Survey.[56] No development is proposed to occur in this area of the Project site. The Project would follow Los Angeles County building standards (including incorporating design recommendations from the March 2006 LADPW Sedimentation Manual) and recommendations from the Geotechnical Report, where necessary, prior to issuance of a building permit from the LADPW. Required compliance with the building code and County standards would ensure that impacts related to landslides would be less than significant. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

b) Result in substantial soil erosion or the loss of topsoil? ☐ ☐ ☒ ☐

Less Than Significant Impact. Development of the Project has the potential to result in the erosion of soils during earthwork and construction activities. Erosion and/or the loss of topsoil during construction is addressed through implementation of erosion controls and best management practices (BMPs) to meet standard National Pollutant Discharge Elimination System (NPDES) requirements for storm water quality. The NPDES Construction General Permit is required for projects that disturb an area of at least one acre, and compliance with its requirements is typically achieved through preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which would minimize erosion and alleviate the potential for debris and pollutants to flow off-site. Required compliance with the NPDES through SWPPP BMPs would ensure degradation of water quality during construction would be avoided. Therefore, Project impacts associated with soil erosion or the loss of topsoil during construction would be less than significant. Additional mitigation beyond this regulatory compliance is not required. This topic does not warrant further environmental review in the EIR.

During operation, the Project improvements are not expected to change the daily activities taking place currently. The Project also would comply with the County's Low Impact Development (LID) Standards[57], which manage stormwater runoff to reduce erosion, as well as with the Regional Water Quality Control Board's (RWQCB's) Municipal Stormwater NPDES Permit CAS004001, which requires that storm water mitigation measures be implemented through preparation of a Standard Urban Stormwater Mitigation Plan (SUSMP). Therefore, the Project would have a less than significant impact in regard to substantial erosion or the loss of topsoil during operations. Additional mitigation beyond this regulatory compliance is not required. This topic does not warrant further environmental review in the EIR.

[56] California Geological Survey. Earthquake Zones of Required Investigation. Available at: https://maps.conservation.ca.gov/cgs/eqzapp/app/. Accessed on August 9, 2019.

[57] Los Angeles County. Chapter 12.84 – Low Impact Development Standards. Available at: https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances?nodeId='TIT12ENPR_CH12.84LOIMDEST. Accessed on August 9, 2019.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? ☐ ☐ ☒ ☐

Less Than Significant Impact. As stated previously, according to the USDA Natural Resources Conservation Service's Web Soil Survey[58], the majority of the Project site, and locations of the proposed work areas, are located on Cotharian-Talepop association soils, 15-50 percent slopes. Cotharian soils types are well drained and not conducive to flooding or ponding. Talepop soil types are somewhat excessively drained and are also not conducive to flooding or ponding. The western portion of the Project site is comprised of Cumulic Haploxerollo soils, 0-9 percent slopes. These soils are also well drained, not conducive to flooding or ponding. All of the soils on the Project site are commonly used for building site development and recreation. Nevertheless, portions of the site may be susceptible to liquefaction, as described above. Required compliance with the building code, recommendations of the Geotechnical Report, and specifications of the structural engineering plans, as reviewed and approved by the LADWP, would ensure that Project impacts from unstable geologic units or soils would be reduced to a less than significant level. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

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

Less Than Significant Impact. As stated previously, according to the USDA Natural Resources Conservation Service's Web Soil Survey,[59] the majority of the Project site, and locations of the proposed work areas, are located on Cotharian-Talepop association soils, 15-50 percent slopes, with moderate shrink-swell potential. The western portion of the Project site is comprised of Cumulic Haploxerollo soils, 0 -9 percent slopes, which also have a moderate shrink-swell potential. Overall, the Project would comply with the County building code and would be required to follow recommendations from the Geotechnical Report and LADPW. Therefore, the Project would have a less than significant impact in regard to risks associated with expansive soils. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

e) Have soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater? ☐ ☐ ☒ ☐

Less Than Significant Impact. The Los Angeles Regional Water Quality Control Board (RWQCB) Basin Plan establishes water quality standards to protect waters in the region through the implementation of Waste Discharge Requirements ("WDRs") and the control of point and non-point source pollutants. Brookview Ranch is not currently connected to municipal wastewater infrastructure and instead operates a private OWTS. The permitted OWTS is comprised of two, 1,500-gallon septic tanks; one is located directly north and adjacent to the Del Mar Barn (#14) and serves the office (#11) and Caretaker's Residence (#12), and one is located west of the restrooms (#2) and serves that structure. Both septic tanks are connected to the on-site leach field, which is located west of the restrooms (#2), in the vicinity of the parking area. As the Project proposes

[58] United States Department of Agriculture. Natural Resources Conservation Service. Soil Data Explorer. Soil Properties and Qualities. Available at: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed on August 9, 2019.

[59] United States Department of Agriculture. Natural Resources Conservation Service. Soil Data Explorer. Soil Properties and Qualities. Available at: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed on August 9, 2019.

no changes in the frequency or capacity of existing event or equestrian operations, the existing permitted OWTS could continue to serve these land uses following Project approval. Therefore, the Project would have a less than significant impact in regard to having soils incapable of adequately supporting the use of OWTS. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

For reasons not related to inadequate soils, the County Public Health Department requires Brookview Ranch to connect to local municipal wastewater infrastructure, now that such a system exists in Triunfo Canyon. As such, this Initial Study describes the process for connecting to the sanitary sewer system (refer to Section 19, Utilities and Service Systems), and where applicable, the EIR will address the environmental impacts associated with providing a connection to the sanitary sewer.

f) Conflict with the Hillside Management Area Ordinance (L.A. County Code, Title 22, Ch.22.104)?	☐	☐	☒	☐

Less Than Significant Impact. The Project site is partially located within a Hillside Management Area (HMA).[60] As described previously, the Project would occur on previously developed or disturbed land and would not require hillside grading. The proposed and replacement structure development footprints would be located outside of the HMA. Therefore, the Project would result in a less than significant impact associated with HMA Ordinance conflicts. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

[60] Hua, Thuy, County of Los Angeles Department of Regional Planning. 2019. Personal Communication with Kathleen Truman, Truman & Elliot LLP. August 19.

8. GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Generate greenhouse gas (GHGs) emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Less Than Significant Impact. Greenhouse gases (GHG), which play a role in trapping heat near the surface of the earth, are implicated in global climate change. Fossil fuel use in the transportation sector (from on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for half of all emissions globally. Energy use associated with industrial and commercial land uses contribute approximately one quarter of global GHG emissions. These GHGs contribute to an increase in the temperature of the earth's atmosphere as they allow incoming short wavelength sunlight to pass through the atmosphere, which heats the earth, while preventing some of the outgoing long wavelength heat radiated outward from the earth from leaving the atmosphere, thus retaining greater amounts of heat energy within the atmosphere. The principal GHGs are ozone (O_3), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor. Because the warming potential of the identified GHGs differ, GHG emissions are typically expressed in terms of carbon dioxide equivalents (CO_2e), providing a common expression for the combined volume and warming potential of the GHGs generated by a particular emitter. The total GHG emissions from individual sources are generally reported in metric tons (MT) and expressed as metric tons of CO_2e, or $MTCO_2e$.

On April 2, 2007, in *Massachusetts v. EPA [US Environmental Protection Agency]*, the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution. The Administrator found that GHGs threaten the public health and welfare of current and future generations, and that the combined emissions from new motor vehicles and new motor vehicle engines contribute to GHG pollution. These findings do not themselves impose any requirements, but they were a prerequisite for implementing GHG emission standards.[61]

On September 22, 2009, the US EPA issued a final rule for the mandatory reporting of GHG data and other relevant information from large sources in the US. This comprehensive, nationwide emissions data is intended to provide a better understanding of the sources of GHGs and guide development of policies and programs to reduce emissions.[62]

In May 2010, the National Highway Traffic Safety Administration and the US EPA established a coordinated program for federal standards for GHG emissions and corporate average fuel economy for light-duty vehicles in order to improve fuel economy and reduce GHG emissions. Together with the US EPA's standards for

[61] US EPA. Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act. Available at: https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean. Accessed on July 23, 2020.

[62] US EPA. Greenhouse Gas Reporting Program (GHGRP). Available at: https://www.epa.gov/ghgreporting/learn-about-greenhouse-gas-reporting-program-ghgrp. Accessed on October 1, 2020.

GHG emissions, the national program overall is expected to result in improvements equivalent to 50.8 mpg if all reductions are achieved exclusively through fuel economy improvements.[63]

In July 2002, the State enacted Assembly Bill (AB) 1493, which directed the California Air Resources Board (CARB) to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks. In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. In September 2009, CARB adopted amendments to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations are collectively known as the Pavley regulations. It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, as well as improve fuel efficiency and reduce motorists' costs.[64]

The State enacted Senate Bill (SB) 1078 in 2002, establishing the Renewable Portfolio Standard (RPS) program and requiring retail sellers of electricity to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources. SB 1078 requires each electrical corporation to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources. The State enacted SB 107 in 2006, which modified the RPS to require that at least 20 percent of electricity retail sales be served by renewable energy resources by 2010.[65]

Former Governor Schwarzenegger's 2005 Executive Order S-3-05 included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a Climate Action Plan (CAP). The Secretary of the California Environmental Protection Agency (Cal EPA) leads the Climate Action Team (CAT), whose goal is to implement global warming emission reduction programs identified in the CAP and to report biannually on the progress made toward meeting the emission reduction targets established in the Executive Order.[66]

AB 32, the Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.), established broad and wide-ranging mandatory provisions and dramatic GHG reduction targets within specified time frames, including a requirement that California's GHG emissions be reduced to 1990 levels by 2020 (representing an approximate 25 percent reduction in emissions). SB 97 required the CEQA Guidelines to be updated to include guidance for the evaluation of GHG emissions impacts as well.[67] Pursuant to AB 32, CARB identified 427 million $MTCO_2e$ as the total Statewide aggregated 1990 GHG emissions level, which serves as the 2020 emissions limit. CARB estimates that a GHG emissions reduction of 173 million $MTCO_2e$ below business-as-usual (BAU) would be required to meet the Statewide emissions limit by year 2020.[68] Based on these numbers, CARB published a list of "early actions," adopted regulations implementing such actions, published a Scoping Plan and updates thereto, and enacted a series of implementing regulations.

[63] NHTSA, EPA and ARB. 2016. Draft Technical Assessment Report (TAR) Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards for Model Years 2022-2025. July.

[64] California Air Resources Board. California Air Resources Board Approves Advances Clean Car Rules. Available at: https://ww2.arb.ca.gov/news/california-air-resources-board-approves-advanced-clean-car-rules. Accessed on July 21, 2020.

[65] California Energy Commission. Renewables Portfolio Standard. Available at: https://www.cpuc.ca.gov/rps/. Accessed on July 21, 2020.

[66] Office of Governor Arnold Schwarzenegger. 2005. Executive Order S-3-05. June 1.

[67] California Air Resources Board. Assembly Bill 32 Overview. Available at: https://ww3.arb.ca.gov/cc/ab32/ab32.htm. Accessed on July 23, 2020.

[68] California Air Resources Board. 2007. Staff Report, California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit. November 16.

In addition, in 2008, the California Building Standards Commission adopted the nation's first green building standards, which have been periodically amended. California's Green Building Standards Code (Part 11 of Title 24 of the California Code of Regulations), referred to as CALGreen, establishes voluntary and mandatory standards for construction projects that relate to sustainable site development, energy efficiency, water conservation, material conservation, and interior air quality. The 2016 CALGreen standards became effective on January 1, 2017.[69] Title 24, Part 6 of the California Code of Regulations regulates the design of building shells and building components. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The California Energy Commission (CEC) adopted the 2016 Building Energy Efficiency Standards (2016 Building Standards), effective January 1, 2017.[70] The 2019 Green Building Standards went into effect on January 1, 2020 and shall apply to the Project, as construction is anticipated to begin in 2021.

In 2015, the State enacted the Clean Energy and Pollution Reduction Act, or SB 350. SB 350 increases the State's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This would increase the use of RPS-eligible resources, including solar, wind, biomass, and geothermal sources, among others. In addition, SB 350 requires the State to double its energy efficiency savings in electricity and natural gas end uses by 2030.[71]

The Unincorporated Los Angeles County Community Climate Action Plan 2020 (CCAP), which was adopted in 2015, describes the County's plan to reduce the impacts of climate change by reducing GHG emissions from community activities in the unincorporated areas of Los Angeles County by at least 11 percent below 2010 levels by 2020. The 2020 CCAP addresses emissions from building energy, land use and transportation, water consumption, and waste generation. The CCAP, a component of the County's 2015 General Plan, describes the County's plan for achieving this goal, including specific actions for each of the major emissions sectors, and provides details on the 2010 and projected 2020 emissions in the unincorporated areas.[72]

On November 30, 2015, the California Supreme Court released its opinion on *Center for Biological Diversity v. California Department of Fish and Wildlife*, commonly referred to as the Newhall Ranch Case. Due to the importance of the Supreme Court as the top entity within the California Judiciary, and because of the relative lack of judicial guidance regarding how GHG issues should be addressed in CEQA documents, the opinion provided important legal guidance to agencies charged with evaluating impacts related to GHG emissions under CEQA. The case involved a challenge to an EIR prepared by the California Department of Fish and Wildlife (CDFW) for the Newhall Ranch development project in the County, which would consist of approximately 20,000 dwelling units, in addition to commercial and business uses, schools, golf courses, parks and other community facilities in the City of Santa Clarita. In relation to GHG analyses, the Newhall Ranch Case illustrated the difficulty of complying with Statewide GHG reduction targets at the local level using CEQA to determine whether an individual project's GHG emissions will create a significant environmental impact triggering an EIR, mitigation, and/or a Statement of Overriding Considerations.[73] The EIR utilized compliance with AB 32's GHG reduction goals as a threshold of significance and modeled its analysis on the CARB's BAU emissions projections from the 2008 Scoping Plan. The EIR quantified the project's annual emissions at buildout and projected emissions in 2020 under a BAU scenario, in which no additional regulatory actions were taken to reduce emissions. Since the Scoping Plan determined that a reduction of 29 percent from BAU was needed to meet AB 32's 2020 reduction goal, the EIR concluded that the project would have a less than significant impact, because the project's annual GHG emissions were projected to be 31 percent below its BAU estimate. The Supreme Court concluded that the threshold of significance used by the EIR was permissible; however, the BAU analysis lacked substantial evidence to demonstrate that the required percentage reduction from BAU is the same for an individual project as for the entire State. The Court expressed skepticism that a percentage reduction goal applicable to the State as a whole would apply without change to an individual development project, regardless of its size or location. Therefore, the Court determined that the EIRs' GHG analysis was not sufficient to support the conclusion that GHG impacts

would be less than significant. The Supreme Court provided the following guidance regarding options to evaluate cumulative significance at the project level:

- The lead agency determination of what level of GHG emission reduction from BAU projection that a new land development at the proposed location would need to achieve to comply with statewide goals upon examination of data behind the Scoping Plan's BAU emission projections. The lead agency must provide substantial evidence and account for the disconnect between the Scoping Plan, which dealt with the State as a whole, and an analysis of an individual project's land use emissions.
- The lead agency may use a project's compliance with performance based standards, such as high building efficiency, adopted to fulfill a Statewide plan to reduce or mitigate GHG emissions to assess consistency with AB 32 to the extent that the project features comply with or exceed the regulation. A significance analysis would then need to account for the additional GHG emissions, such as transportation emissions, beyond the regulated activity. Transportation emissions are in part a function of the location, size, and density or intensity of a project, and thus can be affected by local governments' land use decision-making. Additionally, the lead agency may use a programmatic effort including a general plan, long range development plan, or a separate plan to reduce GHG emissions (such as a CAP or a SB 375 metropolitan regional transportation impact Sustainable Community Strategy, or SCS) that accounts for specific geographical GHG emission reductions to streamline or tier project level CEQA analysis pursuant to CEQA Guidelines Section 15183.5(a) through (b) for land use and PRC Section 21155.2 and 21159.28 and CEQA Guidelines Section 15183.5(c) for transportation.
- The lead agency may rely on existing numerical thresholds of significance for GHG emissions (such as the Bay Area Air Quality Management District's proposed threshold of significance of 1,100 $MTCO_2E$ in annual emission for CEQA GHG emission analysis on new land use projects). The use of a numerical value provides what is "normally" considered significant but does not relieve a lead agency from independently determining the significance of the impact for the individual project (CEQA Guidelines Section 15064.7).[74]

Based on the Supreme Court's guidance on GHG analysis resulting from the Newhall Ranch Case, this analysis both quantifies the Project's GHG emissions and provides an analysis of the Project's consistency with the applicable CAP, the County's 2020 CCAP, as well as with the County's Sustainability Plan, OurCounty, below.

As described in the CCAP, the County's CAP complies with CEQA by quantifying all primary sectors of GHG emissions within the unincorporated areas for years 2010 and 2020; including a reduction target of at least 11 percent below 2010 levels, which is consistent with the recommendations in the AB 32 Scoping Plan for municipalities to support the overall AB 32 reduction targets; analyzing community emissions for the unincorporated areas as a whole and including predicted growth expected by 2020; including specific measures to achieve the overall reduction target; including periodic monitoring of plan progress; and submitting the

[69] California Building Standards Commission. 2017. 2016 California Green Building Standards Code (CALGreen), California Code of Regulations Title 24, Part 11. January 1.

[70] California Energy Commission. 2018. 2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings.

[71] California Energy Commission. Clean Energy and Pollution Reduction Act – SB 350. Available at: https://www.energy.ca.gov/rules-and-regulations/energy-suppliers-reporting/clean-energy-and-pollution-reduction-act-sb-350. Accessed on July 23, 2020.

[72] County of Los Angeles Department of Regional Planning. 2015. Final Unincorporated Community Climate Action Plan 2020. August.

[73] Kaatz, Joe. 2016. Energy Policy Initiative Center, University of San Diego, *Center for Biological Diversity et al., v. California Department of Fish and Wildlife*, and the Newhall Land and Farming Company: the Burden of CEQA Land Use GHG Emission Reduction Analysis at the Local Level. January 20. Available at: https://epicenergyblog.com/2016/01/20/center-for-biological-diversity-et-al-v-california-department-of-fish-and-wildlife-and-the-newhall-land-and-farming-company-the-burden-of-ceqa-land-use-ghg-emission-reduction-analysis-at-the-loca/. Accessed on July 23, 2020.

[74] Ibid.

CCAP to be adopted in a public process following compliance with CEQA. Therefore, project-specific environmental documents that incorporate applicable CCAP actions can "tier off" the EIR that was certified for the County General Plan (2035) and CCAP to meet project-level CEQA evaluation requirements for GHG emissions. Tiering from the General Plan EIR allows project-specific environmental documents that rely on the CCAP to qualitatively evaluate GHG impacts by identifying the applicable CCAP actions and describing how those actions have been incorporated into the Project design and/or identified as mitigation.[75] There are 26 local actions included in the CCAP. The local actions are grouped into five strategy areas: green building and energy; land use and transportation; water conservation and wastewater; waste reduction, reuse, and recycling; and land conservation and tree planting. Project consistency with the CCAP is evaluated in **Table 8, Project Consistency with the Local Actions and Goals of the Los Angeles County Community Climate Action Plan**. Achieving many of the goals and/or implementing the actions of the CCAP are the responsibility of the County (or other State or local government agencies) rather than of any one development project. However, where a response of "Not applicable" is indicated below in Table 8, it should be noted that the Project would not interfere with the ability of the County or other public agencies to achieve the stated goal or to implement the stated action.

Table 8, Project Consistency with the Local Actions and Goals of the Los Angeles County Community Climate Action Plan

Strategy Area	Action	Goal Summary	Project Consistency
Green Building and Energy	**BE-1: Green Building Development**	Promote and incentivize at least Tier 1 voluntary standards within the California Green Building Standards Code (CALGreen) for all new residential and nonresidential buildings. Develop a heat island reduction plan and facilitate green building development by removing regulatory and procedural barriers.	**Not applicable.** It is not the responsibility of the Project to promote or incentive at least Tier 1 voluntary standards within the CALGreen for all new residential and nonresidential buildings. Tier 1 CALGreen standards would result in approximately 15 percent less energy use than the 2013 Title 24 standard for residential development and 10 percent less energy use than the 2013 Title 24 standard for commercial development. However, the Project would now be subject to the 2019 Title 24 mandatory standards; therefore, it would be consistent with both CALGreen and CCAP Action BE-1. The Project is not responsible for "removing regulatory and procedural barriers." The Los Angeles County's Internal Services Department (ISD) is responsible for implementation

[75] County of Los Angeles Department of Regional Planning. 2015. Final Unincorporated Community Climate Action Plan 2020. August.

Strategy Area	Action	Goal Summary	Project Consistency
			of this emissions reduction strategy. However, the Project would comply with Title 31 (Green Building Standards) of the County Code, minimizing heat island effects by providing landscaped areas and adhering to Low impact Development (LID) standards, where applicable, that minimize impervious surfaces.
	BE-2: Energy Efficiency Programs	Energy efficiency retrofits for at least 25 percent of existing commercial buildings over 50,000 square feet and at least 5 percent of existing single family residential buildings.	**Not applicable.** The Project would not involve 50,000 sf or more of new commercial uses, and it would replace an existing residence with a new residence of similar size.
	BE-3: Solar Installations	Promote and incentivize solar installations for new and existing homes, commercial buildings, carports and parking areas, water heaters, and warehouses.	**Not applicable.** It is not the responsibility of the Project to promote or incentive solar installations throughout the County. However, the Project would comply with Section 110.10(b)1B of the State 2019 Building Energy Efficiency Standards.
	BE-4: Alternative Renewable Energy Programs	Implement pilot projects for currently feasible wind, geothermal, and other forms of alternative renewable energy.[1]	**Not applicable.** It is not the responsibility of the Project to implement such pilot projects throughout the County.
	BE-5: Wastewater Treatment Plant Biogas	Encourage renewable biogas projects.	**Not applicable.** It is not the responsibility of the Project to encourage such projects throughout the County.
	BE-6: Energy Efficiency Retrofits of Wastewater Equipment	Encourage the upgrade and replacement of wastewater treatment and pumping equipment.	**Not applicable.** It is not the responsibility of the Project to encourage such projects throughout the County. However, the Project entails new construction that would utilize water-efficient plumbing fixtures and appliances as required by the State 2019 Building Energy Efficiency Standards (Title 24, Part 6), and Title 31 of the County Code (the Green Building Standards Code). In addition, the Project

Strategy Area	Action	Goal Summary	Project Consistency
			would replace an existing OWTS with new connections to the existing municipal sewer service located in Triunfo Canyon Road.
	BE-7: Landfill Biogas	Partner with the owners and operators of landfills with at least 250,000 tons of waste-in-place to identify incentives to capture and clean landfill gas to beneficially use the biogas to generate electricity, produce biofuels, or otherwise offset natural gas or other fossil fuels.	**Not applicable.** It is not the responsibility of the Project to undertake such projects.
Land Use and Transportation	**LUT-1: Bicycle Programs and Supporting Facilities**	Construct and improve bicycle infrastructure to increase biking and bicyclist access to transit and transit stations/hubs. Increase bicycle parking and "end-of-trip" facilities.	**Not applicable.** It is not the responsibility of the Project to undertake bicycle infrastructure projects. The Project would rebuild and/or construct improved facilities for an existing event venue to accommodate a similar number of guests previously served, which would not substantially increase trips and associated mobile source GHG emissions. Although it is not anticipated that many guests may arrive at the wedding venue by bicycle, there would be available space to park a bicycle at the 23-acre Project site.
	LUT-2: Pedestrian Network	Construct and improve pedestrian infrastructure to increase walking and pedestrian access to transit and transit stations/hubs. Program the construction of pedestrian projects toward the goal of completing 15,000 linear feet of new pedestrian improvements/amenities per year.	**Not applicable.** It is not the responsibility of the Project to undertake pedestrian infrastructure projects.
	LUT-3: Transit Expansion	Collaborate with the Los Angeles County Metropolitan Transportation Authority (Metro) on a transit program that prioritizes transit by creating bus priority lanes,	**Not applicable.** It is not the responsibility of the Project to undertake pedestrian, transit, or other infrastructure projects.

Strategy Area	Action	Goal Summary	Project Consistency
		improving transit facilities, reducing transit-passenger time, and providing bicycle parking near transit stations. Construct and improve bicycle, pedestrian and transit infrastructure to increase bicyclist and pedestrian access to transit and transit stations/hubs.	
	LUT-4: Travel Demand Management	Encourage ride- and bike-sharing programs and employer-sponsored vanpools and shuttles. Encourage market-based bike sharing programs that support bicycle use around and between transit stations/hubs. Implement marketing strategies to publicize these programs and reduce commute trips.	**Not applicable.** It is not the responsibility of the Project to encourage these programs. However, as described in the Traffic Analysis and VMT Study for the Brookview Ranch Project prepared by Associated Transportation Engineers (February 2019 and February 2021, respectively), included as **Appendix D1** and **Appendix D2**, the Project would not generate significant transportation impacts during operations that would require implementation of Travel Demand Management measures.
	LUT-5: Car-sharing Program	Implement a car-sharing program to allow people to have on-demand access to a shared fleet of vehicles.	**Not applicable.** It is not the responsibility of the Project to encourage these programs. However, as described in the Traffic Analysis and VMT Study for the Brookview Ranch Project prepared by Associated Transportation Engineers (February 2019 and February 2021, respectively), included as Appendix D1 and Appendix D2, the Project would not generate significant transportation impacts during operations that would require implementation of Travel Demand Management measures, including a car-sharing program.

Strategy Area	Action	Goal Summary	Project Consistency
	LUT-6: Land Use Design and Density	Promote sustainability in land use design, including diversity of urban and suburban developments.	**Not applicable.** It is not the responsibility of the Project to promote sustainability. However, the Project would promote sustainability by continuing the event and equestrian operations that currently occur on the site and that are permitted by the site's zoning and land use designations, rather than relocating these uses to another site. Further, the Project would promote sustainability by disassembling the Avalon Barn and utilizing its components to reconstruct the fire-damaged Coronado Barn, as well as by siting new and replacement structures in previously developed portions of the site, rather than on the site's naturally vegetated areas.
	LUT-7: Transportation Signal Synchronization Program	Improve the network of traffic signals on the major streets throughout LA County.	**Not applicable.** It is not the responsibility of the Project to encourage such projects throughout the County.
	LUT-8: Electric Vehicle Infrastructure	Install 500 electric vehicle (EV) charging facilities at County-owned public venues (e.g., hospitals, beaches, stand-alone parking facilities, cultural institutions, and other facilities) and ensure that at least one-third of these charging stations will be available for visitor use.	**Not applicable.** It is not the responsibility of the Project to encourage such projects throughout the County.
	LUT-9: Idling Reduction Goal	Encourage idling limits of 3 minutes for heavy-duty construction equipment, as feasible within manufacturer's specifications.	**Not applicable.** It is not the responsibility of the Project to encourage idling limits. However, Section 2485 in Title 13 of the California Code of Regulations requires that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes at any location. The Project's

Strategy Area	Action	Goal Summary	Project Consistency
			non-particulate construction activity emissions are not predicted to exceed SCAQMD CEQA thresholds; therefore, it is not required to implement a more stringent measure. The Project shall comply with the existing State standard. The County is responsible for the formal adoption of a more stringent measure.
	LUT-10: Efficient Goods Movement	Support regional efforts to maximize the efficiency of the goods movement system throughout the unincorporated areas.	**Not Applicable.** The Project is not part of the County's goods movement system. It is the responsibility of the County to identify the means by which to maximize the efficiency of this system.
	LUT-11: Sustainable Pavements Program	Reduce energy consumption and waste generation associated with pavement maintenance and rehabilitation.	**Consistent.** It is the responsibility of the LADPW to identify pavement improvement projects. However, to the extent that the Project would require construction work in the public right-of-way in order to connect the Project site to water mains and sanitary sewer trunk lines, and would require extending on-site water mains and sewer lines in the on-site driveway, the incidental demolition/construction waste generated by these activities in roadways would be disposed of in compliance with Statewide solid waste diversion requirements and the County's Title 31 (Green Building Standards Code), which includes a waste diversion component.
	LUT-12: Electrify Construction and Landscaping Equipment	Utilize electric equipment wherever feasible for construction projects. Reduce the use of gas-powered landscaping equipment.	**Consistent.** The intent of this goal is to reduce air and GHG emissions and improve air quality in the County. Per the analysis provided here and in Section 3, Air Quality, as a continuation of current event

Strategy Area	Action	Goal Summary	Project Consistency
			and equestrian uses, with minor improvements requiring minimal construction, the Project would result in less than significant air quality and GHG impacts, including those impacts related to the use of construction equipment, as well as those related to the use of landscaping equipment during operations (which is a continuation of existing operations). Any voluntary commitment by the Project to replace gas-powered equipment with electric equipment during construction or operations would further reduce these impacts.
Water Conservation and Wastewater	**WAW-1: Per Capita Water Use Reduction Goal**	Meet the State established per capita water use reduction goal, as identified by SB X7-7 for 2020.	**Consistent.** Per SBX7-7, the State is to achieve a 20 percent reduction in urban per-capita water use by 2020. The Project would comply with the State 2019 Building Energy Efficiency Standards Title 24, Part 6), and Title 31 of the County Code (the Green Building Standards Code), as well as the water-efficient landscaping requirements of the County Code (Title 20, Chapter 20.09).
	WAW-2: Recycled Water Use, Water Supply Improvement Programs, and Storm Water Runoff	Promote the use of wastewater and gray water to be used for agricultural, industrial, and irrigation purposes. Manage stormwater, reduce potential treatment, and protect local groundwater supplies.	**Consistent.** It is not the responsibility of the Project to promote the use of wastewater and gray water throughout the County. As the Project is not resulting in substantial operational changes to its event or equestrian uses or a substantial increase in landscaped areas, water use with the Project would not change significantly as compared to existing conditions. Further, the Project would comply with the County's LID Standards, as well

Strategy Area	Action	Goal Summary	Project Consistency
			as with Stormwater Pollution Prevention Plan (SWPPP) and Standard Urban Stormwater Mitigation Plan (SUSMP) requirements, as applicable, to manage stormwater quality.
Waste Reduction, Reuse, and Recycling	**SW-1: Waste Diversion Goal**	For the County's unincorporated areas, adopt a waste diversion goal to comply with all State mandates associated with diverting from landfill disposal at least 75 percent of the waste by 2020.	**Consistent.** Although it is not the responsibility of the Project to adopt waste diversion goals, the Project would be consistent with Action SW-1 by complying with Statewide solid waste diversion requirements and the County's Title 31 (Green Building Standards Code), which includes a waste diversion component.
Land Conservation and Tree Planting	**LC-1: Develop Urban Forests**	Support and expand urban forest programs within the unincorporated areas.	**Not Applicable.** It is the responsibility of the County to conduct a tree inventory and identify tree-deficient areas in need of tree planting. The Project site is not located in an urban area. Nevertheless, the Project would provide mitigation for impacts to native trees (i.e., tree replacement), as required by the County.
	LC-2: Create New Vegetated Open Space	Restore and re-vegetate previously disturbed land and/or unused urban and suburban areas.	**Consistent.** The Project would add trees to the site as part of the landscaping plan and mitigation program. Areas that are temporarily disturbed during the construction period would be revegetated, which will be evaluated in detail in the EIR Biological Resources analysis.
	LC-3: Promote the Sale of Locally Grown Foods and/or products	Establish local farmers markets and support locally grown food.	**Not Applicable.** It is not the responsibility of the Project to establish such land uses.
	LC-4: Protect Conservation Areas	Encourage the protection of existing land conservation areas.	**Consistent.** The Project site is not located in a land conservation area and would therefore not affect such a specially-designated area. However, the Project is

Strategy Area	Action	Goal Summary	Project Consistency
			consistent with LC-4, as it would provide commercial and residential land uses on a site that is specifically zoned for such uses in a rural area. In addition, the Project would disturb previously disturbed areas of the Project site, leaving the undisturbed northeast area intact.

Source: County of Los Angeles, Department of Regional Planning, Final Unincorporated Community Climate Action Plan 2020, August 2015.

[1] Potential future forms of non-GHG energy could include nuclear fusion, which is being researched by many parties, including the Lockheed Martin Skunk Works in Palmdale, but which has not yet been experimentally proven as a viable commercial energy source. As new technologies become proven, the County will consider how they can support further development and deployment of such technologies.

In addition to its CAP, the County Board of Supervisors adopted a Countywide Sustainability Plan, OurCounty, on August 6, 2019. OurCounty outlines what local governments and stakeholders can do to enhance the well-being of every community in the County while reducing damage to the natural environment and adapting to the changing climate, particularly focusing on those communities that have been disproportionately burdened by environmental pollution. This plan envisions streets and parks that are accessible, safe, and welcoming to everyone; air, water, and soil that are clean and healthy; affordable housing that enables all residents to thrive in place; and a just economy that runs on renewable energy instead of fossil fuels. The Plan specifies 159 "Actions" that describe a policy, or program, or tool that the County will deploy to support the goals and strategies of the Plan.[76]

According to OurCounty, the County is also in the process of updating the County's CAP (CCAP), which was adopted by the Board of Supervisors in 2015, as part of the update of the General Plan. The updated CAP will align with OurCounty, but it differs in that it will undergo a formal environmental review process and be an enforceable document that amends the County's General Plan.

Table 9, Project Consistency with the Actions of OurCounty, provides a summary of the OurCounty action items that would be most relevant to the Project, and a brief description of how the Project would be consistent with those actions.

Table 9, Project Consistency with the Actions of OurCounty

Action Number	Action	Project Consistency
31	Adopt CALGreen Tier 1 green building standards and identify which Tier 2 standards could be adopted as code amendments.	**Consistent.** The Project would be required to comply with the latest adopted and mandatory green building standards.
45	Strengthen tree protections of native tree species, such as through development of an ordinance, based on findings from the Urban Forest Management Plan (UFMP).	**Consistent.** The Project would be required to comply with the adopted tree protection ordinance that is applicable to the Project.

[76] County of Los Angeles. 2019. OurCounty: Los Angeles Countywide Sustainability Plan. August 6 (Adopted).

Action Number	Action	Project Consistency
56	Evaluate options to limit new large-scale development in high climate-hazard areas.	**Consistent.** The Project involves the continued operation of existing event and equestrian land uses, as well as the replacement of one residence. It would not substantially increase the density or intensity of the existing land uses on the Project site. The Project also would be consistent with the updated SMMNAP and CSD.
58	Regularly update the building code, fire code, and Hazard Mitigation Plan to reflect best practice in wildland-urban interface.	**Consistent.** The Project would be required to comply with the building code, fire code, and hazard mitigation plan most recently adopted or updated by the County.
73	Develop and implement a strategy to preserve and protect priority ecological sites, supporting sites, and priority species (including but not limited to significant ecological areas, habitat connections, terrestrial streams, wetlands, and aquatic habitats).	**Consistent.** The Project would be located in a SEA; however, it would be developed on a previously disturbed site. The Project would obtain a CUP, approving the proposed uses and continuation of operations within a SEA.
115	Adopt building code changes that improve water efficiency and reduce indoor and outdoor water use above current.	**Consistent.** The Project would be required to comply with CALGreen standards or applicable adopted County building codes for water efficiency.
123	Increase the diversion requirements in the County's Construction & Demolition debris ordinance, encourage the use of recycled-content materials in construction projects, and incentivize use of recycled materials in public art projects funded or commissioned by the County.	**Consistent.** During construction, the Project would be required to comply with the applicable County Construction & Demolition debris ordinance for recycling such material.

As demonstrated by the policy consistency analysis above, the Project would not conflict with the applicable CCAP or with OurCounty, and their stated actions and goals, adopted for the purpose of reducing the emissions of GHG.

While the Project's GHG emissions impact determination relies mainly on an evaluation of consistency with the CCAP, which is sufficient for a significance determination, a quantitative disclosure of the Project's estimated GHG emissions also is provided below.

On December 5, 2008, the SCAQMD Governing Board adopted a staff proposal for an interim quantitative GHG significance threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 $MTCO_2e$/year. The SCAQMD Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, dated October 2008, also included a recommendation for establishing an interim GHG significance threshold of 3,000 $MTCO_2e$/year for residential and commercial projects in addition to the 10,000 $MTCO_2e$/year threshold for industrial facilities. The policy objective of staff's recommended interim GHG significance threshold proposal was to achieve an emission capture rate of 90 percent of all new or modified stationary source projects to address the long-term

adverse impacts associated with global climate change. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to some type of CEQA analysis.[77]

In September 2010, with regard to numerical GHG significance thresholds for residential and commercial uses, the SCAQMD staff presented the GHG CEQA Significance Threshold Stakeholder Working Group #15 with recommendations for two options for significance screening levels of GHG emissions for lead agencies to choose from to determine significance of non-industrial projects.[78] The first option was to use separate screening thresholds for residential, commercial, and mixed-use projects, with a numerical threshold of 3,500 $MTCO_2e$/year for residential projects. The second option was to use one screening threshold of 3,000 $MTCO_2e$/year for residential, commercial, and mixed-use projects. Incidentally, the California Air Pollution Control Officers Association (CAPCOA) has suggested that a quantitative threshold option that is designed to capture projects that represent approximately 90 percent of GHG emissions from new projects and excludes smaller projects (less than 50 units) that contribute a relatively small fraction of the cumulative statewide GHG emissions.[79]

The SCAQMD's proposed screening level options of 3,000 $MTCO_2e$ per year for residential and commercial projects, or 3,500 $MTCO_2e$ per year for residential projects, would meet CAPCOA's intent for the suggested quantitative threshold option. Given the lack of a formally adopted numerical significance threshold that is directly applicable to the Project, SCAQMD's proposed screening level of 3,000 $MTCO_2e$ is used to provide a quantitative disclosure of the Project's estimated GHG emissions. The Project's GHG emissions were estimated using the CalEEMod.2016.3.2 emissions estimation model provided by SCAQMD. The CalEEMod output is provided in Appendix A.

Construction Emissions

During the construction period, the demolition, use of heavy equipment, disposal of construction waste, and application of various construction materials (paint, asphalt, etc.) would result in the short-term generation of GHG emissions. The Project's construction-related GHG emissions were modeled using CalEEMod. The estimated construction-related GHG emissions generated over the full duration of construction activities, including the Avalon Event Barn, Coronado Barn, Bride's Dressing Room, and Caretaker's Residence, as well as the bridge components, would be 1,473.9 $MTCO_2e$, which would be well within the 3,000 MT screening threshold.

The SCAQMD GHG emissions analysis policy for construction activities recommends amortization of emissions over a 30-year project lifetime to evaluate significance on an annual basis. Based on the total construction period emissions, the Project's 30-year annual amortized GHG emissions would be approximately 49.13 $MTCO_2e$. This amortized amount is added to the operational period annual emissions, evaluated below, to determine whether the Project's annual GHG emissions would remain below a level of significance.

Operational Emissions

The Project would be required to comply with the State's Building Energy Efficiency Standards (Title 24, Part 6) and the County's Green Building Standards Code, as discussed in Section 6, Energy. The Project would reconstruct structures damaged by the Woolsey Fire, as well as provide other improvements of the site to allow the continuation of existing on-site event venue and equestrian center operations on the Project site, as

[77] South Coast Air Quality Management District. 2008. Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold. October.

[78] South Coast Air Quality Management District. 2010. Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15. September 28.

[79] California Air Pollution Control Officers Association (CAPCOA). 2008. CEQA and Climate Change White Paper. January.

well as a Caretaker's Residence, which have been operating since May 2016. The Project would only marginally alter the overall square footage of on-site structures with a net increase of approximately 1,407 sf, and the event venue would be restricted to attendance levels similar to average attendance levels currently served. As such, the proposed land use types, scale of development, and intensity of use would not substantially differ from the existing conditions. During operations, the majority of GHG emissions would result from mobile emissions (vehicle travel) as modeled using CalEEMod. However, as the proposed uses would not differ from the current use of the site and would limit guest attendance to a level similar to that currently served, the Project would not substantially increase mobile source GHG emissions over existing conditions. As such, the Project's overall net increase in operational GHG emissions would be substantially less than calculated by CalEEMod when considering only the net difference in proposed building square footage. Therefore, this analysis conservatively overstates impacts.

As shown in **Table 10, Greenhouse Gas Emissions,** the Project's operational GHG emissions are estimated to be approximately 302.11 $MTCO_2e$ annually with the majority of these associated with mobile sources. Adding the amortized construction emissions resulting from the Avalon Event Barn and the bridge components of the Project of approximately 49.13 $MTCO_2e$, to the operational emissions, the Project's annual GHG emissions total would be approximately 351.07 $MTCO_2e$, which is substantially less than the more conservative suggested screening threshold for residential and commercial projects of 3,000 $MTCO_2e$ per year.

Table 10, Greenhouse Gas Emissions

Generation Source	$MTCO_2e$/year[a]
Area Sources	0.09
Energy Utilization	50.01
Mobile Source	211.98
Solid Waste Generation	35.16
Water Consumption	4.68
Total Operational Emissions[b]	**301.94**
Annualized Construction	49.13
Total Project GHG Emissions	**351.07**

Source: CalEEMod.2016.3.2 Output in Appendix A.
[a] Reported emissions are gross values that do not incorporate reductions from removal of existing uses. Actual Project net increases would be lower.
[b] Totals may not add due to rounding.

The Project's GHG emissions would fall far below the more conservative suggested screening threshold for residential and commercial projects of 3,000 $MTCO_2e$ per year.[80]

As the Project would be consistent with the CCAP and also would generate GHG emissions below the screening threshold of the SCAQMD, the Project would result in a less than significant impact related to the generation of GHG emissions that may have a significant effect on the environment, as well as those impacts related to conflicts with the CCAP, adopted for the purpose of reducing GHGs.

Based on the preceding evaluation, Project GHG impacts would be less than significant, no mitigation measures are required, and these topics do not warrant further analysis in the EIR.

[80] South Coast Air Quality Management District. 2010. Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15. September 28.

9. HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, storage, production, use, or disposal of hazardous materials?	☐	☐	☒	☐

Less Than Significant Impact. The Project involves the demolition, modification, and construction of several buildings and structures necessary to continue operation of the current event and equestrian land uses. The event and equestrian land uses would continue to store and utilize substances that are necessary for operations, housekeeping, and maintenance, such as cleaning agents, oils and lubricants, fuel, and paints. One 250-gallon propane gas tank is located on site (used for heating) and is supplied by Amerigas, a licensed contractor, which performs two services per year. Two above-ground fuel tanks are also maintained on the site; one 50-gallon gas tank and one 100-gallon diesel tank, which are filled approximately once per month by Geiger, which also fills farm equipment operated at the site. Other necessary cleaning agents, oil, and paints are purchased and transported to the site as needed. The Project would include the addition of a second propane gas tank (500-gallon) at the site. The transport and storage of these materials comply with State health and safety code regulations to reduce risk to the public and the environment, which would continue under the Project. Therefore, the Project would have a less than significant impact related to creating a significant hazard through the routine transport, storage, production, use or disposal of hazardous materials, and no mitigation measures are required. This topic does not warrant further environmental review in the EIR.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials or waste into the environment?	☐	☐	☒	☐

Less Than Significant Impact. As described above, the event and equestrian land uses use substances that are necessary for operations, housekeeping, and maintenance, such as cleaning agents, oil, paints, propane gas, and other fuels. Such uses would continue under the Project; however, hazardous materials would still be transported, stored, and used in compliance with State Health and Safety Code regulations. In addition, as discussed below, the Project would not be located on a site known to constitute a hazard to the public or environment, as it is not included on the California Environmental Protection Agency's (CalEPA's) Cortese List pursuant to Government Code Section 65962.5. Therefore, the Project would have a less than significant impact related to creating a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of sensitive land uses?	☐	☐	☒	☐

Less Than Significant Impact. Construction and operation of the Project would involve the transport, storage, and use of some common hazardous materials and substances, such as paints, solvents, cleaning

agents, oils and lubricants, propane, and other fuels. The Project site currently accommodates event and equestrian operations, in addition to a Caretaker's Residence, which in and of itself is a sensitive land use. In addition, residences are located off-site but within one-quarter mile of the Project site, to the north, south, and west of the Project site. However, the handling of hazardous materials and substances would comply with applicable State health and safety regulations. Therefore, the Project would have a less than significant impact related to emitting hazardous emissions or handling hazardous materials within one-quarter mile of sensitive land uses. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

No Impact. The list compiled pursuant to Section 65962.5 of the Government Code is referred to as the "Cortese List". The California Environmental Protection Agency (CalEPA) Cortese List Data Resources include a list of Hazardous Waste and Substances sites from the Department of Toxic Substances Control (DTSC) EnviroStor database; a list of Leaking Underground Storage Tank Sites by County and Fiscal Year from the State Water Resources Control Board (SWRCB, or Water Board) GeoTracker database; a list of solid waste disposal sites identified by the Water Board with waste constituents above hazardous waste levels outside the waste management unit; a list of active Cease and Desist Orders (CDOs) and Cleanup and Abatement Orders (CAOs) from the Water Board; and a list of hazardous waste facilities subject to corrective action pursuant to section 25187.5 of the Health and Safety Code and as identified by the DTSC. Each of these resources were reviewed to determine whether the Project site is located on a site that is listed on the Cortese List. A summary of the negative findings is provided below.

- The DTSC EnviroStor database[81] shows that the site is not associated with a cleanup site, and there are no cleanup sites located within 5,000 ft. of the Project site.
- Based on a review of the Water Board GeoTracker database,[82] the Project site is not associated with a hazardous materials cleanup site or other conditions that could cause groundwater contamination. The nearest active cleanup site to the Project site that is listed by GeoTracker is located over 4,500 ft. from the Project site and consists of a previously identified leaking underground storage tank (LUST), for which cleanup has been completed and the case has been closed. There are no other cleanup sites located within 5,000 ft. of the Project site.
- The Project site is not listed by the Water Board as a solid waste disposal site with waste constituents above hazardous waste levels outside the waste management unit.[83]
- The Project site is not listed by the Water Board as a site for which a CDO or CAO is active.[84]
- According to the CalEPA, the hazardous waste facilities that are identified in Health and Safety Code Section 25187.5 are those for which the DTSC has taken or contracted with others for corrective action, because a facility owner/operator has failed to comply with a date for taking corrective action, or because the DTSC determined that immediate corrective action was necessary to abate an imminent

[81] DTSC. EnviroStor. Accessed on March 5, 2018 from: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=2972+Triunfo+Canyon+Road.
[82] SWRCB. GeoTracker. Accessed on March 5, 2019 from: http://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=2972+Triunfo+Canyon+Road.
[83] CalEPA. Sites Identified with Waste Constituents above Hazardous Waste Levels Outside the Waste Management Unit. Accessed on March 5, 2019 from: https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/SiteCleanup-CorteseList-CurrentList.pdf.
[84] CalEPA. List of "Active" CDO and CAO from Water Board. Excel file accessed from: https://calepa.ca.gov/sitecleanup/corteselist/ on March 5, 2019.

or substantial endangerment. This list is currently comprised of two facilities, neither of which includes the Project site. The two listed sites are AAD Distribution & Dry Cleaning Inc. in Vernon and the Marquardt Co. in Van Nuys.[85]

Based on the information provided above, the Project site is not identified as a hazardous waste site. Therefore, the Project would result in no impact related to the creation of a significant hazard to the public or the environmental as a result of its location on a Cortese List site and no mitigation measures are required. This topic does not warrant further environmental review in the EIR.

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

No Impact. The Project is not located within two miles of a public use airport and is not located within an airport land use plan. The closest airport to the Project site is the Camarillo Airport, which is approximately 17 aerial miles and 24 driving miles from the Project site. The Ventura County Airport Land Use Commission (ALUC) oversees implementation of the Airport Comprehensive Land Use Plan (LUP) for each of its airports, including the Camarillo Airport. The Project site is not located within the runway protection zone or other designated airport safety zones of the Camarillo Airport.[86] Therefore, the Project would have no impact associated with airport safety hazards, and no mitigation measures are required. This topic does not warrant further environmental review in the EIR.

f) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan? ☐ ☒ ☐ ☐

Less Than Significant Impact with Mitigation Incorporated. According to the General Plan Safety Element, the Office of Emergency Management (OEM) is the day-to-day Los Angeles County Operational Area coordinator for the County and is responsible for organizing and directing the preparedness efforts of the Emergency Management Organization of Los Angeles County.[87] The emergency response plan for the unincorporated areas is the Operational Area Emergency Response Plan (OAERP), which is prepared by the OEM. The OAERP strengthens short and long-term emergency response and recovery capability, and identifies emergency procedures and emergency management routes in Los Angeles County. The closest freeway disaster route designated by the County to the Project site is the U.S. 101 Freeway (also referred to as Highway 101 or the Ventura Freeway) located approximately four driving miles to the north. The closest highway disaster route designated by the County to the Project site is Kanan Road (located approximately 0.50 miles to the southeast). In addition, Brookview Ranch maintains a traffic management plan for events, with Brookview staff directing guests to the appropriate parking area before the start of an event and limiting the number of guests exiting the site at one time after the event, and also maintains evacuation plans for events and for the equestrian facility, both of which are based on a fire/wildfire incident and include provisions for early detection, noticing (receipt and dissemination of emergency notifications from both Los Angeles [Alert LA] and Ventura [VC Alerts] Counties), and route selection (depending on the location of the fire/wildfire). During the 2018 Woolsey Fire, Brookview Ranch implemented its evacuation plans with 100 percent life-saving success. All animals were relocated off the site within three hours of the voluntary

[85] CalEPA. Cortese List. Accessed on March 5, 2019 from: https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/.
[86] Ventura County Airport Land Use Commission. 2000. Airport Comprehensive Land Use Plan for Ventura County Final Report. July 7.
[87] Los Angeles County. 2015. General Plan. October 6 (Adopted).

evacuation notice, and all people also were relocated off the site before there was a mandatory evacuation notice in place.

Brookview Ranch would continue to implement its traffic management plan and evacuation plans for events and for the equestrian facility. These plans would be updated to reflect the structural modifications included with the Project. As discussed in Section 18, Transportation, and Section 20, Wildfire, the transportation impacts of the Project will be addressed in the EIR and will evaluate the potential for the Project to result in significant impacts related to inadequate emergency access. Project consistency with the SMMNAP and SMMNACSD will also be evaluated in the EIR Land Use and Planning section and will include an analysis of Project conflicts, if any, with the parking, traffic, and access requirements of the SMMNAP and SMMNACSD. The Project would result in a less than significant impact related to the impairment of emergency or evacuation plans following the implementation of mitigation that would entail a requirement for Brookview Ranch to prepare and implement an updated traffic management plan and evacuation plans for the event facility reception building and the equestrian facility. The traffic management plan would include requirements related to the staggered scheduling of events and queuing the arrival and departure times of event patrons. This topic will be evaluated in the Wildfire, Transportation, and Land Use and Planning sections of the EIR.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving fires, because the project is located:

i) within a high fire hazard area with inadequate access? ☐ ☐ ☒ ☐

Less Than Significant Impact. According to the General Plan Safety Element, the California Department of Forestry and Fire Protection (CAL FIRE) is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other factors. These zones, referred to as Fire Hazard Severity Zones (FHSZs), influence how people construct buildings and protect property to reduce risk associated with wildland fires. The Project site is located in a Very High Fire Hazard Severity Zone (VHFHSZ). The Forestry Division of the Los Angeles County Fire Department (LACoFD) assists and supports the implementation of the CAL FIRE FHSZ model designation in the County. In an effort to reduce the threats to lives and property, the LACoFD has instituted a variety of regulatory programs and standards, including vegetation management, pre-fire management and planning, the Fuel Modification Plan Review Program, and the brush clearance inspection program. The LACoFD and LADPW also enforce fire and building codes related to development in the FHSZs, and the Fire Department implements the Title 32 (Fire Code) requirements in the FHSZs.[88]

As discussed in the Project Description, primary regional access to the Project site is provided by U.S. Highway 101, which is located approximately 1.5 miles (aerial) north of the Project site. Alternatively, regional access may be provided by the Pacific Coast Highway, or Highway 1, which is located seven miles (aerial) to the south. Local street access is provided by Kanan Road (1.5 miles to the southeast), and Triunfo Canyon Road, which connects to an existing driveway on the Project site. Kanan Road connects directly to both U.S. Highway 101 and Highway 1. The existing driveway on the Project site crosses Triunfo Creek via an existing concrete swale (or Arizona crossing) in the creek. However, as required by the LACoFD, a steel bridge with a concrete deck would be constructed with the Project as the new means of ingress and egress, in order to provide all weather access and improve public safety. As such, the Project would result in a less than significant impact with regard to inadequate access within a FHSZ, and no mitigation measures are required. As adequate access exists in the Project area, this specific question does not warrant further evaluation in the EIR. However, Wildfire (Section 20) will be addressed in the EIR

[88] Ibid.

and will evaluate the potential for the Project to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. In addition, Transportation (Section 18) will be addressed in the EIR and will evaluate the potential for the Project to result in significant impacts related to inadequate emergency access. Project consistency with the SMMNAP and SMMNACSD will also be evaluated in the EIR Land Use and Planning section and will include an analysis of Project conflicts, if any, with the parking, traffic, and access requirements of the SMMNAP and SMMNACSD.

ii) within an area with inadequate water and pressure to meet fire flow standards?	☐	☐	☒	☐

Less Than Significant Impact. Three 10,000-gallon water storage tanks are located on-site and draw groundwater for site irrigation. One 5,000-gallon aboveground water pump is located on-site and draws from the existing LVMWD water main to provide potable water to the Project site.[89] Two fire hydrants are also currently located on the Project site; one is located southeast of the hay shed (Building #6) and the other is located east of the Bride's Dressing Room (Building #10) parking area. According to the LACoFD Fire Prevention Division, the closest off-site fire hydrant to the Project site is located at the southwest corner of the intersection of Triunfo Canyon Road and Lobo Canyon Road, 252 ft. northwest of the site boundary. The fire flow services are provided from a 10-inch diameter water main. The fire flow from this hydrant is 1,250 gpm at 20 PSI residual for two hours at 189 PSI static (refer to **Appendix E**).[90] The Project would continue to use the existing provider for potable water and fire water, the LVMWD, and Brookview would continue to irrigate the site from its groundwater wells. However, as required by the LACoFD, Brookview proposes to construct a six-inch water main across the bridge and onto the Project site and replace the two existing hydrants with two new hydrants to support LACoFD's fire-fighting capabilities. The water main would extend onto the Project site along the site driveway from a point of connection with an existing water main in Triunfo Canyon Road (the existing water main to the Project site is buried in the Arizona crossing). Rather than being fed by the three 10,000-gallon water tanks, the two new hydrants would be fed directly from the new water main that would extend through the Project site from a point of connection with an existing water main in Triunfo Canyon Road, to assure adequate fire flow and pressure meeting LACoFD fire flow standards. The proposed water main across the bridge would be used only for firefighting purposes. This water main also would provide fire water service to the fire sprinkler systems to be installed in the office (Building #11), hay shed (Building #6), Bride's Dressing Room (Building #10), Caretaker's Residence (Building #12), and Avalon Event Barn (Building #5). The Project site and utility plans would be subject to LACoFD review and approval and would be required to meet the specified fire flow requirements set forth by the LACoFD. Therefore, the Project would result in a less than significant impact related to inadequate fire flow, and no mitigation measures are required. This topic does not warrant further evaluation in the EIR.

iii) within proximity to land uses that have the potential for dangerous fire hazard?	☐	☐	☒	☐

Less Than Significant Impact. Land uses in the vicinity of the Project site include residences, equestrian facilities, recreational and vineyard facilities, and limited commercial uses. These land uses do not represent dangerous fire hazards, as would, for example, some types of chemical, industrial, or manufacturing land uses. These properties, like the Project site, are located in a VHFHSV, and as such, are required to implement the fuel modification and brush clearance requirements of the LACoFD. Therefore, the Project would result in a less than significant impact related to potentially dangerous neighboring fire hazards, and

[89] Knapp, Tom. Phone correspondence with Envicom Corporation. August 1, 2019.
[90] County of Los Angeles Fire Department, Fire Prevention Division. 2019. Information on Fire Flow Availability for Building Permit. August 1.

no mitigation measures are required. This specific topic does not warrant further evaluation in the EIR. However, Wildfire (Section 20) will be addressed in the EIR and will evaluate the potential for the Project to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

h) Does the proposed use constitute a potentially dangerous fire hazard?	☐	☐	☒	☐

Less Than Significant Impact. The Project would continue existing event and equestrian land uses that currently occur on the Project site, and in so doing, would result in a minor net increase in development of 1,407 sf. These land uses do not represent dangerous fire hazards, such as some types of chemical, industrial, or manufacturing land uses. In addition, as required, Brookview Ranch would continue to implement the fuel modification and brush clearance requirements of the LACoFD. Therefore, the Project would result in a less than significant impact related to land uses that constitute potentially dangerous fire hazards, and no mitigation measures are required. This specific topic does not warrant further evaluation in the EIR. However, Wildfire (Section 20) will be addressed in the EIR and will evaluate the potential for the Project to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

10. HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐

Less Than Significant Impact. The following evaluation is based on the Drainage Concept/Hydrology Study/LID [Low Impact Development] prepared by Sikand Engineering Associates (June 15, 2020) and included in **Appendix F1**, in addition to the Hydraulic Calculations for Proposed Bridge for Brookview Ranch (Hydraulic Calculations), prepared by Sikand Engineering Associates (January 6, 2021) and included in **Appendix F2.**

The Project would continue event and equestrian land uses that currently occur on the Project site. The Project involves the demolition or disassembly of existing structures, reconstruction of fire-damaged facilities, construction of an indoor event facility reception building and new Caretaker's Residence, and construction of a bridge to improve public safety. The net increase in development with the Project would be 1,407 sf. These facilities would be constructed in the existing developed/disturbed areas of the Project site.

To ensure surface and groundwater quality during operations, the Applicant is required to submit a LID Plan to the County Department of Regional Planning for review and approval prior to issuance of a grading or building permit. Current LID regulations prioritize infiltration, capture/reuse, and biofiltration as the preferred stormwater control measures. Based on the Drainage Concept/Hydrology Study/LID, the infiltration rate of the soil is considered low and therefore biofiltration is proposed for water quality treatment. During operations, the new/changed impervious proposed areas would be subject to LID regulations and the Project would incorporate **PDF-HYDRO-1,** which proposes three Filterra biofiltration basins located in multiple areas of the Project site. With incorporation of PDF-HYDRO-1, the Project would not substantially alter the ratio of impervious to pervious area within the site. No other uses associated with the Project would violate water quality standards or waste discharge requirements, and the Project would comply with applicable federal, State and local standards and requirements. Therefore, the Project would result in a less than significant impact regarding water quality standards or waste discharge requirements. Nevertheless, the topic of surface water quality will be evaluated in the EIR.

Project Design Features:

PDF-HYDRO-1 To comply with existing Low Impact Development (LID) regulations, the Project shall incorporate three Filterra biofiltration basins located:

1. Adjacent to the Bride's Dressing Room, where the runoff from the proposed Caretaker's Residence in addition to the Bride's Dressing Room shall be directed; and
2. Near the lower fire department turnaround.
3. Adjacent to the Avalon Event Barn.

Stormwater shall flow to one of the biofiltration basins through the Filterra media, which filters fine pollutants and nutrients, and the treated water shall exit through an underground pipe and ultimately flow to Triunfo Creek.

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

Less Than Significant Impact. With the Project, the LVMWD would continue to provide potable water and fire water to the site, and Brookview would continue to irrigate the site from its groundwater wells. As stated previously, the Project would continue to operate existing event and equestrian uses on the site, while only marginally increasing site development by 1,407 sf and not substantially increasing the amount of impervious area on the site. In addition, based on infiltration testing performed in accordance with the County of Los Angeles LID Guidelines, the Project site is not feasible for stormwater infiltration and groundwater was not encountered in the test pits excavated on the site.[91] Therefore, the Project would not substantially alter groundwater supplies or interfere with groundwater recharge. Therefore, the Project would result in a less than significant impact regarding groundwater supplies and recharge. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of a Federal 100-year flood hazard area or County Capital Flood floodplain; the alteration of the course of a stream or river; or through the addition of impervious surfaces, in a manner which would:

(i) Result in substantial erosion or siltation on- or off-site? ☐ ☐ ☒ ☐

Less Than Significant Impact. Portions of the Project site adjacent to Triunfo Creek are located in a Federal Emergency Management Agency (FEMA)-designated Flood Hazard Area. The LACoFD has required Brookview to provide a bridge over Triunfo Creek when Brookview constructs a structure on the Project site that is 1,000-sf in size or greater (whether or not the structure is replacing an existing structure). Therefore, as part of the Project, Brookview would construct an approximately 196-ft. by 20-ft. steel bridge with a concrete deck over an existing concrete swale (or Arizona crossing) in Triunfo Creek as the new means of ingress and egress from the Project site, in order to provide all weather access and improve public safety. The Hydraulic Calculations provided an assessment of the flows within Triunfo Creek for the construction of the bridge. The proposed bridge structure placed in the Triunfo Creek path has the ability to create a backwater effect at piers and abutments, and the Arizona crossing has the ability to create a hydraulic jump due to a sudden increase in the elevation of the water flow line. These conditions potentially contribute to a difference of water surface before and after the proposed bridge is constructed. However, based on the modeling conducted in the Hydraulic Calculations, the proposed bridge would not significantly affect water surface elevations, either upstream or downstream from the selected bridge locations. In addition, with the Arizona crossing remaining in place, adequate protection from scour, which occurs when water flow paths are altered, would be provided to the proposed bridge piers and abutments.

[91] GeoSoils Consultants Inc. 2018. LID Stormwater Infiltration Testing Report. January 17.

As shown in the Drainage Concept/Hydrology Study/LID, the existing drainage pattern of the site sheet flows south and ultimately discharges to Triunfo Creek. Under proposed conditions, the Project would implement PDF-HYDRO-1, and sheet water would flow towards the three proposed biofiltration basins located in multiple areas of the Project site, and ultimately discharge to Triunfo Creek. The existing drainage pattern would be maintained in the proposed condition and runoff would still flow to Triunfo Creek after going through biofiltration. Additionally, the impervious area for the existing and proposed site is 2.6 acres, and therefore, there will be no increase in peak runoff.[92]

Compliance with federal, State and local regulations and the implementation and maintenance of appropriate Best Management Practices (BMPs) during construction would reduce the risks of substantial erosion or siltation on or off-site to a less than significant level. Compliance with the proposed LID Plan, which would be reviewed and approved by the County prior to construction activities, would ensure the post-Project flows would not exceed the pre-Project flows. Therefore, impacts to erosion or siltation would be less than significant. Nevertheless, this topic will be evaluated in the EIR.

(ii) Substantially increase the rate, amount, or depth of surface runoff in a manner which would result in flooding on- or offsite?	☐	☐	☒	☐

Less Than Significant Impact. As stated previously, the LACoFD requires that Brookview construct a bridge over the existing concrete swale (or Arizona crossing) in Triunfo Creek as the new means of ingress and egress from the Project site. Construction of the bridge and its abutments may alter the rate, amount, or depth of flows in Triunfo Creek. However, based on the Hydraulic Calculations, the proposed bridge would not significantly affect water surface elevations, either upstream or downstream from the selected bridge location. In addition, during construction, the Project would implement appropriate BMPs to ensure surface runoff would not result in flooding on- or off-site. During operations, the LID features proposed are three Filterra biofiltration basins located in multiple areas of the Project site, which would capture and treat stormwater runoff, and ultimately convey runoff to Triunfo Creek, as under existing conditions. As such, post-Project flows would not exceed pre-Project flows and the Project would not substantially increase the rate, amount or depth of surface runoff in a manner which would result in flooding on- or off-site. Therefore, impacts regarding flooding would be less than significant. Nevertheless, this topic will be evaluated in the EIR.

(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐

Less Than Significant Impact. As previously described, the Project would result in a net increase of development on the Project site of 1,407 sf, and it would not substantially alter the ratio of impervious to pervious surfaces. Therefore, the Project would not increase runoff as compared to existing conditions, nor would it provide additional sources of polluted runoff. The Project would comply with the County's National Pollution Discharge Elimination System (NPDES), Stormwater Pollution Protection Plan (SWPPP), and implement PDF-HYDRO-1 per LID requirements to manage stormwater runoff. Therefore, the Project would have a less than significant impact in regard to substantial erosion or the loss of topsoil during operations. Nevertheless, this topic will be evaluated in the EIR.

[92] Farmer, Doug. 2020. Sikand Engineering Associates. Email Correspondence with Envicom Corporation. July 23.

(iv) Impede or redirect flood flows which would expose existing housing or other insurable structures in a Federal 100-year flood hazard area or County Capital Flood floodplain to a significant risk of loss or damage involving flooding? ☐ ☐ ☒ ☐

Less Than Significant Impact. According to General Plan Figure 12.2, Flood Hazard Zones Policy Map, the Project site is not located within a 100-year floodplain.[93] However, it is located within a federal FEMA-designated Flood Hazard Area.[94] As stated previously, the LACoFD has required Brookview to construct a bridge over the existing concrete swale (or Arizona crossing) in Triunfo Creek as the new means of ingress and egress from the Project site. As stated above, the proposed bridge would not significantly affect water surface elevations, either upstream or downstream from the selected bridge location and would therefore not create a significant risk of loss or damage involving flooding. In addition, during construction, the Project would implement all applicable BMPs, and during operations, the Project would implement PDF-HYDRO-1 to effectively manage stormwater runoff. The existing drainage pattern of the site would be maintained in the proposed condition and runoff would still discharge to Triunfo Creek after biofiltration.[95] Therefore, impacts related to flood hazard areas and floodplains would be less than significant. Nevertheless, this topic will be evaluated in the EIR.

d) Otherwise place structures in Federal 100-year flood hazard or County Capital Flood floodplain areas which would require additional flood proofing and flood insurance requirements? ☐ ☐ ☒ ☐

Less Than Significant Impact. The Project site is located in a FEMA-designated Flood Hazard Area and the Project would place structures in the same locations as existing structures as well as two structures destroyed by the Woolsey Fire. The proposed bridge, which would span the existing Arizona crossing in Triunfo Creek, would not significantly affect water surface elevations, either upstream or downstream from the selected bridge location, as discussed above. Therefore, the proposed bridge would not create a significant risk of loss or damage involving flooding. The design and construction of the proposed bridge and new and replacement structures would be subject to LACoFD and LADPW review and approval. In addition, during construction, the Project would implement all applicable BMPs, and during operations, the Project would implement PDF-HYDRO-1 to effectively manage stormwater runoff. Therefore, impacts related to flood hazard areas and floodplains would be less than significant. Nevertheless, this topic will be evaluated in the EIR.

e) Conflict with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84)? ☐ ☐ ☒ ☐

Less Than Significant Impact. The Project would comply with all applicable regulations including the applicable portions of the County of Los Angeles Grading Code, the Municipal Separate Storm Sewer System (MS4) Permit in compliance with NPDES requirements for stormwater and non- stormwater discharges, and the Low Impact Design Standards Manual (LID Standards Manual) guidance (CAS004001, Order No. R4-2012-0175). As shown in PDF-HYDRO-1, the Project would incorporate three Filterra biofiltration basins

[93] Los Angeles County. 2015. General Plan Figure 12.2, Flood Hazard Zones Policy Map. Adopted October 6.
[94] FEMA Flood Map Service Center. Available at: https://msc.fema.gov/portal/search?AddressQuery=2927%20triunfo%20canyon%20roaf#searchresultsanchor. Accessed on August 15, 2019.
[95] Farmer, Doug. 2020. Sikand Engineering Associates. Email Correspondence with Envicom Corporation. July 23.

located at multiple on-site locations, and the Applicant would submit a LID Plan for review and approval by the Director of the LADPW. As such, Project impacts related to the County LID are less than significant. Nevertheless, this topic will be evaluated in the EIR.

f) Use onsite wastewater treatment systems in areas with known geological limitations (e.g. high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage course)?	☐	☐	☒	☐

Less Than Significant Impact. Brookview Ranch currently operates a private OWTS. The permitted OWTS is comprised of two, 1,500-gallon septic tanks; one is located directly north and adjacent to the Del Mar Barn (#14) and serves the office (#11) and Caretaker's Residence (#12), and one is located west of the restrooms (#2) and serves that structure. Both septic tanks are connected to the on-site leach field, which is located west of the restrooms (#2) and the westerly septic tank, in the vicinity of the parking area. As the Project proposes no changes in the frequency or capacity of existing event or equestrian operations, the existing permitted OWTS could continue to serve these land uses following Project approval, as there would be no change to the existing condition. Therefore, the Project would have a less than significant impact in regard to operating an OWTS in an area with geological limitations. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

For reasons unrelated to geologic conditions, the County Public Health Department has required Brookview Ranch to connect to local municipal wastewater infrastructure, now that such a system exists in Triunfo Canyon Road. As such, this Initial Study describes the process for connecting to the sanitary sewer system (refer to Section 19, Utilities and Service Systems), and where applicable, the EIR will address the environmental impacts associated with providing a connection to the sanitary sewer. The existing septic system components will be abandoned in place.

g) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐

Less Than Significant Impact. As stated previously, the Project site is located within a FEMA-designated Flood Hazard Area. As stated previously, the LACoFD has required Brookview to construct a bridge over the existing concrete swale (or Arizona crossing) in Triunfo Creek as the new means of ingress and egress from the Project site. Based on the Hydraulic Calculations, the proposed bridge would not significantly affect water surface elevations, either upstream or downstream from the selected bridge location and would not create a significant risk of loss or damage involving flooding. In addition, during construction, the Project would implement all applicable BMPs, and during operations, the Project would implement PDF-HYDRO-1 to effectively manage stormwater runoff. Therefore, impacts related to flood hazard areas and floodplains would be less than significant. Nevertheless, this topic will be evaluated in the EIR.

A tsunami is a great sea wave, or tidal wave, typically produced by an undersea earthquake. According to General Plan Figure 12.3, Tsunami Hazard Areas, the Project site is not located within a Tsunami Inundation Area.[96] The Project would have no impact related to tsunamis. No mitigation measures are required, and the topic of tsunami does not warrant further evaluation in the EIR.

There are no large landlocked bodies of water near the Project site (Triunfo Creek is an intermittent stream) and thus the Project site is not susceptible to inundation by a seiche, which is an oscillation of a body of water

[96] Los Angeles County. 2015. General Plan Figure 12.3, Tsunami Hazard Areas. Adopted October 6.

in an enclosed or semi-enclosed basin, such as a reservoir, harbor, or lake. The Project would have no impact related to seiche. No mitigation measures are required, and the topic of seiche does not warrant further evaluation in the EIR.

h) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Less Than Significant Impact. The Project would continue event and equestrian land uses that currently occur on the Project site. The Project involves the demolition and disassembly of existing structures, reconstruction of fire-damaged facilities, construction of an indoor event facility reception building and new Caretaker's Residence, and construction of a bridge to provide all weather access and improve public safety. Construction of the proposed bridge would not significantly affect water surface elevations, either upstream or downstream from the selected bridge locations. The Project would result in a minor net increase in development of 1,407 sf. These facilities would be constructed in existing developed/disturbed areas of the Project site. The Project would continue to irrigate the site from its groundwater wells and would not increase the rate of groundwater use. Additionally, the Project would incorporate PDF-HYDRO-1 pursuant to LID requirements and would not substantially alter the ratio of impervious to pervious area within the site. Therefore, the Project would result in a less than significant impact regarding water quality control plan or sustainable groundwater management plan conflicts. No mitigation measures are required, and the topic of groundwater management plan conflicts does not warrant further environmental review in the EIR. Nevertheless, the topic of water quality plan compliance will be evaluated in the EIR.

11. LAND USE AND PLANNING

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒

No Impact. The Project would continue event and equestrian land uses that currently occur on the Project site. The Project involves the demolition and disassembly of existing structures, construction of an indoor event facility reception building and new Caretaker's Residence, reconstruction of fire-damaged facilities, and construction of a bridge to provide all weather access and improve public safety. These facilities would be constructed in the existing developed/disturbed areas of the Project site. As the land uses would not change under buildout of the Project, and the Project would not result in permanent off-site impacts, the Project would have no impact related to physically dividing an established community. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

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

Potentially Significant Impact. The Project site is located within an unincorporated area of the County within the rural Santa Monica Mountains. As such, the Project is subject to the policies of the Los Angeles County General Plan 2035 and falls within the boundaries of the Santa Monica Mountains North Area Plan (SMMNAP), which is currently being updated by the County. The Project's potential to conflict with an applicable County land use plan, policy or regulation will be evaluated in the EIR.

c) Conflict with the goals and policies of the General Plan related to Hillside Management Areas or Significant Ecological Areas?	☒	☐	☐	☐

Potentially Significant Impact. Portions of the Project site include a HMA; however, the proposed development would occur outside of the HMA, as previously described.[97] The Project site is located wholly within the Santa Monica Mountains SEA.[98] The Project's potential to conflict with goals and policies of the General Plan related to SEAs will be further evaluated in the EIR.

[97] Hua, Thuy, County of Los Angeles Department of Regional Planning. 2019. Personal Communication with Kathleen Truman, Truman & Elliot LLP. August 19.

[98] Los Angeles County. 2015. General Plan Figure 9.3, Significant Ecological Areas and Coastal Resource Areas Policy Map. Adopted October 6.

12. MINERAL RESOURCES

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

No Impact. According to the County of Los Angeles General Plan, Chapter 9, Conservation and Natural Resources Element, mineral resources include commercially-viable aggregate or mineral deposits, such as sand, gravel, and other construction aggregate. In addition, mineral resource areas include oil and natural gas resources and areas appropriate for the drilling and production of these resources. The California Geological Survey identifies and maps deposits of these regionally-significant aggregate resources, and these areas are designated as Mineral Resource Zones (MRZs). The California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) has jurisdiction over on-shore subsurface oil and gas activities in California.[99] Based on the information provided by the California Geological Survey and DOGGR, the Project site is not located within a MRZ, nor is it located in an oil and gas resource area.[100] In addition, the California Department of Conservation Mineral Land Classification of Ventura County Map shows the Santa Monica Mountains area, including the Project site, as MRZ-3. MRZ-3 areas contain mineral deposits, the significance of which cannot be evaluated from available data.[101] As stated in the General Plan EIR, MRZ-3 are not considered areas identified as having regional or Statewide significance. The Project site land use designation per the SMMNAP is N-20, which constitutes Mountain Lands, and for which mineral recovery or mining is not listed as a permitted use by the Plan. Additionally, the Project on-site event venue and equestrian center have been operating since 2016 with no prior history of mineral resource production. As such, Project impacts related to the loss of availability of known mineral resources are less than significant and no mitigation measures are required. This topic does not warrant further environmental review in the EIR.

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

No Impact. As described by the Department of Conservation, the Project site is located with a MRZ-3, but the site is located within the SMMNAP and has no prior history of mineral resource production. The SMNNAP's N-20 Mountain Lands are not permitted for mining. Additionally, the Project site is not located within an oil or gas resource area. Therefore, the Project would not result in the loss of availability of a locally-important mineral resource recovery site. The Project would result in a less than significant impact on local mineral resource recovery sites. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

[99] Los Angeles County. 2015. General Plan. Adopted October 6.
[100] Los Angeles County. 2015. General Plan Figure 9.6, Mineral Resources. Adopted October 6.
[101] California Department of Conservation. 1981. Mineral Land Classification of Ventura County Map. Generalized Aggregate Resource Classification Map- Simi, Western Ventura County and Adjacent Production-Consumption Regions.

13. NOISE

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the County General Plan or noise ordinance (Los Angeles County Code, Title 12, Chapter 12.08), or applicable standards of other agencies?	☒	☐	☐	☐

Potentially Significant Impact. The Project involves the demolition and disassembly of existing structures, construction of an indoor event facility reception building and new Caretaker's Residence, reconstruction of fire-damaged facilities, and construction of a bridge to provide all weather access and improve public safety. The purpose of the Project is to move elevated amplified music during receptions inside the sound-insulated event reception facility building, in accordance with the noise requirements of the new SMMNACSD. Construction of the Project would have the potential to result in temporary increases in ambient noise levels in the Project vicinity. Project operations are not anticipated to generate permanent increases in ambient noise levels in the Project vicinity, however, because the Project would not change the equestrian uses nor would it increase the capacity or frequency of events. Noise generated during events would actually decrease, as some activities currently held outdoor would be moved into the indoor event facility reception building. A Project-specific Noise Study will be prepared and included in the EIR to evaluate temporary and permanent increases in ambient noise levels in the vicinity of the Project site in excess of standards established in the County General Plan or noise ordinance, and SMMNACSD, as applicable.

b) Generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐

Potentially Significant Impact. The use of construction equipment on the Project site would have the potential to generate groundborne vibration, when heavy equipment travels over unpaved surfaces, for example. Within the softer sedimentary surfaces of much of Southern California, vibration effects typically abate quickly with distance. Groundborne vibrations from construction activities rarely reach levels that can damage structures. Nevertheless, the Project-specific Noise Study and EIR will evaluate Project vibration effects during the construction period. The Project's continued operation of event and equestrian land uses would not represent activities that generate excessive levels of vibration. The Project would have no impact related to vibration during operations.

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

No Impact. No private airstrips are located in the vicinity of the Project site. The closest heliport to the Project site is the Station 125 Heliport, located in Calabasas, used by the LACoFD, which is located over five aerial miles from the Project site. Additionally, the Project is not located within two miles of a public use airport and is not located within an airport land use plan. The closest airport to the Project site is the Camarillo Airport, which is approximately 17 aerial miles and 24 driving miles from the Project site. Therefore, the Project would result in no impact related to the exposure of people residing or working in the Project area to excessive private aircraft-related noise levels. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

14. POPULATION AND HOUSING

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

No Impact. The Project would continue event and equestrian land uses that currently occur on the Project site. The capacity and frequency of event and equestrian uses would not change with the Project. The Project involves the demolition and disassembly of existing structures, construction of an indoor event facility reception building and new Caretaker's Residence, reconstruction of fire-damaged facilities, and construction of a bridge to provide all weather access and improve public safety. The new Caretaker's Residence, planned to be 3,324 sf in size, would replace the existing Caretaker's Residence that is 1,123 sf in size for a net increase of 2,201 sf. The increased size of the Caretaker's Residence would not represent a substantial increase in residents on the site, and as operations would remain the same as in the existing condition, Brookview does not anticipate a change in the employee population.

The Project site is served by existing infrastructure, including existing roads and utilities (electricity, fire water, and potable water). Brookview uses groundwater to irrigate site landscaping, and it manages the collection and treatment of wastewater through an on-site private OWTS. A propane tank is located on-site and provides fuel for heating. Brookview is also provided fire and police protection services. As required by the LACoFD, the Project includes construction of a bridge over the existing concrete Arizona crossing in Triunfo Creek on the Project site in order to provide all weather access and improve public safety. As also required by the LACoFD, Brookview proposes to construct a six-inch water main across the bridge and onto the Project site and to replace two existing hydrants with two new hydrants to support LACoFD's fire-fighting capabilities. Rather than being fed by the three 10,000-gallon water tanks, the two new hydrants would be fed directly from the new water main that would extend through the Project site from a point of connection with an existing water main in Triunfo Canyon Road, to ensure adequate fire flow and pressure meeting LACoFD fire flow standards. The proposed water main across the bridge would be used only for firefighting purposes. This water main also would provide fire water service to the fire sprinkler systems to be installed in the office (Building #11), hay shed (Building #6), Bride's Dressing Room (Building #10), Caretaker's Residence (Building #12), and Avalon Event Barn (Building #5). In addition, the County Public Health Department has required Brookview Ranch to connect to local municipal wastewater infrastructure, now that such a system exists in Triunfo Canyon Road. The LVMWD has indicated that a connection to the trunk sewer in Triunfo Canyon Road is feasible.[102] The water main and sewer improvements would serve the Project site and the same uses that operate today and would therefore not induce growth. The 196-ft. by 20-ft. steel bridge at the entrance to the Project site would primarily serve as the new means of ingress and egress from the Project site. The proposed bridge would be wide enough to provide access for LACoFD trucks to the Project site, but it also would provide emergency access to other properties on that side of the creek if needed. As the neighboring properties are already developed and have primary access driveways, and Brookview's bridge may only be utilized by the LACoFD during emergencies to access these areas, the bridge would not induce growth. Based on the factors described above, the Project would result in no impact associated with direct or indirect

[102] LVMWD. 2019. Conditional Statement of Sewer Connection. August 22.

population growth in the area. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

b) Displace substantial numbers of existing people or housing, especially affordable housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No Impact. The Caretaker's Residence is currently occupied by a member of the Applicant with a total of three residents on the Project site. Therefore, the Project would not displace a substantial number of existing people or housing units, and the Project would result in no impact associated with displacing substantial numbers of existing people or housing. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

15. PUBLIC SERVICES

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project create capacity or service level problems, or result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐

Less Than Significant Impact. The Project site is located within the jurisdiction of the LACoFD, and its existing land uses are currently served by the LACoFD.[103] The nearest fire station to the Project site is LACoFD Station 65, located at 4206 N. Cornell Road, Lost Hills, CA, which is 3.9 miles from the Project site. This distance is close enough for the LACoFD response time to be within the current standard response time for fire service in a rural area, which is 12 minutes or less for rural areas, as stated in the Los Angeles County General Plan Update Draft EIR.[104]

The Project would be required to comply with the building code and LACoFD site plan review requirements that address building construction, site access, road widths, fire truck turnaround areas, water conveyance, fire flow and pressure, and fire hydrant number and placement. In addition, as required, a Fuel Modification Plan for the Project was prepared and subsequently reviewed and approved by the LACoFD on February 3, 2021. As previously discussed, the LACoFD has required the construction of a bridge and water main across the existing concrete Arizona crossing and Triunfo Creek and the replacement of the two existing hydrants with two new hydrants to provide all-weather access and improve LACoFD's firefighting capabilities. The two new hydrants would be fed directly from the proposed water main that would extend through the Project site from a point of connection with an existing water main in Triunfo Canyon Road, to assure adequate fire flow and pressure meeting LACoFD fire flow standards. The proposed water main across the bridge would be used only for firefighting purposes. This water main also would provide fire water service to the fire sprinkler systems to be installed in the office (Building #11), hay shed (Building #6), Bride's Dressing Room (Building #10), Caretaker's Residence (Building #12), and Avalon Event Barn (Building #5). The impacts of installing these components of the Project would be evaluated where applicable in the EIR. These improvements are not related to capacity or service level deficits, however.

As the Project only would result in an overall increase of 1,407 sf of development on the site, would not alter existing event or equestrian operations, and would not increase the on-site resident or employee population, the Project would result in a less than significant impact related to fire protection services. In fact, construction of the bridge on the Project site would serve to improve response time to the site, as well as to neighboring sites, in the event of an emergency. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

☐ ☐ ☒ ☐

[103] Los Angeles County Department of Regional Planning. 2014. Figure 12.7: Fire Department Battalions and Stations. May.
[104] Los Angeles County. 2014. General Plan Update Draft Environmental Impact Report. State Clearinghouse No. 2011081042. June.

Sheriff protection?

Less Than Significant Impact. The Project site is located within the jurisdiction of the Los Angeles County Sheriff's Department (LASD), and its existing land uses are currently served by the LASD.[105] The Malibu/Lost Hills Sheriff's Station serves the Project area and is located at 27050 Agoura Road, in Agoura, CA, which is 6.3 driving miles from the Project site, at a driving time of approximately 11 minutes. The LASD also maintains mutual aid agreements with other County and State law enforcement agencies such that additional support may be requested and received as needed to respond to emergencies or natural disasters.[106]

As the Project would only result in an overall increase of 1,407 sf of development on the site, would not alter existing event or equestrian operations, and would not increase the on-site resident or employee population, the Project would result in a less than significant impact related to the service ratio of police to population. In addition, access to the Project site is provided from a driveway along Triunfo Canyon Road near the western boundary of the site and includes a coded gate with a camera, as well as fire key access. Therefore, the Project would not necessitate the construction of new sheriff facilities. Project impacts on sheriff protection facilities and services would be less than significant. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

Schools? ☐ ☐ ☒ ☐

Less Than Significant Impact. The Project site is located within the service area of the Las Virgenes Unified School District and would be served by Sumac Elementary School, Lindero Canyon Middle School, and Agoura High School, in the event that school-age children also reside at the Caretaker's Residence.[107] As the current on-site residence would be replaced by one residence, the Project would not represent a substantial increase in the student population.

Nevertheless, per California Government Code (CGC), Section 53080, the Project would be subject to the payment of school impact fees. As authorized under Section 17620(a) of the California Education Code (CEC) and Section 65995(b) of the CGC, local school districts are authorized to impose and collect school impact fees in accordance with SB 50[108] at the time of building permit issuance for development activities that occur within their jurisdiction. The funding program established by SB 50 has been found by the Legislature to constitute "full and complete mitigation of the impacts of any legislative or adjudicative act…on the provision of adequate school facilities" (CGC 65995[h]). The fees authorized for collection under SB 50 are conclusively deemed full and adequate mitigation of impacts on school district facilities. Therefore, Project impacts regarding school facilities would be less than significant. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

Parks? ☐ ☐ ☐ ☒

No Impact. The Project is located in unincorporated Los Angeles County on a developed parcel with current event and equestrian operations. The County Department of Parks and Recreation would serve the Project. Several County parks are located within ten miles of the Project Site, including Point Dume Beach located nine miles from the site, and Malibu Surfrider Beach Adamson House, located nine miles from the Project

[105] Los Angeles County Department of Regional Planning. 2014. Figure 12.8: Sheriff's Department Service Areas. May.
[106] County of Los Angeles. 1998. Los Angeles County Operational Area Emergency Response Plan. Approved February 17.
[107] Las Virgenes Unified School District. My School Locator. Available at: http://locator.decisioninsite.com/?StudyID=85023. Accessed on August 8, 2019.
[108] Senate Bill 50 ("SB 50," also known as Proposition 1A, codified in California Government Code Section 65995 et seq.)

site.[109] The Santa Monica Mountains National Recreation Area is also located just south of the Project site.[110] Trails are also located in the Project vicinity, including the Westlake-Triunfo-Paramount Connector Trail. The Project would retain existing private recreational facilities at the site, including facilities associated with equestrian uses, such as horse barns, horse sheds, and a covered horse arena. The Project would not increase the on-site resident or employee population; therefore, it would not increase the demand for park facilities. In addition, the Project has an obligation to pay Quimby in-lieu fees per Los Angeles County Code Section 21.28.140. This obligation would be met by the payment of in-lieu fees by the Applicant to the Los Angeles County Parks and Recreation Department. The impacts of the Project to parks would be less than significant. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

Libraries? ☐ ☐ ☐ ☒

No Impact. The Project site is served by the County of Los Angeles Public Library.[111] The nearest public library to the site is the Agoura Hills Library, which is located 4.4 miles from the site and is a seven-minute drive from the site. Additional public libraries located in the Project area are the Malibu Library and Westlake Village Library. The Project would not increase the on-site resident or employee population; therefore, it would result in no impact to library facilities or services. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

Other public facilities? ☐ ☐ ☐ ☒

No Impact. As the Project would not increase the on-site resident or employee population, it would not create a need for new or expanded governmental facilities nor generate capacity or service constraints. Therefore, the Project would result in no impact in this regard. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

[109] Los Angeles County Parks and Recreation. Park Locator. Available at: http://parks.lacounty.gov/park-search-2/. Accessed on August 8, 2019.
[110] National Park Service. Santa Monica Mountains Map. Available at: https://www.nps.gov/samo/planyourvisit/upload/SAMOmap2012.pdf. Accessed on August 8, 2019.
[111] Los Angeles County Department of Regional Planning. 2014. Figure 13.2: Libraries. May.

16. RECREATION

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

Less Than Significant Impact. The Project site is located within unincorporated Los Angeles County and the County Department of Parks and Recreation would serve the Project. Several County parks are located within ten miles of the Project Site, including Point Dume Beach located nine miles from the site and Malibu Surfrider Beach Adamson House, located nine miles from the Project site.[112] The Santa Monica Mountains National Recreation Area is located just south of the Project site.[113]

The Project would retain existing private recreational facilities at the site, including facilities associated with equestrian uses, such as horse barns, horse sheds, and a covered horse arena. The Project would not increase the on-site resident or employee population, nor would it change the existing equestrian use or increase the capacity or frequency of events. Nevertheless, the Project has an obligation to pay Quimby in-lieu fees pursuant to the Los Angeles County Code, Section 21.28.140. This obligation would be met by the payment of in-lieu fees by the Applicant to the Los Angeles County Parks and Recreation Department. Based on the provision of on-site recreational amenities as well as required compliance with the County Code, the Project would result in a less than significant impact related to the use and physical deterioration of recreational facilities. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

b) Does the project include neighborhood and regional parks or other recreational facilities or require the construction or expansion of such facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Less Than Significant Impact. The Project would not involve the development of a neighborhood or regional park requiring the replacement of the park or facility elsewhere in the County and resulting in the generation of indirect environmental effects. The Project includes on-site private recreational facilities associated with equestrian uses that would continue to operate with the Project. Specifically, the Project would reconstruct the Coronado Barn that was damaged in the Woolsey Fire in its previous location, and it would repurpose the outdoor dance pavilion as a horse barn (for horse riding, not boarding). The impacts of the proposed development as whole are evaluated in the remaining sections of this IS, and where necessary and indicated in this document, will be further analyzed in the EIR. These recreational features of the Project would occur in previously developed portions of the site and on their own would not generate significant adverse physical effects on the environment. Impacts regarding the reconstruction or repurposing of recreational facilities would therefore be less than significant. No mitigation measures are required, and this topic does not warrant further environmental review.

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[112] Los Angeles County Parks and Recreation. Park Locator. Available at: http://parks.lacounty.gov/park-search-2/. Accessed on August 8, 2019.

[113] National Park Service. Santa Monica Mountains Map. Available at: https://www.nps.gov/samo/planyourvisit/upload/SAMOmap2012.pdf. Accessed on August 8, 2019.

c) Would the project interfere with regional trail connectivity?	☐	☐	☐	☒

No Impact. The Project would improve and replace existing facilities, and the areas of disturbance of the Project would be focused in areas of the Project site that have been previously developed. The Project would not expand the event and equestrian uses beyond the current site boundaries; therefore, the Project would result in no impact related to the interference of regional open space connectivity. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

17. TRANSPORTATION

Would the project:	*Potentially Significant Impact*	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Conflict with an applicable program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐

Less Than Significant Impact. Due to its location in an unincorporated area of the County of Los Angeles and within the Santa Monica Mountains, the Project is subject to the Los Angeles County Code, Chapter 7, Mobility Element, of the Los Angeles County General Plan 2035,[114] the 2012 County of Los Angeles Bicycle Master Plan,[115] Chapter VII, Circulation Element, of the 2000 SMMNAP,[116] Chapter 5, Circulation Element of the 2020 Draft SMMNAP,[117] and the 2020 Los Angeles County Department of Public Works Transportation Impact Analysis (TIA) Report Guidelines.[118]

Policy Consistency Analysis

Within the Los Angeles County Code (LACC), Section 22.112, Parking and Section 22.336, Santa Monica Mountains North Area Community Standards District (SMMNACSD), would apply to the Project. Additionally, the draft proposed language for the SMMNACSD section of the LACC, dated May 2020, would apply to the Project once the 2020 Draft SMMNAP is approved and implemented. The Project would be consistent with all applicable parking and transportation requirements outlined in the current SMMNACSD within the LACC, the proposed SMMNACSD within the LACC, and in the parking section of the LACC. The Project is designed to be in conformance with the LACC as a matter of regulatory compliance, and therefore the Project would be consistent with all applicable sections of the LACC.

The Mobility Element, Chapter 7, of the Los Angeles County General Plan provides an overview of the transportation infrastructure and strategies for developing an efficient and multimodal transportation network, assesses the challenges and constraints of the Los Angeles County transportation system and offers policy guidance to reach the County's long-term mobility goals. Goals and policies include, but are not limited to, street designs that incorporate the needs of all users, safe bicycle and pedestrian friendly streets, sidewalks, paths and trails that promote active transportation and transit use, and efficient multimodal transportation system that serves the needs of all residents. As the Project is located in a rural area of the County within the Santa Monica Mountains, there are no formal bike lanes, pedestrian walkways or transit stops within the Project vicinity. The Project would not interfere with the County's ability to implement the Mobility Element, and therefore the Project would not conflict with the policies and goals set forth within the Mobility Element.

114 Los Angeles County. 2015. General Plan. Adopted October 6.
115 Los Angeles County Department of Public Works. 2012. County of Los Angeles Bicycle Master Plan. March.
116 County of Los Angeles Department of Regional Planning. 2000. Santa Monica Mountains North Area Plan. Adopted October 24.
117 Los Angeles County Department of Regional Planning. 2020. Draft Santa Monica Mountains North Area Plan. May.
118 Los Angeles County Department of Public Works. 2020. Transportation Impact Analysis Guidelines. July 23.

The County of Los Angeles Bicycle Master Plan was completed in March 2012 as a sub-element of the Mobility Element of the Los Angeles County General Plan to provide a diverse regional bicycle system of interconnected bicycle corridors, support facilities, and programs to make bicycling more practical. Within the Bicycle Master Plan, the proposed improvements to and existing bicycle infrastructure are shown, none of which are proposed or located on or near the Project Site. As the Project is located within a rural area of the County, no formal bicycle lanes are located nearby. Based on the Project's isolated location, construction workers and site visitors are not likely to utilize bicycles as the primary form of transportation to the site. Therefore, the Project would not conflict with goals or existing or proposed infrastructure of the Bicycle Master Plan.

Chapter VII, Circulation Element, of the 2000 SMMNAP provides guidance to facilitate physical mobility in a manner consistent with the overall circulation needs of the region, including balancing roadway carrying capacity with environmental sensitivity, managing roadway carrying capacity, providing transportation alternatives and access to recreational areas. The Project is located within a rural region of the Santa Monica Mountains and no formal bicycle lanes, pedestrian walkways or transit stops are located within the immediate Project vicinity. Access to the Project site is provided from a driveway along Triunfo Canyon Road near the western boundary of the site and the Project maintains 171 parking spaces in a surface parking lot with striped spaces. During prior events, on-site parking attendants guided incoming cars to the designated parking area on the southeast side of the Project site or valet-parked the guest's vehicles. Therefore, the Project would not conflict with goals or policies of the Circulation Element of the 2000 SMMNAP.

Chapter 5, Circulation Element, of the 2020 Draft SMMNAP outlines goals and policies associated with improving traffic flow and access, proving a safe and efficient roadway network and encouraging alternative travel modes within the Santa Monica Mountain region. The 2020 Draft SMMNAP contains similar language to the 2000 SMMNAP and expands upon the existing transportation and circulation goals and policies previously discussed. As stated above, the Project is not located within close proximity to bicycle, transit, or pedestrian facilities and would provide vehicle parking on-site. As such, the Project would not conflict with the goals or policies of the Circulation Element 2020 SMMNAP.

The 2020 Los Angeles County Department of Public Works TIA Report Guidelines provides guidance to determine whether a Project will require the preparation and submission of a TIA for development and transportation projects. Under the TIA Report Guidelines, a development project would require a TIA if estimated to generate a net increase of 110 or more daily vehicle trips. As stated in further detail below, the Project would generate an increase of 50 average daily trips (ADT), which would not meet the screening threshold and would not require a TIA analysis. Section 4.2 outlines the construction phase analysis and addresses activities associated with project construction and major in-street construction of infrastructure projects. The Project does not meet any of the screening criteria and therefore the Project is not required to complete a further analysis of how the Project would negatively affect existing pedestrian, bicycle, transit or vehicle circulation. The Project is not located on a highway and there are no transit, bike, or pedestrian facilities along Triunfo Canyon Road with which construction activities would interfere. In addition, the Project would not close lanes for seven days on a local street. As stated previously in the Project Description, the Project would install a temporary earthen access road and pad along the northern side of the existing Arizona crossing during the construction period, which would be utilized by construction vehicles and equipment, to provide access between Triunfo Canyon Road and the Project site, as well as to provide a place to station equipment adjacent to the Arizona crossing and bridge location to install the bridge sections. As such, the Project would not conflict with the 2020 TIA Report Guidelines.

Nevertheless, Project consistency with applicable programs, plans, ordinances, or policies addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, will be evaluated in the EIR.

Vehicle Miles Traveled (VMT) Analysis

In accordance with Senate Bill 743 (SB 743) and consistent with CEQA Guidelines Section 15064.3(b), the County updated its traffic impact analysis report guidelines to evaluate transportation impacts based on metrics related to Vehicle Miles Traveled (VMT) and is moving away from the Level of Service (LOS) metric to evaluate whether a project results in a significant traffic impact. It is anticipated that LOS will remain as a policy consistency issue for the County, though not as an impact metric under CEQA. A Project-specific VMT Study for the Brookview Ranch Project was prepared by Associated Transportation Engineers on February 10, 2021 and included as Appendix D2.

The California Governor's Office of Planning and Research (OPR) published a Technical Advisory on Transportation that includes recommendations regarding assessment of VMT, thresholds of significance and mitigation measures. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, small projects that generate or attract fewer than 110 trips per day may be assumed to cause a less than significant transportation impact and would not require a VMT analysis.[119]

Based on the VMT Study, the Project would generate an increase of 50 average daily trips (ADT) and 21 peak hour trips (PHT), assuming the event hosts up to 138 guests with a maximum event size of 200 guests. These traffic increases would only occur a maximum 100 days per year and thus do not represent annual average volumes that are used for the VMT analysis. The annual average trip (AADT) generation for the Project is 14 AADT. As such, the Project trip generation would be less than the screening threshold of 110 ADT for small projects and would have a less than significant impact related to VMT and CEQA Guidelines Section 15064.3, subdivision (b). No mitigation measures are required, and the topic of Project consistency with CEQA Guidelines Section 15064.3, subdivision (b) does not warrant further environmental review in the EIR.

Level of Service (LOS) Analysis

A Project-specific Traffic Analysis for the Brookview Ranch Project was prepared by Associated Transportation Engineers on February 21, 2019 and included as Appendix D1. The LOS Analysis is utilized for informational purposes only and is not an impact metric under CEQA thresholds. Based on hosting between 130 to 240 event attendees, the Project is forecast to generate 120 ADT and 39 PHT for 130 person events and 212 ADT and 72 PHT for 240 person events. The peak hour trips would occur outside of the typical AM (7 AM to 9 AM) and PM peak hour (4 PM to 6 PM) periods since the events would not generally start or end during these time periods.

As shown in the Traffic Analysis, the Project-generated traffic volumes were added to the existing volumes for the segments of Triunfo Canyon Road east and west of the Project site for a projected 130 person event and 240 person event. In rating roadway operations, LOS A through F are used, with LOS A indicating free flow operations and LOS F indicated congested operations. Based on the Traffic Analysis, Triunfo Canyon Road east and west of the site currently operates at an acceptable of LOS A with existing volumes and would continue to operate at LOS A with the addition of traffic generated by the Project.

In addition, the Project-generated traffic volumes were added to the existing volumes for segments of Triunfo Canyon Road east and west of the site and cumulative projects. The only project that would add traffic to Triunfo Canyon road is the Triunfo Creek Vineyard, which is proposing to host events with up to 300 guests. Triunfo Canyon Road would operate acceptably at LOS A with additional trips from the cumulative project and the Project. The Project would therefore not impact roadway operations based on County thresholds. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

[119] Governor's Office of Planning and Research. 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. December.

c) Substantially increase hazards due to a road design feature (e.g., sharp curves) or incompatible uses (e.g., farm equipment)? ☐ ☐ ☒ ☐

Less Than Significant Impact. Access to the Project site would continue to be provided from a driveway along Triunfo Canyon Road near the western boundary of the Project site. The LACoFD has required Brookview to provide a bridge over Triunfo Creek as the new means of ingress and egress from the Project site, in order to provide all weather access and improve public safety. As such, the Project would improve on-site circulation. No permanent changes are proposed to public roadways in the Project area, and the Project would not change the current site land uses. Therefore, the Project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses, and impacts would be less than significant. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

d) Result in inadequate emergency access? ☐ ☐ ☒ ☐

Less Than Significant Impact. As stated previously, access to the Project site would continue to be provided from a driveway along Triunfo Canyon Road near the western boundary of the Project site and includes a coded gate with a camera, as well as fire key access on the gate. The Project also would provide minor widening and improvements to the on-site driveway for fire safety purposes, including paving for dead end and intermediate fire apparatus access road turnarounds. The LACoFD has required Brookview to provide a bridge over Triunfo Creek if Brookview constructs a structure on the property that is 1,000-sf in size or greater (whether or not the structure is replacing an existing structure). Therefore, as part of the Project, Brookview would construct an approximately 196-ft. by 20-ft. steel bridge with a concrete deck over an existing concrete swale (or Arizona crossing) in Triunfo Creek as the new means of ingress and egress from the Project site, in order to provide all weather access and improve public safety. Triunfo Creek is an intermittent stream, and the proposed bridge would be located at the entrance to the Project site. The proposed bridge would be wide enough to provide access for LACoFD trucks to the Project site, as well as to other properties on that side of the creek. The proposed bridge would provide a safer crossing than the existing concrete swale, especially during rain events. Therefore, the Project would result in no adverse impact related to inadequate emergency access. In fact, the Project would improve access to the Project site as well as to neighboring sites, in the event of an emergency. Nevertheless, this topic will be evaluated in the EIR.

Project consistency with the SMMNAP and SMMNACSD will also be evaluated in the EIR Land Use and Planning section and will include an analysis of Project conflicts, if any, with the parking, traffic, and access requirements of the SMMNAP and SMMNACSD.

18. TRIBAL CULTURAL RESOURCES

As described in Section 5, Cultural Resources, Envicom Corporation prepared a Phase I Cultural Resource Assessment (September 2020) to evaluate the Project's potential impacts to cultural resources (refer to Appendix B). The Phase I Cultural Resource Assessment included a cultural resource record search conducted by the SCCIC and a Native American cultural resource record search conducted by the NAHC, in addition to historic map review and a pedestrian survey of Project site and immediate surroundings to determine if previously unrecorded cultural resources can be identified from surface observation of the area for prehistoric and historic cultural resources.

On August 2, 2019, Envicom Corporation contacted both the SCCIC and NAHC with a request for all complete site records and cultural resources that directly involved the Project development footprint. The SCCIC record search was received on August 12, 2019 with findings for the Project site (outside the proposed development area) and the NAHC record search was received on August 19, 2019 with negative findings for the Project site. Both sources also provided information related to the known cultural resources that are located within the Project site and including a 0.50-mile radius around the Project Site (referred to as the study area). Envicom Corporation also conducted a physical cultural resource survey of the Project site and immediate surroundings on August 7, 2019 to determine if previously unrecorded prehistoric and historic cultural resources could be identified from surface observation of the area. The field survey yielded negative results.

Envicom Corporation did not contact the Native American groups included on the NAHC list with the return correspondence, as communications and consultation with the Tribal Group representatives under AB 52 is now the responsibility of the Lead Agency, which for the Project is DRP. The response letter from the NAHC is included in Appendix B.

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §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:				
i) 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 § 5020.1(k), or	☐	☒	☐	☐

Less Than Significant Impact with Mitigation Incorporated. As described in Section 5, the NAHC records search of the Sacred Lands File (SLF) for the Project site yielded negative findings. However, the NAHC noted that the absence of specific site information in the SLF does not indicate the absence of Native American cultural resources in an area. As described in greater detail in Section 5, Cultural Resources, and Appendix B, the SCCIC records search yielded positive results for the Project site and

surrounding area; therefore, the Project area is known to be sensitive for archaeological resources in general. The NAHC suggested that the Native American tribes who may have knowledge of resources in the Project area be contacted for consultation. Envicom Corporation did not contact the Native American groups included on the NAHC list with the return correspondence, as communications and consultation with the Tribal Group representatives under AB 52 is now the responsibility of the DRP for the Project. The EIR will evaluate this topic in further detail and will include the results of the AB 52 consultation. As appropriate, the recommendations of the Phase I Cultural Resource Assessment may be applied to mitigate potential impacts to tribal cultural resources in addition to cultural resources to less than significant.

ii) 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 § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Less Than Significant Impact with Mitigation Incorporated. Please refer to the response to 18a, above. Following completion of AB 52 consultation and the implementation of the recommendations of the Phase I Cultural Resource Assessment, grading activities associated with Project development would not cause a substantial adverse change to a tribal cultural resource that is deemed to be significant by the Lead Agency. The Project impacts to tribal cultural resources would be less than significant with mitigation incorporated. The EIR will evaluate this topic in further detail.

19. UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☐	☒	☐	☐

Less Than Significant Impact with Mitigation Incorporated. The following evaluation is based on the Sewer Plan, prepared by Sikand Engineering Associates (February 2021) and included as Figure 10, in addition to the Water Plan prepared by Sikand Engineering Associates (February 2021) and included as Figure 9. In addition, the LVMWD provided a conditional statement of sewer connection, followed by a financial agreement for wastewater services (August 19, 2019 and January 21, 2020, respectively, included as **Appendix G.**

Potable water and fire water would continue to be provided to the Project site by the LVMWD. However, the LACoFD has required Brookview install another water main across the proposed bridge and Project site and to replace the two existing hydrants with two new hydrants to support the LACoFD's fire-fighting capabilities. The Project also would entail a change in the process of wastewater collection and treatment. While the Project site and existing and proposed operations could be served by the existing private OWTS, Brookview anticipates that the County Public Health Department would require the site to connect to the sanitary sewer that is now located in Triunfo Canyon Road. The LVMWD has indicated that a connection to the trunk sewer in Triunfo Canyon Road is feasible, upon payment of plan check, inspection, and sewer connection fees.[120]

The proposed water main and sewer line would extend onto the Project site from a point of connection with the existing water main and trunk sewer line in Triunfo Canyon Road near the site entrance. The proposed water line, as shown in Figure 9, would extend east from the site entrance and split near Building 8, Covered Arena, and would travel in both a northerly and southerly direction. The proposed sewer line, as shown in Figure 10, would follow a similar path to the water line and extend east and split near Building 8. The precise connection point would be determined in consultation with the LVMWD. Both utility lines would be installed in the public roadway, on-site driveway, and other previously disturbed portions of the Project site. The proposed water main across the bridge would be used only for firefighting purposes. Other public utilities to the Project site would not be affected by the Project.

The environmental impacts of the Project, including the installation of additional utility infrastructure, will be evaluated in the applicable environmental resource sections of the EIR, rather than in the Utilities and Service System section.

[120] LVMWD. 2019. Conditional Statement of Sewer Connection. August 22. (Appendix G.)

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

Less Than Significant Impact. As stated above, the Project would continue to be served with potable water and fire water by the LVWMD. The LVMWD's supplies are provided primarily by the Metropolitan Water District (MWD), which anticipates having supplies sufficient to meet water demands through 2040 during average, single dry- and multiple dry-years.[121] As the Project would not result in an increase in the on-site resident or employee population nor change the event capacity or frequency or alter existing equestrian operations, it would not increase the Project site demand for water supplies. Therefore, Project impacts related to water supplies would be less than significant. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

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

Less Than Significant Impact. The Joint Powers Authority (JPA) of the LVMWD and Triunfo Sanitation District (TSD) operate and maintain a sewer system and wastewater treatment facilities that serve the Malibu Creek Watershed within Los Angeles and Ventura Counties. The LVMWD would serve the Project site and wastewater generated from the Project site would be conveyed to the Tapia Water Reclamation Facility (TWRF) via the JPA collection system. The TWRF provides tertiary treatment and disinfection to the wastewater prior to beneficial reuse for irrigation and has a treatment capacity of 16.1 MGD. The current average wastewater discharge from the LVMWD to the TWRF would be 6.14 MGD, and therefore the TWRF has an excess capacity of 10 MGD. In addition, the JPA has the demonstrated capacity to transport up to 32 million gallons per day (MGD) of peak wet weather flow to the TWRF, and therefore the JPA's conveyance system has an excess capacity of 26 MGD. Wastewater solids generated during wastewater treatment are pumped to the Rancho Las Virgenes composting Facility using a four-mile long buried pipeline.[122]

The Project site is not currently connected to municipal wastewater infrastructure and instead operates a private on-site wastewater treatment system (OWTS). The permitted OWTS is comprised of two, 1,500-gallon septic tanks; one is located directly north and adjacent to the Del Mar Barn (#14) and serves the office (#11) and Caretaker's Residence (#12), and one is located west of the restrooms (#2) and serves that structure. Both septic tanks are connected to the on-site leach field, which is located west of the restrooms (#2) in the vicinity of the parking area. While the Project site and existing and proposed operations could be served by the existing private OWTS, the County Public Health Department is requiring the site to connect to the municipal sanitary sewer line that is located in Triunfo Canyon Road. The LVMWD has indicated that a connection to the trunk sewer in Triunfo Canyon Road is feasible, upon payment of plan check, inspection,

[121] Las Virgenes Municipal Water District. 2015 Urban Water Management Plan Final. August 17, 2016. Available at: https://www.lvmwd.com/home/showdocument?id=6877. Accessed on August 20, 2019.
[122] Joint Powers Authority of LVMWD and TSD. 2014. Sanitation Master Plan Update 2014. June 20.

and sewer connection fees.[123] As the Project would disconnect from the existing OWTS and connect to the municipal sanitary sewer system, this would result in a new impact on the LVMWD.

The Project would be comprised of structures associated with event uses and/or equestrian uses, and only specific buildings would require wastewater services and connect to the municipal sewer system. The estimated amount of wastewater the Project would generate and buildings that would be connected to the sewer system is provided in **Table 11, Project Wastewater Generation**.

Table 11, Project Wastewater Generation

Building #	Building	Type of Use	Size or Units	Demand Rate	Wastewater Generation (gpd)
2	Restrooms	Commercial	406 SF	80 gpd/1,000 SF	32.5
5	Avalon Event Barn	Commercial	5,605 SF	80 gpd/1,000 SF	448.4
6	Hay Shed Barn	Commercial	3,172 SF	80 gpd/1,000 SF	253.8
10	Storage/Bride's Dressing Room	Commercial	1,728 SF	80 gpd/1,000 SF	138.2
11	Office	Office	1,152 SF	50 gpd/1,000 SF	57.6
12	Caretaker's Residence	Residential	1 du	230 gpd/du	230.0
16	Tack Room/Storage	Commercial	456 SF	80 gpd/1,000 SF	36.5
18	Bel Air Barn	Commercial	4,692 SF	80 gpd/1,000 SF	375.4
				Total Wastewater Generation	**1,572.4**

Source: L.A. CEQA Threshold Guidelines Exhibit M.2-12, Sewage Generation Factors for "Commercial Use."

As shown in Table 11, Project Wastewater Generation, the total wastewater generation would be 1,572.4 gpd, which is a small fraction of one percent (i.e. 0.02 percent) of the excess treatment capacity at the TWRF. In addition, the total wastewater generation would represent a small fraction of one percent (i.e. 0.006 percent) of the excess treatment capacity of the JPA's conveyance system. Based on estimated wastewater generation from the existing sewer infrastructure, TWRF and JPA's conveyance system would provide sufficient capacity for the Project in addition to the provider's existing commitments, and the Project demand is a small percentage of the remaining daily capacity. Therefore, the Project impact would be less than significant. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? ☐ ☐ ☒ ☐

Less Than Significant Impact. Trash and recycling services would continue to be supplied to the site by Waste Management. As stated previously, the Project would continue to operate existing event and equestrian uses, and increase site development by only 1,407 sf. As the Project would not include increasing the capacity or frequency of event or equestrian operations, it would not result in a substantial increase in the demand for solid waste generation. Therefore, the Project would result in a less than significant impact regarding solid

[123] LVMWD. 2019. Conditional Statement of Sewer Connection. August 22.

waste generation. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

No Impact. The Project would be subject to the Green Building Standards Code, which requires that non-residential construction projects recycle a minimum of 65 percent of the demolition and construction debris generated by weight. The Project also would be required to comply with other State and local regulations related to waste reduction, trash removal and disposal, and recycling during the operations of the Project. Therefore, the Project would result in no impact related to compliance with solid waste regulations. No mitigation measures are required, and this topic does not warrant further environmental review in the EIR.

20. WILDFIRE

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐

Less Than Significant Impact with Mitigation Incorporated. As described in Section 9, Hazards and Hazardous Materials, the OEM is the day-to-day Los Angeles County Operational Area coordinator for the County and is responsible for organizing and directing the preparedness efforts of the Emergency Management Organization of Los Angeles County. The emergency response plan for the unincorporated areas is the OAERP, which is prepared by the OEM. The OAERP strengthens short and long-term emergency response and recovery capability and identifies emergency procedures and emergency management routes in the County. The closest freeway disaster route designated by the County to the Project site is the U.S. 101 Freeway (also referred to as Highway 101 or the Ventura Freeway) located approximately four driving miles to the north). The closest highway disaster route designated by the County to the Project site is Kanan Road located approximately 0.50 miles to the southeast.

As discussed in Section 9, Brookview Ranch maintains a traffic management plan for events, as well as evacuation plans for events and for the equestrian facility, both of which are based on a fire/wildfire incident and include provisions for early detection, noticing receipt and dissemination of emergency notifications from both Los Angeles (Alert LA) and Ventura (VC Alerts) Counties, and route selection (depending on the location of the fire/wildfire). Brookview Ranch would continue to implement its traffic management plan and evacuation plans for events and for the equestrian facility. These plans would be updated to reflect the structural modifications included with the Project. Furthermore, the Project would improve emergency access and fire-fighting capabilities at the site by providing a steel bridge over Triunfo Creek and the existing concrete Arizona crossing, as well as by installation of an additional water main and the replacement of the two existing fire hydrants with two new fire hydrants, as required by the LACoFD. The Project would result in a less than significant impact related to the impairment of emergency or evacuation plans following the implementation of mitigation that would entail a requirement for Brookview Ranch to prepare and implement an updated traffic management plan and evacuation plans for events and the equestrian facility. The traffic management plan would include requirements related to the staggered scheduling of events and queuing the arrival and departure times of event patrons. This topic will be evaluated in the EIR.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐

Less Than Significant Impact. The Project site and surrounding areas and land uses are located in a VHFHSZ[124] in the Santa Monica Mountains. The Forestry Division of the LACoFD assists and supports the implementation of the CAL FIRE FHSZ model designation in the County. In an effort to reduce the threats

[124] Los Angeles County. 2015. General Plan Figure 12.5, Fire Hazard Severity Zones Policy Map. Adopted October 6.

to lives and property, the LACoFD has instituted a variety of regulatory programs and standards, including vegetation management, pre-fire management and planning, the Fuel Modification Plan Review Program, and the brush clearance inspection program. The LACoFD and LADPW also enforce fire and building codes related to development in the FHSZs, and the Fire Department implements the Title 32 (Fire Code) requirements in the FHSZs.[125] The proposed land uses represent a continuation of current land uses. Therefore, the Project would not exacerbate wildfire risks and Project impacts would be less than significant. No mitigation measures are required, and this topic does not warrant further evaluation in the EIR.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☒	☐	☐

Less Than Significant Impact with Mitigation Incorporated. As stated previously, the LACoFD has required Brookview to provide a bridge over Triunfo Creek if Brookview constructs a structure on the property that is 1,000-sf in size or greater (whether or not the structure is replacing an existing structure). Therefore, as part of the Project, Brookview would construct an approximately 196-ft. by 20-ft. steel bridge with a concrete deck over an existing concrete swale (or Arizona crossing) in Triunfo Creek as the new means of ingress and egress from the Project site, in order to provide all weather access and improve public safety. The proposed bridge would be wide enough to provide access for LACoFD trucks to the Project site, as well as to other properties on that side of the creek. The proposed bridge would provide a safer crossing than the existing concrete swale, especially during rain events. In addition, a proposed water main (also required by the LACoFD) and sewer line would both extend across the proposed bridge and onto the Project site from a point of connection with the existing water main and trunk sewer line in Triunfo Canyon Road near the site entrance.

The environmental impacts of the Project, including from the installation of the bridge and additional utility infrastructure, will be evaluated in the applicable environmental resource sections of the EIR, rather than in the Wildfire section.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Less Than Significant Impact. The liquefaction and landslide areas identified on the Project site by the County are located outside the existing and proposed development footprint where habitable/occupiable structures are located. As previously described in Section 10, Hydrology and Water Quality, the Project site is also located in a FEMA-designated Flood Hazard Area. While existing and proposed occupiable structures are located outside of this area, the LACoFD has required Brookview to provide a bridge over Triunfo Creek, within this designated area, as the new means of ingress and egress from the Project site, in order to provide all weather access and improve public safety. The effects of the bridge to Triunfo Creek flows, if any, and the Project's potential to expose people or structures to significant risks associated with flooding or drainage, would be less than significant. As described previously in this Initial Study, the Project's impacts related to geology and soils, including landslides, also would be less than significant. No mitigation measures are required, and this topic does not warrant further evaluation in the EIR.

[125] Los Angeles County. 2015. General Plan. October 6 (Adopted).

e) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Less Than Significant Impact. As stated previously, the Project site is located in a VHFHSZ, and the event and equestrian land uses that currently occur on the Project site would continue with the Project. The Project would result in a minor net increase in development of 1,407 sf and would not increase the intensity of current land uses. As required, Brookview Ranch would continue to implement the fuel modification and brush clearance requirements of the LACoFD, as well as construct new and replacement structures in compliance with the building code and update and implement its evacuation plans for events and for the equestrian facility. Furthermore, the Project includes the addition of a bridge across Triunfo Creek and an additional water main. The Project also would replace the two existing hydrants with two new hydrants to improve emergency access and fire-fighting capabilities. As the Project represents the continuation of existing uses, it presents no new significant risk involving wildland fires, and the proposed infrastructure improvements would reduce the risk as compared to existing conditions. Project impacts would be less than significant. Nevertheless, this topic will be evaluated in the EIR.

21. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	*Less Than Significant Impact with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐

Less Than Significant Impact. A significant impact may occur if a project would 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, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

As discussed within this Initial Study, the Project may potentially affect biological resources, cultural resources, hazards and hazardous materials, land use and planning, noise, tribal cultural resources, utilities and service systems, and wildfire. Environmental analyses will be prepared to analyze and document these potentially significant impacts, if any, in the EIR. In addition, while Project impacts related to hydrology and water quality and transportation would be less than significant, these topics will also be evaluated in the EIR. The identified potentially significant hazards and hazardous materials impacts will be addressed in the EIR Land Use and Planning, Transportation, and/or Wildfire sections. Physical impacts associated with the installation/extension of utilities will be evaluated throughout the EIR, where applicable.

Project impacts to aesthetics, agriculture and forestry resources, air quality, energy, geology and soils, GHG emissions, mineral resources, population and housing, public services, and recreation would be less than significant and do not require mitigation measures.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐

Potentially Significant Impact. As noted in the analysis of each of the environmental issues in this Initial Study, the impacts associated with development of the Project have been determined to be "Potentially Significant," "Less Than Significant with Mitigation Incorporated", "Less Than Significant", or "No Impact." The cumulative impacts of the Project, in combination with other nearby past projects, current projects, and probable future projects ("related projects"), for those Project-level impacts determined to be "Potentially Significant" or "Less Than Significant with Mitigation Incorporated," will be evaluated in the EIR.

For issues that were determined to result in "No Impact" or a "Less Than Significant" impact in this Initial Study, the net Project impacts would be less than significant. Therefore, the Project would not add a considerable incremental increase towards a cumulative impact to these resources.

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

Less Than Significant Impact. As discussed within this Initial Study, the Project may potentially affect biological resources, cultural resources, hazards and hazardous materials, land use and planning, noise, tribal cultural resources, utilities and service systems, and wildfire. In addition, while Project impacts related to hydrology and water quality and transportation would be less than significant, these topics will also be evaluated in the EIR in the interest of public disclosure. By extension, some of these impacts may also involve direct or indirect effects on human beings, in particular, hydrology and water quality, noise, and wildfire. While these environmental impacts are not anticipated to cause substantial adverse effects on human beings, these topics will be evaluated in the EIR.

Based on the analyses in this Initial Study, Project impacts, including substantial adverse direct and indirect impacts on human beings, involving aesthetics, agriculture and forestry resources, air quality, energy, geology and soils, GHG emissions, mineral resources, population and housing, public services, and recreation, would be less than significant. These topics do not warrant additional evaluation in the EIR, and no mitigation measures are required.

Appendix A
Air Quality and Greenhouse Gas Emissions (CalEEMod Outputs)

Brookview Bridge Construction

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.30	1000sqft	0.10	4,300.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Brookview Bridge Construction - Los Angeles-South Coast County, Summer

Project Characteristics -

Land Use - 0.1 acre. 4,300 sf concrete bridge

Construction Phase - 10 demo, 2 prep, 10 grad, 90 bldg, 3 coat

Off-road Equipment - crane, forklift, skid steer, 2 excavators, concrete pump, generator, welder

Off-road Equipment - backhoe, 2 excavators, sked steer

Off-road Equipment - 2 backhoes

Off-road Equipment - backhoe, bore rig, 2 excavators, skid steer

Grading - 50 cy import

Demolition - 6 tons

Trips and VMT - 30 mile haul and vendor trip. 80 vendor trips (40 loads).

Construction Off-road Equipment Mitigation - Tier 4 equipment

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	3.00
tblConstructionPhase	NumDays	100.00	90.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	5.00	0.00

tblConstructionPhase	NumDays	1.00	2.00
tblConstructionPhase	PhaseEndDate	12/22/2021	12/10/2021
tblConstructionPhase	PhaseEndDate	12/8/2021	12/7/2021
tblConstructionPhase	PhaseEndDate	7/21/2021	8/3/2021
tblConstructionPhase	PhaseEndDate	12/15/2021	12/6/2021
tblConstructionPhase	PhaseEndDate	7/19/2021	7/20/2021
tblConstructionPhase	PhaseStartDate	12/16/2021	12/8/2021
tblConstructionPhase	PhaseStartDate	7/22/2021	8/4/2021
tblConstructionPhase	PhaseStartDate	7/20/2021	7/21/2021
tblConstructionPhase	PhaseStartDate	12/9/2021	12/7/2021
tblGrading	AcresOfGrading	0.00	0.50
tblGrading	MaterialImported	0.00	50.00
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	VendorTripLength	7.90	30.00
tblTripsAndVMT	VendorTripNumber	1.00	80.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.0987	30.5405	19.1840	0.0986	2.2499	0.6643	2.9142	0.6464	0.6387	1.2850	0.0000	10,236.4089	10,236.4089	0.7869	0.0000	10,256.0811
Maximum	**2.0987**	**30.5405**	**19.1840**	**0.0986**	**2.2499**	**0.6643**	**2.9142**	**0.6464**	**0.6387**	**1.2850**	**0.0000**	**10,236.4089**	**10,236.4089**	**0.7869**	**0.0000**	**10,256.0811**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.6726	29.1818	20.8324	0.0986	2.2499	0.4317	2.6815	0.6464	0.4289	1.0752	0.0000	10,236.4089	10,236.4089	0.7869	0.0000	10,256.0811
Maximum	**1.6726**	**29.1818**	**20.8324**	**0.0986**	**2.2499**	**0.4317**	**2.6815**	**0.6464**	**0.4289**	**1.0752**	**0.0000**	**10,236.4089**	**10,236.4089**	**0.7869**	**0.0000**	**10,256.0811**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**20.30**	**4.45**	**-8.59**	**0.00**	**0.00**	**35.02**	**7.98**	**0.00**	**32.85**	**16.33**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.8900e-003	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.4000e-004	9.4000e-004	0.0000		1.0000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.8900e-003**	**0.0000**	**4.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**0.0000**	**1.0000e-003**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.8900e-003	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.4000e-004	9.4000e-004	0.0000		1.0000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.8900e-003**	**0.0000**	**4.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**0.0000**	**1.0000e-003**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/5/2021	7/16/2021	5	10	
2	Site Preparation	Site Preparation	7/17/2021	7/20/2021	5	2	
3	Grading	Grading	7/21/2021	8/3/2021	5	10	
4	Building Construction	Building Construction	8/4/2021	12/7/2021	5	90	
5	Paving	Paving	12/7/2021	12/6/2021	5	0	
6	Architectural Coating	Architectural Coating	12/8/2021	12/10/2021	5	3	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 258 (Architectural Coating – sqft)

OffRoad Equipment

Brookview Bridge Construction - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	0	6.00	89	0.20
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	0	1.00	247	0.40
Grading	Rubber Tired Dozers	0	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Skid Steer Loaders	1	6.00	65	0.37
Building Construction	Excavators	2	6.00	158	0.38
Building Construction	Pumps	1	6.00	84	0.74
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Welders	1	6.00	46	0.45
Grading	Excavators	2	6.00	158	0.38
Grading	Skid Steer Loaders	1	6.00	65	0.37
Demolition	Bore/Drill Rigs	1	6.00	221	0.50
Demolition	Excavators	2	6.00	158	0.38
Demolition	Skid Steer Loaders	1	6.00	65	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	0.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	2.00	80.00	0.00	19.80	30.00	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	1.00	19.80	7.90	30.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	6.00	19.80	7.90	30.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0128	0.0000	0.0128	1.9400e-003	0.0000	1.9400e-003			0.0000			0.0000
Off-Road	0.7345	7.6717	9.2008	0.0187		0.3398	0.3398		0.3127	0.3127		1,810.1586	1,810.1586	0.5854		1,824.7947
Total	**0.7345**	**7.6717**	**9.2008**	**0.0187**	**0.0128**	**0.3398**	**0.3527**	**1.9400e-003**	**0.3127**	**0.3146**		**1,810.1586**	**1,810.1586**	**0.5854**		**1,824.7947**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1700e-003	0.0356	8.8600e-003	1.1000e-004	2.6200e-003	1.2000e-004	2.7400e-003	7.2000e-004	1.2000e-004	8.4000e-004		12.1251	12.1251	7.8000e-004		12.1447
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0704	0.0505	0.6891	1.9900e-003	0.1957	1.5500e-003	0.1972	0.0519	1.4300e-003	0.0533		198.3863	198.3863	5.7900e-003		198.5310
Total	**0.0716**	**0.0860**	**0.6979**	**2.1000e-003**	**0.1983**	**1.6700e-003**	**0.2000**	**0.0526**	**1.5500e-003**	**0.0542**		**210.5114**	**210.5114**	**6.5700e-003**		**210.6757**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7800e-003	0.0000	5.7800e-003	8.7000e-004	0.0000	8.7000e-004			0.0000			0.0000
Off-Road	0.3026	7.1882	12.6110	0.0187		0.0638	0.0638		0.0638	0.0638	0.0000	1,810.1586	1,810.1586	0.5854		1,824.7946
Total	**0.3026**	**7.1882**	**12.6110**	**0.0187**	**5.7800e-003**	**0.0638**	**0.0696**	**8.7000e-004**	**0.0638**	**0.0647**	**0.0000**	**1,810.1586**	**1,810.1586**	**0.5854**		**1,824.7946**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1700e-003	0.0356	8.8600e-003	1.1000e-004	2.6200e-003	1.2000e-004	2.7400e-003	7.2000e-004	1.2000e-004	8.4000e-004		12.1251	12.1251	7.8000e-004		12.1447
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0704	0.0505	0.6891	1.9900e-003	0.1957	1.5500e-003	0.1972	0.0519	1.4300e-003	0.0533		198.3863	198.3863	5.7900e-003		198.5310
Total	**0.0716**	**0.0860**	**0.6979**	**2.1000e-003**	**0.1983**	**1.6700e-003**	**0.2000**	**0.0526**	**1.5500e-003**	**0.0542**		**210.5114**	**210.5114**	**6.5700e-003**		**210.6757**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2651	0.0000	0.2651	0.0286	0.0000	0.0286			0.0000			0.0000
Off-Road	0.2809	2.8437	3.3904	4.6600e-003		0.1677	0.1677		0.1543	0.1543		451.3501	451.3501	0.1460		454.9995
Total	**0.2809**	**2.8437**	**3.3904**	**4.6600e-003**	**0.2651**	**0.1677**	**0.4328**	**0.0286**	**0.1543**	**0.1829**		**451.3501**	**451.3501**	**0.1460**		**454.9995**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0271	0.0194	0.2650	7.7000e-004	0.0753	6.0000e-004	0.0759	0.0200	5.5000e-004	0.0205		76.3024	76.3024	2.2300e-003		76.3581
Total	**0.0271**	**0.0194**	**0.2650**	**7.7000e-004**	**0.0753**	**6.0000e-004**	**0.0759**	**0.0200**	**5.5000e-004**	**0.0205**		**76.3024**	**76.3024**	**2.2300e-003**		**76.3581**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1193	0.0000	0.1193	0.0129	0.0000	0.0129			0.0000			0.0000
Off-Road	0.1044	2.0319	3.5131	4.6600e-003		7.6000e-003	7.6000e-003		7.6000e-003	7.6000e-003	0.0000	451.3501	451.3501	0.1460		454.9995
Total	**0.1044**	**2.0319**	**3.5131**	**4.6600e-003**	**0.1193**	**7.6000e-003**	**0.1269**	**0.0129**	**7.6000e-003**	**0.0205**	**0.0000**	**451.3501**	**451.3501**	**0.1460**		**454.9995**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0271	0.0194	0.2650	7.7000e-004	0.0753	6.0000e-004	0.0759	0.0200	5.5000e-004	0.0205		76.3024	76.3024	2.2300e-003		76.3581
Total	**0.0271**	**0.0194**	**0.2650**	**7.7000e-004**	**0.0753**	**6.0000e-004**	**0.0759**	**0.0200**	**5.5000e-004**	**0.0205**		**76.3024**	**76.3024**	**2.2300e-003**		**76.3581**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7000e-004	0.0000	5.7000e-004	9.0000e-005	0.0000	9.0000e-005			0.0000			0.0000
Off-Road	0.5409	5.4046	7.6454	0.0116		0.2711	0.2711		0.2494	0.2494		1,126.1118	1,126.1118	0.3642		1,135.2170
Total	**0.5409**	**5.4046**	**7.6454**	**0.0116**	**5.7000e-004**	**0.2711**	**0.2717**	**9.0000e-005**	**0.2494**	**0.2495**		**1,126.1118**	**1,126.1118**	**0.3642**		**1,135.2170**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0300e-003	0.2135	0.0532	6.7000e-004	0.0157	7.3000e-004	0.0165	4.3100e-003	7.0000e-004	5.0100e-003		72.7507	72.7507	4.7000e-003		72.8683
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0542	0.0388	0.5301	1.5300e-003	0.1505	1.1900e-003	0.1517	0.0399	1.1000e-003	0.0410		152.6049	152.6049	4.4500e-003		152.7162
Total	**0.0612**	**0.2523**	**0.5832**	**2.2000e-003**	**0.1663**	**1.9200e-003**	**0.1682**	**0.0442**	**1.8000e-003**	**0.0460**		**225.3555**	**225.3555**	**9.1500e-003**		**225.5844**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5000e-004	0.0000	2.5000e-004	4.0000e-005	0.0000	4.0000e-005			0.0000			0.0000
Off-Road	0.1857	5.3027	8.8107	0.0116		0.0521	0.0521		0.0521	0.0521	0.0000	1,126.1118	1,126.1118	0.3642		1,135.2170
Total	**0.1857**	**5.3027**	**8.8107**	**0.0116**	**2.5000e-004**	**0.0521**	**0.0524**	**4.0000e-005**	**0.0521**	**0.0522**	**0.0000**	**1,126.1118**	**1,126.1118**	**0.3642**		**1,135.2170**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.0300e-003	0.2135	0.0532	6.7000e-004	0.0157	7.3000e-004	0.0165	4.3100e-003	7.0000e-004	5.0100e-003		72.7507	72.7507	4.7000e-003		72.8683
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0542	0.0388	0.5301	1.5300e-003	0.1505	1.1900e-003	0.1517	0.0399	1.1000e-003	0.0410		152.6049	152.6049	4.4500e-003		152.7162
Total	**0.0612**	**0.2523**	**0.5832**	**2.2000e-003**	**0.1663**	**1.9200e-003**	**0.1682**	**0.0442**	**1.8000e-003**	**0.0460**		**225.3555**	**225.3555**	**9.1500e-003**		**225.5844**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3872	12.3212	13.7997	0.0240		0.6003	0.6003		0.5775	0.5775		2,269.9671	2,269.9671	0.4512		2,281.2463
Total	**1.3872**	**12.3212**	**13.7997**	**0.0240**		**0.6003**	**0.6003**		**0.5775**	**0.5775**		**2,269.9671**	**2,269.9671**	**0.4512**		**2,281.2463**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7007	18.2115	5.2783	0.0743	2.2198	0.0638	2.2835	0.6384	0.0610	0.6994		7,935.9208	7,935.9208	0.3348		7,944.2915
Worker	0.0108	7.7600e-003	0.1060	3.1000e-004	0.0301	2.4000e-004	0.0303	7.9800e-003	2.2000e-004	8.2000e-003		30.5210	30.5210	8.9000e-004		30.5432
Total	**0.7115**	**18.2192**	**5.3843**	**0.0747**	**2.2499**	**0.0640**	**2.3139**	**0.6464**	**0.0612**	**0.7076**		**7,966.4418**	**7,966.4418**	**0.3357**		**7,974.8348**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9611	10.9626	15.4482	0.0240		0.3677	0.3677		0.3677	0.3677	0.0000	2,269.9671	2,269.9671	0.4512		2,281.2463
Total	**0.9611**	**10.9626**	**15.4482**	**0.0240**		**0.3677**	**0.3677**		**0.3677**	**0.3677**	**0.0000**	**2,269.9671**	**2,269.9671**	**0.4512**		**2,281.2463**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7007	18.2115	5.2783	0.0743	2.2198	0.0638	2.2835	0.6384	0.0610	0.6994		7,935.9208	7,935.9208	0.3348		7,944.2915
Worker	0.0108	7.7600e-003	0.1060	3.1000e-004	0.0301	2.4000e-004	0.0303	7.9800e-003	2.2000e-004	8.2000e-003		30.5210	30.5210	8.9000e-004		30.5432
Total	**0.7115**	**18.2192**	**5.3843**	**0.0747**	**2.2499**	**0.0640**	**2.3139**	**0.6464**	**0.0612**	**0.7076**		**7,966.4418**	**7,966.4418**	**0.3357**		**7,974.8348**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3986					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**0.6175**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3986					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**0.6175**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	18.50	10.10	7.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.8900e-003	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.4000e-004	9.4000e-004	0.0000		1.0000e-003
Unmitigated	1.8900e-003	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.4000e-004	9.4000e-004	0.0000		1.0000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.3000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.5200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-005	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.4000e-004	9.4000e-004	0.0000		1.0000e-003
Total	**1.8900e-003**	**0.0000**	**4.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**9.4000e-004**	**9.4000e-004**	**0.0000**		**1.0000e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.3000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.5200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-005	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.4000e-004	9.4000e-004	0.0000		1.0000e-003
Total	**1.8900e-003**	**0.0000**	**4.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**9.4000e-004**	**9.4000e-004**	**0.0000**		**1.0000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Brookview Bridge Construction

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.30	1000sqft	0.10	4,300.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Brookview Bridge Construction - Los Angeles-South Coast County, Winter

Project Characteristics -

Land Use - 0.1 acre. 4,300 sf concrete bridge

Construction Phase - 10 demo, 2 prep, 10 grad, 90 bldg, 3 coat

Off-road Equipment - crane, forklift, skid steer, 2 excavators, concrete pump, generator, welder

Off-road Equipment - backhoe, 2 excavators, sked steer

Off-road Equipment - 2 backhoes

Off-road Equipment - backhoe, bore rig, 2 excavators, skid steer

Grading - 50 cy import

Demolition - 6 tons

Trips and VMT - 30 mile haul and vendor trip. 80 vendor trips (40 loads).

Construction Off-road Equipment Mitigation - Tier 4 equipment

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	3.00
tblConstructionPhase	NumDays	100.00	90.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	5.00	0.00

Brookview Bridge Construction - Los Angeles-South Coast County, Winter

tblConstructionPhase	NumDays	1.00	2.00
tblConstructionPhase	PhaseEndDate	12/22/2021	12/10/2021
tblConstructionPhase	PhaseEndDate	12/8/2021	12/7/2021
tblConstructionPhase	PhaseEndDate	7/21/2021	8/3/2021
tblConstructionPhase	PhaseEndDate	12/15/2021	12/6/2021
tblConstructionPhase	PhaseEndDate	7/19/2021	7/20/2021
tblConstructionPhase	PhaseStartDate	12/16/2021	12/8/2021
tblConstructionPhase	PhaseStartDate	7/22/2021	8/4/2021
tblConstructionPhase	PhaseStartDate	7/20/2021	7/21/2021
tblConstructionPhase	PhaseStartDate	12/9/2021	12/7/2021
tblGrading	AcresOfGrading	0.00	0.50
tblGrading	MaterialImported	0.00	50.00
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	VendorTripLength	7.90	30.00
tblTripsAndVMT	VendorTripNumber	1.00	80.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.1177	30.9428	19.3585	0.0981	2.2499	0.6648	2.9147	0.6464	0.6391	1.2855	0.0000	10,174.3392	10,174.3392	0.7950	0.0000	10,194.2146
Maximum	**2.1177**	**30.9428**	**19.3585**	**0.0981**	**2.2499**	**0.6648**	**2.9147**	**0.6464**	**0.6391**	**1.2855**	**0.0000**	**10,174.3392**	**10,174.3392**	**0.7950**	**0.0000**	**10,194.2146**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.6916	29.5842	21.0070	0.0981	2.2499	0.4322	2.6820	0.6464	0.4293	1.0757	0.0000	10,174.3392	10,174.3392	0.7950	0.0000	10,194.2146
Maximum	**1.6916**	**29.5842**	**21.0070**	**0.0981**	**2.2499**	**0.4322**	**2.6820**	**0.6464**	**0.4293**	**1.0757**	**0.0000**	**10,174.3392**	**10,174.3392**	**0.7950**	**0.0000**	**10,194.2146**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**20.12**	**4.39**	**-8.52**	**0.00**	**0.00**	**35.00**	**7.98**	**0.00**	**32.83**	**16.32**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.8900e-003	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.4000e-004	9.4000e-004	0.0000		1.0000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.8900e-003**	**0.0000**	**4.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**0.0000**	**1.0000e-003**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.8900e-003	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.4000e-004	9.4000e-004	0.0000		1.0000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.8900e-003**	**0.0000**	**4.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**0.0000**	**1.0000e-003**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/5/2021	7/16/2021	5	10	
2	Site Preparation	Site Preparation	7/17/2021	7/20/2021	5	2	
3	Grading	Grading	7/21/2021	8/3/2021	5	10	
4	Building Construction	Building Construction	8/4/2021	12/7/2021	5	90	
5	Paving	Paving	12/7/2021	12/6/2021	5	0	
6	Architectural Coating	Architectural Coating	12/8/2021	12/10/2021	5	3	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 258 (Architectural Coating – sqft)

OffRoad Equipment

Brookview Bridge Construction - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	0	6.00	89	0.20
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	0	1.00	247	0.40
Grading	Rubber Tired Dozers	0	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Skid Steer Loaders	1	6.00	65	0.37
Building Construction	Excavators	2	6.00	158	0.38
Building Construction	Pumps	1	6.00	84	0.74
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Welders	1	6.00	46	0.45
Grading	Excavators	2	6.00	158	0.38
Grading	Skid Steer Loaders	1	6.00	65	0.37
Demolition	Bore/Drill Rigs	1	6.00	221	0.50
Demolition	Excavators	2	6.00	158	0.38
Demolition	Skid Steer Loaders	1	6.00	65	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	0.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	2.00	80.00	0.00	19.80	30.00	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	1.00	19.80	7.90	30.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	6.00	19.80	7.90	30.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0128	0.0000	0.0128	1.9400e-003	0.0000	1.9400e-003			0.0000			0.0000
Off-Road	0.7345	7.6717	9.2008	0.0187		0.3398	0.3398		0.3127	0.3127		1,810.1586	1,810.1586	0.5854		1,824.7947
Total	**0.7345**	**7.6717**	**9.2008**	**0.0187**	**0.0128**	**0.3398**	**0.3527**	**1.9400e-003**	**0.3127**	**0.3146**		**1,810.1586**	**1,810.1586**	**0.5854**		**1,824.7947**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1900e-003	0.0363	9.2200e-003	1.1000e-004	2.6200e-003	1.2000e-004	2.7400e-003	7.2000e-004	1.2000e-004	8.4000e-004		11.9785	11.9785	8.0000e-004		11.9986
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0792	0.0559	0.6256	1.8700e-003	0.1957	1.5500e-003	0.1972	0.0519	1.4300e-003	0.0533		186.7590	186.7590	5.4300e-003		186.8946
Total	**0.0804**	**0.0921**	**0.6348**	**1.9800e-003**	**0.1983**	**1.6700e-003**	**0.2000**	**0.0526**	**1.5500e-003**	**0.0542**		**198.7375**	**198.7375**	**6.2300e-003**		**198.8932**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7800e-003	0.0000	5.7800e-003	8.7000e-004	0.0000	8.7000e-004			0.0000			0.0000
Off-Road	0.3026	7.1882	12.6110	0.0187		0.0638	0.0638		0.0638	0.0638	0.0000	1,810.1586	1,810.1586	0.5854		1,824.7946
Total	**0.3026**	**7.1882**	**12.6110**	**0.0187**	**5.7800e-003**	**0.0638**	**0.0696**	**8.7000e-004**	**0.0638**	**0.0647**	**0.0000**	**1,810.1586**	**1,810.1586**	**0.5854**		**1,824.7946**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1900e-003	0.0363	9.2200e-003	1.1000e-004	2.6200e-003	1.2000e-004	2.7400e-003	7.2000e-004	1.2000e-004	8.4000e-004		11.9785	11.9785	8.0000e-004		11.9986
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0792	0.0559	0.6256	1.8700e-003	0.1957	1.5500e-003	0.1972	0.0519	1.4300e-003	0.0533		186.7590	186.7590	5.4300e-003		186.8946
Total	**0.0804**	**0.0921**	**0.6348**	**1.9800e-003**	**0.1983**	**1.6700e-003**	**0.2000**	**0.0526**	**1.5500e-003**	**0.0542**		**198.7375**	**198.7375**	**6.2300e-003**		**198.8932**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2651	0.0000	0.2651	0.0286	0.0000	0.0286			0.0000			0.0000
Off-Road	0.2809	2.8437	3.3904	4.6600e-003		0.1677	0.1677		0.1543	0.1543		451.3501	451.3501	0.1460		454.9995
Total	**0.2809**	**2.8437**	**3.3904**	**4.6600e-003**	**0.2651**	**0.1677**	**0.4328**	**0.0286**	**0.1543**	**0.1829**		**451.3501**	**451.3501**	**0.1460**		**454.9995**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0305	0.0215	0.2406	7.2000e-004	0.0753	6.0000e-004	0.0759	0.0200	5.5000e-004	0.0205		71.8304	71.8304	2.0900e-003		71.8826
Total	**0.0305**	**0.0215**	**0.2406**	**7.2000e-004**	**0.0753**	**6.0000e-004**	**0.0759**	**0.0200**	**5.5000e-004**	**0.0205**		**71.8304**	**71.8304**	**2.0900e-003**		**71.8826**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1193	0.0000	0.1193	0.0129	0.0000	0.0129			0.0000			0.0000
Off-Road	0.1044	2.0319	3.5131	4.6600e-003		7.6000e-003	7.6000e-003		7.6000e-003	7.6000e-003	0.0000	451.3501	451.3501	0.1460		454.9995
Total	**0.1044**	**2.0319**	**3.5131**	**4.6600e-003**	**0.1193**	**7.6000e-003**	**0.1269**	**0.0129**	**7.6000e-003**	**0.0205**	**0.0000**	**451.3501**	**451.3501**	**0.1460**		**454.9995**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0305	0.0215	0.2406	7.2000e-004	0.0753	6.0000e-004	0.0759	0.0200	5.5000e-004	0.0205		71.8304	71.8304	2.0900e-003		71.8826
Total	**0.0305**	**0.0215**	**0.2406**	**7.2000e-004**	**0.0753**	**6.0000e-004**	**0.0759**	**0.0200**	**5.5000e-004**	**0.0205**		**71.8304**	**71.8304**	**2.0900e-003**		**71.8826**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7000e-004	0.0000	5.7000e-004	9.0000e-005	0.0000	9.0000e-005			0.0000			0.0000
Off-Road	0.5409	5.4046	7.6454	0.0116		0.2711	0.2711		0.2494	0.2494		1,126.1118	1,126.1118	0.3642		1,135.2170
Total	**0.5409**	**5.4046**	**7.6454**	**0.0116**	**5.7000e-004**	**0.2711**	**0.2717**	**9.0000e-005**	**0.2494**	**0.2495**		**1,126.1118**	**1,126.1118**	**0.3642**		**1,135.2170**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.1500e-003	0.2175	0.0553	6.6000e-004	0.0157	7.4000e-004	0.0165	4.3100e-003	7.1000e-004	5.0200e-003		71.8709	71.8709	4.8200e-003		71.9915
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0610	0.0430	0.4812	1.4400e-003	0.1505	1.1900e-003	0.1517	0.0399	1.1000e-003	0.0410		143.6608	143.6608	4.1700e-003		143.7651
Total	**0.0681**	**0.2605**	**0.5365**	**2.1000e-003**	**0.1663**	**1.9300e-003**	**0.1682**	**0.0442**	**1.8100e-003**	**0.0460**		**215.5317**	**215.5317**	**8.9900e-003**		**215.7566**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.5000e-004	0.0000	2.5000e-004	4.0000e-005	0.0000	4.0000e-005			0.0000			0.0000
Off-Road	0.1857	5.3027	8.8107	0.0116		0.0521	0.0521		0.0521	0.0521	0.0000	1,126.1118	1,126.1118	0.3642		1,135.2170
Total	**0.1857**	**5.3027**	**8.8107**	**0.0116**	**2.5000e-004**	**0.0521**	**0.0524**	**4.0000e-005**	**0.0521**	**0.0522**	**0.0000**	**1,126.1118**	**1,126.1118**	**0.3642**		**1,135.2170**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	7.1500e-003	0.2175	0.0553	6.6000e-004	0.0157	7.4000e-004	0.0165	4.3100e-003	7.1000e-004	5.0200e-003		71.8709	71.8709	4.8200e-003		71.9915
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0610	0.0430	0.4812	1.4400e-003	0.1505	1.1900e-003	0.1517	0.0399	1.1000e-003	0.0410		143.6608	143.6608	4.1700e-003		143.7651
Total	**0.0681**	**0.2605**	**0.5365**	**2.1000e-003**	**0.1663**	**1.9300e-003**	**0.1682**	**0.0442**	**1.8100e-003**	**0.0460**		**215.5317**	**215.5317**	**8.9900e-003**		**215.7566**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3872	12.3212	13.7997	0.0240		0.6003	0.6003		0.5775	0.5775		2,269.9671	2,269.9671	0.4512		2,281.2463
Total	**1.3872**	**12.3212**	**13.7997**	**0.0240**		**0.6003**	**0.6003**		**0.5775**	**0.5775**		**2,269.9671**	**2,269.9671**	**0.4512**		**2,281.2463**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7183	18.6130	5.4626	0.0738	2.2198	0.0643	2.2841	0.6384	0.0615	0.6998		7,875.6400	7,875.6400	0.3430		7,884.2153
Worker	0.0122	8.5900e-003	0.0962	2.9000e-004	0.0301	2.4000e-004	0.0303	7.9800e-003	2.2000e-004	8.2000e-003		28.7322	28.7322	8.3000e-004		28.7530
Total	**0.7305**	**18.6216**	**5.5588**	**0.0741**	**2.2499**	**0.0645**	**2.3144**	**0.6464**	**0.0617**	**0.7080**		**7,904.3721**	**7,904.3721**	**0.3438**		**7,912.9683**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9611	10.9626	15.4482	0.0240		0.3677	0.3677		0.3677	0.3677	0.0000	2,269.9671	2,269.9671	0.4512		2,281.2463
Total	**0.9611**	**10.9626**	**15.4482**	**0.0240**		**0.3677**	**0.3677**		**0.3677**	**0.3677**	**0.0000**	**2,269.9671**	**2,269.9671**	**0.4512**		**2,281.2463**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7183	18.6130	5.4626	0.0738	2.2198	0.0643	2.2841	0.6384	0.0615	0.6998		7,875.6400	7,875.6400	0.3430		7,884.2153
Worker	0.0122	8.5900e-003	0.0962	2.9000e-004	0.0301	2.4000e-004	0.0303	7.9800e-003	2.2000e-004	8.2000e-003		28.7322	28.7322	8.3000e-004		28.7530
Total	**0.7305**	**18.6216**	**5.5588**	**0.0741**	**2.2499**	**0.0645**	**2.3144**	**0.6464**	**0.0617**	**0.7080**		**7,904.3721**	**7,904.3721**	**0.3438**		**7,912.9683**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3986					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**0.6175**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.3986					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**0.6175**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	18.50	10.10	7.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.8900e-003	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.4000e-004	9.4000e-004	0.0000		1.0000e-003
Unmitigated	1.8900e-003	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.4000e-004	9.4000e-004	0.0000		1.0000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.3000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.5200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-005	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.4000e-004	9.4000e-004	0.0000		1.0000e-003
Total	**1.8900e-003**	**0.0000**	**4.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**9.4000e-004**	**9.4000e-004**	**0.0000**		**1.0000e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.3000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.5200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.0000e-005	0.0000	4.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		9.4000e-004	9.4000e-004	0.0000		1.0000e-003
Total	**1.8900e-003**	**0.0000**	**4.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**9.4000e-004**	**9.4000e-004**	**0.0000**		**1.0000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Brookview Bridge Construction

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	4.30	1000sqft	0.10	4,300.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Brookview Bridge Construction - Los Angeles-South Coast County, Annual

Project Characteristics -

Land Use - 0.1 acre. 4,300 sf concrete bridge

Construction Phase - 10 demo, 2 prep, 10 grad, 90 bldg, 3 coat

Off-road Equipment - crane, forklift, skid steer, 2 excavators, concrete pump, generator, welder

Off-road Equipment - backhoe, 2 excavators, sked steer

Off-road Equipment - 2 backhoes

Off-road Equipment - backhoe, bore rig, 2 excavators, skid steer

Grading - 50 cy import

Demolition - 6 tons

Trips and VMT - 30 mile haul and vendor trip. 80 vendor trips (40 loads).

Construction Off-road Equipment Mitigation - Tier 4 equipment

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	3.00
tblConstructionPhase	NumDays	100.00	90.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	5.00	0.00

Brookview Bridge Construction - Los Angeles-South Coast County, Annual

tblConstructionPhase	NumDays	1.00	2.00
tblConstructionPhase	PhaseEndDate	12/22/2021	12/10/2021
tblConstructionPhase	PhaseEndDate	12/8/2021	12/7/2021
tblConstructionPhase	PhaseEndDate	7/21/2021	8/3/2021
tblConstructionPhase	PhaseEndDate	12/15/2021	12/6/2021
tblConstructionPhase	PhaseEndDate	7/19/2021	7/20/2021
tblConstructionPhase	PhaseStartDate	12/16/2021	12/8/2021
tblConstructionPhase	PhaseStartDate	7/22/2021	8/4/2021
tblConstructionPhase	PhaseStartDate	7/20/2021	7/21/2021
tblConstructionPhase	PhaseStartDate	12/9/2021	12/7/2021
tblGrading	AcresOfGrading	0.00	0.50
tblGrading	MaterialImported	0.00	50.00
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	VendorTripLength	7.90	30.00
tblTripsAndVMT	VendorTripNumber	1.00	80.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1030	1.4800	0.9634	4.6100e-003	0.1018	0.0333	0.1351	0.0292	0.0319	0.0611	0.0000	432.8814	432.8814	0.0368	0.0000	433.8015
Maximum	**0.1030**	**1.4800**	**0.9634**	**4.6100e-003**	**0.1018**	**0.0333**	**0.1351**	**0.0292**	**0.0319**	**0.0611**	**0.0000**	**432.8814**	**432.8814**	**0.0368**	**0.0000**	**433.8015**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0797	1.4151	1.0606	4.6100e-003	0.1016	0.0202	0.1218	0.0292	0.0201	0.0493	0.0000	432.8813	432.8813	0.0368	0.0000	433.8013
Maximum	**0.0797**	**1.4151**	**1.0606**	**4.6100e-003**	**0.1016**	**0.0202**	**0.1218**	**0.0292**	**0.0201**	**0.0493**	**0.0000**	**432.8813**	**432.8813**	**0.0368**	**0.0000**	**433.8013**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**22.60**	**4.38**	**-10.09**	**0.00**	**0.18**	**39.38**	**9.83**	**0.07**	**37.09**	**19.38**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-5-2021	9-30-2021	0.7486	0.7040
		Highest	0.7486	0.7040

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.4000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.1000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.4000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0000**	**1.1000e-004**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.4000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.1000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.4000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0000**	**1.1000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Brookview Bridge Construction - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/5/2021	7/16/2021	5	10	
2	Site Preparation	Site Preparation	7/17/2021	7/20/2021	5	2	
3	Grading	Grading	7/21/2021	8/3/2021	5	10	
4	Building Construction	Building Construction	8/4/2021	12/7/2021	5	90	
5	Paving	Paving	12/7/2021	12/6/2021	5	0	
6	Architectural Coating	Architectural Coating	12/8/2021	12/10/2021	5	3	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 258 (Architectural Coating – sqft)

OffRoad Equipment

Brookview Bridge Construction - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	0	6.00	89	0.20
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	0	1.00	247	0.40
Grading	Rubber Tired Dozers	0	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Skid Steer Loaders	1	6.00	65	0.37
Building Construction	Excavators	2	6.00	158	0.38
Building Construction	Pumps	1	6.00	84	0.74
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Welders	1	6.00	46	0.45
Grading	Excavators	2	6.00	158	0.38
Grading	Skid Steer Loaders	1	6.00	65	0.37
Demolition	Bore/Drill Rigs	1	6.00	221	0.50
Demolition	Excavators	2	6.00	158	0.38
Demolition	Skid Steer Loaders	1	6.00	65	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	0.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	2.00	80.00	0.00	19.80	30.00	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	1.00	19.80	7.90	30.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	6.00	19.80	7.90	30.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6700e-003	0.0384	0.0460	9.0000e-005		1.7000e-003	1.7000e-003		1.5600e-003	1.5600e-003	0.0000	8.2107	8.2107	2.6600e-003	0.0000	8.2771
Total	**3.6700e-003**	**0.0384**	**0.0460**	**9.0000e-005**	**6.0000e-005**	**1.7000e-003**	**1.7600e-003**	**1.0000e-005**	**1.5600e-003**	**1.5700e-003**	**0.0000**	**8.2107**	**8.2107**	**2.6600e-003**	**0.0000**	**8.2771**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	1.8000e-004	5.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0547	0.0547	0.0000	0.0000	0.0548
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.9000e-004	3.2200e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8613	0.8613	3.0000e-005	0.0000	0.8619
Total	**3.7000e-004**	**4.7000e-004**	**3.2700e-003**	**1.0000e-005**	**9.7000e-004**	**1.0000e-005**	**9.8000e-004**	**2.5000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.9160**	**0.9160**	**3.0000e-005**	**0.0000**	**0.9167**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5100e-003	0.0359	0.0631	9.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	8.2107	8.2107	2.6600e-003	0.0000	8.2771
Total	**1.5100e-003**	**0.0359**	**0.0631**	**9.0000e-005**	**3.0000e-005**	**3.2000e-004**	**3.5000e-004**	**0.0000**	**3.2000e-004**	**3.2000e-004**	**0.0000**	**8.2107**	**8.2107**	**2.6600e-003**	**0.0000**	**8.2771**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	1.8000e-004	5.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0547	0.0547	0.0000	0.0000	0.0548
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.9000e-004	3.2200e-003	1.0000e-005	9.6000e-004	1.0000e-005	9.7000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8613	0.8613	3.0000e-005	0.0000	0.8619
Total	**3.7000e-004**	**4.7000e-004**	**3.2700e-003**	**1.0000e-005**	**9.7000e-004**	**1.0000e-005**	**9.8000e-004**	**2.5000e-004**	**1.0000e-005**	**2.6000e-004**	**0.0000**	**0.9160**	**0.9160**	**3.0000e-005**	**0.0000**	**0.9167**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8000e-004	2.8400e-003	3.3900e-003	0.0000		1.7000e-004	1.7000e-004		1.5000e-004	1.5000e-004	0.0000	0.4095	0.4095	1.3000e-004	0.0000	0.4128
Total	**2.8000e-004**	**2.8400e-003**	**3.3900e-003**	**0.0000**	**2.7000e-004**	**1.7000e-004**	**4.4000e-004**	**3.0000e-005**	**1.5000e-004**	**1.8000e-004**	**0.0000**	**0.4095**	**0.4095**	**1.3000e-004**	**0.0000**	**0.4128**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0663	0.0663	0.0000	0.0000	0.0663
Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0663**	**0.0663**	**0.0000**	**0.0000**	**0.0663**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0000e-004	2.0300e-003	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.4095	0.4095	1.3000e-004	0.0000	0.4128
Total	**1.0000e-004**	**2.0300e-003**	**3.5100e-003**	**0.0000**	**1.2000e-004**	**1.0000e-005**	**1.3000e-004**	**1.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**0.4095**	**0.4095**	**1.3000e-004**	**0.0000**	**0.4128**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0663	0.0663	0.0000	0.0000	0.0663
Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0663**	**0.0663**	**0.0000**	**0.0000**	**0.0663**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0270	0.0382	6.0000e-005		1.3600e-003	1.3600e-003		1.2500e-003	1.2500e-003	0.0000	5.1080	5.1080	1.6500e-003	0.0000	5.1493
Total	**2.7000e-003**	**0.0270**	**0.0382**	**6.0000e-005**	**0.0000**	**1.3600e-003**	**1.3600e-003**	**0.0000**	**1.2500e-003**	**1.2500e-003**	**0.0000**	**5.1080**	**5.1080**	**1.6500e-003**	**0.0000**	**5.1493**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.1100e-003	2.7000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3283	0.3283	2.0000e-005	0.0000	0.3289
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	2.2000e-004	2.4700e-003	1.0000e-005	7.4000e-004	1.0000e-005	7.4000e-004	2.0000e-004	1.0000e-005	2.0000e-004	0.0000	0.6625	0.6625	2.0000e-005	0.0000	0.6630
Total	**3.1000e-004**	**1.3300e-003**	**2.7400e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.2000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.9908**	**0.9908**	**4.0000e-005**	**0.0000**	**0.9919**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3000e-004	0.0265	0.0441	6.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	5.1080	5.1080	1.6500e-003	0.0000	5.1493
Total	**9.3000e-004**	**0.0265**	**0.0441**	**6.0000e-005**	**0.0000**	**2.6000e-004**	**2.6000e-004**	**0.0000**	**2.6000e-004**	**2.6000e-004**	**0.0000**	**5.1080**	**5.1080**	**1.6500e-003**	**0.0000**	**5.1493**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.1100e-003	2.7000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3283	0.3283	2.0000e-005	0.0000	0.3289
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	2.2000e-004	2.4700e-003	1.0000e-005	7.4000e-004	1.0000e-005	7.4000e-004	2.0000e-004	1.0000e-005	2.0000e-004	0.0000	0.6625	0.6625	2.0000e-005	0.0000	0.6630
Total	**3.1000e-004**	**1.3300e-003**	**2.7400e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.2000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.9908**	**0.9908**	**4.0000e-005**	**0.0000**	**0.9919**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0624	0.5545	0.6210	1.0800e-003		0.0270	0.0270		0.0260	0.0260	0.0000	92.6676	92.6676	0.0184	0.0000	93.1280
Total	**0.0624**	**0.5545**	**0.6210**	**1.0800e-003**		**0.0270**	**0.0270**		**0.0260**	**0.0260**	**0.0000**	**92.6676**	**92.6676**	**0.0184**	**0.0000**	**93.1280**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0318	0.8528	0.2414	3.3300e-003	0.0983	2.8800e-003	0.1012	0.0283	2.7500e-003	0.0311	0.0000	322.9370	322.9370	0.0138	0.0000	323.2824
Worker	4.9000e-004	4.0000e-004	4.4500e-003	1.0000e-005	1.3300e-003	1.0000e-005	1.3400e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1925	1.1925	3.0000e-005	0.0000	1.1934
Total	**0.0323**	**0.8532**	**0.2458**	**3.3400e-003**	**0.0996**	**2.8900e-003**	**0.1025**	**0.0287**	**2.7600e-003**	**0.0314**	**0.0000**	**324.1296**	**324.1296**	**0.0138**	**0.0000**	**324.4758**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0433	0.4933	0.6952	1.0800e-003		0.0165	0.0165		0.0165	0.0165	0.0000	92.6675	92.6675	0.0184	0.0000	93.1279
Total	**0.0433**	**0.4933**	**0.6952**	**1.0800e-003**		**0.0165**	**0.0165**		**0.0165**	**0.0165**	**0.0000**	**92.6675**	**92.6675**	**0.0184**	**0.0000**	**93.1279**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0318	0.8528	0.2414	3.3300e-003	0.0983	2.8800e-003	0.1012	0.0283	2.7500e-003	0.0311	0.0000	322.9370	322.9370	0.0138	0.0000	323.2824
Worker	4.9000e-004	4.0000e-004	4.4500e-003	1.0000e-005	1.3300e-003	1.0000e-005	1.3400e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1925	1.1925	3.0000e-005	0.0000	1.1934
Total	**0.0323**	**0.8532**	**0.2458**	**3.3400e-003**	**0.0996**	**2.8900e-003**	**0.1025**	**0.0287**	**2.7600e-003**	**0.0314**	**0.0000**	**324.1296**	**324.1296**	**0.0138**	**0.0000**	**324.4758**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	6.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3000e-004	2.2900e-003	2.7300e-003	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.3830	0.3830	3.0000e-005	0.0000	0.3837
Total	**9.3000e-004**	**2.2900e-003**	**2.7300e-003**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.3830**	**0.3830**	**3.0000e-005**	**0.0000**	**0.3837**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	6.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3000e-004	2.2900e-003	2.7300e-003	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.3830	0.3830	3.0000e-005	0.0000	0.3836
Total	**9.3000e-004**	**2.2900e-003**	**2.7300e-003**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.3830**	**0.3830**	**3.0000e-005**	**0.0000**	**0.3836**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	18.50	10.10	7.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.4000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.1000e-004
Unmitigated	3.4000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.1000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.1000e-004
Total	**3.5000e-004**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0000**	**1.1000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1000e-004	1.1000e-004	0.0000	0.0000	1.1000e-004
Total	**3.5000e-004**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0000**	**1.1000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Brookview Event Center

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	12.05	1000sqft	2.56	12,046.00	0
Other Asphalt Surfaces	68.90	1000sqft	0.00	68,900.00	0
Single Family Housing	1.00	Dwelling Unit	0.00	3,324.00	3

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - All uses within 2.56 ac. development area. 12,046 sf wedding event center. 3,324 sf caretaker residence. 68,900 sf driveway.

Construction Phase - 3 demo. 6 grad. 300 const. 10 pav. 10 paint

Off-road Equipment -

Off-road Equipment - crane, forklift, generator, welder, pump

Off-road Equipment - saw, dozer, excavator, bobcat

Off-road Equipment - grader, dozer, excavator

Off-road Equipment - mixer, paver, paving, 2 rollers

Off-road Equipment - no site prep

Trips and VMT - 18 cement loads. 30 mile vendor and haul distance

Demolition - 7,509 sf demo

Grading - 3 acres

Vehicle Trips - Adjusted per traffic assessment for 240 person event

Woodstoves - no woodstove

Water And Wastewater -

Construction Off-road Equipment Mitigation - rule 403. Tier 4 equipment

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	220.00	300.00
tblConstructionPhase	NumDays	20.00	3.00
tblConstructionPhase	NumDays	3.00	0.00
tblFireplaces	NumberGas	0.85	0.00
tblFireplaces	NumberWood	0.05	0.00
tblLandUse	LandUseSquareFeet	12,050.00	12,046.00
tblLandUse	LandUseSquareFeet	1,800.00	3,324.00
tblLandUse	LotAcreage	0.28	2.56
tblLandUse	LotAcreage	1.58	0.00
tblLandUse	LotAcreage	0.32	0.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	VendorTripLength	6.90	30.00
tblTripsAndVMT	VendorTripNumber	13.00	49.00
tblVehicleTrips	ST_TR	10.37	17.60
tblVehicleTrips	SU_TR	36.63	17.60
tblVehicleTrips	WD_TR	9.11	17.60

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.6199	27.2822	19.1653	0.0745	6.6641	1.0559	7.5808	3.3971	0.9858	4.2405	0.0000	7,536.8688	7,536.8688	0.6871	0.0000	7,553.5391
2022	15.3954	25.0578	18.7102	0.0739	1.7397	0.7395	2.4792	0.4918	0.7086	1.2005	0.0000	7,480.1334	7,480.1334	0.6533	0.0000	7,496.4657
Maximum	**15.3954**	**27.2822**	**19.1653**	**0.0745**	**6.6641**	**1.0559**	**7.5808**	**3.3971**	**0.9858**	**4.2405**	**0.0000**	**7,536.8688**	**7,536.8688**	**0.6871**	**0.0000**	**7,553.5391**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.6199	27.2822	19.1653	0.0745	3.0603	1.0559	3.9770	1.5450	0.9858	2.3883	0.0000	7,536.8688	7,536.8688	0.6871	0.0000	7,553.5391
2022	15.3954	25.0578	18.7102	0.0739	1.7397	0.7395	2.4792	0.4918	0.7086	1.2005	0.0000	7,480.1334	7,480.1334	0.6533	0.0000	7,496.4657
Maximum	**15.3954**	**27.2822**	**19.1653**	**0.0745**	**3.0603**	**1.0559**	**3.9770**	**1.5450**	**0.9858**	**2.3883**	**0.0000**	**7,536.8688**	**7,536.8688**	**0.6871**	**0.0000**	**7,553.5391**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**42.88**	**0.00**	**35.82**	**47.63**	**0.00**	**34.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4005	5.0300e-003	0.3360	8.0000e-004		0.0405	0.0405		0.0405	0.0405	5.9016	0.1663	6.0679	0.0278	0.0000	6.7624
Energy	8.2000e-003	0.0741	0.0596	4.5000e-004		5.6700e-003	5.6700e-003		5.6700e-003	5.6700e-003		89.4654	89.4654	1.7100e-003	1.6400e-003	89.9970
Mobile	0.3348	1.5130	3.7665	0.0131	1.0339	0.0107	1.0446	0.2767	9.9800e-003	0.2867		1,332.8187	1,332.8187	0.0698		1,334.5641
Total	**0.7435**	**1.5921**	**4.1621**	**0.0143**	**1.0339**	**0.0569**	**1.0907**	**0.2767**	**0.0561**	**0.3328**	**5.9016**	**1,422.4504**	**1,428.3520**	**0.0993**	**1.6400e-003**	**1,431.3235**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4005	5.0300e-003	0.3360	8.0000e-004		0.0405	0.0405		0.0405	0.0405	5.9016	0.1663	6.0679	0.0278	0.0000	6.7624
Energy	8.2000e-003	0.0741	0.0596	4.5000e-004		5.6700e-003	5.6700e-003		5.6700e-003	5.6700e-003		89.4654	89.4654	1.7100e-003	1.6400e-003	89.9970
Mobile	0.3348	1.5130	3.7665	0.0131	1.0339	0.0107	1.0446	0.2767	9.9800e-003	0.2867		1,332.8187	1,332.8187	0.0698		1,334.5641
Total	**0.7435**	**1.5921**	**4.1621**	**0.0143**	**1.0339**	**0.0569**	**1.0907**	**0.2767**	**0.0561**	**0.3328**	**5.9016**	**1,422.4504**	**1,428.3520**	**0.0993**	**1.6400e-003**	**1,431.3235**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/5/2021	7/7/2021	5	3	
2	Site Preparation	Site Preparation	7/8/2021	7/7/2021	5	0	
3	Grading	Grading	7/8/2021	7/15/2021	5	6	
4	Building Construction	Building Construction	7/16/2021	9/8/2022	5	300	
5	Paving	Paving	9/9/2022	9/22/2022	5	10	
6	Architectural Coating	Architectural Coating	9/23/2022	10/6/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 6,731; Residential Outdoor: 2,244; Non-Residential Indoor: 18,069; Non-Residential Outdoor: 6,023; Striped Parking Area: 4,134 (Architectural Coating – sqft)

OffRoad Equipment

Brookview Event Center - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	34.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	34.00	49.00	0.00	14.70	30.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4638	0.0000	2.4638	0.3731	0.0000	0.3731			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**2.4638**	**1.0409**	**3.5047**	**0.3731**	**0.9715**	**1.3445**		**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1328	4.0320	1.0042	0.0127	0.2971	0.0138	0.3109	0.0814	0.0132	0.0946		1,374.1795	1,374.1795	0.0888		1,376.4003
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0557	0.0383	0.5236	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0800e-003	0.0396		148.0401	148.0401	4.3600e-003		148.1491
Total	**0.1885**	**4.0703**	**1.5278**	**0.0142**	**0.4424**	**0.0150**	**0.4574**	**0.1200**	**0.0143**	**0.1343**		**1,522.2196**	**1,522.2196**	**0.0932**		**1,524.5495**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1087	0.0000	1.1087	0.1679	0.0000	0.1679			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**1.1087**	**1.0409**	**2.1496**	**0.1679**	**0.9715**	**1.1393**	**0.0000**	**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1328	4.0320	1.0042	0.0127	0.2971	0.0138	0.3109	0.0814	0.0132	0.0946		1,374.1795	1,374.1795	0.0888		1,376.4003
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0557	0.0383	0.5236	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0800e-003	0.0396		148.0401	148.0401	4.3600e-003		148.1491
Total	**0.1885**	**4.0703**	**1.5278**	**0.0142**	**0.4424**	**0.0150**	**0.4574**	**0.1200**	**0.0143**	**0.1343**		**1,522.2196**	**1,522.2196**	**0.0932**		**1,524.5495**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425		1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**6.5523**	**0.9158**	**7.4681**	**3.3675**	**0.8425**	**4.2100**		**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0429	0.0295	0.4028	1.1400e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		113.8770	113.8770	3.3600e-003		113.9609
Total	**0.0429**	**0.0295**	**0.4028**	**1.1400e-003**	**0.1118**	**9.0000e-004**	**0.1127**	**0.0296**	**8.3000e-004**	**0.0305**		**113.8770**	**113.8770**	**3.3600e-003**		**113.9609**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**2.9486**	**0.9158**	**3.8643**	**1.5154**	**0.8425**	**2.3579**	**0.0000**	**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0429	0.0295	0.4028	1.1400e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		113.8770	113.8770	3.3600e-003		113.9609
Total	**0.0429**	**0.0295**	**0.4028**	**1.1400e-003**	**0.1118**	**9.0000e-004**	**0.1127**	**0.0296**	**8.3000e-004**	**0.0305**		**113.8770**	**113.8770**	**3.3600e-003**		**113.9609**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831		2,288.9355	2,288.9355	0.4503		2,300.1935
Total	**2.0451**	**16.0275**	**14.5629**	**0.0250**		**0.8173**	**0.8173**		**0.7831**	**0.7831**		**2,288.9355**	**2,288.9355**	**0.4503**		**2,300.1935**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4292	11.1545	3.2329	0.0455	1.3596	0.0391	1.3987	0.3910	0.0374	0.4284		4,860.7515	4,860.7515	0.2051		4,865.8786
Worker	0.1457	0.1002	1.3694	3.8900e-003	0.3800	3.0700e-003	0.3831	0.1008	2.8300e-003	0.1036		387.1818	387.1818	0.0114		387.4670
Total	**0.5749**	**11.2547**	**4.6024**	**0.0494**	**1.7397**	**0.0421**	**1.7818**	**0.4918**	**0.0402**	**0.5320**		**5,247.9333**	**5,247.9333**	**0.2165**		**5,253.3455**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831	0.0000	2,288.9355	2,288.9355	0.4503		2,300.1935
Total	**2.0451**	**16.0275**	**14.5629**	**0.0250**		**0.8173**	**0.8173**		**0.7831**	**0.7831**	**0.0000**	**2,288.9355**	**2,288.9355**	**0.4503**		**2,300.1935**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4292	11.1545	3.2329	0.0455	1.3596	0.0391	1.3987	0.3910	0.0374	0.4284		4,860.7515	4,860.7515	0.2051		4,865.8786
Worker	0.1457	0.1002	1.3694	3.8900e-003	0.3800	3.0700e-003	0.3831	0.1008	2.8300e-003	0.1036		387.1818	387.1818	0.0114		387.4670
Total	**0.5749**	**11.2547**	**4.6024**	**0.0494**	**1.7397**	**0.0421**	**1.7818**	**0.4918**	**0.0402**	**0.5320**		**5,247.9333**	**5,247.9333**	**0.2165**		**5,253.3455**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731		2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**		**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4056	10.3633	3.0935	0.0451	1.3597	0.0343	1.3940	0.3910	0.0328	0.4238		4,817.2899	4,817.2899	0.2013		4,822.3228
Worker	0.1365	0.0905	1.2635	3.7500e-003	0.3800	2.9700e-003	0.3830	0.1008	2.7400e-003	0.1035		373.5622	373.5622	0.0103		373.8200
Total	**0.5421**	**10.4538**	**4.3569**	**0.0488**	**1.7397**	**0.0373**	**1.7770**	**0.4918**	**0.0355**	**0.5274**		**5,190.8521**	**5,190.8521**	**0.2116**		**5,196.1427**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731	0.0000	2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**	**0.0000**	**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4056	10.3633	3.0935	0.0451	1.3597	0.0343	1.3940	0.3910	0.0328	0.4238		4,817.2899	4,817.2899	0.2013		4,822.3228
Worker	0.1365	0.0905	1.2635	3.7500e-003	0.3800	2.9700e-003	0.3830	0.1008	2.7400e-003	0.1035		373.5622	373.5622	0.0103		373.8200
Total	**0.5421**	**10.4538**	**4.3569**	**0.0488**	**1.7397**	**0.0373**	**1.7770**	**0.4918**	**0.0355**	**0.5274**		**5,190.8521**	**5,190.8521**	**0.2116**		**5,196.1427**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9412**	**9.3322**	**11.6970**	**0.0179**		**0.4879**	**0.4879**		**0.4500**	**0.4500**		**1,709.6892**	**1,709.6892**	**0.5419**		**1,723.2356**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500	0.0000	1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9412**	**9.3322**	**11.6970**	**0.0179**		**0.4879**	**0.4879**		**0.4500**	**0.4500**	**0.0000**	**1,709.6892**	**1,709.6892**	**0.5419**		**1,723.2356**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.1627					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**15.3673**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0281	0.0186	0.2601	7.7000e-004	0.0782	6.1000e-004	0.0789	0.0208	5.6000e-004	0.0213		76.9099	76.9099	2.1200e-003		76.9629
Total	**0.0281**	**0.0186**	**0.2601**	**7.7000e-004**	**0.0782**	**6.1000e-004**	**0.0789**	**0.0208**	**5.6000e-004**	**0.0213**		**76.9099**	**76.9099**	**2.1200e-003**		**76.9629**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.1627					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**15.3673**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0281	0.0186	0.2601	7.7000e-004	0.0782	6.1000e-004	0.0789	0.0208	5.6000e-004	0.0213		76.9099	76.9099	2.1200e-003		76.9629
Total	**0.0281**	**0.0186**	**0.2601**	**7.7000e-004**	**0.0782**	**6.1000e-004**	**0.0789**	**0.0208**	**5.6000e-004**	**0.0213**		**76.9099**	**76.9099**	**2.1200e-003**		**76.9629**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3348	1.5130	3.7665	0.0131	1.0339	0.0107	1.0446	0.2767	9.9800e-003	0.2867		1,332.8187	1,332.8187	0.0698		1,334.5641
Unmitigated	0.3348	1.5130	3.7665	0.0131	1.0339	0.0107	1.0446	0.2767	9.9800e-003	0.2867		1,332.8187	1,332.8187	0.0698		1,334.5641

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	212.08	212.08	212.08	452,322	452,322
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Total	221.60	221.99	220.70	484,604	484,604

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Place of Worship	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Single Family Housing	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	8.2000e-003	0.0741	0.0596	4.5000e-004		5.6700e-003	5.6700e-003		5.6700e-003	5.6700e-003		89.4654	89.4654	1.7100e-003	1.6400e-003	89.9970
NaturalGas Unmitigated	8.2000e-003	0.0741	0.0596	4.5000e-004		5.6700e-003	5.6700e-003		5.6700e-003	5.6700e-003		89.4654	89.4654	1.7100e-003	1.6400e-003	89.9970

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	689.757	7.4400e-003	0.0676	0.0568	4.1000e-004		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003		81.1479	81.1479	1.5600e-003	1.4900e-003	81.6301
Single Family Housing	70.6984	7.6000e-004	6.5200e-003	2.7700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		8.3175	8.3175	1.6000e-004	1.5000e-004	8.3669
Total		**8.2000e-003**	**0.0741**	**0.0596**	**4.5000e-004**		**5.6700e-003**	**5.6700e-003**		**5.6700e-003**	**5.6700e-003**		**89.4654**	**89.4654**	**1.7200e-003**	**1.6400e-003**	**89.9970**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.689757	7.4400e-003	0.0676	0.0568	4.1000e-004		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003		81.1479	81.1479	1.5600e-003	1.4900e-003	81.6301
Single Family Housing	0.0706984	7.6000e-004	6.5200e-003	2.7700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		8.3175	8.3175	1.6000e-004	1.5000e-004	8.3669
Total		**8.2000e-003**	**0.0741**	**0.0596**	**4.5000e-004**		**5.6700e-003**	**5.6700e-003**		**5.6700e-003**	**5.6700e-003**		**89.4654**	**89.4654**	**1.7200e-003**	**1.6400e-003**	**89.9970**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4005	5.0300e-003	0.3360	8.0000e-004		0.0405	0.0405		0.0405	0.0405	5.9016	0.1663	6.0679	0.0278	0.0000	6.7624
Unmitigated	0.4005	5.0300e-003	0.3360	8.0000e-004		0.0405	0.0405		0.0405	0.0405	5.9016	0.1663	6.0679	0.0278	0.0000	6.7624

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3287					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0270	4.0000e-003	0.2451	8.0000e-004		0.0400	0.0400		0.0400	0.0400	5.9016	0.0000	5.9016	0.0276	0.0000	6.5914
Landscaping	3.2600e-003	1.0300e-003	0.0909	0.0000		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		0.1663	0.1663	1.9000e-004		0.1710
Total	**0.4005**	**5.0300e-003**	**0.3360**	**8.0000e-004**		**0.0405**	**0.0405**		**0.0405**	**0.0405**	**5.9016**	**0.1663**	**6.0679**	**0.0278**	**0.0000**	**6.7624**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3287					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0270	4.0000e-003	0.2451	8.0000e-004		0.0400	0.0400		0.0400	0.0400	5.9016	0.0000	5.9016	0.0276	0.0000	6.5914
Landscaping	3.2600e-003	1.0300e-003	0.0909	0.0000		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		0.1663	0.1663	1.9000e-004		0.1710
Total	**0.4005**	**5.0300e-003**	**0.3360**	**8.0000e-004**		**0.0405**	**0.0405**		**0.0405**	**0.0405**	**5.9016**	**0.1663**	**6.0679**	**0.0278**	**0.0000**	**6.7624**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Brookview Event Center

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	12.05	1000sqft	2.56	12,046.00	0
Other Asphalt Surfaces	68.90	1000sqft	0.00	68,900.00	0
Single Family Housing	1.00	Dwelling Unit	0.00	3,324.00	3

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - All uses within 2.56 ac. development area. 12,046 sf wedding event center. 3,324 sf caretaker residence. 68,900 sf driveway.

Construction Phase - 3 demo. 6 grad. 300 const. 10 pav. 10 paint

Off-road Equipment -

Off-road Equipment - crane, forklift, generator, welder, pump

Off-road Equipment - saw, dozer, excavator, bobcat

Off-road Equipment - grader, dozer, excavator

Off-road Equipment - mixer, paver, paving, 2 rollers

Off-road Equipment - no site prep

Trips and VMT - 18 cement loads. 30 mile vendor and haul distance

Demolition - 7,509 sf demo

Grading - 3 acres

Vehicle Trips - Adjusted per traffic assessment for 240 person event

Woodstoves - no woodstove

Water And Wastewater -

Construction Off-road Equipment Mitigation - rule 403. Tier 4 equipment

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	220.00	300.00
tblConstructionPhase	NumDays	20.00	3.00
tblConstructionPhase	NumDays	3.00	0.00
tblFireplaces	NumberGas	0.85	0.00
tblFireplaces	NumberWood	0.05	0.00
tblLandUse	LandUseSquareFeet	12,050.00	12,046.00
tblLandUse	LandUseSquareFeet	1,800.00	3,324.00
tblLandUse	LotAcreage	0.28	2.56
tblLandUse	LotAcreage	1.58	0.00
tblLandUse	LotAcreage	0.32	0.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	VendorTripLength	6.90	30.00
tblTripsAndVMT	VendorTripNumber	13.00	49.00
tblVehicleTrips	ST_TR	10.37	17.60
tblVehicleTrips	SU_TR	36.63	17.60
tblVehicleTrips	WD_TR	9.11	17.60

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.6471	27.5389	19.1608	0.0739	6.6641	1.0560	7.5808	3.3971	0.9859	4.2405	0.0000	7,477.3304	7,477.3304	0.6892	0.0000	7,494.1090
2022	15.3986	25.2883	18.7083	0.0733	1.7397	0.7397	2.4794	0.4918	0.7089	1.2007	0.0000	7,421.4983	7,421.4983	0.6575	0.0000	7,437.9352
Maximum	**15.3986**	**27.5389**	**19.1608**	**0.0739**	**6.6641**	**1.0560**	**7.5808**	**3.3971**	**0.9859**	**4.2405**	**0.0000**	**7,477.3304**	**7,477.3304**	**0.6892**	**0.0000**	**7,494.1090**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.6471	27.5389	19.1608	0.0739	3.0603	1.0560	3.9770	1.5450	0.9859	2.3883	0.0000	7,477.3304	7,477.3304	0.6892	0.0000	7,494.1090
2022	15.3986	25.2883	18.7083	0.0733	1.7397	0.7397	2.4794	0.4918	0.7089	1.2007	0.0000	7,421.4983	7,421.4983	0.6575	0.0000	7,437.9352
Maximum	**15.3986**	**27.5389**	**19.1608**	**0.0739**	**3.0603**	**1.0560**	**3.9770**	**1.5450**	**0.9859**	**2.3883**	**0.0000**	**7,477.3304**	**7,477.3304**	**0.6892**	**0.0000**	**7,494.1090**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**42.88**	**0.00**	**35.82**	**47.63**	**0.00**	**34.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4005	5.0300e-003	0.3360	8.0000e-004		0.0405	0.0405		0.0405	0.0405	5.9016	0.1663	6.0679	0.0278	0.0000	6.7624
Energy	8.2000e-003	0.0741	0.0596	4.5000e-004		5.6700e-003	5.6700e-003		5.6700e-003	5.6700e-003		89.4654	89.4654	1.7100e-003	1.6400e-003	89.9970
Mobile	0.3246	1.5365	3.6388	0.0124	1.0339	0.0108	1.0446	0.2767	0.0101	0.2867		1,266.9217	1,266.9217	0.0703		1,268.6783
Total	**0.7334**	**1.6156**	**4.0343**	**0.0137**	**1.0339**	**0.0569**	**1.0908**	**0.2767**	**0.0562**	**0.3329**	**5.9016**	**1,356.5533**	**1,362.4550**	**0.0998**	**1.6400e-003**	**1,365.4377**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4005	5.0300e-003	0.3360	8.0000e-004		0.0405	0.0405		0.0405	0.0405	5.9016	0.1663	6.0679	0.0278	0.0000	6.7624
Energy	8.2000e-003	0.0741	0.0596	4.5000e-004		5.6700e-003	5.6700e-003		5.6700e-003	5.6700e-003		89.4654	89.4654	1.7100e-003	1.6400e-003	89.9970
Mobile	0.3246	1.5365	3.6388	0.0124	1.0339	0.0108	1.0446	0.2767	0.0101	0.2867		1,266.9217	1,266.9217	0.0703		1,268.6783
Total	**0.7334**	**1.6156**	**4.0343**	**0.0137**	**1.0339**	**0.0569**	**1.0908**	**0.2767**	**0.0562**	**0.3329**	**5.9016**	**1,356.5533**	**1,362.4550**	**0.0998**	**1.6400e-003**	**1,365.4377**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/5/2021	7/7/2021	5	3	
2	Site Preparation	Site Preparation	7/8/2021	7/7/2021	5	0	
3	Grading	Grading	7/8/2021	7/15/2021	5	6	
4	Building Construction	Building Construction	7/16/2021	9/8/2022	5	300	
5	Paving	Paving	9/9/2022	9/22/2022	5	10	
6	Architectural Coating	Architectural Coating	9/23/2022	10/6/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 6,731; Residential Outdoor: 2,244; Non-Residential Indoor: 18,069; Non-Residential Outdoor: 6,023; Striped Parking Area: 4,134 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	34.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	34.00	49.00	0.00	14.70	30.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4638	0.0000	2.4638	0.3731	0.0000	0.3731			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**2.4638**	**1.0409**	**3.5047**	**0.3731**	**0.9715**	**1.3445**		**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1350	4.1081	1.0452	0.0125	0.2971	0.0139	0.3111	0.0814	0.0133	0.0948		1,357.5613	1,357.5613	0.0911		1,359.8392
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0620	0.0424	0.4787	1.4000e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0800e-003	0.0396		139.3926	139.3926	4.1000e-003		139.4952
Total	**0.1970**	**4.1505**	**1.5239**	**0.0139**	**0.4424**	**0.0151**	**0.4576**	**0.1200**	**0.0144**	**0.1344**		**1,496.9539**	**1,496.9539**	**0.0952**		**1,499.3344**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1087	0.0000	1.1087	0.1679	0.0000	0.1679			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**1.1087**	**1.0409**	**2.1496**	**0.1679**	**0.9715**	**1.1393**	**0.0000**	**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1350	4.1081	1.0452	0.0125	0.2971	0.0139	0.3111	0.0814	0.0133	0.0948		1,357.5613	1,357.5613	0.0911		1,359.8392
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0620	0.0424	0.4787	1.4000e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0800e-003	0.0396		139.3926	139.3926	4.1000e-003		139.4952
Total	**0.1970**	**4.1505**	**1.5239**	**0.0139**	**0.4424**	**0.0151**	**0.4576**	**0.1200**	**0.0144**	**0.1344**		**1,496.9539**	**1,496.9539**	**0.0952**		**1,499.3344**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425		1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**6.5523**	**0.9158**	**7.4681**	**3.3675**	**0.8425**	**4.2100**		**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0477	0.0326	0.3683	1.0800e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		107.2251	107.2251	3.1600e-003		107.3040
Total	**0.0477**	**0.0326**	**0.3683**	**1.0800e-003**	**0.1118**	**9.0000e-004**	**0.1127**	**0.0296**	**8.3000e-004**	**0.0305**		**107.2251**	**107.2251**	**3.1600e-003**		**107.3040**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**2.9486**	**0.9158**	**3.8643**	**1.5154**	**0.8425**	**2.3579**	**0.0000**	**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0477	0.0326	0.3683	1.0800e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		107.2251	107.2251	3.1600e-003		107.3040
Total	**0.0477**	**0.0326**	**0.3683**	**1.0800e-003**	**0.1118**	**9.0000e-004**	**0.1127**	**0.0296**	**8.3000e-004**	**0.0305**		**107.2251**	**107.2251**	**3.1600e-003**		**107.3040**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831		2,288.9355	2,288.9355	0.4503		2,300.1935
Total	**2.0451**	**16.0275**	**14.5629**	**0.0250**		**0.8173**	**0.8173**		**0.7831**	**0.7831**		**2,288.9355**	**2,288.9355**	**0.4503**		**2,300.1935**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4400	11.4005	3.3458	0.0452	1.3596	0.0394	1.3990	0.3910	0.0377	0.4287		4,823.8295	4,823.8295	0.2101		4,829.0819
Worker	0.1621	0.1109	1.2521	3.6600e-003	0.3800	3.0700e-003	0.3831	0.1008	2.8300e-003	0.1036		364.5654	364.5654	0.0107		364.8336
Total	**0.6021**	**11.5114**	**4.5979**	**0.0489**	**1.7397**	**0.0424**	**1.7821**	**0.4918**	**0.0405**	**0.5323**		**5,188.3949**	**5,188.3949**	**0.2208**		**5,193.9154**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831	0.0000	2,288.9355	2,288.9355	0.4503		2,300.1935
Total	**2.0451**	**16.0275**	**14.5629**	**0.0250**		**0.8173**	**0.8173**		**0.7831**	**0.7831**	**0.0000**	**2,288.9355**	**2,288.9355**	**0.4503**		**2,300.1935**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4400	11.4005	3.3458	0.0452	1.3596	0.0394	1.3990	0.3910	0.0377	0.4287		4,823.8295	4,823.8295	0.2101		4,829.0819
Worker	0.1621	0.1109	1.2521	3.6600e-003	0.3800	3.0700e-003	0.3831	0.1008	2.8300e-003	0.1036		364.5654	364.5654	0.0107		364.8336
Total	**0.6021**	**11.5114**	**4.5979**	**0.0489**	**1.7397**	**0.0424**	**1.7821**	**0.4918**	**0.0405**	**0.5323**		**5,188.3949**	**5,188.3949**	**0.2208**		**5,193.9154**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731		2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**		**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4159	10.5842	3.2019	0.0448	1.3597	0.0346	1.3942	0.3910	0.0331	0.4241		4,780.4634	4,780.4634	0.2061		4,785.6165
Worker	0.1523	0.1001	1.1532	3.5300e-003	0.3800	2.9700e-003	0.3830	0.1008	2.7400e-003	0.1035		351.7536	351.7536	9.6900e-003		351.9958
Total	**0.5681**	**10.6843**	**4.3551**	**0.0483**	**1.7397**	**0.0375**	**1.7772**	**0.4918**	**0.0358**	**0.5276**		**5,132.2171**	**5,132.2171**	**0.2158**		**5,137.6122**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731	0.0000	2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**	**0.0000**	**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4159	10.5842	3.2019	0.0448	1.3597	0.0346	1.3942	0.3910	0.0331	0.4241		4,780.4634	4,780.4634	0.2061		4,785.6165
Worker	0.1523	0.1001	1.1532	3.5300e-003	0.3800	2.9700e-003	0.3830	0.1008	2.7400e-003	0.1035		351.7536	351.7536	9.6900e-003		351.9958
Total	**0.5681**	**10.6843**	**4.3551**	**0.0483**	**1.7397**	**0.0375**	**1.7772**	**0.4918**	**0.0358**	**0.5276**		**5,132.2171**	**5,132.2171**	**0.2158**		**5,137.6122**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9412**	**9.3322**	**11.6970**	**0.0179**		**0.4879**	**0.4879**		**0.4500**	**0.4500**		**1,709.6892**	**1,709.6892**	**0.5419**		**1,723.2356**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500	0.0000	1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9412**	**9.3322**	**11.6970**	**0.0179**		**0.4879**	**0.4879**		**0.4500**	**0.4500**	**0.0000**	**1,709.6892**	**1,709.6892**	**0.5419**		**1,723.2356**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.1627					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**15.3673**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0314	0.0206	0.2374	7.3000e-004	0.0782	6.1000e-004	0.0789	0.0208	5.6000e-004	0.0213		72.4199	72.4199	1.9900e-003		72.4697
Total	**0.0314**	**0.0206**	**0.2374**	**7.3000e-004**	**0.0782**	**6.1000e-004**	**0.0789**	**0.0208**	**5.6000e-004**	**0.0213**		**72.4199**	**72.4199**	**1.9900e-003**		**72.4697**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.1627					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**15.3673**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0314	0.0206	0.2374	7.3000e-004	0.0782	6.1000e-004	0.0789	0.0208	5.6000e-004	0.0213		72.4199	72.4199	1.9900e-003		72.4697
Total	**0.0314**	**0.0206**	**0.2374**	**7.3000e-004**	**0.0782**	**6.1000e-004**	**0.0789**	**0.0208**	**5.6000e-004**	**0.0213**		**72.4199**	**72.4199**	**1.9900e-003**		**72.4697**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3246	1.5365	3.6388	0.0124	1.0339	0.0108	1.0446	0.2767	0.0101	0.2867		1,266.9217	1,266.9217	0.0703		1,268.6783
Unmitigated	0.3246	1.5365	3.6388	0.0124	1.0339	0.0108	1.0446	0.2767	0.0101	0.2867		1,266.9217	1,266.9217	0.0703		1,268.6783

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	212.08	212.08	212.08	452,322	452,322
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Total	221.60	221.99	220.70	484,604	484,604

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Place of Worship	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Single Family Housing	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	8.2000e-003	0.0741	0.0596	4.5000e-004		5.6700e-003	5.6700e-003		5.6700e-003	5.6700e-003		89.4654	89.4654	1.7100e-003	1.6400e-003	89.9970
NaturalGas Unmitigated	8.2000e-003	0.0741	0.0596	4.5000e-004		5.6700e-003	5.6700e-003		5.6700e-003	5.6700e-003		89.4654	89.4654	1.7100e-003	1.6400e-003	89.9970

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	689.757	7.4400e-003	0.0676	0.0568	4.1000e-004		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003		81.1479	81.1479	1.5600e-003	1.4900e-003	81.6301
Single Family Housing	70.6984	7.6000e-004	6.5200e-003	2.7700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		8.3175	8.3175	1.6000e-004	1.5000e-004	8.3669
Total		**8.2000e-003**	**0.0741**	**0.0596**	**4.5000e-004**		**5.6700e-003**	**5.6700e-003**		**5.6700e-003**	**5.6700e-003**		**89.4654**	**89.4654**	**1.7200e-003**	**1.6400e-003**	**89.9970**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.689757	7.4400e-003	0.0676	0.0568	4.1000e-004		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003		81.1479	81.1479	1.5600e-003	1.4900e-003	81.6301
Single Family Housing	0.0706984	7.6000e-004	6.5200e-003	2.7700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004		8.3175	8.3175	1.6000e-004	1.5000e-004	8.3669
Total		**8.2000e-003**	**0.0741**	**0.0596**	**4.5000e-004**		**5.6700e-003**	**5.6700e-003**		**5.6700e-003**	**5.6700e-003**		**89.4654**	**89.4654**	**1.7200e-003**	**1.6400e-003**	**89.9970**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4005	5.0300e-003	0.3360	8.0000e-004		0.0405	0.0405		0.0405	0.0405	5.9016	0.1663	6.0679	0.0278	0.0000	6.7624
Unmitigated	0.4005	5.0300e-003	0.3360	8.0000e-004		0.0405	0.0405		0.0405	0.0405	5.9016	0.1663	6.0679	0.0278	0.0000	6.7624

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3287					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0270	4.0000e-003	0.2451	8.0000e-004		0.0400	0.0400		0.0400	0.0400	5.9016	0.0000	5.9016	0.0276	0.0000	6.5914
Landscaping	3.2600e-003	1.0300e-003	0.0909	0.0000		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		0.1663	0.1663	1.9000e-004		0.1710
Total	**0.4005**	**5.0300e-003**	**0.3360**	**8.0000e-004**		**0.0405**	**0.0405**		**0.0405**	**0.0405**	**5.9016**	**0.1663**	**6.0679**	**0.0278**	**0.0000**	**6.7624**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3287					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0270	4.0000e-003	0.2451	8.0000e-004		0.0400	0.0400		0.0400	0.0400	5.9016	0.0000	5.9016	0.0276	0.0000	6.5914
Landscaping	3.2600e-003	1.0300e-003	0.0909	0.0000		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004		0.1663	0.1663	1.9000e-004		0.1710
Total	**0.4005**	**5.0300e-003**	**0.3360**	**8.0000e-004**		**0.0405**	**0.0405**		**0.0405**	**0.0405**	**5.9016**	**0.1663**	**6.0679**	**0.0278**	**0.0000**	**6.7624**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Brookview Event Center

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	12.05	1000sqft	2.56	12,046.00	0
Other Asphalt Surfaces	68.90	1000sqft	0.00	68,900.00	0
Single Family Housing	1.00	Dwelling Unit	0.00	3,324.00	3

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - All uses within 2.56 ac. development area. 12,046 sf wedding event center. 3,324 sf caretaker residence. 68,900 sf driveway.

Construction Phase - 3 demo. 6 grad. 300 const. 10 pav. 10 paint

Off-road Equipment -

Off-road Equipment - crane, forklift, generator, welder, pump

Off-road Equipment - saw, dozer, excavator, bobcat

Off-road Equipment - grader, dozer, excavator

Off-road Equipment - mixer, paver, paving, 2 rollers

Off-road Equipment - no site prep

Trips and VMT - 18 cement loads. 30 mile vendor and haul distance

Demolition - 7,509 sf demo

Grading - 3 acres

Vehicle Trips - Adjusted per traffic assessment for 240 person event

Woodstoves - no woodstove

Water And Wastewater -

Construction Off-road Equipment Mitigation - rule 403. Tier 4 equipment

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	220.00	300.00
tblConstructionPhase	NumDays	20.00	3.00
tblConstructionPhase	NumDays	3.00	0.00
tblFireplaces	NumberGas	0.85	0.00
tblFireplaces	NumberWood	0.05	0.00
tblLandUse	LandUseSquareFeet	12,050.00	12,046.00
tblLandUse	LandUseSquareFeet	1,800.00	3,324.00
tblLandUse	LotAcreage	0.28	2.56
tblLandUse	LotAcreage	1.58	0.00
tblLandUse	LotAcreage	0.32	0.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	VendorTripLength	6.90	30.00
tblTripsAndVMT	VendorTripNumber	13.00	49.00
tblVehicleTrips	ST_TR	10.37	17.60
tblVehicleTrips	SU_TR	36.63	17.60
tblVehicleTrips	WD_TR	9.11	17.60

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1677	1.7755	1.2120	4.6100e-003	0.1278	0.0563	0.1841	0.0402	0.0538	0.0941	0.0000	422.8410	422.8410	0.0394	0.0000	423.8258
2022	0.2970	2.3347	1.7434	6.7000e-003	0.1543	0.0691	0.2233	0.0437	0.0661	0.1098	0.0000	614.8644	614.8644	0.0557	0.0000	616.2580
Maximum	**0.2970**	**2.3347**	**1.7434**	**6.7000e-003**	**0.1543**	**0.0691**	**0.2233**	**0.0437**	**0.0661**	**0.1098**	**0.0000**	**614.8644**	**614.8644**	**0.0557**	**0.0000**	**616.2580**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1677	1.7755	1.2120	4.6100e-003	0.1150	0.0563	0.1713	0.0344	0.0538	0.0882	0.0000	422.8409	422.8409	0.0394	0.0000	423.8256
2022	0.2970	2.3347	1.7434	6.7000e-003	0.1543	0.0691	0.2233	0.0437	0.0661	0.1098	0.0000	614.8642	614.8642	0.0557	0.0000	616.2578
Maximum	**0.2970**	**2.3347**	**1.7434**	**6.7000e-003**	**0.1543**	**0.0691**	**0.2233**	**0.0437**	**0.0661**	**0.1098**	**0.0000**	**614.8642**	**614.8642**	**0.0557**	**0.0000**	**616.2578**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**4.55**	**0.00**	**3.15**	**6.98**	**0.00**	**2.88**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-5-2021	10-4-2021	0.9564	0.9564
2	10-5-2021	1-4-2022	0.9883	0.9883
3	1-5-2022	4-4-2022	0.8904	0.8904
4	4-5-2022	7-4-2022	0.8923	0.8923
5	7-5-2022	9-30-2022	0.7471	0.7471
		Highest	0.9883	0.9883

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0683	1.8000e-004	0.0144	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0669	0.0189	0.0858	3.3000e-004	0.0000	0.0941
Energy	1.5000e-003	0.0135	0.0109	8.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	49.7989	49.7989	1.7300e-003	5.7000e-004	50.0121
Mobile	0.0573	0.2839	0.6666	2.2900e-003	0.1839	1.9500e-003	0.1859	0.0493	1.8100e-003	0.0511	0.0000	211.6976	211.6976	0.0115	0.0000	211.9845
Waste						0.0000	0.0000		0.0000	0.0000	14.1931	0.0000	14.1931	0.8388	0.0000	35.1629
Water						0.0000	0.0000		0.0000	0.0000	0.1403	4.0675	4.2077	0.0146	3.7000e-004	4.6839
Total	**0.1271**	**0.2976**	**0.6919**	**2.3800e-003**	**0.1839**	**3.5400e-003**	**0.1875**	**0.0493**	**3.4000e-003**	**0.0527**	**14.4003**	**265.5828**	**279.9832**	**0.8669**	**9.4000e-004**	**301.9375**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0683	1.8000e-004	0.0144	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0669	0.0189	0.0858	3.3000e-004	0.0000	0.0941
Energy	1.5000e-003	0.0135	0.0109	8.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	49.7989	49.7989	1.7300e-003	5.7000e-004	50.0121
Mobile	0.0573	0.2839	0.6666	2.2900e-003	0.1839	1.9500e-003	0.1859	0.0493	1.8100e-003	0.0511	0.0000	211.6976	211.6976	0.0115	0.0000	211.9845
Waste						0.0000	0.0000		0.0000	0.0000	14.1931	0.0000	14.1931	0.8388	0.0000	35.1629
Water						0.0000	0.0000		0.0000	0.0000	0.1403	4.0675	4.2077	0.0146	3.7000e-004	4.6839
Total	**0.1271**	**0.2976**	**0.6919**	**2.3800e-003**	**0.1839**	**3.5400e-003**	**0.1875**	**0.0493**	**3.4000e-003**	**0.0527**	**14.4003**	**265.5828**	**279.9832**	**0.8669**	**9.4000e-004**	**301.9375**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/5/2021	7/7/2021	5	3	
2	Site Preparation	Site Preparation	7/8/2021	7/7/2021	5	0	
3	Grading	Grading	7/8/2021	7/15/2021	5	6	
4	Building Construction	Building Construction	7/16/2021	9/8/2022	5	300	
5	Paving	Paving	9/9/2022	9/22/2022	5	10	
6	Architectural Coating	Architectural Coating	9/23/2022	10/6/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 6,731; Residential Outdoor: 2,244; Non-Residential Indoor: 18,069; Non-Residential Outdoor: 6,023; Striped Parking Area: 4,134 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	34.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	34.00	49.00	0.00	14.70	30.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.7000e-003	0.0000	3.7000e-003	5.6000e-004	0.0000	5.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0295	0.0217	4.0000e-005		1.5600e-003	1.5600e-003		1.4600e-003	1.4600e-003	0.0000	3.1607	3.1607	8.1000e-004	0.0000	3.1809
Total	**2.9900e-003**	**0.0295**	**0.0217**	**4.0000e-005**	**3.7000e-003**	**1.5600e-003**	**5.2600e-003**	**5.6000e-004**	**1.4600e-003**	**2.0200e-003**	**0.0000**	**3.1607**	**3.1607**	**8.1000e-004**	**0.0000**	**3.1809**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-004	6.2800e-003	1.5300e-003	2.0000e-005	4.4000e-004	2.0000e-005	4.6000e-004	1.2000e-004	2.0000e-005	1.4000e-004	0.0000	1.8605	1.8605	1.2000e-004	0.0000	1.8635
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	7.0000e-005	7.4000e-004	0.0000	2.1000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1928	0.1928	1.0000e-005	0.0000	0.1930
Total	**2.8000e-004**	**6.3500e-003**	**2.2700e-003**	**2.0000e-005**	**6.5000e-004**	**2.0000e-005**	**6.8000e-004**	**1.8000e-004**	**2.0000e-005**	**2.0000e-004**	**0.0000**	**2.0533**	**2.0533**	**1.3000e-004**	**0.0000**	**2.0565**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.6600e-003	0.0000	1.6600e-003	2.5000e-004	0.0000	2.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0295	0.0217	4.0000e-005		1.5600e-003	1.5600e-003		1.4600e-003	1.4600e-003	0.0000	3.1607	3.1607	8.1000e-004	0.0000	3.1809
Total	**2.9900e-003**	**0.0295**	**0.0217**	**4.0000e-005**	**1.6600e-003**	**1.5600e-003**	**3.2200e-003**	**2.5000e-004**	**1.4600e-003**	**1.7100e-003**	**0.0000**	**3.1607**	**3.1607**	**8.1000e-004**	**0.0000**	**3.1809**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-004	6.2800e-003	1.5300e-003	2.0000e-005	4.4000e-004	2.0000e-005	4.6000e-004	1.2000e-004	2.0000e-005	1.4000e-004	0.0000	1.8605	1.8605	1.2000e-004	0.0000	1.8635
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	7.0000e-005	7.4000e-004	0.0000	2.1000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1928	0.1928	1.0000e-005	0.0000	0.1930
Total	**2.8000e-004**	**6.3500e-003**	**2.2700e-003**	**2.0000e-005**	**6.5000e-004**	**2.0000e-005**	**6.8000e-004**	**1.8000e-004**	**2.0000e-005**	**2.0000e-004**	**0.0000**	**2.0533**	**2.0533**	**1.3000e-004**	**0.0000**	**2.0565**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4800e-003	0.0606	0.0293	6.0000e-005		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	**5.4800e-003**	**0.0606**	**0.0293**	**6.0000e-005**	**0.0197**	**2.7500e-003**	**0.0224**	**0.0101**	**2.5300e-003**	**0.0126**	**0.0000**	**5.4312**	**5.4312**	**1.7600e-003**	**0.0000**	**5.4751**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.0000e-004	1.1300e-003	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2967	0.2967	1.0000e-005	0.0000	0.2969
Total	**1.3000e-004**	**1.0000e-004**	**1.1300e-003**	**0.0000**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2967**	**0.2967**	**1.0000e-005**	**0.0000**	**0.2969**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.8500e-003	0.0000	8.8500e-003	4.5500e-003	0.0000	4.5500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4800e-003	0.0606	0.0293	6.0000e-005		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	**5.4800e-003**	**0.0606**	**0.0293**	**6.0000e-005**	**8.8500e-003**	**2.7500e-003**	**0.0116**	**4.5500e-003**	**2.5300e-003**	**7.0800e-003**	**0.0000**	**5.4312**	**5.4312**	**1.7600e-003**	**0.0000**	**5.4751**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.0000e-004	1.1300e-003	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2967	0.2967	1.0000e-005	0.0000	0.2969
Total	**1.3000e-004**	**1.0000e-004**	**1.1300e-003**	**0.0000**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2967**	**0.2967**	**1.0000e-005**	**0.0000**	**0.2969**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1237	0.9697	0.8811	1.5100e-003		0.0494	0.0494		0.0474	0.0474	0.0000	125.6275	125.6275	0.0247	0.0000	126.2454
Total	**0.1237**	**0.9697**	**0.8811**	**1.5100e-003**		**0.0494**	**0.0494**		**0.0474**	**0.0474**	**0.0000**	**125.6275**	**125.6275**	**0.0247**	**0.0000**	**126.2454**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0262	0.7023	0.1988	2.7500e-003	0.0809	2.3700e-003	0.0833	0.0233	2.2700e-003	0.0256	0.0000	265.9297	265.9297	0.0114	0.0000	266.2140
Worker	8.8500e-003	6.8900e-003	0.0778	2.3000e-004	0.0225	1.9000e-004	0.0227	5.9900e-003	1.7000e-004	6.1600e-003	0.0000	20.3420	20.3420	6.0000e-004	0.0000	20.3570
Total	**0.0351**	**0.7092**	**0.2765**	**2.9800e-003**	**0.1035**	**2.5600e-003**	**0.1060**	**0.0293**	**2.4400e-003**	**0.0318**	**0.0000**	**286.2717**	**286.2717**	**0.0120**	**0.0000**	**286.5710**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1237	0.9697	0.8811	1.5100e-003		0.0494	0.0494		0.0474	0.0474	0.0000	125.6273	125.6273	0.0247	0.0000	126.2452
Total	**0.1237**	**0.9697**	**0.8811**	**1.5100e-003**		**0.0494**	**0.0494**		**0.0474**	**0.0474**	**0.0000**	**125.6273**	**125.6273**	**0.0247**	**0.0000**	**126.2452**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0262	0.7023	0.1988	2.7500e-003	0.0809	2.3700e-003	0.0833	0.0233	2.2700e-003	0.0256	0.0000	265.9297	265.9297	0.0114	0.0000	266.2140
Worker	8.8500e-003	6.8900e-003	0.0778	2.3000e-004	0.0225	1.9000e-004	0.0227	5.9900e-003	1.7000e-004	6.1600e-003	0.0000	20.3420	20.3420	6.0000e-004	0.0000	20.3570
Total	**0.0351**	**0.7092**	**0.2765**	**2.9800e-003**	**0.1035**	**2.5600e-003**	**0.1060**	**0.0293**	**2.4400e-003**	**0.0318**	**0.0000**	**286.2717**	**286.2717**	**0.0120**	**0.0000**	**286.5710**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1661	1.3071	1.2846	2.2400e-003		0.0629	0.0629		0.0602	0.0602	0.0000	185.8737	185.8737	0.0359	0.0000	186.7702
Total	**0.1661**	**1.3071**	**1.2846**	**2.2400e-003**		**0.0629**	**0.0629**		**0.0602**	**0.0602**	**0.0000**	**185.8737**	**185.8737**	**0.0359**	**0.0000**	**186.7702**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0366	0.9644	0.2814	4.0200e-003	0.1197	3.0800e-003	0.1228	0.0345	2.9500e-003	0.0375	0.0000	389.8746	389.8746	0.0165	0.0000	390.2874
Worker	0.0123	9.2100e-003	0.1060	3.2000e-004	0.0334	2.7000e-004	0.0336	8.8600e-003	2.5000e-004	9.1000e-003	0.0000	29.0349	29.0349	8.0000e-004	0.0000	29.0549
Total	**0.0489**	**0.9736**	**0.3874**	**4.3400e-003**	**0.1531**	**3.3500e-003**	**0.1564**	**0.0434**	**3.2000e-003**	**0.0466**	**0.0000**	**418.9095**	**418.9095**	**0.0173**	**0.0000**	**419.3424**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1661	1.3071	1.2846	2.2400e-003		0.0629	0.0629		0.0602	0.0602	0.0000	185.8735	185.8735	0.0359	0.0000	186.7700
Total	**0.1661**	**1.3071**	**1.2846**	**2.2400e-003**		**0.0629**	**0.0629**		**0.0602**	**0.0602**	**0.0000**	**185.8735**	**185.8735**	**0.0359**	**0.0000**	**186.7700**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0366	0.9644	0.2814	4.0200e-003	0.1197	3.0800e-003	0.1228	0.0345	2.9500e-003	0.0375	0.0000	389.8746	389.8746	0.0165	0.0000	390.2874
Worker	0.0123	9.2100e-003	0.1060	3.2000e-004	0.0334	2.7000e-004	0.0336	8.8600e-003	2.5000e-004	9.1000e-003	0.0000	29.0349	29.0349	8.0000e-004	0.0000	29.0549
Total	**0.0489**	**0.9736**	**0.3874**	**4.3400e-003**	**0.1531**	**3.3500e-003**	**0.1564**	**0.0434**	**3.2000e-003**	**0.0466**	**0.0000**	**418.9095**	**418.9095**	**0.0173**	**0.0000**	**419.3424**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7100e-003	0.0467	0.0585	9.0000e-005		2.4400e-003	2.4400e-003		2.2500e-003	2.2500e-003	0.0000	7.7550	7.7550	2.4600e-003	0.0000	7.8165
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.7100e-003**	**0.0467**	**0.0585**	**9.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**7.7550**	**7.7550**	**2.4600e-003**	**0.0000**	**7.8165**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.3000e-004	2.6100e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7156	0.7156	2.0000e-005	0.0000	0.7161
Total	**3.0000e-004**	**2.3000e-004**	**2.6100e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.7156**	**0.7156**	**2.0000e-005**	**0.0000**	**0.7161**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7100e-003	0.0467	0.0585	9.0000e-005		2.4400e-003	2.4400e-003		2.2500e-003	2.2500e-003	0.0000	7.7550	7.7550	2.4600e-003	0.0000	7.8165
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.7100e-003**	**0.0467**	**0.0585**	**9.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**7.7550**	**7.7550**	**2.4600e-003**	**0.0000**	**7.8165**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.3000e-004	2.6100e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7156	0.7156	2.0000e-005	0.0000	0.7161
Total	**3.0000e-004**	**2.3000e-004**	**2.6100e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.7156**	**0.7156**	**2.0000e-005**	**0.0000**	**0.7161**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0758					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.0768**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.1000e-004	1.2200e-003	0.0000	3.8000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3340	0.3340	1.0000e-005	0.0000	0.3342
Total	**1.4000e-004**	**1.1000e-004**	**1.2200e-003**	**0.0000**	**3.8000e-004**	**0.0000**	**3.9000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3340**	**0.3340**	**1.0000e-005**	**0.0000**	**0.3342**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0758					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.0768**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.1000e-004	1.2200e-003	0.0000	3.8000e-004	0.0000	3.9000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3340	0.3340	1.0000e-005	0.0000	0.3342
Total	**1.4000e-004**	**1.1000e-004**	**1.2200e-003**	**0.0000**	**3.8000e-004**	**0.0000**	**3.9000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3340**	**0.3340**	**1.0000e-005**	**0.0000**	**0.3342**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0573	0.2839	0.6666	2.2900e-003	0.1839	1.9500e-003	0.1859	0.0493	1.8100e-003	0.0511	0.0000	211.6976	211.6976	0.0115	0.0000	211.9845
Unmitigated	0.0573	0.2839	0.6666	2.2900e-003	0.1839	1.9500e-003	0.1859	0.0493	1.8100e-003	0.0511	0.0000	211.6976	211.6976	0.0115	0.0000	211.9845

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	212.08	212.08	212.08	452,322	452,322
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Total	221.60	221.99	220.70	484,604	484,604

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Place of Worship	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Single Family Housing	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	34.9869	34.9869	1.4400e-003	3.0000e-004	35.1121
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	34.9869	34.9869	1.4400e-003	3.0000e-004	35.1121
NaturalGas Mitigated	1.5000e-003	0.0135	0.0109	8.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	14.8120	14.8120	2.8000e-004	2.7000e-004	14.9000
NaturalGas Unmitigated	1.5000e-003	0.0135	0.0109	8.0000e-005		1.0300e-003	1.0300e-003		1.0300e-003	1.0300e-003	0.0000	14.8120	14.8120	2.8000e-004	2.7000e-004	14.9000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	251761	1.3600e-003	0.0123	0.0104	7.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.4350	13.4350	2.6000e-004	2.5000e-004	13.5148
Single Family Housing	25804.9	1.4000e-004	1.1900e-003	5.1000e-004	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.3771	1.3771	3.0000e-005	3.0000e-005	1.3852
Total		**1.5000e-003**	**0.0135**	**0.0109**	**8.0000e-005**		**1.0400e-003**	**1.0400e-003**		**1.0400e-003**	**1.0400e-003**	**0.0000**	**14.8120**	**14.8120**	**2.9000e-004**	**2.8000e-004**	**14.9000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	251761	1.3600e-003	0.0123	0.0104	7.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.4350	13.4350	2.6000e-004	2.5000e-004	13.5148
Single Family Housing	25804.9	1.4000e-004	1.1900e-003	5.1000e-004	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.3771	1.3771	3.0000e-005	3.0000e-005	1.3852
Total		**1.5000e-003**	**0.0135**	**0.0109**	**8.0000e-005**		**1.0400e-003**	**1.0400e-003**		**1.0400e-003**	**1.0400e-003**	**0.0000**	**14.8120**	**14.8120**	**2.9000e-004**	**2.8000e-004**	**14.9000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	101789	32.4321	1.3400e-003	2.8000e-004	32.5481
Single Family Housing	8018.54	2.5549	1.1000e-004	2.0000e-005	2.5640
Total		**34.9869**	**1.4500e-003**	**3.0000e-004**	**35.1121**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	101789	32.4321	1.3400e-003	2.8000e-004	32.5481
Single Family Housing	8018.54	2.5549	1.1000e-004	2.0000e-005	2.5640
Total		**34.9869**	**1.4500e-003**	**3.0000e-004**	**35.1121**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0683	1.8000e-004	0.0144	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0669	0.0189	0.0858	3.3000e-004	0.0000	0.0941
Unmitigated	0.0683	1.8000e-004	0.0144	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0669	0.0189	0.0858	3.3000e-004	0.0000	0.0941

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.5800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0600					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	5.0000e-005	3.0600e-003	1.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0669	0.0000	0.0669	3.1000e-004	0.0000	0.0747
Landscaping	4.1000e-004	1.3000e-004	0.0114	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0189	0.0189	2.0000e-005	0.0000	0.0194
Total	**0.0683**	**1.8000e-004**	**0.0144**	**1.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0669**	**0.0189**	**0.0858**	**3.3000e-004**	**0.0000**	**0.0941**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.5800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0600					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	5.0000e-005	3.0600e-003	1.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0669	0.0000	0.0669	3.1000e-004	0.0000	0.0747
Landscaping	4.1000e-004	1.3000e-004	0.0114	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0189	0.0189	2.0000e-005	0.0000	0.0194
Total	**0.0683**	**1.8000e-004**	**0.0144**	**1.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0669**	**0.0189**	**0.0858**	**3.3000e-004**	**0.0000**	**0.0941**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.2077	0.0146	3.7000e-004	4.6839
Unmitigated	4.2077	0.0146	3.7000e-004	4.6839

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.377031 / 0.589716	3.7714	0.0124	3.2000e-004	4.1780
Single Family Housing	0.065154 / 0.0410754	0.4364	2.1400e-003	5.0000e-005	0.5059
Total		**4.2077**	**0.0146**	**3.7000e-004**	**4.6839**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.377031 / 0.589716	3.7714	0.0124	3.2000e-004	4.1780
Single Family Housing	0.065154 / 0.0410754	0.4364	2.1400e-003	5.0000e-005	0.5059
Total		**4.2077**	**0.0146**	**3.7000e-004**	**4.6839**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	14.1931	0.8388	0.0000	35.1629
Unmitigated	14.1931	0.8388	0.0000	35.1629

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	68.69	13.9435	0.8240	0.0000	34.5443
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Total		**14.1931**	**0.8388**	**0.0000**	**35.1629**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	68.69	13.9435	0.8240	0.0000	34.5443
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Total		**14.1931**	**0.8388**	**0.0000**	**35.1629**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B
Phase I Cultural Resource Assessment

September 15, 2020

Brookview Ranch, LLC
2971 Triunfo Canyon Road
Agoura Hills, CA 91301

Attn: Dr. Thomas Knapp

Subj: Cultural Resource Phase I Assessment for Brookview Ranch
(Envicom Project #19-076-101)

Dear Dr. Knapp,

In June of 2019, Envicom Corporation (Envicom) completed a Phase I Cultural Resource Assessment for the Brookview Ranch Project in Los Angeles County (**Figure 1**), including a field survey (**Figure 2**). The Assessment was updated in August 2020, with information related to changes in the Project scope. The Brookview Ranch Project (Project) includes the demolition of buildings damaged in the 2018 Woolsey Fire, the repurposing of some existing buildings, and the construction of new buildings on the footprint of buildings lost during the fire. Additionally, a steel bridge with a concrete deck will be constructed over an existing concrete swale (or Arizona crossing) in Triunfo Creek as the new means of ingress and egress, in order to provide all weather access and improve public safety, as required by the County of Los Angeles Fire Department. Project subsurface construction includes soil disturbance up to approximately 15 feet below the ground surface to construct bridge piers and abutments and retaining features and road improvements related to the bridge, to 4 feet to install new sewer and water lines, and to 6 feet to construct a retaining wall behind the caretaker's residence. The Project does not include the entirety of the Brookview Ranch property and mainly involves those parts of the property shown in **Figure 3**. The Project, therefore, refers only to the development footprint, and not the Project property as a whole. The general location of the Project is as follows:

United States Geological Survey 7.5' Quadrangles: Thousand Oaks, CA and Point Dume.
Township: 1 North / Range: 18 West
Section: Within and Adjacent to 32
Latitude: 34° 7'26.45"North/ Longitude: 118°47'30.56"West

The Phase I Cultural Resource Assessment included a cultural resource record search conducted by the South Central Coastal Information Center (SCCIC) and a Native American cultural resource record search conducted by the California Native American Heritage Commission (NAHC). Both record searches examined the Project site plus a 0.5-mile area (study area) around the Project. Additional databases examined during the Phase I Cultural Resource Assessment included historic regional maps, historic United States Geological Survey (USGS) maps, and historic Google Earth images. The University of California Santa Barbara (UCSB) Library Historic Aerial Photograph Database was also examined. Due to the subsurface earthwork activities proposed with the Project, a record search request was also made with the Natural History Museum of Los Angeles (NHM) to address the potential presence of paleontological resources in the vicinity of the Project.

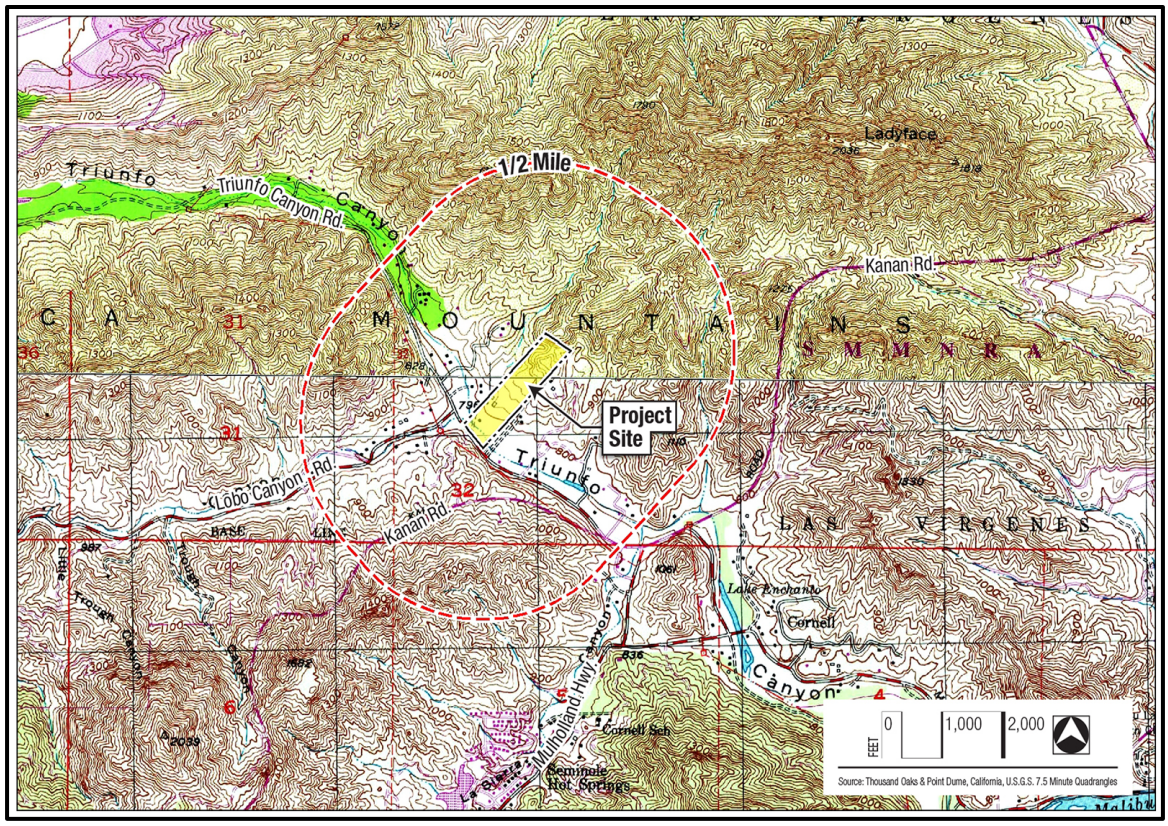


Figure 1: Project property location in Los Angeles County, California, with the 0.5-mile study area shown (1981 Thousand Oaks Quadrangle Topographic Map).

The purpose of the record searches is to identify any known cultural resources previously recorded within or immediately adjacent to the proposed Project area, to provide cultural resource context for the Project from the examination of the study area, and to assess the overall cultural resource sensitivity of the Project region. A cultural resource is often defined as any building, structure, object, or archaeological site older than 50-years in age, and can include historic or prehistoric locations of human habitation. ("Prehistoric" in this assessment refers to that time pre-dating European contact in California.)

RECORD SEARCH RESULTS

SCCIC and NAHC Record Searches

On August 2, 2019, Envicom contacted the SCCIC with a request to search their database for cultural resources located within the Project property and the surrounding 0.5-mile study area for regional cultural resource context (see Figure 1). The record search included a request for all complete site records and cultural resources that were within or adjacent to the Project property. Envicom also contacted the NAHC on June 19, 2019, with a similar record search request.



Figure 2: The Project property, showing the pre-Woolsey Fire conditions (Aerial Source: Valtus Imagery Services, Hexagon Imagery Program 2017), and the field survey area.

Envicom received the cultural resource record search results from the SCCIC on August 12, 2019. The SCCIC record search found one previously identified cultural resource (CA-LAN-1011) located within the Project property, but not within the Project development footprint. Seven additional cultural resources (all prehistoric lithic scatter) were identified within the 0.5-mile portion of the study area. None of these additional cultural resources are located adjacent to or near the subject property, with the closest resource being roughly 1,000 feet distant. Therefore, the resources will not need to be further assessed as part of the Project.

The SCCIC further identified that three cultural resource reports involved the Project property (LA-00474, LA-02182, and LA-02895. LA-00474 was an earlier study of the subject property from 1979 by archaeologist Clay Singer, titled "*Cultural Resource Survey and Impact Assessment for Tentative Tract. No. 35556 in Triunfo Canyon, Los Angeles County, California."* This cultural resource study first identified CA-LAN-1011, which was described as a small prehistoric site with lithic (stone tool debris) artifacts, marine shells (which may have been modern), and some exotic toolstone material, located on a saddle near the northern end of the Project property and outside of the development footprint.

The next cultural resource report, LA-02182, involved the Phase II archaeological testing of CA-LAN-1011 by W & S Consultants in 1990 as part of a general development of the region. This report, "*Phase II Archaeological test excavations at CA-LAN-1011, Western Los Angeles County, California*," was limited to CA-LAN-1011, which again is located outside of the Project development footprint. No other cultural resource was identified as being within the Project property in that report.

Finally, archaeologist Robert Wlodarski performed a record search for a proposed bridge replacement within the Project property in 1990. This study, titled "*Records Search for Land & Water Company Proposed Bridge Crossing*," involved only the immediate area around the bridge and did not identify any new cultural resources.

A further sixteen cultural resource reports dealt with part of the Project study area, though none of these reports were determined to be of concern for the Project. Some of these cultural resources were negative findings reports, and some involved the prehistoric lithic scatters described above. All relevant cultural resource reports are provided in **Appendix A**.

The results from the 2019 NAHC record search were received on August 19, 2019, with negative findings. Nevertheless, the Lead/Permitting Agency for the Project is required to complete consultation with Tribal Groups associated with the Project area, pursuant to Assembly Bill 52 (AB 52), and all Tribal Group and NAHC correspondence will be made a part of the consultation/Project record.

Copies of the request letter to the SCCIC and to the NAHC are included in **Appendix B** of this report. The response letter from the NAHC is also included in Appendix B. The Principal Author's resume is provided in **Appendix C**. Envicom did not contact Native American groups on the NAHC list, as communications with Tribal Group representatives is the responsibility of the Lead/Permitting Agency for the Project under AB 52. The findings from the SCCIC as to a cultural resource's physical location and details are considered confidential by State law and are, therefore, not included in this report. Confidential records may be made available to the appropriate Lead Agency representative once identified.

CA-LAN-1011

As previously mentioned, cultural resource CA-LAN-1011 is a small lithic scatter that is located on the Project property, but outside of the Project development footprint. A Phase I survey (1979) and a Phase II evaluation (1990) were previously involved with the cultural resource (the reports of which have been described above).

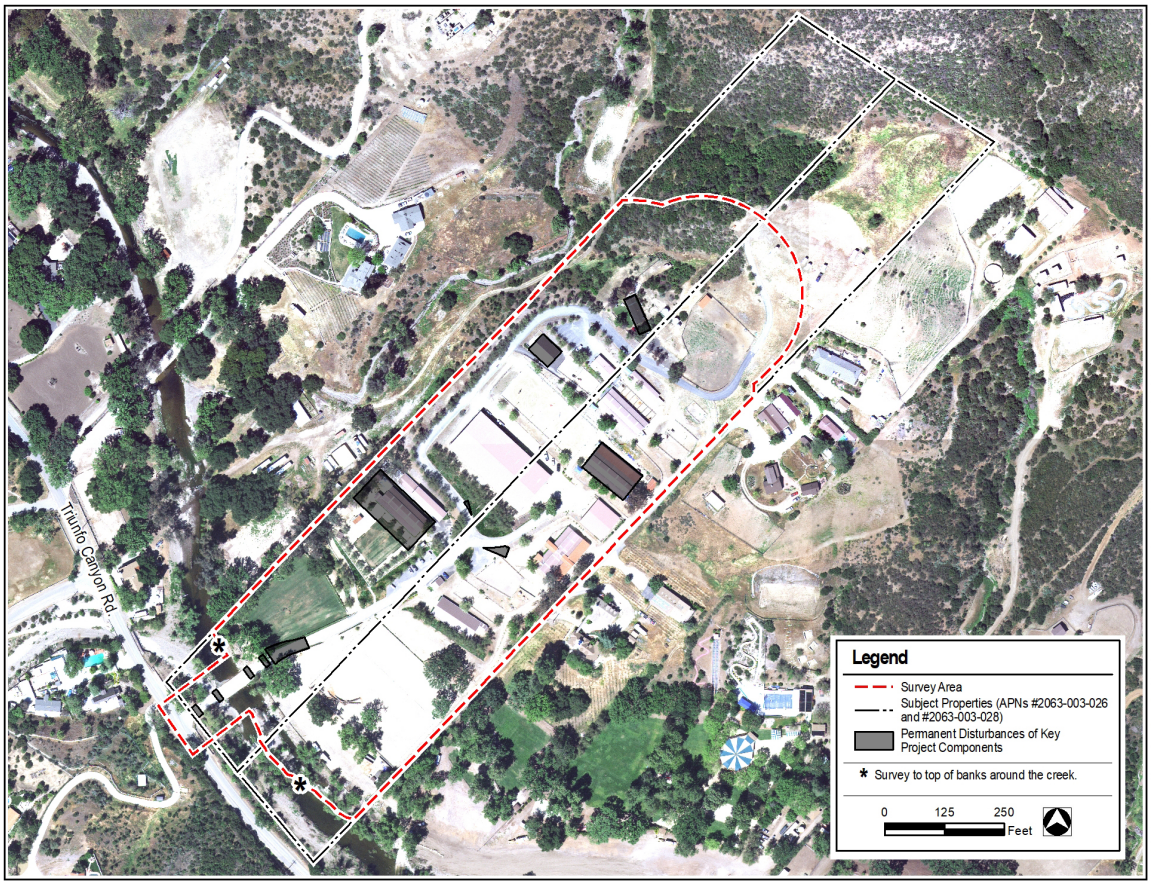


Figure 3: The Project property, showing key components of the proposed development (Aerial Source: Valtus Imagery Services, Hexagon Imagery Program 2017).

The Phase I survey was conducted in 1979 by Clay Singer. Singer located the small lithic scatter, later referred to as CA-LAN-1011. The site was recorded as being 20-meters by 25-meters, with 23 prehistoric artifacts on the surface. The artifacts included 3 flakes, a quartz crystal rasp and a delicate fused shale perforator. The artifacts were all burned, due to a fire in 1978. The clam shells and mollusks that were found were interpreted at the time as being modern. Singer recommended that the current grading plan be altered to avoid the site, otherwise, the site would require further testing before grading was conducted.

A later Phase II test excavation was completed by W & S Consultants in 1990. The archaeologist performed three test units within CA-LAN-1011, based on Singer's 1979 report findings. The second test unit produced one flake in the first 10-centimeters. This flake was considered a surface artifact by the archaeologists. The test units all encountered bedrock within 20 to 30 centimeters, with no culturally significant layers or artifact concentrations being encountered. Singer collected all of the surface artifacts during the Phase I survey, and W & S Consultants only found one artifact within the top soil.

The conclusion of W & S was that CA-LAN-1011 is almost exclusively a surface site, which has been subject to near 100 percent collection of associated artifacts during the previous study. W & S concluded that the site required no further archeological work, other than monitoring if subsurface grading was to happen within and adjacent to the cultural resource. Due to the local presence of a prehistoric cultural resource, and the presence of additional prehistoric cultural resources within the local area, the SCCIC findings, therefore, ***were negative for known cultural resources within the Project development footprint, but positive for the potential to encounter prehistoric cultural resources during Project grading and subsurface activity.***

Historical Map Database Search

Examination of historic maps included eighteen historic USGS maps, dating between 1900 and 1995. The 1900 Triunfo Pass USGS maps showed the Project site with no development within the Project area **(Figure 4)**. No residences, buildings, or roads are shown in or near the Project property. The first historic map showing local residential development is the 1932 Seminole USGS map, which shows some development of buildings and roads in the local area, and development within the Project property (**Figure 5**). Several structures are shown, as are local roads, suggesting an active ranch or commercial development.

The oldest aerial photograph in the UCSB Library historic aerial photography database was from 1937 (**Figure 6** and **Figure 7**). As was found with the USGS maps, this photo shows development on the Project property and in the local area. Examination of historic Google Earth satellite images show the Project site in 1989 demolished; no previous buildings were left. In 1994, new development on the Project site is shown (**Figure 8** and **Figure 9**). Nevertheless, as site development dated to the 1930s, as evidenced by the review of historic maps, satellite images, and aerial images, the Project property could still contain buried historical archaeological resources associated with the previous aboveground development. The oldest historic maps and aerial photos were, therefore, ***positive for the potential to encounter older buried historic resources located within the Project property during Project grading and subsurface activity***.

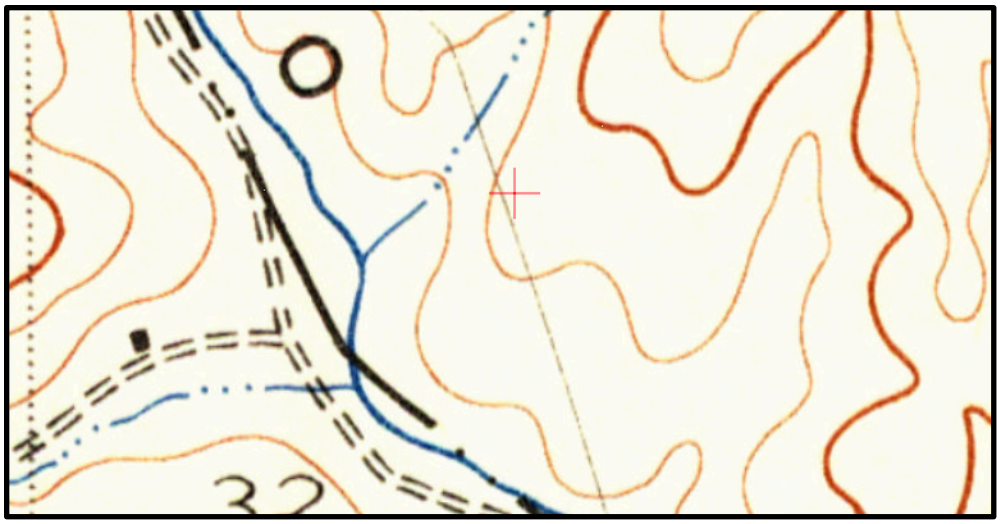


Figure 4: The 1900 Triunfo Pass USGS Map, showing no development on the Project property(the red cross marks the Project center).

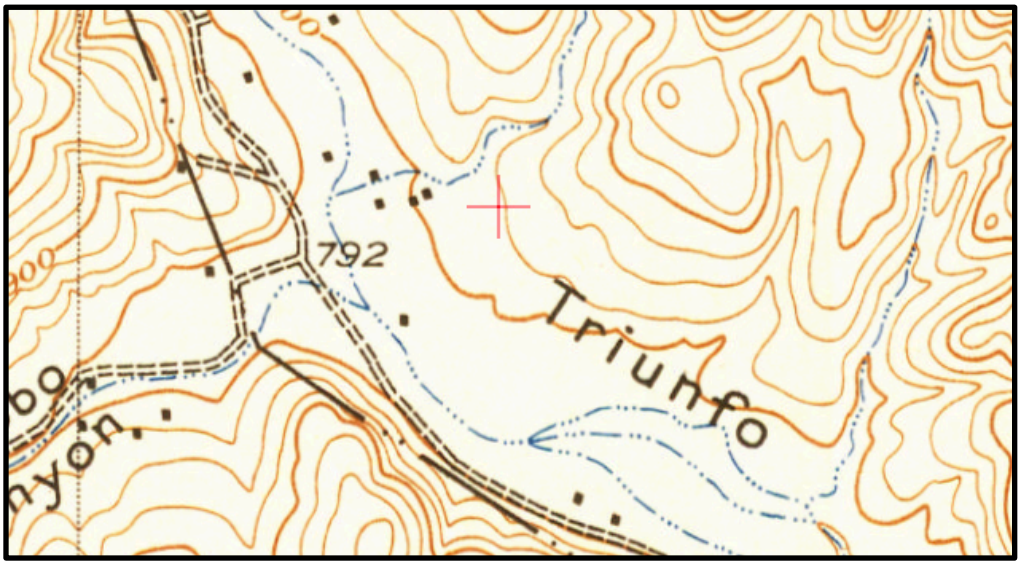


Figure 5: The 1932 Triunfo Pass USGS Map, showing development on the Project property and in the local area (red cross marks the Project location).

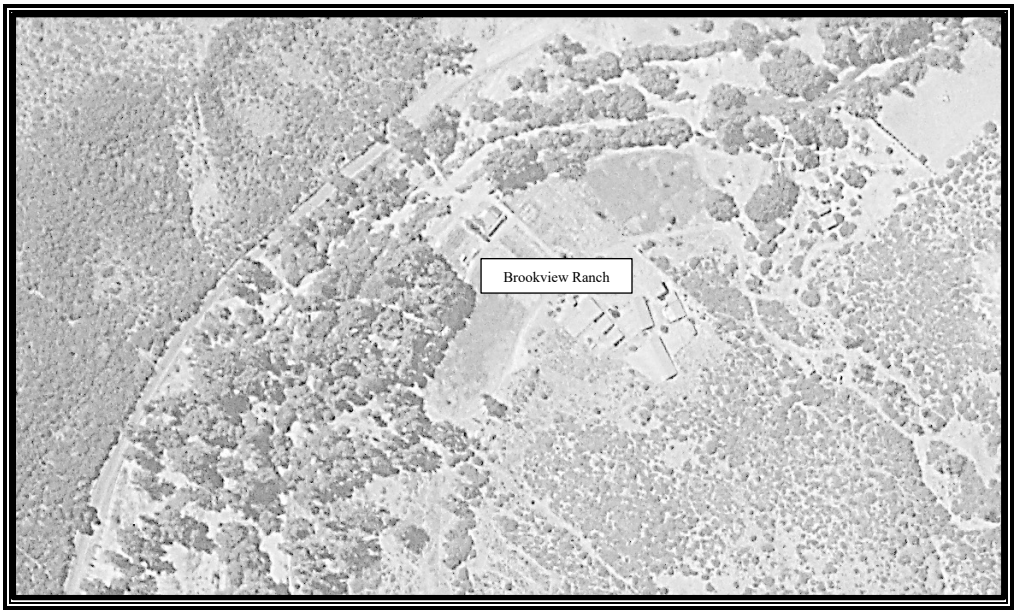


Figure 6: The Project area in the 1937 aerial image, showing development on the Project property (UCSB Historic Aerial Image Database).



Figure 7: The Project area in 1945 image, showing the Project property (UCSB Historic Aerial Image Database).



Figure 8: The 1989 Project property, showing removed development (Google Earth Image).



Figure 9: The 1994 Project property, showing new development (Google Earth Image).

Paleontological Record Search Results

The NHM record search findings were received on August 16, 2019, with negative findings, due to the Project being located within the Conejo Volcanics Bedrock Formation and recent alluvial material. The NHM findings letter is located in Appendix B of this report. The geotechnical report for the Project bridge (*Geotechnical Report, Proposed Brookview Ranch Bridge, Agoura Hills, Los Angeles, County, California*, by Leighton Consulting, Inc., 2020) confirmed these findings, also indicating, from both the geological map study and the geotechnical bores, that the Project property is covered with recent alluvial material and gravel, which overlays the Conejo Volcanics Formation (**Figure 10**).

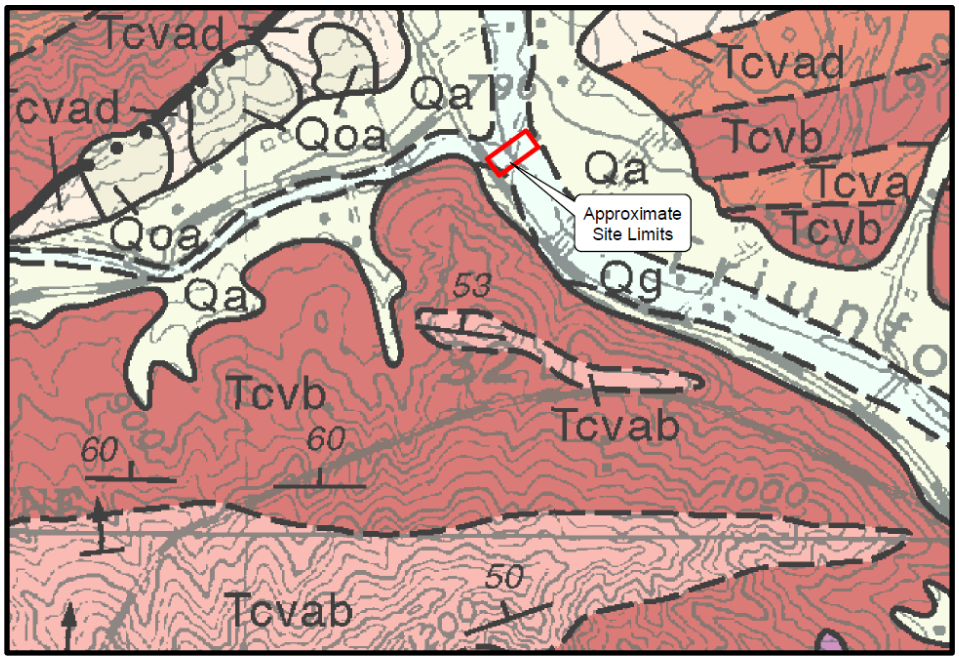


Figure 10: The Project geological map, based on the Thomas W. Dibblee Geological Map, superimposed over the Point Dume USGS quadrangle map.

According to the NHM, deeper excavations into older sedimentary deposits have the potential to uncover significant vertebrate fossil remains. However, the Project's proposed grading activities, which entail excavations up to approximately 15 feet below the ground surface to construct the bridge piers and abutments and associated retaining features, to 4 feet to install utilities, and to 6 feet to construct a retaining wall by the caretaker's residence, would occur in recent alluvium. Therefore, grading and subsurface activities would be unlikely to uncover paleontological resources.

Field Survey Results

Envicom staff visited the Project property on August 7, 2019. The Project site is a ranch that is used as an on-site event venue and equestrian center, with roughly equal parts of dirt and paved roads (**Figure 11**, **Figure 12, Figure 13, and Figure 14**). The southern portion of the Project development footprint, where the proposed bridge is located, and the shelter at the north side of the Project site both had surface visibility at roughly 50 percent or better (**Figure 15**). The ground was covered with dried grasses and plants but still provided areas of representative surface material. The rest of the Project site is developed with buildings and barns that are used for the events and equestrian center. Parts of the Project site show evidence of being burned by the Woolsey Fire including the Bride's dressing room, Coronado Barn, and the creek area (**Figure 16**). The caretaker's residence was not impacted by the fire but will have improvements as part of the Project (**Figure 17**). No prehistoric or early historic artifacts or features were observed on the surface. The findings were, therefore, ***negative for the surface expression of cultural resources within the Project property***.



Figure 11: The Project Property, showing the refreshment stand, the Avalon Storage room, and the Avalon Event Barn.



Figure 12: A View of the dance pavilion and Bel Air Barn.



Figure 13: A View of the Del Mar Barn, Del Mar Barn Outside, and the Office.



Figure 14: The entrance to the Project property, showing the current concrete Arizona crossing and Triunfo Creek location (facing northeast).



Figure 15: The concrete pad, showing the location of one of the structures destroyed in the 2018 Woolsey Fire; the Coronado Barn.



Figure 16: Another concrete pad, showing the location of a structure destroyed by the Woolsey Fire; the Bride's Dressing Room.



Figure 17: The existing caretaker's residence on the Project property, which will be expanded and will include a retaining wall feature as part of the Project.

SUMMARY AND RECOMMENDATIONS

The site visit was negative for surface cultural resources, and although the results of the SCCIC database record search were negative for known cultural resources located immediately within the Project development footprint, the results were positive for a single prehistoric cultural resource (CA-LAN-1011) within the Project property. Additional prehistoric cultural resources were also identified as being located within the Project study area based on the record search results. Examination of the historic USGS maps, historic satellite image database, and the historic aerial photo databases indicates that the development footprint is also located within an area that should be considered as being generally sensitive for buried cultural resources (including both prehistoric and historical archaeological resources).

The development footprint, therefore, is negative for aboveground cultural resources, but positive for being located within an area that is generally sensitive for prehistoric and historic cultural resources, which have the potential to be uncovered during earthwork activities on the Project property. Specifically, younger alluvial soils underlying the Project property's Arizona crossing, and potentially underlying the driveway/road and slope behind the caretaker's residence, where earthwork is proposed, may contain intact native soils in the uppermost layers, which have the potential to uncover archaeological or Native American artifacts. The NHM records search was negative for paleontological resources within the Project property, and the soils underlying the Project property are unlikely to uncover fossil remains.

Due to these findings and the grading and subsurface activities that are proposed by the Project, Envicom makes the following recommendations:

Recommendation 1: Archaeological and Native American Monitoring or Spot Checking of Subsurface Activities.

An archaeological monitor that meets the Secretary of Interior qualifications, and a Native American monitor that is culturally-affiliated with the Project area, shall be present at the onset of on site subsurface grading or excavation activities (within the bridge construction area, utilities corridor, and caretaker's residence area), to assess whether the exposed soils encountered during grading or excavation in these areas are likely to uncover significant cultural resources.

Due to the extensive previous disturbance identified in historic documents related to the Project development footprint, Project monitoring may be scaled back to "spot checking," if initial monitoring encounters a large amount of modern fill, disturbed native soils, or bedrock with no intact native soils. Such a reduction in monitoring shall be at the discretion of the monitoring archaeologist, and shall be noted in the Project daily logs and final Monitoring Report, along with the rationale for the change in monitoring schedule.

The archaeological and Native American monitors shall collect any diagnostic prehistoric or historic material uncovered through grading that is within a disturbed context, and shall have the authority to halt construction within 50-feet of a potentially significant cultural resource, if necessary. Artifacts collected from a disturbed context or that do not warrant additional assessment shall be collected without the need to halt grading. Discovery situations that do not lead to further assessment, survey, evaluation, or data recovery shall be described in the monitor's daily Monitoring Report. However, if prehistoric features, older historic foundations, privies, or other older features are encountered, the Project discovery protocol (Recommendation 2, below) shall be followed.

All artifacts recovered that are important, with diagnostic or location information that may be of importance to California history, shall be cleaned, analyzed, and described within the Monitoring Report. All materials determined important shall be curated at an appropriate depository or returned to the land owner for public display. Prehistoric materials may be given to Native American Tribal Group representatives for reburial. If important materials are found during monitoring, a Curation Plan may be needed that is reviewed by the Lead Agency prior to the publication of the Monitoring Report. The costs of the Monitoring Report, the Curation Plan, and the processing, analysis, and curation of all artifacts shall be the responsibility of the Applicant.

A final Monitoring Report shall be produced that discusses all monitoring activities and all artifacts recovered and features identified through monitoring of the Project property. Discovery situations that do not lead to further assessment, survey, evaluation, or data recovery shall be described in the final Monitoring Report. All costs for monitoring, reporting, discovery assessment, discovery evaluation, data recovery, and/or curation shall be the responsibility of the Applicant. All individual reports, including the final Project Monitoring Report, shall be submitted to the South Central Coastal Information Center at the conclusion of the Project.

Recommendation 2: Archaeological Discovery Protocol

If potentially significant intact deposits are encountered within an undisturbed context, then a cultural resource discovery protocol shall be followed. If older historic or prehistoric features, artifact concentrations, or larger significant artifacts are encountered during Project grading or other subsurface activities within native soils or original context, then all work in that area shall be halted or diverted away from the discovery to a distance of 50-feet until a qualified senior archaeologist can evaluate the nature and/or significance of the find(s). If the senior archaeologist (not the field monitor) confirms that the discovery is potentially significant, then the Lead Agency shall be contacted and informed of the discovery.

Construction shall not resume in the locality of the discovery until consultation between the senior archaeologist, the owner's Project manager, the Lead Agency, and all other concerned parties, takes place and reaches a conclusion approved by the Lead Agency. If a significant cultural resource is discovered during earth-moving, complete avoidance of the find is preferred. However, if the discovery cannot be avoided, further survey work, evaluation tasks, or data recovery of the significant resource may be required by the Lead Agency. The Lead Agency may also require changes to site monitoring, based on the discovery.

Recommendation 3: Inadvertent Discovery of Human Remains

The inadvertent discovery of human remains is always a possibility during ground disturbances; State of California Health and Safety Code Section 7050.5 addresses these findings. This code section states that in the event human remains are uncovered, no further disturbance shall occur until the County Coroner has made a determination as to the origin and disposition of the remains pursuant to California Public Resources Code Section 5097.98. The Coroner must be notified of the find immediately, together with the City and the property owner.

If the human remains are determined to be prehistoric, the Coroner shall notify the Native American Heritage Commission, which shall determine and notify a Most Likely Descendant. The Most Likely Descendant shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials and an appropriate re-internment site. The Lead Agency and a qualified archaeologist shall also establish additional appropriate mitigation measures for further site development, which may include additional archaeological and Native American monitoring or subsurface testing.

Sincerely,

Wayne Bischoff

Dr. Wayne Bischoff
Envicom Director of Cultural Resources
(with Ms. Samantha Renta)

ATTACHMENTS:

Appendix A: List of Previous Completed Cultural Resource Reports from the SCCIC
Appendix B: SCCIC, NAHC, and NHM Request Letters, and the NAHC and NHM Response Letters
Appendix C: Resume of Dr. Wayne Bischoff (author)

APPENDIX A

List of Previous Completed Cultural Resource Reports in the Study Area

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-00148		1988	Parker, John	Cultural Resource Evaluation of the 477 Acre Libit Parcel		19-001401
LA-00465		1978	Clewlow, William C. Jr. and David S. Whitley	An Assessment of the Impact of the Development of the John Byrd Parcel, Los Angeles County, California, on Archaelogical Resources	University of California, Los Angeles Archaeological Survey	
LA-00474		1979	Singer, Clay A.	Cultural Resource Survey and Impact Assessment for Tentative Tract No. 35556 in Triunfo Canyon, Los Angeles County, California		19-001011
LA-00479		1979	Hector, Susan M.	Assessment of the Archaeological Resources Located at 3190 Triunfo Canyon Road, Agoura, Los Angeles, California	University of California, Los Angeles Archaeological Survey	
LA-00659		1980	Drews, Michael M.	Archaeological Resource Assessment for a Portion of Tract 2804 Lot 5, Los Angeles County, California	Ancient Enterprises, Inc.	
LA-00918		1979	Maxwell, Thomas J.	An Archaeological Survey of Three Acres in Lobo Canyon, Point Dume Quadrangle, Los Angeles County, California	TOM MAXWELL,	
LA-01562		1986	Singer, Clay A.	Archaeological Reconnaissance of 7.6 + Acres in Lobo Canyon, Los Angeles County (tentative Minor Land Division Map No. 17439		
LA-01822		1989	Dillon, Brian D.	Archaeological Survey, Impact Evaluation, and Mitigation Plan Or the Agoura West Project, a 632 Acre Parcel on Kanan-dume Road, Los Angeles County		19-000165, 19-001908, 19-001909, 19-001910, 19-001911, 19-001912, 19-001913, 19-001914
LA-02175		1990	Frierman, Jay D.	Archaeological Survey Report of a 7.9 (19.75 Acres) Parcel Tentative Tract No. 45533 Between Lobo Canyon Road and Kanan Road Agoura, California 91301 Point Dume Quadrangl	Jay D. Frierman	19-001297
LA-02182		1990	Whitley, David S. and Joseph M. Simon	Phase Ii Archaeological Test Excavation at CA-LAN-1011, Western Los Angeles County, California	W & S Consultants	19-001011
LA-02338		1990	Dillon, Brian D.	An Archaeological Survey of a 23 Acre Parcel at 2848 Triunfo Canyon Road, Near Agoura, Los Angeles County, California	Brian D. Dillon, Ph. D.	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-02716		1992	Singer, Clay A., John E. Atwood, and Barbie S. Laney	Cultural Resources Survey and Impact Assessment for Parcel 2 of Parcel Map No. 8339, a 5.8 Acre Property in Agoura, Los Angeles County	C.A. Singer & Associates, Inc.	
LA-02895		1993	Wlodarski, Robert J.	Records Search Was Performed for a Project in Triunfo Canyon Located Along Triunfo Creek	Historical, Environmental, Archaeological, Research, Team	19-000465, 19-001011, 19-001297, 19-001910, 19-001911, 19-001912
LA-04028		1998	Maki, Mary K.	Phase I Archaeological Survey and Impact Assessment of Approximately 3 Acres L.a. Conditional Use Permit No. 97-202, 2848 Triunfo Canyon Road, Los Angeles County, California	Conejo Archaeological Consultants	
LA-04241		1998	Romani, Gwendolyn R.	Results of Phase I Archaeological Survey Located at 2807 Triunfo Canyon Road, Los Angeles County, California	Compass Rose Archaeological, Inc.	
LA-04341		1999	Duke, Curt	Cultural Resource Assessment for the Los Angeles Cellular Telephone Company, Facility Number P4 (pole No. 2241633e), Located on Kanan Dume Road, County of Los Angeles, California	LSA Associates, Inc.	
LA-10832		2007	Whitley, David S.	Phase I Archaeological Survey/Class III Inventory for Two Culverts Locations at 31150 Lobo Canyon Road, Los Angeles County, California	W&S Consultants	19-001297
LA-11151		2003	Romani, John and Larson, Dan	Results of a Cultural Resource Phase I Assessment and Extended Phase I Shovel Test Program for the Proposed Heart-of-the-Park Shuttle Demonstration Project, Santa Monica Mountains National Recreation Area.	Compass Rose	19-000199
LA-11152		2002	Mason, Roger	Santa Monica Mountains National Recreation Area, Heart-of-the-Park Shuttle Demonstration Project Draft Environmental Assessment/Initial Study	Parsons	

APPENDIX B

SCCIC, NAHC, and NHM Request Letters, and the NAHC and NHM Response Letters

August 2, 2019

South Central Coastal Information Center
C.S.U.F, Dept. of Anthropology, MH 426
800 N. State College Blvd.
Fullerton, CA 92834-6846

Attn: Stacy St. James, Coordinator

Subj: Cultural Resources Phase I Assessment for Brookview Ranch
(Envicom Project #19-076-101)

Dear Ms. St. James:

Envicom Corporation (Envicom) is requesting an **EXPEDITED** record search of the South Central Coastal Information Center (SCCIC) database of cultural resources within the attached Project site, plus a **0.5-mile study area**. The Project site is located at:

United States Geological Survey 7.5' Quadrangles: Thousand Oaks, CA and Point Dume, CA Township: 1 North/Range: 18 West/Section: Within and Adjacent to 32/Latitude: 34° 7'26.45"North/ Longitude: 118°47'30.56"West

We are requesting the following: Resource Database Printout (list), Resource Database Printout (details), Resource Digital Database (spreadsheet), Report Database Printout (list), Report Database Printout (details), Report Digital Database (Spreadsheet), Resource Record Copies, Report Copies Office of Historic Preservation Historic Properties Directory, Archaeological Determinations of Eligibility, Los Angeles Cultural Monuments, and Historic Maps.

We also request the complete reports and/or site records for any cultural resources found within the Project site only, not the 0.5-mile study area.

Envicom appreciates the SCCIC's help with this request. For correspondence or questions regarding this Project, please contact Wayne Bischoff at 818-879-4700 (wbischoff@envicomcorporation.com).

Sincerely,

Dr. Wayne Bischoff
Director of Cultural Resources

Attachment:
Project vicinity map on 1:24,000 topographic map

envicom
CORPORATION

August 2, 2019

Native American Heritage Commission
1550 Harbor Boulevard, Room 100
West Sacramento, CA 95691

Subj: Cultural Resources Phase I Assessment for Brookview Ranch
(Envicom Project #19-076-101)

To Whom it May Concern,

Envicom Corporation (Envicom) is requesting a record review of the Native American Heritage Commission (NAHC) records of cultural resources for the Project site, plus a **0.5-mile study area**. We also request a list of Tribal Group representatives for the area in the event we need to contact their offices. The Project site is located at:

United States Geological Survey 7.5' Quadrangles: Thousand Oaks, CA and Point Dume, CA Township: 1 North Range: 18 West Section: Within and Adjacent to 32 Latitude: 34° 7'26.45"North Longitude: 118°47'30.56"West

Envicom appreciates the NAHC's help with this request. For correspondence or questions regarding this Project, please contact Wayne Bischoff at 818-879-4700 (wbischoff@envicomcorporation.com).

Sincerely,

Dr. Wayne Bischoff
Director of Cultural Resources

Attachment:
Project vicinity map on 1:24,000 topographic map

envicom
CORPORATION

August 2, 2019

Natural History Museum of Los Angeles
900 Exposition Blvd.
Los Angeles, CA 90007

Attn: Dr. Samuel McLeod

Subj: Cultural Resources Phase I Assessment for Brookview Ranch
(Envicom Project #19-076-101)

Dear Dr. McLeod:

Envicom Corporation (Envicom) is requesting a record search of the Natural History Museum of Los Angeles County (NHM) database for paleontological resources/sensitivity for the Project site and surrounding area (within 0.5 mile of the Project site), as well as a map/listing of all paleontological resources previously identified within the attached Project site, plus the 0.5-mile study area. The Project site is located at:

United States Geological Survey 7.5' Quadrangles: Thousand Oaks, CA and Point Dume, CA Township: 1 North/Range: 18 West/Section: Within and Adjacent to 32/Latitude: 34° 7'26.45"North/Longitude: 118°47'30.56"West

Envicom appreciates the NHM's help with this request. For correspondence or questions regarding this Project, please contact Wayne Bischoff at 818-879-4700 (wbischoff@envicomcorporation.com).

Sincerely,

Dr. Wayne Bischoff
Director of Cultural Resources

Attachment:
Project vicinity map on 1:24,000 topographic map

envicom
CORPORATION

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

August 19, 2019

Wayne Bischoff
Envicom Corporation

VIA Email to: wbischoff@envicomcorporation.com

RE: Brookview Ranch Project, Ventura County

Dear Mr. Bischoff:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Staff Services Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Ventura County
8/19/2019

Barbareno/ Ventureno Band of Mission Indians
Patrick Tumamait,
992 El Camino Corto — Chumash
Ojai, CA, 93023
Phone: (805) 216 - 1253

Barbareno/ Ventureno Band of Mission Indians
Raudel Banuelos,
331 Mira Flores — Chumash
Camarillo, CA, 93012
Phone: (805) 427 - 0015

Barbareno/ Ventureno Band of Mission Indians
Eleanor Arrellanes,
P. O. Box 5687 — Chumash
Ventura, CA, 93005
Phone: (805) 701 - 3246

Barbareno/Ventureno Band of Mission Indians
Julie Tumamait-Stenslie, Chairperson
365 North Poli Ave — Chumash
Ojai, CA, 93023
Phone: (805) 646 - 6214
jtumamait@hotmail.com

Chumash Council of Bakersfield
Julio Quair, Chairperson
729 Texas Street — Chumash
Bakersfield, CA, 93307
Phone: (661) 322 - 0121
chumashtribe@sbcglobal.net

Coastal Band of the Chumash Nation
Gino Altamirano, Chairperson
P. O. Box 4464 — Chumash
Santa Barbara, CA, 93140
cbcn.consultation@gmail.com

Fernandeno Tataviam Band of Mission Indians
Jairo Avila, Tribal Historic and Cultural Preservation Officer
1019 Second Street, Suite 1 — Tataviam
San Fernando, CA, 91340
Phone: (818) 837 - 0794
Fax: (818) 837-0796
jairo.avila@tataviam-nsn.us

Northern Chumash Tribal Council
Fred Collins, Spokesperson
P.O. Box 6533 — Chumash
Los Osos, CA, 93412
Phone: (805) 801 - 0347
fcollins@northernchumash.org

San Fernando Band of Mission Indians
Donna Yocum, Chairperson
P.O. Box 221838 — Kitanemuk
Newhall, CA, 91322 — Vanyume
Phone: (503) 539 - 0933 — Tataviam
Fax: (503) 574-3308
ddyocum@comcast.net

San Luis Obispo County Chumash Council
Mark Vigil, Chief
1030 Ritchie Road — Chumash
Grover Beach, CA, 93433
Phone: (805) 481 - 2461
Fax: (805) 474-4729

Santa Ynez Band of Chumash Indians
Kenneth Kahn, Chairperson
P.O. Box 517 — Chumash
Santa Ynez, CA, 93460
Phone: (805) 688 - 7997
Fax: (805) 686-9578
kkahn@santaynezchumash.org

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Brookview Ranch Project, Ventura County.

yak tityu tityu yak tiłhini – Northern Chumash Tribe
Mona Tucker, Chairperson
660 Camino Del Rey
Arroyo Grande, CA, 93420
Phone: (805) 748 - 2121
olivas.mona@gmail.com

Chumash

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Brookview Ranch Project, Ventura County.

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

16 August 2019

Envicom Corporation
4165 East Thousand Oaks Boulevard, Suite 290
Westlake Village, CA 91362

Attn: Wayne Bischoff, Ph.D., Director of Cultural Resources

re: Paleontological resources for the proposed Brookview Ranch Project, Envicom Project # 19-076-101, near Westlake Village, Los Angeles County, project area

Dear Wayne:

I have conducted a thorough check of our paleontology collection records for the locality and specimen data for the proposed Brookview Ranch Project, Envicom Project # 19-076-101, near Westlake Village, Los Angeles County, project area as outlined on the portions of the Thousand Oaks and Point Dume USGS topographic quadrangle maps that Samantha Whittington sent to me via e-mail on 2 August 2019. We do not have any vertebrate fossil localities that lie directly within the proposed project area boundaries, but we do have vertebrate fossil localities nearby from sedimentary deposits similar to those that may occur at depth in the proposed project area.

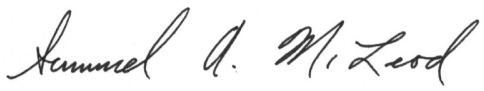
In the elevated terrain in the northeastern portion of the proposed project area there are bedrock exposures of the igneous Conejo Volcanics that will not contain any recognizable fossils. In the lower lying terrain of Triunfo Canyon in the southwestern portion of the proposed project area there are surface deposits of younger Quaternary Alluvium in that active drainage. These younger Quaternary deposits typically do not contain significant vertebrate fossil remains in the uppermost layers, but at relatively shallow depth there may be older Quaternary deposits that do contain significant fossil vertebrates. Our closest vertebrate fossil locality in similar older Quaternary deposits is LACM 3213, northwest of the proposed project area near the intersection of the Ventura Freeway (Highway 101) and South Westlake Boulevard, that produced a fossil

specimen of ground sloth, *Paramylodon*. Our next closest vertebrate fossil locality in similar sediments is LACM 7660, further northwest of the proposed project area between the Ventura Freeway (Highway 101) and East Thousand Oaks Boulevard east of Highway 23, that produced an uncommon fossil specimen of American mastodon, *Mammut americanum*.

Excavations in the Conejo Volcanics exposed in the northeastern portion of the proposed project area will not uncover any recognizable fossils. Shallow excavations in the younger Quaternary Alluvium exposed Triunfo Creek in the southwestern portion of the proposed project area are unlikely to encounter significant fossil vertebrates. Deeper excavations in the latter areas that extend down into older deposits, however, may well uncover significant vertebrate fossil remains. Any substantial excavations in the sedimentary deposits in the proposed project area, therefore, should be monitored closely to quickly and professionally collect any vertebrate fossil remains without impeding development. Sediment samples from the proposed project area should also be collected and processed to determine the small fossil potential of the site. Any fossils collected during mitigation activities should be placed in an accredited scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,



Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

APPENDIX C

Resume of Dr. Wayne Bischoff (author)

Wayne Bischoff, Ph.D.

Director of Cultural Resources

Dr. Bischoff has over 20 years of experience managing cultural resource projects and ensuring compliance with Section 106 of the National Historic Preservation Act (NHPA), the California Environmental Quality Act (CEQA), the National Environmental Protection Act (NEPA), and state, county, city, and local government cultural laws, guidelines, and procedures. He has managed cultural, paleontological, and built environment projects throughout Southern California, including the Counties of Los Angeles, Kern, Ventura, Imperial, San Diego, Orange, Santa Barbara, Riverside, and San Bernardino. Dr. Bischoff has been the principal or project manager for hundreds of cultural resource projects in California, including literature searches, surveys, evaluations, and data recoveries, built environment and historic architectural inventories, HABS projects, paleontological surveys, and historic structure evaluations.

Dr. Bischoff's project experience includes extensive experience with transmission lines, renewable energy projects, and public works projects, including storm and sewer projects, recharge basins, wetlands restoration, highways and bridges, dams and levees, park and trail development, and educational facilities. He also has broad experience with residential and commercial developments projects, Department of Defense projects (Army, Navy, Marines, and National Guard), telecommunication lines, and projects with Army Corps of Engineers (ACOE) and California Coastal Commission (CCC) oversight.

Dr. Bischoff's experience includes consultation with state and federal agencies, including the State Historic Preservation Office, the Bureau of Land Management (BLM), the GSA, the USDA, Fish and Wildlife, the California Public Utilities Commission (CPUC), the National Park Service (NPS), the U.S. Forest Service (USFS), Federal Highway Administration (FHA), and CALTRANS. He has also written sections of CEQA and NEPA documents, MNDs, and Memorandums of Agreements/Understanding (MOA/MOU), and is a Native American AB-52/SB-18 consultation expert. Dr. Bischoff has worked with all the Tribal Groups Southern California, and has provided Native American consultation for the City of Los Angeles, numerous project clients, and many cities and municipalities throughout Southern California.

Development Projects

- **Conrad N. Hilton Foundation Trails Project Cultural Assessment, Agoura Hills, Los Angeles County, CA.** Project Manager for the assessment of new pedestrian access trails linking off-site office space with the Foundation campus buildings. (Spring 2016)
- **Pepperdine University Campus Life Project: Cultural Resource Monitoring, Los Angeles, CA.** Principal and Project Manager for cultural resource monitoring of Phase I of the Pepperdine Campus Life housing, facilities, and trail development project. (Spring 2016)
- **Deer Lake Residential Development Cultural Monitoring, Los Angeles, CA.** Principal and Project Manager for the cultural monitoring of eight cultural resources within the project development boundary. Included the writing of a Construction Phase Management and Monitoring Plan. (Spring 2016)
- **Canyon Park Homes, Sylmar, Los Angeles County, CA.** Native American Tribal Group consultation and pre-construction monitoring for this 80-acre residential property development, as well as EIR section writing. (February 2015 – Current)

- **Paradise Valley Development Project Environmental Impact Report and Impact Statement, Riverside County, CA.** Author of the cultural section for this EIR for a housing and mixed use development of over 2200-acres east of Indio, California. Also reviewed original technical documents, and incorporated legal and agency comments. Mitigation measures included the management and monitoring of dozens of cultural resources, sensitive soils, and paleontological resources. (October 2014 – Current)
- **Floral Canyon Residential Development Cultural Resource Survey, North Hollywood, CA.** Principal and Project Manager for this Phase Ia cultural resource survey of an 8-acrea property. (September – December 2015).
- **Lynn Road Residential Development Project, Newbury Park, CA.** Principal and Project Manager for the Phase Ia and Phase Ib survey of this 10-acre parcel. A large Middle-Period seasonal settlement was discovered, which required subsurface testing and extensive mapping of surface hearths, yucca roasters, and dwelling features. (September – October 2015).
- **Marinette Road Residential Development, Pacific Palisades, Los Angeles County, CA.** Principal and project manager for this development project, which included a record search, site survey, Tribal Group scoping letters, and agency consultation. The major challenge was that the project property was within the Will Rogers State Monument and National Register site boundary. (February 2015 – May 2015)
- **Village at Los Carneros, City of Goleta, Santa Barbara County, CA.** Reviewed all previous technical studies and wrote part of the cultural sections of the Environmental Impact Report for this residential house development project. (March 2014 – April 2014)
- **3121 Old Topanga Canyon Road Phase I Survey and Literature Search, City of Calabasas, Los Angeles County, CA.** Principal and Project manager for this residential development project, including NAHC letters, literature review, site survey, paleontological survey and literature search, final technical report, and the writing of the cultural resources section of the Environmental Impact Report. (March 2013 – April 2013)
- **Newport Beach Yacht Club Evaluation, Community Development Department, City of Newport Beach, Orange County, CA.** Principal for this historic architecture project involving the built environment evaluation of the Newport Beach Yacht House. (October 2013 – October 2013)
- **Blossom Plaza Historic Structure Evaluation, China Town, City of Los Angeles, CA.** Principal for this historic architecture project involving the updating of technical reports and a standing structure evaluation. (July 2013 – September 2013)
- **Moreno Valley Residential Building Evaluation, City of Moreno Valley, Riverside, CA.** Principal for the architectural assessment of the J. Langdon Ranch located at 11761 Davis Street, in the city of Moreno Valley, Riverside County, California. (April 2013)
- **Scripps Hospital Paleontological and Archaeological Monitoring, Worley-Parsons, City of Encinitas, CA.** Principal Investigator. Dr. Bischoff managed QA/QC review, budgets, and professional standards for the cultural and paleontological monitoring of this large development project. (2011 - 2013)

Energy Projects

- **East Kern Wind Resource Area (EKWRA) Power Pole Replacement Project, Environmental Intelligence / Southern California Edison, Kern County, CA.** Principal and Project Manager. This two-year project included cultural resource surveys, the evaluation of numerous cultural sites, and cultural and paleontological monitoring for the construction of over 130-miles of new power poles and fiber optics lines to service Tehachapi Mountain wind farms. (January 2013 – October 2013)
- **Pure Source Power, Victorville, San Bernardino, CA.** Principal and Project Manager for a cultural survey and record search of 140-acres north of Palm Springs for solar development. (September 2013 – October 2013)
- **Dry Ranch Solar Project, Silverado Power, Los Angeles County, CA.** Principal. Dr. Bischoff managed this 64-acre solar project near Lancaster, which included a record search, field survey, and cultural report to meet CEQA compliance. This project included coordination with Southern California Edison for a gen-tie line and telecom attachments. (March - April 2013)
- **Plainview Solar Project, Silverado Power, Los Angeles County, CA.** Principal. Dr. Bischoff managed this 114-acre solar project near Lancaster, which included a record search, field survey, and cultural report to meet CEQA compliance. (April - May 2013)
- **Silverleaf Solar Project, Cultural and Paleontological Survey, Agile Energy, Imperial County, CA.** Principal and Project Manager. Dr. Bischoff provided general review and quality control for a large solar project south of San Diego. This project involved an over 2,000-acre survey of proposed solar fields and 5-miles of electrical transmission gen-tie lines. The Bureau of Land Management was the principal federal agency. (November 2011 - July 2012)
- **Desert Harvest Solar Project, Build Environment Survey, eneXco Energy, Riverside County, CA.** Project Manager. Dr. Bischoff was the project manager for the built environment survey of 1,600-acre solar field and 12-miles of electrical transmission gen-tie lines. This included the production of a separate technical report for the Bureau of Land Management that included a historic structure inventory, assessment of significance, and an indirect effects analysis. (November 2011 - June 2012)
- **Silverleaf Solar Project, Built Environment Survey, Agile Energy, Imperial County, CA.** Project Manager. Dr. Bischoff was the project manager for the built environment survey of 2,000-acre solar field and 5-miles of electrical transmission gen-tie lines. This included the production of a separate technical report for the Bureau of Land Management that included a historic structure inventory, assessment of significance, and an indirect effects analysis. (November 2011 - July 2012)
- **IVSC2 Solar Project, County of Imperial, Imperial County, CA.** Principal and Project Manager. Dr. Bischoff provided oversight of the 140-acre solar project east of the Salton Sea. This project was notable for the quick response time required to field a survey crew and complete a draft report for the County. (Sept-Oct 2012)
- **Tehachapi Renewable Transmission Project (TRTP), Southern California Edison, Kern, Los Angeles, and San Bernardino Counties, CA.** Principal and Project Manager. Dr. Bischoff was responsible for all office and field operations that ensured the successful inventory and management of cultural resources related to this 300-mile transmission line project, including the management of standing historical structures and paleontological resources. He managed an annual budget in excess of $4 million, a staff of up to 40 persons, wrote compliance documents (Programmatic Agreement Appendices, ARPA permits, Project Agency Yearly Reports, and Management Plans), and managed

hazmat situations. Dr. Bischoff completed over 150 individual projects in southern California including survey, evaluation, mitigation, and resource monitoring. (November 2009 - June 2011)

- **East Kern Wind Resource Area (EKWRA) Power Pole Replacement Project, Southern California Edison, Kern County, CA.** Principal and Project Manager. Dr. Bischoff managed original technical studies for a project designed to replace hundreds of power poles in the Tehachapi Mountains area in support of new wind farm construction. He conducted large area surveys, some on BLM properties, and developed a management plan for dozens of archaeological sites. Bureau of Land Management was the principal federal agency. (February 2010 - June 2011)
- **Operations and Maintenance Contract, Southern California Edison. Southern California.** I acted as the Principal for all work orders issued to our office under the O/M contract. A major task under this contract was the response to the Crown Fire in 2010. I worked directly with SCE during and immediately after the fire to evaluate and protect cultural resources. (Jan 2010 - June 2011)

Telecommunication Projects

- **AT&T Fiber-optics Renewal Project, Evaluations, Mitigations, and Monitoring, AT&T, San Bernardino County, CA.** Cultural Principal and Project Manager. Dr. Bischoff will provide project management, technical writing, and quality control for the cultural and paleontological evaluations, data recoveries, and monitoring efforts for the AT&T fiber renewal project. This project involved the survey of over 90 miles of proposed new fiber-optic line between Barstow and Las Vegas, NV, and the management of over 100-cultural sites. Bureau of Land Management and Mojave National Preserve were the principal federal agencies. (July 2013 – October)
- **San Diego Churches and Public Building Historic Structure Evaluations, DePratti Inc., City of San Diego, CA.** Principal Investigator. Dr. Bischoff acted as Principal and QA/QC manager for this project, which involved the evaluation of dozens of historic structures as part of the DePratti Communication telecommunication attachment project in the City of San Diego. (November 2011 – October 2013)
- **AT&T Fiber-optics Renewal Project, Surveys, Literature Searches, and Technical Studies, AT&T, San Bernardino County, CA.** Cultural Principal and Project Manager. Dr. Bischoff provided general project management and quality control for the cultural, paleontological, and ethnographic surveys, literature searches, and technical studies. This project involved the survey of over 90 miles of proposed new fiber-optic line between Barstow and Las Vegas, NV, and the management of over 100-cultural sites. Bureau of Land Management and Mojave National Preserve were the principal federal agencies. (April 2012 – July 2013)
- **Digital 395 Broadband Stimulus Project, Praxis and California Broadband Corporation, California and Nevada.** Cultural Director. Dr. Bischoff acted as the California report manager of the cultural division, directed fieldwork, and authored management documents and reports. This project involved the new installation of over 650 miles of fiber-optic line across California and Nevada. The programmatic agreement of this complex project included 10 federal, state, and tribal agencies, with another seven acting as interested parties, and the management, evaluation, and monitoring of over 170 cultural sites. NTIAA was the principal federal agency, but also involved twelve other California and Nevada state and federal agencies and Tribal Groups. (November 2011 – April 2012)

Defense Projects

- **Edwards Airforce Base Telecommunication Cultural Monitoring, Team Fischel Company, Edwards AFB, Kern County, CA.** Project Manager and Principal for the cultural monitoring of 40-miles of telecommunication trenching on Edwards AFB, including pre-construction meetings and a final monitoring report. (May 2013 – Sept. 2013)
- **Fort Irwin Cell Tower Surveys and Monitoring, Northrop-Grumman and Fort Irwin Army Post, San Bernardino County, CA.** Principal. This project involves the cultural and paleo survey of over 24 new cell tower locations and associated access roads on Fort Irwin, as well as construction phase monitoring. (April 2013 – October 2013)
- **Marine Corps Base, Camp Pendleton, Cultural Resources Consultation, Marine Corps Base, Pendleton, San Diego County, CA.** On-Call Senior Cultural Resources Consultant. Dr. Bischoff provided senior-level cultural resource consultation related to Camp Pendleton's Basewide Utilities Infrastructure Improvements project. He provided consulting on cultural resource management for several waste treatment and utility line systems as part of the Camp's "Grow the Force" initiative. (2011 – October 2013)

Water Projects

- **Pacoima Spreading Grounds Improvement Project, LACDPW, Los Angeles County, CA.** Cultural Principal. Dr. Bischoff managed the cultural resources record search and CEQA cultural section mitigation measures of an EIR for the improvement of the Pacoima spreading grounds and related canal resources. (April 2013 – October 2013)
- **Devil's Gate Reservoir Sediment Removal and Management Project, LACDPW, Los Angeles County, CA.** Principal of Cultural Resources. This project involved removal of sediment within the Devil's Gate Reservoir area, which required a preliminary cultural survey and record search under CEQA, as well as an EIR. Dr. Bischoff served as the cultural principal for the project and provided a recommended plan for dealing with sedimentary soils vs. native soils, monitoring criteria, and potential discovery situations. Dr. Bischoff helped write Environmental Impact Report sections, and worked with the Gabrieliño Tribal Group in the protection of archaeological and tribal cultural resources. (2011 – October 2013)
- **Peck Road Spreading Basin Improvement Project, LACDPW, Los Angeles County, CA.** Cultural Principal. Dr. Bischoff managed the cultural resources record searches, field survey, paleontological survey, and CEQA cultural section mitigation measures of an MND for the improvement of the Peck Road Spreading Basin, including a related new water discharge pipe. (June 2013 – September 2013)
- **Marina Del Rey Waterline Replacement Project Cultural Monitoring, LACDPW, Los Angeles County, CA.** Cultural Principal. This project with the Los Angeles Department of Public Works involved the cultural monitoring for the Marina Del Rey 18-inch Waterline Replacement. Chambers Group also provided a qualified archaeological monitor at the project site during excavation activities during construction. (March - May 2013)
- **Dieguito Wetlands Restoration Monitoring, Southern California Edison, Del Mar, San Diego County, CA.** Principal Investigator and Project Manager. This project involved the extensive rehabilitation of Southern California Edison property as part of the Dieguito Wetlands Restoration project. (April 2012 - January 2013)

- **Los Penasquitos Wetlands Monitoring, AMEC, Del Mar, San Diego County, CA.** Principal Investigator. Dr. Bischoff managed the monitoring tasks, budgets, and professional standards for this project near the City of Del Mar as part of the Torrey Pines State Nature Reserve restoration. (October - December 2012)
- **San Gorgonio Creek Water Recharge Basin Construction Monitoring, Beaumont Cherry Valley Water District, Cherry Valley, Riverside County, CA.** Principal and Project Manager. This project involved paleontological and archaeological construction monitoring during construction, including emergency evaluation and monitoring when early 19Th Century structures and materials were unexpectedly encountered during earth moving. (February 2012 – April 2012)
- **Penmar Golf Course Water Quality Improvement Project, Pacific Hydrotech and City of Santa Monica, Santa Monica, CA.** Principal Investigator. Dr. Bischoff managed QA/QC review, budgets, and professional standards for the project in the City of Venice. Penmar was a multi-year waterline and tank improvement project in which evidence of ethnic Japanese barrios and fossil Pleistocene animal bones were discovered. (November 2011 - November 2012)
- **Oxford Retention Basin Flood Protection Project, LACDPW, Los Angeles County, CA.** Principal and Project Manager. The Oxford Basin in Marina Del Rey was receiving enhancement, and Dr. Bischoff managed the completion of the cultural survey, literature review, and construction monitoring for the project. (2011 - 2012)
- **San Jose Salt Barge HAER Documentation Project, USACE and Santa Clara Valley Water District, City of San Jose, CA.** Principal. Dr. Bischoff consulted on the excavation and evaluation of a shallow-water shipwreck discovered during a wetlands rehabilitation project. This project involved USACE, San Francisco District as lead agency and the Water District as client. (January – February 2011)

Public Works Projects

- **Oakwood Schools Built Environment and Archaeological Assessment.** Principal and Project Manager for the Phase I built environment and archaeological assessment of the project property prior to the construction of a new middle and high school campus. Challenging tasks were assessing indirect effects of the project on an adjacent historic district, and addressing a modern human cremation garden in the report. (November 2015 – February 2016)
- **CEQA Services for Improvements to Polytechnic and Wilson High Schools, LBUSD, City of Long Beach, CA.** Cultural Principal. Dr. Bischoff provided oversight and incorporation of the historic architecture technical reports into the project CEQA documents. (June 2013 – August 2013)
- **Mill Creek Crew Room Cultural Monitoring, Angeles National Forest (ANF), Los Angeles County, CA.** The County of Los Angeles Department of Public Works proposed to replace the crew room building within the Angeles Forest Mill Creek Summit Maintenance Yard facility. This CEQA/NHPA project involved the preparation of a treatment and discovery plan document, ARPA permitting, constant consultation with the ANF, construction monitoring, and a final monitoring report. (April – July 2013)
- **Roosevelt School, LBUSD, City of Long Beach, CA.** Cultural Principal. Dr. Bischoff provided oversight, authorship, and counsel on the EIR for the demolition of the Roosevelt Elementary School in Long Beach. This proved to be a complex project, involving an historic built environment resource evaluation and mitigation plan, legal investigation, and extensive responses to public comments. This process resulted in a HABS/HAER mitigation project. (November 2011 - June 2012)

Transportation Projects

- **Foothill Toll Road Cultural and Paleontological Monitoring, Ghiradelli and Associates, Orange County, CA.** Principal and Project Manager for cultural monitoring related to the upgrade of all toll road payment stations in Orange County. (October 2013 – October 2013)
- **9th Street Extension Historic Structure Inventory and Evaluation, City of Holtville, Imperial County, CA.** Principal and Project Manager. Dr. Bischoff managed and provided QA/QC for this project involving a Caltrans inventory of project APE historic built environment resources, and the historic evaluation of a canal feature. Final deliverables included a Historic Resources Evaluation Report and a Historic Property Survey Report to CALTRANS standards. (June 2013 – August 2013)
- **Francisquito Bridges Replacement (3-Total), LADWP/CALTRANS, Los Angeles County, CA.** Principal. Dr. Bischoff managed and oversaw the completion of this project in the Angeles Forest. This project involved the replacement of three existing bridges on San Francisquito Canyon Road over San Francisquito Canyon Creek. The proposed improvement project involved widening the two lane bridges, improvement of approachment roadway, and the placement and installation of retaining walls, concrete barriers with tubular-steel handrails, and metal beam guardrails. (2011 – September 2013)
- **Murrieta Whitewood Road Extension, City of Murrieta, Riverside County, CA.** Principal and Project Manager. This road extension project involved a cultural resource survey and records search, a paleontological field study, and Native American Consultation due to the historic use of the nearby Murrieta Hot Springs by local Native Americans. (April – June 2012)

Appendix C1
Geotechnical Report

GEOTECHNICAL REPORT
PROPOSED BROOKVIEW RANCH BRIDGE
AGOURA HILLS, LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

Brookview Ranch, LLC

2972 Triunfo Canyon Road
Agoura Hills, Los Angeles County, California 91301

Project No. 12563.001

September 14, 2020

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

September 14, 2020

Project No. 12563.001

Brookview Ranch, LLC
2972 Triunfo Canyon Road
Agoura Hills, Los Angeles County, California 91301

Attention: Dr. Thomas Knapp

Subject: Geotechnical Report
Proposed Brookview Ranch Bridge
Agoura Hills, Los Angeles County, California

Leighton Consulting, Inc. (Leighton) is pleased to submit this report presenting the results of our geotechnical exploration for the proposed Brookview Ranch Bridge crossing Triunfo Creek (project site) in the unincorporated Agoura Hills area of Los Angeles County, California. The purpose of this exploration was to evaluate the geologic and geotechnical conditions at the project site, and to provide recommendations for design and construction of the bridge.

We appreciate the opportunity to be of service to you on this project. If you have any questions or if we can be of further assistance, please call us at your convenience.

Respectfully submitted,

LEIGHTON CONSULTING, INC.

REGISTERED PROFESSIONAL ENGINEER
ROBERT P. HENNESSEY
No. 86902
CIVIL
STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST
GEOFFREY FANEROS
No. 2512
STATE OF CALIFORNIA

Robert P. Hennessey, PE 86902
Senior Project Engineer

Geoffrey Faneros, PG, CEG 2512
Senior Project Geologist

RPH/GF/lr

Distribution: (1) Addressee

TABLE OF CONTENTS

Section **Page**

1.0 INTRODUCTION 1
1.1 Site Location and Description 1
1.2 Proposed Bridge Structure 1
1.3 Design Standards 2
1.4 Purpose and Scope of Work 2
1.5 Previous Study 3
2.0 FIELD EXPLORATION AND LABORATORY TESTING 4
2.1 Field Exploration 4
2.2 Geotechnical Laboratory Testing 4
3.0 GEOLOGY AND SUBSURFACE CONDITIONS 5
3.1 Regional Geology 5
3.2 Subsurface Soil and Bedrock Conditions 5
3.3 Groundwater Conditions 6
3.4 Idealized Soil Profile 6
3.5 Scour Potential 7
4.0 SEISMIC HAZARDS 8
4.1 Surface Fault Rupture Potential 8
4.2 Seismicity and Ground Motions 8
4.3 Liquefaction Potential and Associated Hazard Evaluation 9
4.4 Earthquake-Induced Landslides 10
4.5 Seiches and Tsunamis 10
5.0 CONCLUSIONS AND RECOMMENDATIONS 11
5.1 Earthwork and Grading 11
5.2 Bridge Approaches Embankments 11
5.3 Foundation Recommendations 12
5.4 Lateral Pile Capacity 15
5.5 Corrosion Evaluation 15
5.6 Construction Considerations 15
5.6.1 Permanent Casing 16
5.6.2 Acceptance Criteria 16
5.6.3 Installation Methods 17
6.0 LIMITATIONS 19

Leighton

TABLE OF CONTENTS (CONTINUED)

Section Page

Tables

Table 1 - Unconfined Compression Test Results 6
Table 2 - Idealized Soil Profile 7
Table 3 – Fault Characteristics 8
Table 4 - Earth Pressure Design Parameters for Abutment Walls 11
Table 5 - Geotechnical Design Parameters for Pile Design 13
Table 6 – Pile Design Recommendations 14
Table 7 – Soil Corrosion Potential 15

ATTACHMENTS

Figures

Figure 1 – Site Location Map
Figure 2 – Regional Geology Map
Figure 3 – Seismic Hazards Map
Figure 4 – Flood Hazard Zone Map
Figure 5 – Dam Breech Inundation Map
Figure 6 – Boring Location Plan
Figure 7 – Geologic Cross Section A-A’
Figure 8 – Retaining Wall Backfill

Appendices

Appendix A – References
Appendix B – Exploration Logs
    Figure B1 – Core Box Photo, Boring LB-1
    Figure B2 – Core Box Photos, Boring LB-2
    Figure B3 – Core Box Photos, Boring LB-3
Appendix C – Laboratory Test Results
Appendix D – Seismic Hazard Analysis
Appendix E – Shaft Analysis

1.0 INTRODUCTION

1.1 Site Location and Description

Brookview Ranch is located northeast of Triunfo Canyon road in the Agoura Hills area of Los Angeles County, California (Figure 1*, Site Location Map*). The site is within a canyon area of the Santa Monica Mountains that is developed by single family residences and ranches. The bridge will be constructed at the entrance to the subject property, extending perpendicular to the northbound lane of Triunfo Canyon Road, and will cross Triunfo Creek

Site access is currently provided by an existing at-grade concrete "Arizona" crossing. The Arizona crossing will remain in place during and after bridge construction. Triunfo Creek flows seasonally with fluctuation in rain and release from Westlake Reservoir.

Earth Systems Southern California (ESSC, 2006) previously prepared a geotechnical report for bridge construction at the site. The report was available from the County of Los Angeles and was reviewed during preparation of this report.

1.2 Proposed Bridge Structure

The new Brookview Ranch Bridge, spanning approximately 200 feet between abutments, will have three (3) spans supported on two (2) single-pile bents (Pier 2 and Pier 3) and two (2) abutments. The existing ground elevations at the proposed southwestern abutment (Abutment 1) and northeast abutment (Abutment 4) are approximately +796 feet and +792 feet, respectively. The existing ground elevation at the proposed Pier 2 and Pier 3 supports is approximately +786 feet.

The current foundation arrangement for support of the bridge structure consists of one (1) 36-inch diameter cast-in-drilled-hole (CIDH) pile at each of the bent locations and six (6) 24-inch diameter CIDH piles at each of the abutment locations. Based upon prior evaluation of the site (ESSC, 2006), all CIDH piles were planned to be socketed in the bedrock that underlies the project site.

A retaining wall on the order of five (5) feet in height will be constructed at the northeast abutment and supported on the CIDH rock sockets. Wing walls will be constructed at each abutment for support of approach fills. Additional retaining walls may be constructed along the road alignment or other areas of the property and can use the recommendations in this report for design and construction.

1.3 Design Standards

For the purpose of this project, our geotechnical exploration and design recommendations will conform to the American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications 6th edition of the California Amendment and other Caltrans documents related to bridge design (See Appendix A, *References*).

1.4 Purpose and Scope of Work

The purpose of our field exploration was to evaluate the subsurface conditions at the project site and to develop foundation recommendations and geotechnical design parameters for the planned bridge.

Our scope of work included the following tasks:

- *Literature Review*: We reviewed various documents pertinent to the project site including previous geotechnical reports and others (See Appendix A, *References*).

- *Permits:* Prior to field activities permits were obtained by Leighton and Envicom from Los Angeles County Health Department and California Department of Fish and Wildlife (CDFW), respectively. Those permits were solely for the field activities associated with the field exploration program completed for this report; additional permits may be required for construction.

- *Field Exploration*: Cascade Drilling was retained by Leighton to advance three (3) borings along the proposed bridge alignment. The borings were logged in the field by a California Certified Engineering Geologist from our firm.

- *Geotechnical Laboratory Testing:* We conducted geotechnical laboratory testing of representative soil and bedrock samples obtained during the field exploration for soil classification and to evaluate engineering properties of the earth materials encountered.

- *Geotechnical Analyses and Design*: We performed geotechnical and seismic analyses using the collected data to develop geotechnical design recommendations for foundations and construction of the proposed bridge.

- *Report Preparation*: We prepared this report presenting our geotechnical findings, conclusions and recommendations for the proposed project.

1.5 Previous Study

An *Engineering Geology and Geotechnical Engineering Report* for a proposed entry bridge at this site was prepared by Earth Systems Southern California (Earth Systems, 2006) for the previous owner of the property, Philip Atwell. As part of their report, two (2) exploratory borings were excavated at the southwest and northeast sides of Triunfo Creek adjacent to the proposed bridge location as shown on Figure 6, *Boring Location Plan*. The boring logs associated with Earth Systems report were consistent with the findings in our exploratory borings and are included in Appendix B, *Exploration Logs*.

2.0 FIELD EXPLORATION AND LABORATORY TESTING

2.1 Field Exploration

Prior to performing the field exploration, Leighton performed a visual site reconnaissance to locate the proposed boring locations and evaluate access for drilling equipment. The proposed boring locations were marked and Underground Service Alert (USA) was notified for utility clearance.

On November 4 - 6, 2019, Leighton performed subsurface field exploration at the subject site consisting of three (3) mud rotary borings (B-1 through B-3) near the locations of the proposed foundations as shown on Figure 7, Geologic Cross Section A-A'. A boring could not be drilled during this study at the location of Abutment 1 due to utility interference and/or sloping ground conditions. In general, mud rotary drilling and drive sampling was conducted until bedrock was encountered. Once bedrock was encountered, continuous rock core drilling was performed to the total depth of exploration. The maximum drilling depth was 30 feet at boring LB-2 with approximately 19.55 feet of penetration into bedrock.

The drilling activities were supervised and the subsurface conditions were logged during drilling by a California Certified Engineering Geologist from Leighton. The boring locations are presented on Figure 6, Boring Location Plan, and profiles are shown in Appendix B, Exploration Logs. Photographs of the cores are presented in Figures B1-B3.

2.2 Geotechnical Laboratory Testing

The engineering properties of the site soil and bedrock materials were evaluated by testing representative samples obtained during drilling by the following test methods:

- Expansion Index (ASTM D4829);
- Direct Shear (ASTM D3080);
- Unconfined Compressive Strength (ASTM D 2166); and
- Corrosion, including water-soluble sulfate (CTM Test 417), water-soluble chloride (CTM Test 422), pH and minimum resistivity (CTM Test 532/643).

The results of the laboratory tests are presented in Appendix C, *Laboratory Test Results*.

3.0 GEOLOGY AND SUBSURFACE CONDITIONS

3.1 Regional Geology

The site is located within the Transverse Ranges Geomorphic Province of California. The Transverse Ranges are generally characterized by an east-west trending geologic structure, with primary faults, folds, mountains and valleys aligned in an east-west direction. The region is tectonically active, with high rates of uplift, folding, and sedimentation driven by north-south compression associated with the convergence of the North American plate and the Pacific Plate. The subject site is located within alluvial deposits of Quaternary in age overlying the Conejo Volcanics bedrock of Miocene in age (Dibblee and Ehrenspeck, 1993).

3.2 Subsurface Soil and Bedrock Conditions

Based on our subsurface explorations, the site is underlain by alluvial flood plain deposits and Conejo Volcanic bedrock.

The young alluvial soils (map unit: Qa) encountered in the borings within the active river channel consist predominantly of silty sand with localized zones of abundant cobbles and possible boulders. Based on limited blow counts obtained during drilling, the density of the alluvium was primarily loose to medium dense.

Conejo Volcanics bedrock (map unit: Tcvb) was encountered beneath the alluvial soils at approximately 17 feet bgs (elevation +775.5 feet) in boring LB-1 near Abutment 4; at approximately 10.5 feet bgs (elevation +776.2 feet) in boring LB-2 near Pier 2; and at approximately 10.2 feet bgs (elevation +776.4 feet) in boring LB-3 near Pier 3. Boring B-2 by Earth Systems (2006), suggests bedrock was encountered at approximately 17 feet bgs (elevation +775.9 feet) west of Abutment 1.

The bedrock underlying the alluvial deposits consists of slightly weathered to fresh, slightly fractured, dark gray basaltic breccia. The rock quality designation (RQD) of the bedrock was generally fair to excellent except at boring LB-1 where the RQD was poor. However, the RQD at LB-1 was considered to be associated with drilling operations and not representative of the rock mass. The unconfined compression test results of the selected bedrock core samples are as follows:

Table 1 - Unconfined Compression Test Results

Boring ID	Sample Depth (feet)	Unconfined Compression (psi)
LB-2	10.5-10.6	5,470
LB-2	20.0-20.9	8,510
LB-3	10.4-11.4	5,890
LB-3	17.7-19.0	6,730

3.3 Groundwater Conditions

Groundwater was not directly measured in the borings due to the method of drilling (mud rotary). However, groundwater was measured by Earth Systems (2006) at approximately 8 feet to 10 feet bgs. The historic ground water level is generally shown to be 10 feet bgs or greater as documented by the California Geological Survey (formerly the California Division of Mines and Geology) Open File Report to the Point Dume 7.5-minute quadrangle (CGS, 2001).

The groundwater depth will depend on the water level in Triunfo Creek. Fluctuations of the groundwater level should be anticipated during and following precipitation that typically occurs during the winter season and/or periods of locally intense rainfall or storm water runoff. For purposes of geotechnical analysis, the design groundwater was assumed to be intermittent at El. +785 feet.

The Flood Hazard Zone Map (Figure 4) and Dam Breech Inundation Map (Figure 5) are provided for reference. A detailed hydraulic study is being conducted by Pacific Coast Civil.

3.4 Idealized Soil Profile

Based on the results of field exploration and laboratory testing, the subsurface soil at the site may be represented by an idealized soil profile as follows:

Table 2 - Idealized Soil Profile

Support Location	Approximately Elevation (feet)	Predominant Soil Type (USCS)	SPT Blowcount $(N1)_{60}$	Angle of Internal Friction (degree)	Intact Shear Strength (ksf)
Abutment 1	+796 to +780	SC	10	33	
	Below +780	Bedrock			700
Pier 2	+786 to +775	SC	12	33	
	Below +775	Bedrock			700
Pier 3	+786 to +775	SC	12	33	
	Below +775	Bedrock			700
Abutment 4	+792 to +782	SM	12	33	
	+782 to +772	SC	12	33	
	Below +775	Bedrock			700

Groundwater is assumed at elevation +785 feet.

3.5 Scour Potential

Scour potential was evaluated by Sikand Engineering Associates (Sikand), the project Civil Engineer, and will be addressed in their plans. The existing concrete Arizona crossing is planned to remain in place, as well as the rip rap lining of the banks of the creek upstream and downstream of the bridge location. Considering the concrete is to remain in place within the bridge footprint, and the riprap that lines the upstream and downstream banks, scour is not anticipated to affect the bridge foundation design.

4.0 SEISMIC HAZARDS

The site is located in a seismically active region of southern California with several major active and potentially active faults within the region that are capable of generating earthquakes with a Magnitude of 7.0 and larger. The following sections discuss the major faults in the vicinity of the project site and the potential seismic hazards associated with strong earthquakes resulting from these faults and other major faults in the region.

4.1 Surface Fault Rupture Potential

Our review of available in-house literature indicates that no known active faults have been mapped traversing the project site, and the site is not located within a California designated Alquist-Priolo Earthquake Fault Zone (CGS, 1990; Bryant and Hart, 2007). Therefore, a surface fault rupture hazard evaluation is not mandated for this site and the potential for surface fault rupture at the site is considered to be low. In addition, per Caltrans Memo to Designer 20-10 (Caltrans, 2013), further fault study is not required since the site is not located within an AP zone or within 1,000 feet of an unzoned fault that is Holocene or younger in age.

4.2 Seismicity and Ground Motions

The site is expected to experience moderate to strong earthquake ground motions during its life span. The magnitude of ground motion is generally characterized by using the peak horizontal ground acceleration (PHGA). Based on the fault database in the Caltrans ARS Online (v2.3.09) web tool (http://dap3.dot.ca.gov/ARS_Online/), the three principal earthquake faults in the area and the deterministic seismic parameters of these faults are summarized in the table below:

Table 3 – Fault Characteristics

Fault ID/Name	Type of Slip	Maximum Magnitude	Distance From Site (km)	Estimated PHGA (g)
348/Anacapa-Dume alt 1	Reverse	7.2	11.94	0.47
341/Santa Monica	Strike Slip	7.0	11.56	0.27
346/Malibu Coast alt 2	Strike Slip	6.6	9.63	0.29

Using the ARS web tool, the probabilistic and deterministic ARS curves were developed for each abutment using an assumed V_{S30} of 760 m/s for the very hard Conejo Volcanic Bedrock. Based on analysis and by comparing the probabilistic and deterministic ARS curves at each abutment, the probabilistic ARS curves will be the governing design ground motion. The design ARS curve with adjustments for near fault and basin effects is presented in Appendix D, *Seismic Hazard Analysis.* Development of vertical response spectral is excluded from the current scope.

Based on the enveloped ARS curve, the PHGA at the site is approximately 0.48g. By deaggregating the PHGA with respect to magnitude and distance, the modal earthquake for the site is a magnitude 7.1 event at a distance of 12.5 miles from the site.

4.3 Liquefaction Potential and Associated Hazard Evaluation

Soil liquefaction is a general term in reference to reduction of strength and stiffness in soils due to build-up of pore water pressure during strong ground shaking. Common hazards associated with soil liquefaction are reduction in bearing support of foundations, ground settlement and downdrag load on piles, slope instability (flow failure), and lateral spread in gently sloping ground.

Liquefaction Potential: A small portion of the project site is located within an area identified as potential liquefaction hazard zone by the California Geologic Survey (CGS, 2002) The alluvial soils along the proposed bridge alignment generally consist of medium dense silty sand and clayey sand with gravel with localized zones of cobbles and possible boulders. The sediments encountered below the channel consists of gravels with significant quantities of cobbles and probable boulder-size material overlying bedrock. Fine content of some of the alluvial soils was determined to be on the order of 45 percent.

Based on the relative density of the alluvial soils encountered at the proposed abutment locations, there is potential for liquefaction should the groundwater level rise above the contact with the bedrock at the time the design seismic event occurs. The occurrence of liquefaction will result in some additional load demand on the piles due to post-liquefaction settlement (“downdrag”) that occurs as equilibrium is reestablished in the soils; and lateral displacement due to the sloping grade along the channel walls and the tendency for the overlying non-liquefied soils to move laterally toward the channel bank (“lateral spread”).

In consideration of the design groundwater level at El. 785 feet, approximately 8 feet above the bedrock material, the downdrag and lateral spread effects of liquefaction were evaluated. Downdrag is estimated to result in an additional axial compressive load demand ("drag load") of 56 kips at Abutment 1 and 73 kips at Abutment 4. Slope stability analysis indicated the lateral load demand on the abutment pile foundations is approximately 2.3 kips per lineal foot of abutment slope based on a coefficient of horizontal ground acceleration (k_h) of 0.15 to yield a calculated factor of safety of 1.1. Slope stability analysis for lateral loading on pile is included in Appendix D *Seismic Hazards Analysis*.

The concrete associated with the existing at grade crossing that lines the channel is to remain in place post-construction. Due to the relatively thin thickness of the concrete (approximately 8 inches) and the uncertainty concerning its structural capacity, no reinforcing effect of the concrete was considered in the lateral spread stability analysis.

4.4 Earthquake-Induced Landslides

The project site is not mapped in a seismically-induced landslide hazard area according to the California Geologic Survey. The immediate area adjacent to the bridge alignment is relatively flat and the bedrock is observed to be massive. The potential for seismically-induced landslide is low.

4.5 Seiches and Tsunamis

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. Tsunamis are waves generated in large bodies of water by fault displacement or major ground movement. Based on the absence of enclosed bodies of water near the site and the inland location of the site, seiches and tsunami risks at the site are considered negligible.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our exploration, we conclude that the proposed Brookview Ranch Bridge Project is feasible from a geotechnical standpoint. The following sections provide recommendations to aid in the design and construction of the proposed bridge improvements.

5.1 Earthwork and Grading

Earthwork construction should be performed in accordance with County of Los Angeles Building code. Design and construction of shoring and temporary excavation is the responsibility of the contractor and should conform to all State and local safety requirements. The geotechnical engineer should review the shoring plans prior to implementation.

Site Preparation: Prior to construction, the site should be cleared of any vegetation, trash and/or debris within the area of proposed grading. These materials should be removed from the site.

Fill Placement and Compaction: Onsite and excavated materials free of debris and oversized materials (rocks greater than 6 inches in largest diameter) are suitable for use as structural compacted engineered fill.

All fill soil should be placed in thin, loose lifts, moisture conditioned to near optimum moisture content, and compacted to a minimum 90 percent relative compaction as determined by ASTM D1557 test method.

5.2 Bridge Approaches Embankments

Earth Pressure: The lateral earth pressure parameters for designing abutment walls are as follow:

Table 4 - Earth Pressure Design Parameters for Abutment Walls

Condition	Level Backfill	2:1 Back Slope
Active (K_a)	0.29	0.45
At-Rest (K_0)	0.45	0.69
Level Passive (K_p)	3.39	
Coefficient of Friction	0.40	

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The values included in Table 4 are ultimate (i.e., FS=1.0). The structural engineer should apply the appropriate reduction factors for design.

If applicable, a uniform pressure of 72 pounds per square foot (psf) due to vehicle surcharge should be added to the lateral earth pressure. A moist unit weight of 120 pounds per cubic foot is recommended for calculating the earth pressure.

The recommendations are for granular soil backfill with a proper wall drainage system to prevent hydrostatic pressure build-up behind the wall, as shown Figure 8. When the wall is free to move (unrestrained) at the top, the wall may be designed using active pressure. When the wall is restricted from movements at the top, at rest pressure should be used for designing the walls. The values provided in Table 4 can be used for other retaining walls outside of the abutments provided the structural engineer applies the appropriate reduction factors for design.

5.3 Foundation Recommendations

The design for axial loading of CIDH piles followed the steps outlined in the Federal Highway Administration (FHWA) National Highway Institute (NHI) Publication No. FHWA-NHI-10-016, *Drilled Shafts: Construction Procedures and LRFD Design Methods* (FHWA-NHI, 2010). Design parameters of the soil conditions for the 24-inch and 36-inch diameter CIDH piles are provided in the tables below.

Table 5 - Geotechnical Design Parameters for Pile Design

Locations	Elevations	Groundwater Elevations	Geologic Units[1]	Soil Type [2]	Total Unit Weight (pcf)	Blow Counts $(N1)_{60}$	Friction Angle[3] (degree)	Intact Rock Modulus (psi)	Coefficient of Subgrade Reaction (lb/in^3)
									Sand
Abutment 1	796 – 779	786	Qal	Sand	120	10	33		90 (above El. 785); 60 below
	< 779		Tcvb	Bedrock	150			1.25E6	
Pier 2	787 – 777		Qal	Sand	120	12	3		125
	< 777		Tcvb	Bedrock	150			1.25E6	
Pier 3	787 – 777		Qal	Sand	120	12	33		125
	< 777		Tcvb	Bedrock	150			1.25E6	
Abutment 4	792 – 775		Qal	Sand	120	12	33		90 (above El. 785); 60 below
	< 775		Tcvb	Bedrock	150			1.25E6	

Notes:

1. Geologic Units
   Qal: Alluvium, Tcvb: Conejo Volcanic Bedrock
2. The following are recommended LPILE default p-y curves for the above idealized soil types:

Predominant Soil Types	LPILE Default p-y Curve Model
Sand	(Reese) should be used for non-seismic loading.
Bedrock	Weak Rock should be used. A modulus reduction ratio of 0.1 should be used at Abutment 4 and 0.35 at Abutment 1, Pier 2 and Pier 3. Krm of .0005 can be used. Uniaxial compressive strength of 5,500 psi can be used. RQD is shown on boring logs in Appendix B.

3. Based on correlation of (N1)60 blowcounts with friction angle (Caltrans Geotechnical Manual, 2014)

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Table 6 – Pile Design Recommendations

Support Location	Pile Type	Cut-off Elevation (ft)	Service-I Limit State Load per Support[2] (kips)		Total Permissible Support Settlement (inches)	Factored Design Loads (kips)						Design Pile Length (from Cut-off Elevation) (ft)	Design Tip Elevations[1] (ft)	Specified Tip Elevations[3] (ft)
						Strength Limit State / Construction			Extreme Event-I State[4]					
						Comp. (φ_{qs} = 0.5)		Tension (φ_{qs} = 0.7)	Comp. (φ_{qs} = 1.0)		Tension (φ_{qs} = 1.0)			
			Total	Permanent		Per Sup-port	Max Per Pile		Per Sup-port	Max Per Pile				
Abutment 1	24" Dia. CIDH Pile	782.13	366	194	1.0	729	153	0	N/A	N/A	N/A	14.2 (a) 11.2 (b)	773 (a) 776 (b)	773
Pier 2	36" Dia. CIDH Pile	786	663	289	1.0	1007	1007	0	N/A	N/A	N/A	12 (a) 9 (b)	774 (a) 777 (b)	774
Pier 3	36" Dia. CIDH Pile	786	678	279	1.0	1007	1029	0	N/A	N/A	N/A	12 (a) 9 (b)	774 (a) 777 (b)	774
Abutment 4	24" Dia. CIDH Pile	780.88	364	188	1.0	757	159	0	N/A	N/A	N/A	17.7 (a) 14.7 (b)	769 (a) 772 (b)	769

Notes:

1. Design tip elevations are controlled by: (a) Compression (Strength Limit), (b) Settlement.
2. For Service Limit State per Support = Abutment 1 & Abutment 4 total load at pier
   Pier 2,& 3 load at each pile
3. The specified tip elevation shall not be raised without approval from the Engineer. All piles should be embedded a depth equivalent to one (1) diameter into bedrock.
4. Based on structural design the extreme event is not applicable to this bridge at this time.
5. Piles should not be placed closer than 2 times the diameter of the pile center-to-center.

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5.4 Lateral Pile Capacity

The analysis of the CIDH piles subject to lateral load is being performed by Specs Civil Solutions using the soil parameters presented in the Idealized Soil Profile Table. In addition, p-multipliers based on Table 10.7.2.4-1 of the ASSHTO Bridge Design Specifications (2012) should be incorporated in the analysis of the piles subject to longitudinal and traverse lateral. Upon completion, the analysis and design are recommended to be submitted to the geotechnical engineer for review.

5.5 Corrosion Evaluation

As a screening for potentially corrosive soil, a representative soil sample was tested to assess minimum resistivity, chloride content, and pH. The test results are included in Appendix D of this report and are summarized in the following table.

Table 7 – Soil Corrosion Potential

Test	Results	Corrosivity Threshold[1]	General Classification of Hazard
Water-Soluble Sulfate (ppm)[2]	350	> 2,000 ppm	Low Sulfate Exposure on Concrete
Water-Soluble Chloride (ppm)	189	> 500 ppm	Low Chloride Exposure on Concrete
pH	7.57	≤ 5.5	Slightly Alkaline Soil
Minimum Resistivity (oh-cm)	420	≤ 1000	Very severely corrosive to buried metals

Notes:
1. Threshold values are per Caltrans Standard.
2. ppm: Parts per million.

5.6 Construction Considerations

Earthwork Construction: Earthwork Construction should follow Caltrans Standard Specifications, Section 19 (Caltrans 2015) and applicable Los Angeles County guidelines. Open excavation is expected for the construction of the abutments. The contractor should be responsible for excavation safety. Shoring, if required should be designed by a Registered Civil Engineer and the plans should be review by the Geotechnical Engineer prior to implementation. Heavy equipment and or stockpile should not be operated or placed immediately adjacent to open or shored

excavation unless surcharge pressure from the equipment has been properly accounted for. The contractor should be responsible for controlling surface water and groundwater to accommodate construction. Water should be removed from excavation to allow a dry bottom suitable for placing and compacting soil fill.

CIDH Pile Installation: The bridge piers will be supported by 3-foot diameter CIDH piles and abutments will be supported by 2-foot diameter CIDH piles. The contractor should follow requirements of Caltrans Standard Specifications Section 49 (Caltrans 2015) for "wet" CIDH pile construction. In addition, Gamma-Gamma testing per CT 233 should be performed to verify the pile integrity. Pile drilling activities should be observed by Leighton during drilling.

5.6.1 Permanent Casing

If a construction joint is utilized, a permanent casing must be used in accordance with 49-3.02C(7) of 2015 Caltrans Standard Specifications per Section 01-14-21.01-Exhibit A-10 of the CAHST Project Construction Specifications. In general, casings may be installed by impact hammer, vibratory hammer, oscillators, rotators, or by placing in a drilled hole. We recommend that the casing consist of corrugated steel. This casing should be installed in an oversized drilled hole and grouted in place in accordance with Caltrans Standard Specifications Section 49-3.02C(6). Grouting the annulus is equivalent to pouring a CIDH and, therefore, no reduction in skin friction or increase in pile length would be necessary with this type of permanent casing installation. The use of other methods/types of permanent casing at the construction joint will require review of the axial capacity calculations and may result in the need for slightly deeper tip elevations.

5.6.2 Acceptance Criteria

Pile acceptance criteria employed by Caltrans typically consists of gamma-gamma logging to evaluate concrete density for homogeneity depending upon pile diameter and construction method. Based on the diameter and singularity of the CIDH piles planned for support of the bents, gamma-gamma logging is recommended to be performed for the bent piles but may not be necessary for the abutment piles if construction is performed in a dry hole.

5.6.3 Installation Methods

Drilling operations for installation of the CIDH piles will encounter interbedded layers of non-cohesive sand and silty sand that could present borehole stability problems if dry construction techniques are used without temporary casing. As a result, drilling operations may include either the use of drilling slurry to maintain borehole stability or the use of temporary full-depth casing to prevent caving. However, the use of construction joint will require permanent casing to be used for construction as previously discussed, which may hinder the use of temporary casing.

Pile installation by wet construction should use an appropriate slurry as a drilling fluid. To maintain hole sidewall and bottom stability and mitigate potential anomalies it is essential that positive head above the groundwater table (if present) be maintained at all times during drilling operations and concrete placement. At no time should the slurry level be less than 5 feet above the groundwater table, including during withdrawal of excavation equipment or when piles are left overnight. Based on the apparent depth to groundwater encountered during exploration and the recommend pile tip elevations, groundwater is not anticipated to be encountered. However exploration by others in 2006 did indicate the presence of groundwater, and groundwater is expected to be present on an intermittent basis. Therefore, groundwater may be encountered depending upon the time of year construction proceeds and the prevailing weather conditions and precipitation at the time. Concrete placement should be performed using a tremie and the bottom of the tremie be kept at least 10 feet below the rising surface of the fresh concrete.

If anomalies are detected by gamma-gamma logging they will need to be evaluated and/or repaired. In this event, a mitigation plan will be required as described in Section 49-3.02A(3)(g) of the Caltrans Standard Specifications (2015).

As an alternate, piles may be constructed using a temporary full-depth oscillator casing to maintain a stable hole. Experience indicates that use of oscillator casing minimizes the potential for anomalies and can allow cleaning of the bottom for inclusion of end bearing in design. The oscillation of the cutting teeth on the bottom of the casing leaves a rough surface texture on the drilled shaft during withdrawal. The condition of the borehole

walls after removal of the oscillator casing is, therefore, considered to have no significant effect on side resistance.

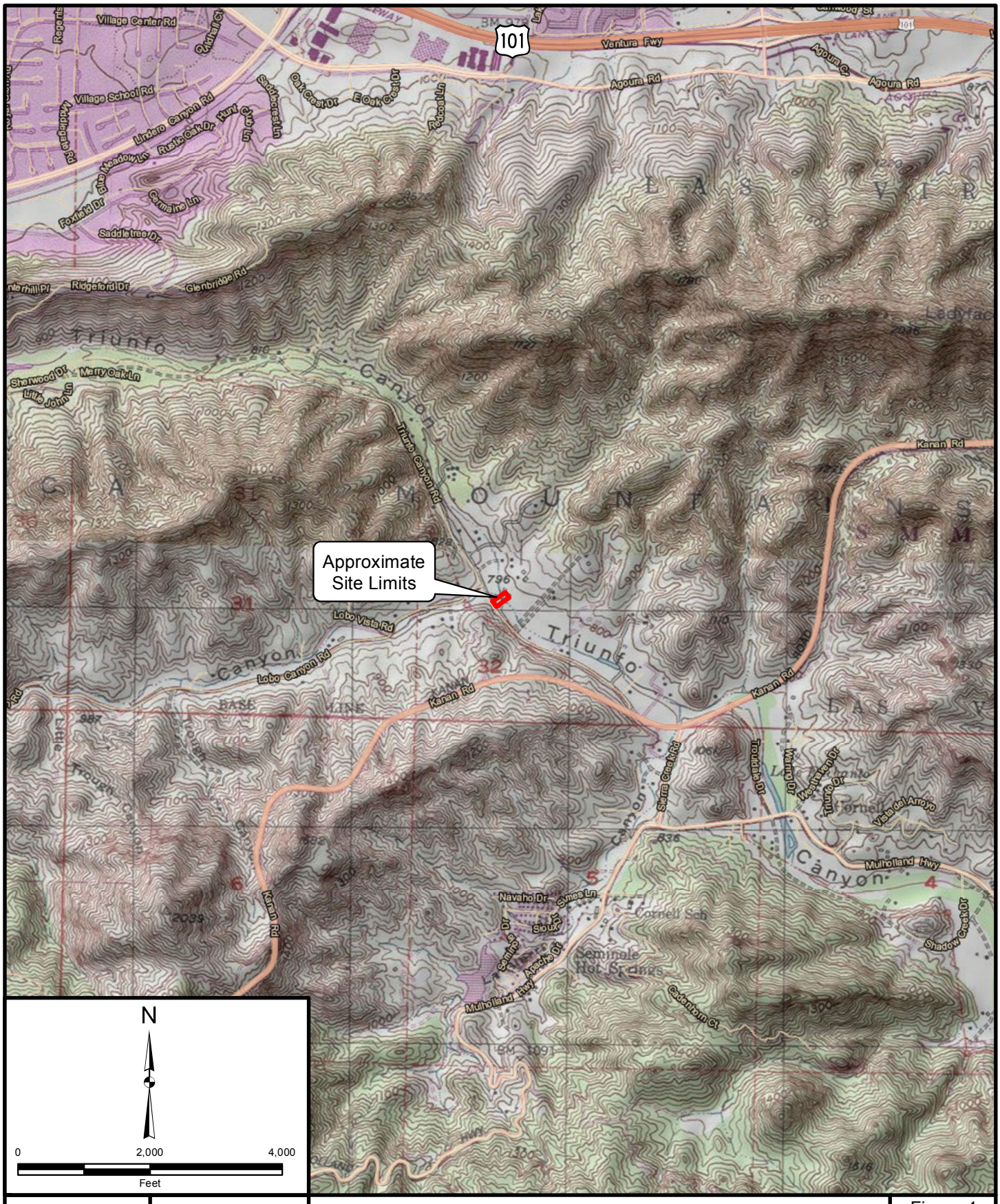
Final construction methods are left to the discretion of the foundation contractor. The geotechnical engineer should monitor the method test shafts and production pile construction to verify that piles are installed in accordance with the geotechnical recommendations.

6.0 LIMITATIONS

Leighton's work was performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable geotechnical consultants practicing in this or similar localities. No other warranty, express or implied, is made as to the conclusions and professional opinions included in this report.

This report has been prepared for the express use of Brookview Ranch, LLC and other design team members of this project, and only as related expressly to the assessment of soil and bedrock with respect to the geotechnical and geochemical constraints of developing the subject site and for construction purposes. This report may not be used by others or for other projects without the expressed written consent of Brookview Ranch, LLC and our firm.

Any persons using this report for bidding or construction purposes should perform such independent investigations as they deem necessary to satisfy themselves as to the surface and / or subsurface conditions to be encountered and the procedures to be used in the performance of work on the subject site.



Project: 12563.001	Eng/Geol: RH/GF
Scale: 1 " = 2,000 '	Date: September 2020
Base Map: ESRI ArcGIS Online 2019 Author: Leighton Geomatics (mmurphy)	

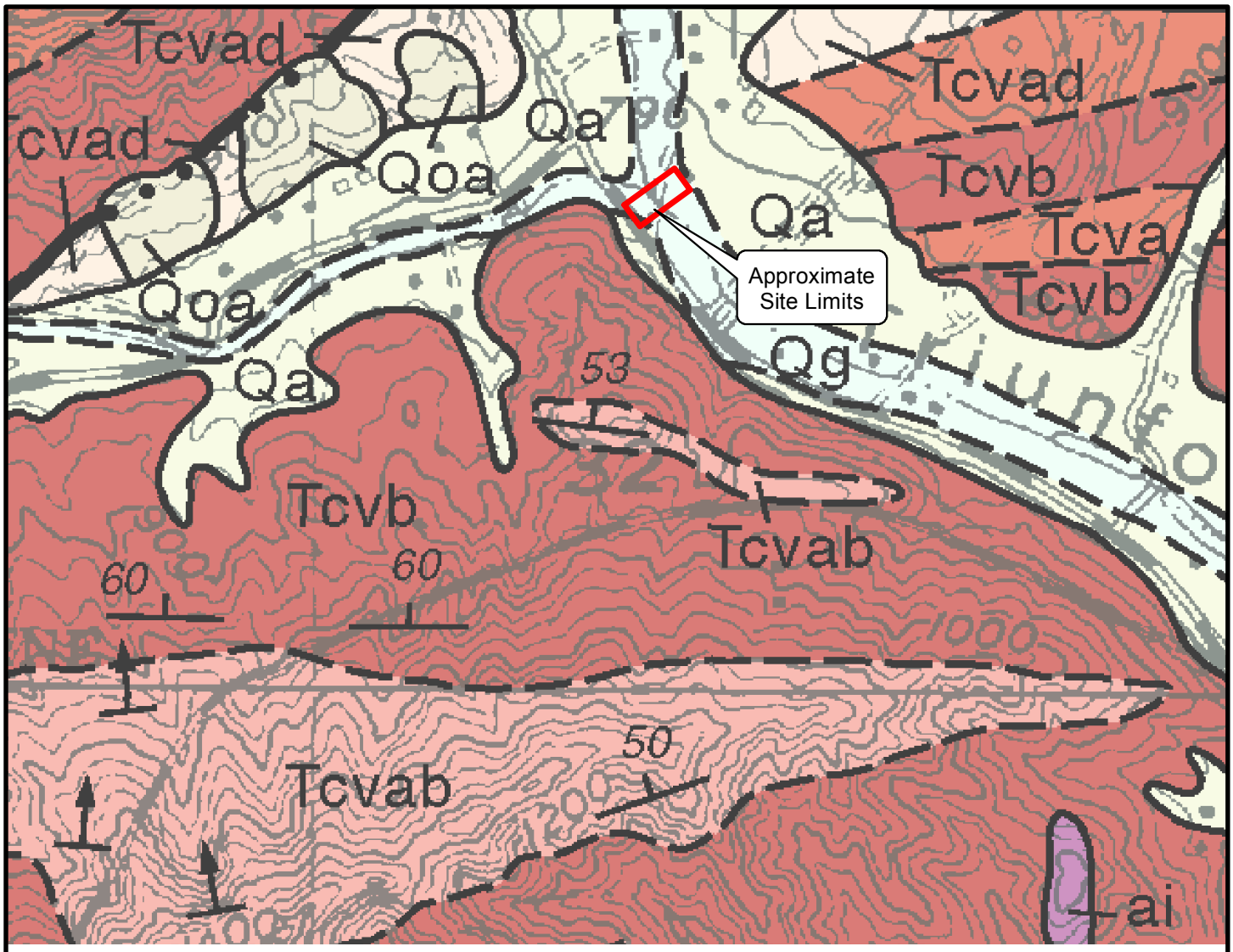
SITE LOCATION MAP

Brookview Ranch Bridge
2972 Triunfo Canyon Road
Agoura Hills, Los Angeles County, California

Figure 1

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Map Saved as V:\Drafting\12563\001\Maps\12563-001_F01_SLM_2019-11-26.mxd



Legend

SURFICIAL SEDIMENTS

- Qg — Gravel and sand
- Qa — Alluvial gravel

OLDER SURFICIAL DEDIMENTS

- Qoa — Older dissected alluvial gravel

CONEJO VOLCANICS - EXTRUSIVE ROCKS

- Tcvad — Conejo Volcanics - Extrusive Rocks, Andesite-dacite breccia
- Tcva — Andesitic to dacitic flows and breccias
- Tcvab — Landslide debris
- Tcvb — Basaltic flows and breccias

CONEJO VOLCANICS - INTRUSIVE ROCKS

- ai — Older dissected alluvial gravel

N

0 600 1,200

Feet

Project: 12563.001	Eng/Geol: RH/GF
Scale: 1 " = 600 '	Date: September 2020

Base Map: Geologic Map of the Point Dume Quadrangle, by Thomas W. Dibblee, Jr. and Helmut E. Ehrenspeck, 1993.

Author: Leighton Geomatics (mmurphy)

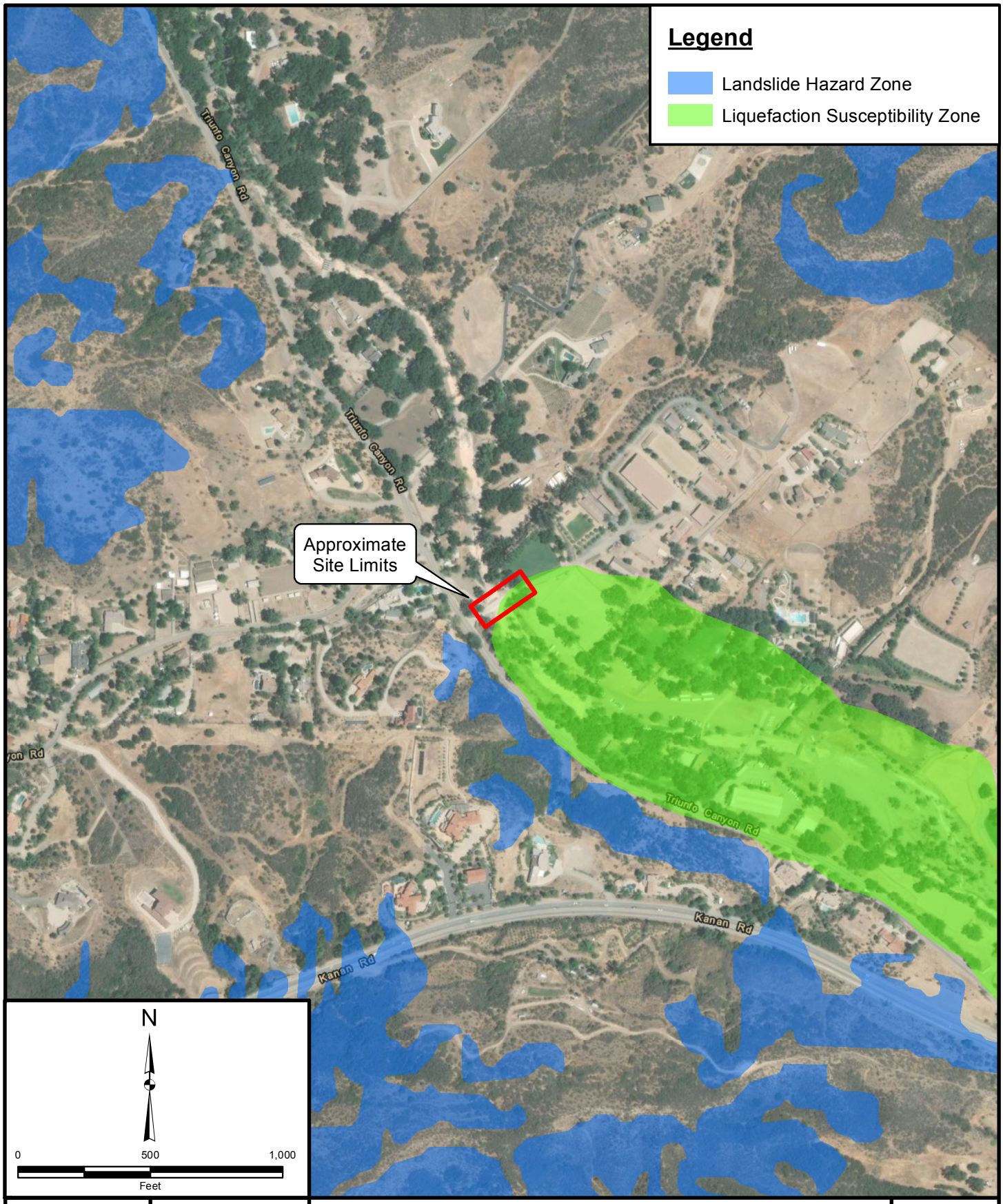
REGIONAL GEOLOGY MAP

Brookview Ranch Bridge
2972 Triunfo Canyon Road
Agoura Hills, Los Angeles County, California

Figure 2

Leighton

Map Saved as V:\Drafting\12563\001\Maps\12563-001_F02_RGM_2019-11-26.mxd



Project: 12563.001	Eng/Geol: RH/GF
Scale: 1 " = 500 '	Date: September 2020

Base Map: ESRI ArcGIS Online 2019
Thematic Information: Leighton, CGS
Author: Leighton Geomatics (mmurphy)

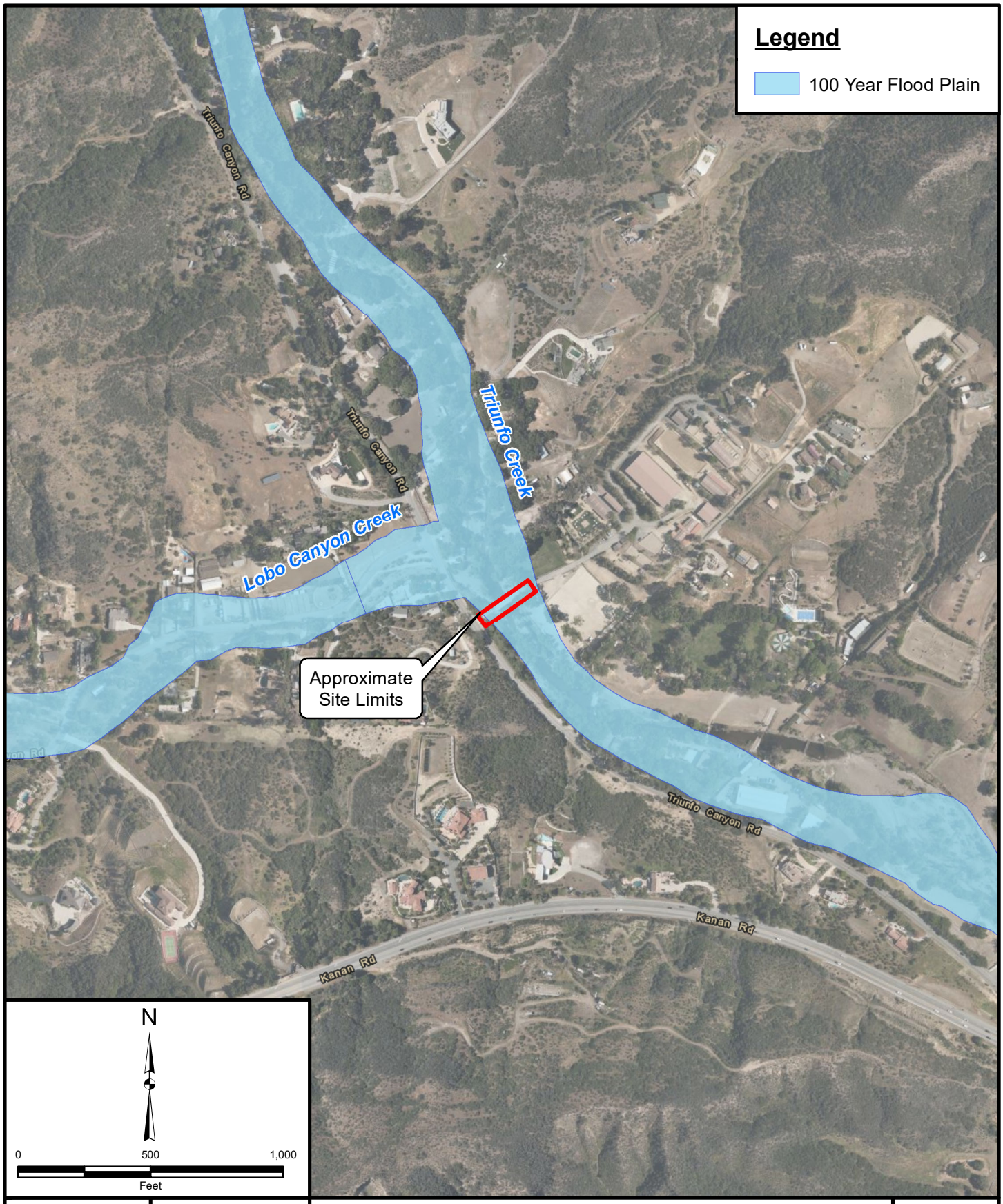
SEISMIC HAZARDS MAP

Brookview Ranch Bridge
2972 Triunfo Canyon Road
Agoura Hills, Los Angeles County, California

Figure 3

Leighton

Map Saved as V:\Drafting\12563\001\Maps\12563-001_F03_SHM_2019-11-26.mxd



Project: 12563.001	Eng/Geol: RH/GF
Scale: 1 " = 500 '	Date: September 2020

Base Map: ESRI ArcGIS Online 2020
Thematic Information: Leighton, CA DWR, FEMA
Author: Leighton Geomatics (mmurphy)

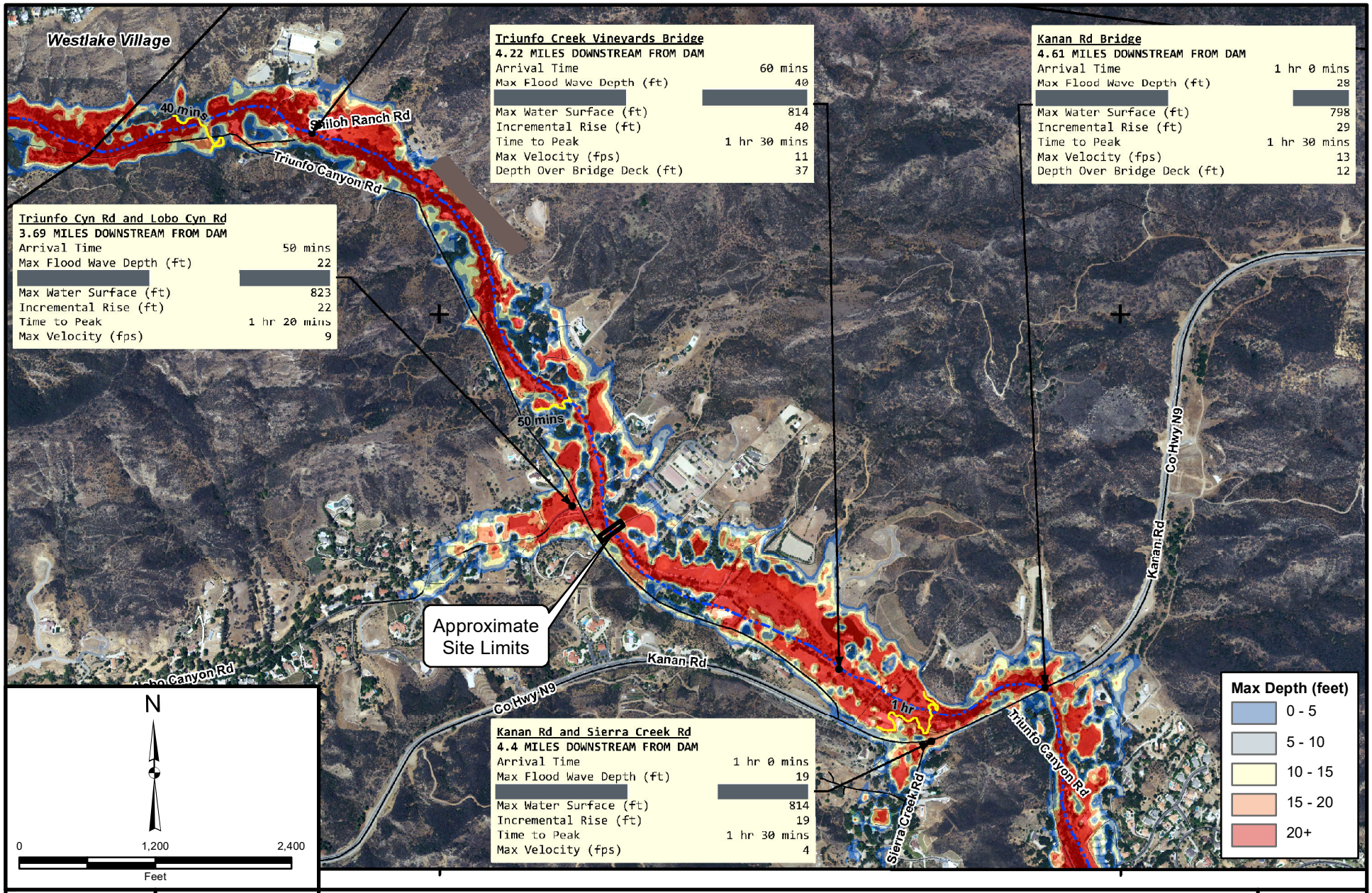
FLOOD HAZARD ZONE MAP

Brookview Ranch Bridge
2972 Triunfo Canyon Road
Agoura Hills, Los Angeles County, California

Figure 4

Leighton

Map Saved as V:\Drafting\12563\001\Maps\12563-001_F04_FHZM_2019-11-27.mxd on 12/9/2019 12:17:02 PM



Project: 12563.001	Eng/Geol: RH/GF
Scale: 1 " = 1,200 '	Date: September 2020
California Department of Water Resources, 2019	
Author: Leighton Geomatics (mmurphy)	

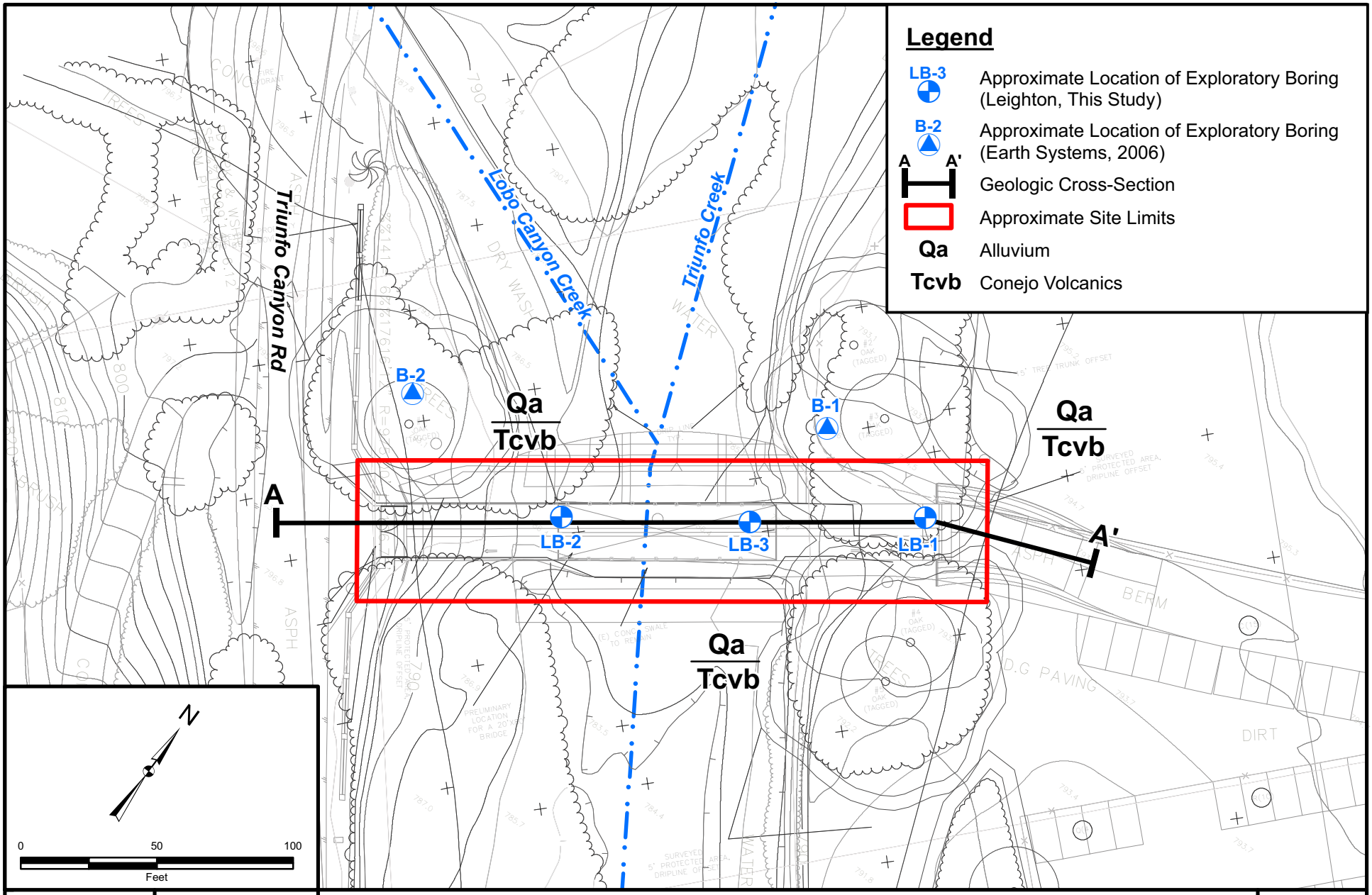
DAM BREECH INUNDATION MAP

Brookview Ranch Bridge
2972 Triunfo Canyon Road
Agoura Hills, Los Angeles County, California

Figure 5

Leighton

Map Saved as V:\Drafting\12563\001\Maps\12563-001_F05_DIM_2020-09-09.mxd on 9/9/2020 1:18:38 PM



Project: 12563.001	Eng/Geol: RH/GF
Scale: 1 " = 50 '	Date: September 2020
Base Map: Sikand Engineering Associates, 2020	
Author: (mmurphy)	

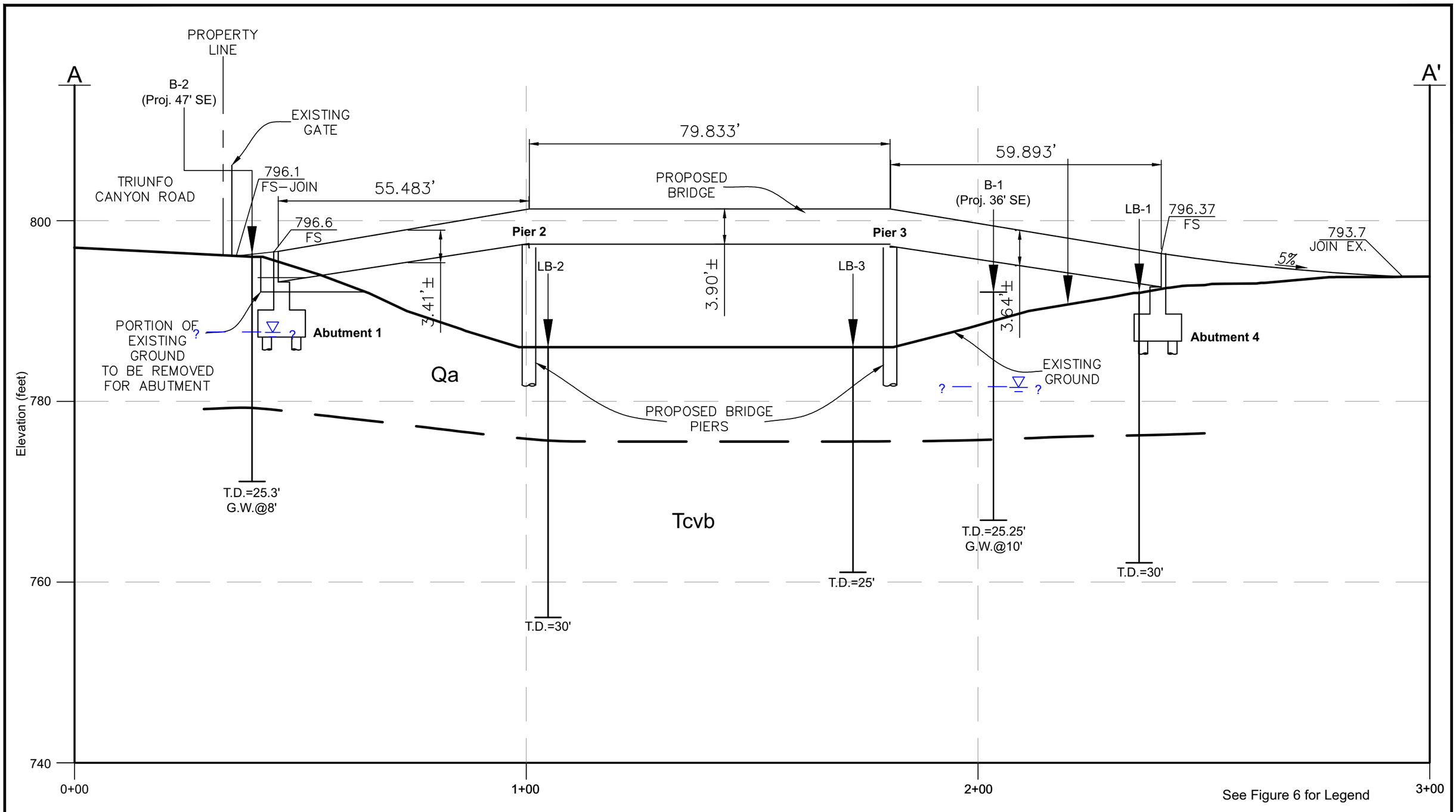
BORING LOCATION PLAN

Brookview Ranch Bridge
2972 Triunfo Canyon Road
Agoura Hills, Los Angeles County, California

Figure 6

Leighton

Map Saved as P:\Drafting\12563\001\Maps\12563-001_F06_BLP_2020-09-02.mxd on 9/2/2020 1:04:19 PM



See Figure 6 for Legend

Project: 12563.001	Eng/Geol: RH/GF
Scale: 1"=20'H 1"=10'V	Date: September 2020
Reference: Sikand Engineering Associates, 2020	
Author: MAM	

GEOLOGIC CROSS-SECTION A-A'

Brookview Ranch Bridge
2972 Triunfo Canyon Road
Agoura Hills, Los Angeles County, California

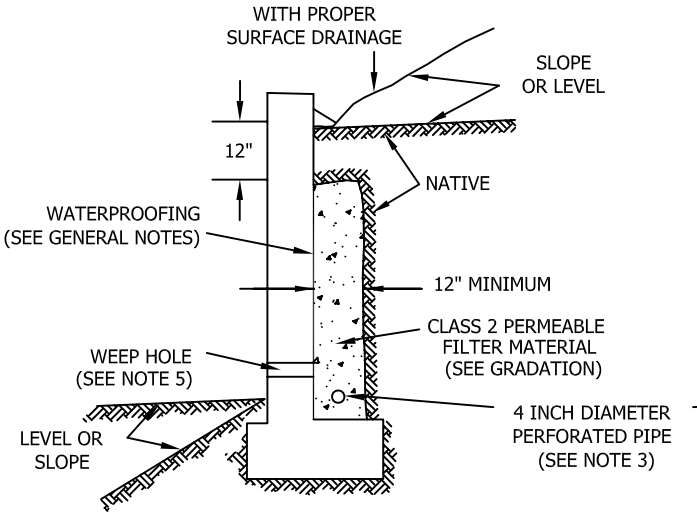
Figure 7

Leighton

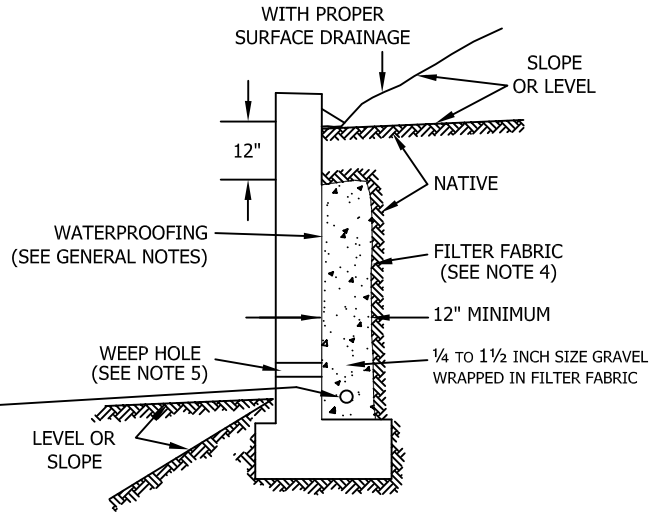
V:\DRAFTING\12563\001\CAD\12563-001_F07_CSAA_2020-09-02.DWG (09-02-20 2:35:09PM) Plotted by: mmurphy

SUBDRAIN OPTIONS AND BACKFILL WHEN NATIVE MATERIAL HAS EXPANSION INDEX OF ≤50

OPTION 1: PIPE SURROUNDED WITH CLASS 2 PERMEABLE MATERIAL



OPTION 2: GRAVEL WRAPPED IN FILTER FABRIC



Class 2 Filter Permeable Material Gradation
Per Caltrans Specifications

Sieve Size	Percent Passing
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

GENERAL NOTES:

* Waterproofing should be provided where moisture nuisance problem through the wall is undesirable.
* Water proofing of the walls is not under purview of the geotechnical engineer
* All drains should have a gradient of 1 percent minimum
*Outlet portion of the subdrain should have a 4-inch diameter solid pipe discharged into a suitable disposal area designed by the project engineer. The subdrain pipe should be accessible for maintenance (rodding)
*Other subdrain backfill options are subject to the review by the geotechnical engineer and modification of design parameters.

Notes:
1) Sand should have a sand equivalent of 30 or greater and may be densified by water jetting.
2) 1 Cu. ft. per ft. of 1/4- to 1 1/2-inch size gravel wrapped in filter fabric
3) Pipe type should be ASTM D1527 Acrylonitrile Butadiene Styrene (ABS) SDR35 or ASTM D1785 Polyvinyl Chloride plastic (PVC), Schedule 40, Armco A2000 PVC, or approved equivalent. Pipe should be installed with perforations down. Perforations should be 3/8 inch in diameter placed at the ends of a 120-degree arc in two rows at 3-inch on center (staggered)
4) Filter fabric should be Mirafi 140NC or approved equivalent.
5) Weephole should be 3-inch minimum diameter and provided at 10-foot maximum intervals. If exposure is permitted, weepholes should be located 12 inches above finished grade. If exposure is not permitted such as for a wall adjacent to a sidewalk/curb, a pipe under the sidewalk to be discharged through the curb face or equivalent should be provided. For a basement-type wall, a proper subdrain outlet system should be provided.
6) Retaining wall plans should be reviewed and approved by the geotechnical engineer.
7) Walls over six feet in height are subject to a special review by the geotechnical engineer and modifications to the above requirements.

RETAINING WALL BACKFILL AND SUBDRAIN DETAIL FOR WALLS 6 FEET OR LESS IN HEIGHT

WHEN NATIVE MATERIAL HAS EXPANSION INDEX OF ≤50

Leighton

FIGURE 8

P:Drafting\templates\details\retain-wall-backfill-and subdrain.dwg (7/00)

APPENDIX A

REFERENCES

APPENDIX A

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_____, 2019a, Interactive Fault Map, http://earthquake.usgs.gov/hazards/qfaults/map/

_____, 2019b, Interactive Geologic Map, http://ngmdb.usgs.gov/maps/MapView/

APPENDIX B

EXPLORATION LOGS

Leighton

GEOTECHNICAL BORING LOG LB-1

Project No.	12563.001	**Date Drilled**	11-4-19
Project	Brookview Ranch Bridge	**Logged By**	G. Faneros
Drilling Co.	Cascade	**Hole Diameter**	3.5"
Drilling Method	Mud Rotary - 140 lbslb - Auto Hammer - 30" Drop	**Ground Elevation**	792'
Location	2972 Triunfo Canyon Road	**Sampled By**	G. Faneros

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0								@surface: ASPHALT (8 inches)	
				B-1				SM	**Alluvium (Qa)** 0.66' - 10' - SILTY SAND (SM); loose; dusky yellowish brown; moist; mostly SAND, very fine; some fines; no cementation; scattered rootlets. @ 2.5' - Same as above; dark yellowish brown; trace fine gravel.	-200, EI, CR
790										
	5			S-2	3 4 6			SM	@ 5' - Same as above; loose to medium dense.	
785										
	10			R-3	8 16 15			SC	10' - 15' - CLAYEY SAND with GRAVEL (SC); medium dense; dark yellowish brown with dark reddish brown mottling; mostly SAND, from fine to coarse; few fines; few to little fine to coarse GRAVEL; no cementation. @15' - Same as above; very dense; dark yellowish brown with moderate yellowish brown mottling.	DS
780										
	15			S-4	50/5"			SC	For rock core details refer to Core Log LB-1	
775										
	20									
770										
	25									
765										
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH



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CORE BORING LOG

BORING NO. **LB-1**
PAGE 1 OF 2

PROJECT: **Brookview Ranch Bridge**
CLIENT: **Brookview Ranch LLC**
CONTRACTOR: **Cascade**
EQUIPMENT USED: **CME 85**

GROUNDWATER:		DEPTH TO (Feet):			ORIENTATION		CORE BARREL	
DATE	HRS AFT COMP	WATER	BOT. OF CASING	BOT. OF HOLE	X	VERTICAL	TYPE	Wireline
						HORIZONTAL	SIZE	HQ
						INCLINED	Bit (Feet)	-
						BEARING	Barrel (Feet)	-
					0	ANG. FROM VERT.	Total (Feet)	5

JOB NO.: **12563.001**
PAGE NO.: **1 of 2**
ELEVATION: **792.45 Feet**
DATE START: **11/4/2019**
DATE FINISH: **11/5/2019**
DRILLER: **Cascade**
PREPARED BY: **MV/GF**
LOCATION: 2972 Triunfo Canyon Rd., Agoura Hills, CA

ELEVATION & CORE DEPTH (Feet)	CORE DEPTH RANGE (Feet)	SAMPLE NUMBER	RECOVERY %	RQD	GRAPHIC LOG	FIELD CLASSIFICATION, REMARKS, AND LIMITATIONS
						The Soil Description applies only to a location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.
792 0						@Surface: ASPHALT (8 inches)
						Alluvium (Qa):
						@8": SILTY SAND with GRAVEl (SM); loose; dusky yellowish bown; moist; mostly SAND, very fine; some fines; no cementation; scattered rootlets.
						@2.5': Same as above; dark yellowish brown; trace fine GRAVEL.
787 5						@5': Same as above; loose to medium dense.
782 10						@10': CLAYEY SAND with GRAVEL (SC); medium dense; dark yellowish brown mottled with dark reddish brown; mostly SAND, from fine to coarse, few fines; few to little fine to coarse GRAVEL; no cementation.
777 15						@15': Same as above; very dense; dark yellowish brown mottled with moderate yellowish brown.
						Conejo Volcanics (Tcvb):
772 20						@20': IGNEOUS ROCK (BASALTIC BRECCIA); massive; dark gray to medium blueish gray; fresh to slightly weathered; hard; moderately fractured.
	20-24	CR-1	73	33		@20.38': Mechanical break. @20.85': Joint; tight; planar; rough; thin green mineral coating; 43°. @21.12': Joint; tight; planar; thin white mineral infill; 38°. @21.38': Joint; planar; rough; thin green mineral coating; 32°. @21.77': Mechanical break. @22.24': Joint; planar; rough; 18°. @22.36': Joint; planar; rough; 46°.
	24-25	CR-2	71	0		@22.4': Medium light gray and dark greenish gray; intensely weathered; soft; very intensely fractured.
767 25						@22.7': Medium light gray; hard; very intensely fractured. @24': Dark gray; slightly weathered to fresh; hard; intensely fractured.
	25-30	CR-3	95	35		@24.32': Mechanical break. @24.51': Mechanical break. @25': Intensely to moderately fractured. @25.48': Mechanical break. @25.74': Joint; rough; planar to wavy; 58°. @25.94': Mechanical break.
762 30						

FIELD HARDNESS		BEDDING		ATTITUDE AND ANGLE	JOINTS / SHEAR / FRACTURE		WEATHERING
V. HARD	- KNIFE CAN'T SCRATCH	V. THIN	<2"	HORIZONTAL (0-5°)	V. CLOSE	<2"	FRESH
HARD	- SCRATCHES DIFFICULT	THIN	2"-12"	SHALLOW OR LOW ANGLE (5-35°)	CLOSE	2"-12"	SLIGHTLY
MOD. HARD	- SCRATCHES EASILY	MEDIUM	12"-36"	MODERATELY DIPPING (35-55°)	MOD. CLOSE	12"-36"	MODERATELY
SOFT	- GROVES	THICK	36"-120"	STEEP OR HIGH ANGLE (55-85°)	WIDE	36"-120"	INTENSELY
V. SOFT	- CARVES	V. THICK	>120"	VERTICAL (85-90°)	V. WIDE	>120"	DECOMPOSED
					Fe = Iron Oxide	Mn = Manganese Oxide	

ROCKLOG2014 12563.001 ROCK CORE LOGS LB-(1-3).GPJ ROCKLOG2012.GDT 1/15/20

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CORE BORING LOG

BORING NO. **LB-1**
PAGE 2 OF 2

PROJECT: **Brookview Ranch Bridge**
CLIENT: **Brookview Ranch LLC**
CONTRACTOR: **Cascade**
EQUIPMENT USED: **CME 85**

GROUNDWATER:		DEPTH TO (Feet):			ORIENTATION		CORE BARREL	
DATE	HRS AFT COMP	WATER	BOT. OF CASING	BOT. OF HOLE	X	VERTICAL	TYPE	Wireline
						HORIZONTAL	SIZE	HQ
						INCLINED	Bit (Feet)	-
						BEARING	Barrel (Feet)	-
					0	ANG. FROM VERT.	Total (Feet)	5

JOB NO.: **12563.001**
PAGE NO.: **2 of 2**
ELEVATION: **792.45 Feet**
DATE START: **11/4/2019**
DATE FINISH: **11/5/2019**
DRILLER: **Cascade**
PREPARED BY: **MV/GF**
LOCATION: 2972 Triunfo Canyon Rd., Agoura Hills, CA

ELEVATION & CORE DEPTH (Feet)	CORE DEPTH RANGE (Feet)	SAMPLE NUMBER	RECOVERY %	RQD	GRAPHIC LOG
762 30					
757 35					
752 40					
747 45					
742 50					
737 55					
732 60					

FIELD CLASSIFICATION, REMARKS, AND LIMITATIONS

The Soil Description applies only to a location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

@26.56': Joint; curved; rough.
@27.14': Mechanical break.
@27.37': Mechanical break.
@27.88': Mechanical break.
@28.33': Mechanical break.

TOTAL DEPTH = 30 FEET
BACKFILLED WITH GROUT MIX PER LA COUNTY PERMIT
SURFACE PATCHED WITH BLACK DYED RAPID SET CONCRETE

FIELD HARDNESS		BEDDING		ATTITUDE AND ANGLE	JOINTS / SHEAR / FRACTURE		WEATHERING
V. HARD	- KNIFE CAN'T SCRATCH	V. THIN	<2"	HORIZONTAL (0-5°)	V. CLOSE	<2"	FRESH
HARD	- SCRATCHES DIFFICULT	THIN	2"-12"	SHALLOW OR LOW ANGLE (5-35°)	CLOSE	2"-12"	SLIGHTLY
MOD. HARD	- SCRATCHES EASILY	MEDIUM	12"-36"	MODERATELY DIPPING (35-55°)	MOD. CLOSE	12"-36"	MODERATELY
SOFT	- GROVES	THICK	36"-120"	STEEP OR HIGH ANGLE (55-85°)	WIDE	36"-120"	INTENSELY
V. SOFT	- CARVES	V. THICK	>120"	VERTICAL (85-90°)	V. WIDE	>120"	DECOMPOSED
					Fe = Iron Oxide	Mn = Manganese Oxide	

ROCKLOG2014 12563.001 ROCK CORE LOGS LB-(1-3).GPJ ROCKLOG2012.GDT 1/15/20

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CORE BORING LOG

BORING NO. **LB-2**
PAGE 1 OF 2

PROJECT: **Brookview Ranch Bridge**
CLIENT: **Brookview Ranch LLC**
CONTRACTOR: **Cascade**
EQUIPMENT USED: **CME 85**

GROUNDWATER:		DEPTH TO (Feet):			ORIENTATION		CORE BARREL	
DATE	HRS AFT COMP	WATER	BOT. OF CASING	BOT. OF HOLE	X	VERTICAL	TYPE	Wireline
						HORIZONTAL	SIZE	HQ
						INCLINED	Bit (Feet)	-
						BEARING	Barrel (Feet)	-
					0	ANG. FROM VERT.	Total (Feet)	5

JOB NO.: **12563.001**
PAGE NO.: **1 of 2**
ELEVATION: **786.55 Feet**
DATE START: **11/6/2019**
DATE FINISH: **11/6/2019**
DRILLER: **Cascade**
PREPARED BY: **MV/GF**
LOCATION: 2972 Triunfo Canyon Rd., Agoura Hills, CA

ELEVATION & CORE DEPTH (Feet)	CORE DEPTH RANGE (Feet)	SAMPLE NUMBER	RECOVERY %	RQD	GRAPHIC LOG	FIELD CLASSIFICATION, REMARKS, AND LIMITATIONS
						The Soil Description applies only to a location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.
787 0						@ Surface: CONCRETE (7.5 inches)
						Alluvium (Qa):
	2-5	CR-1	68	0		@7.5": CLAYEY SAND with GRAVEL (SC); medium dense; yellowish medium brown; moist; mostly SAND, from fine to coarse; some CLAY; little fine to coarse GRAVEL; trace COBBLES; scattered rootlets. @1.32' - 2': SANDY GRAVEL (GP); medium dense; dark gray to dark brown; mostly GRAVEL, from fine to coarse; little fine to coarse SAND; few COBBLES; no cementation. @4.15': Reddish brown to brownish red.
782 5						
	5-10	CR-2	85	0		
777 10						@10': Dark gray
						Conejo Volcanics (Tcvb):
	10-15	CR-3	93	91		@10.45': IGNEOUS ROCK (BASALTIC BRECCIA); massive; dark gray to grayish black and dark reddish brown; slightly weathered to fresh; hard; slightly fractured to unfractured. @11.05': Joint; planar; stepped; rough; 19°. @11.92': Joint; planar; rough; 28°.
772 15						
	15-20	CR-4	100	68		@15.7': Joint; planar; rough; 56°. @17.6': Joint; planar; rough; 63°. @18.04 Mechanical break.
767 20						
	20-25	CR-5	100	75		@21.65': Joint; planar; rough; 50°.
762 25						
	25-30	CR-6	100	88		@23.67': Joint; planar; rough; 29°. @24.19' Mechanical break. @24.5' Mechanical break. @25': Dark reddish brown @25.4': Joint; planar; rough; 57°. @26.48': Joint; planar; smooth; thin mineral coating ; 27°. @26.73': Joint; stepped; thin mineral infill. @26.98': Joint; planar; rough; 45°.
757 30						@29.37' Mechanical break.

FIELD HARDNESS		BEDDING		ATTITUDE AND ANGLE	JOINTS / SHEAR / FRACTURE		WEATHERING
V. HARD	- KNIFE CAN'T SCRATCH	V. THIN	<2"	HORIZONTAL (0-5°)	V. CLOSE	<2"	FRESH
HARD	- SCRATCHES DIFFICULT	THIN	2"-12"	SHALLOW OR LOW ANGLE (5-35°)	CLOSE	2"-12"	SLIGHTLY
MOD. HARD	- SCRATCHES EASILY	MEDIUM	12"-36"	MODERATELY DIPPING (35-55°)	MOD. CLOSE	12"-36"	MODERATELY
SOFT	- GROVES	THICK	36"-120"	STEEP OR HIGH ANGLE (55-85°)	WIDE	36"-120"	INTENSELY
V. SOFT	- CARVES	V. THICK	>120"	VERTICAL (85-90°)	V. WIDE	>120"	DECOMPOSED
					Fe = Iron Oxide	Mn = Manganese Oxide	

ROCKLOG2014 12563.001 ROCK CORE LOGS LB-(1-3).GPJ ROCKLOG2012.GDT 1/15/20

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CORE BORING LOG

BORING NO. **LB-2**
PAGE 2 OF 2

PROJECT: **Brookview Ranch Bridge**
CLIENT: **Brookview Ranch LLC**
CONTRACTOR: **Cascade**
EQUIPMENT USED: **CME 85**

GROUNDWATER:		DEPTH TO (Feet):			ORIENTATION		CORE BARREL	
DATE	HRS AFT COMP	WATER	BOT. OF CASING	BOT. OF HOLE	X	VERTICAL	TYPE	Wireline
						HORIZONTAL	SIZE	HQ
						INCLINED	Bit (Feet)	-
						BEARING	Barrel (Feet)	-
					0	ANG. FROM VERT.	Total (Feet)	5

JOB NO.: **12563.001**
PAGE NO.: **2 of 2**
ELEVATION: **786.55 Feet**
DATE START: **11/6/2019**
DATE FINISH: **11/6/2019**
DRILLER: **Cascade**
PREPARED BY: **MV/GF**
LOCATION: 2972 Triunfo Canyon Rd., Agoura Hills, CA

ELEVATION & CORE DEPTH (Feet)	CORE DEPTH RANGE (Feet)	SAMPLE NUMBER	RECOVERY %	RQD	GRAPHIC LOG
757 30					
752 35					
747 40					
742 45					
737 50					
732 55					
727 60					

FIELD CLASSIFICATION, REMARKS, AND LIMITATIONS

The Soil Description applies only to a location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

TOTAL DEPTH = 30 FEET
BACKFILLED WITH GROUT MIX PER LA COUNTY PERMIT
SURFACE PATCHED WITH RAPID SET CONCRETE

FIELD HARDNESS		BEDDING		ATTITUDE AND ANGLE	JOINTS / SHEAR / FRACTURE		WEATHERING
V. HARD	- KNIFE CAN'T SCRATCH	V. THIN	<2"	HORIZONTAL (0-5°)	V. CLOSE	<2"	FRESH
HARD	- SCRATCHES DIFFICULT	THIN	2"-12"	SHALLOW OR LOW ANGLE (5-35°)	CLOSE	2"-12"	SLIGHTLY
MOD. HARD	- SCRATCHES EASILY	MEDIUM	12"-36"	MODERATELY DIPPING (35-55°)	MOD. CLOSE	12"-36"	MODERATELY
SOFT	- GROVES	THICK	36"-120"	STEEP OR HIGH ANGLE (55-85°)	WIDE	36"-120"	INTENSELY
V. SOFT	- CARVES	V. THICK	>120"	VERTICAL (85-90°)	V. WIDE	>120"	DECOMPOSED
					Fe = Iron Oxide	Mn = Manganese Oxide	

ROCKLOG2014 12563.001 ROCK CORE LOGS LB-(1-3).GPJ ROCKLOG2012.GDT 1/15/20

* * * This log is a part of a report by Leighton and should not be used as a stand-alone document. * * *

LEIGHTON

CORE BORING LOG

BORING NO. **LB-3**
PAGE 1 OF 1

PROJECT: **Brookview Ranch Bridge**
CLIENT: **Brookview Ranch LLC**
CONTRACTOR: **Cascade**
EQUIPMENT USED: **CME 85**

GROUNDWATER:		DEPTH TO (Feet):			ORIENTATION		CORE BARREL	
DATE	HRS AFT COMP	WATER	BOT. OF CASING	BOT. OF HOLE	X	VERTICAL	TYPE	Wireline
						HORIZONTAL	SIZE	HQ
						INCLINED	Bit (Feet)	-
						BEARING	Barrel (Feet)	-
					0	ANG. FROM VERT.	Total (Feet)	5

JOB NO.: **12563.001**
PAGE NO.: **1 of 1**
ELEVATION: **786.58 Feet**
DATE START: **11/5/2019**
DATE FINISH: **11/5/2019**
DRILLER: **Cascade**
PREPARED BY: **MV/GF**
LOCATION: 2972 Triunfo Canyon Rd., Agoura Hills, CA

ELEVATION & CORE DEPTH (Feet)	CORE DEPTH RANGE (Feet)	SAMPLE NUMBER	RECOVERY %	RQD	GRAPHIC LOG	FIELD CLASSIFICATION, REMARKS, AND LIMITATIONS
						The Soil Description applies only to a location of the exploration at the time of drilling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.
787 0						@Surface: CONCRETE (8 inches)
						Alluvium (Qa):
	2.3-5	CR-1	22	0		@8" SILTY SAND with GRAVEI (SM); medium dense to dense; dark yellowish brown; moist; mostly SAND; from fine to coarse; few fines; few to little fine to coarse GRAVEL; few COBBLES; trace BOULDERS; no cementation.
						@28": Sandy GRAVEL (GP); probably dense; medium gray; moist; mostly GRAVEL, from fine to coarse; few fine to coarse SAND; no cementation
782 5						
	5-10	CR-2	13	0		
777 10						
	10-15	CR-3	91	68		**Conejo Volcanics (Tcvb):**
						@10.2': IGNEOUS ROCK (BASALTIC BRECCIA); massive; dark gray and medium bluish gray; slightly weathered to fresh; hard; slightly fractured to unfractured.
						@10.43': Mechanical break.
						@11.44': Mechanical break.
						@11.68': Joint; planar; rough; 22°.
						@13.86': Joint; planar; rough; 18°.
772 15						@14.22': Joint; planar; rough; 46°.
	15-20	CR-4	100	77		@15.5': Mechanical break.
						@15.82': Mechanical break.
						@11.92': Joint; planar; rough; 56°.
						@17.47': Mechanical break.
						@19.2': Mechanical break.
767 20						
	20-25	CR-5	100	100		
762 25						**TOTAL DEPTH = 25 FEET**
						BACKFILLED WITH GROUT MIX PER LA COUNTY PERMIT
						SURFACE PATCHED WITH RAPID SET CONCRETE
757 30						

FIELD HARDNESS		BEDDING		ATTITUDE AND ANGLE	JOINTS / SHEAR / FRACTURE		WEATHERING
V. HARD	- KNIFE CAN'T SCRATCH	V. THIN	<2"	HORIZONTAL (0-5°)	V. CLOSE	<2"	FRESH
HARD	- SCRATCHES DIFFICULT	THIN	2"-12"	SHALLOW OR LOW ANGLE (5-35°)	CLOSE	2"-12"	SLIGHTLY
MOD. HARD	- SCRATCHES EASILY	MEDIUM	12"-36"	MODERATELY DIPPING (35-55°)	MOD. CLOSE	12"-36"	MODERATELY
SOFT	- GROVES	THICK	36"-120"	STEEP OR HIGH ANGLE (55-85°)	WIDE	36"-120"	INTENSELY
V. SOFT	- CARVES	V. THICK	>120"	VERTICAL (85-90°)	V. WIDE	>120"	DECOMPOSED
					Fe = Iron Oxide	Mn = Manganese Oxide	

ROCKLOG2014 12563.001 ROCK CORE LOGS LB-(1-3).GPJ ROCKLOG2012.GDT 1/15/20

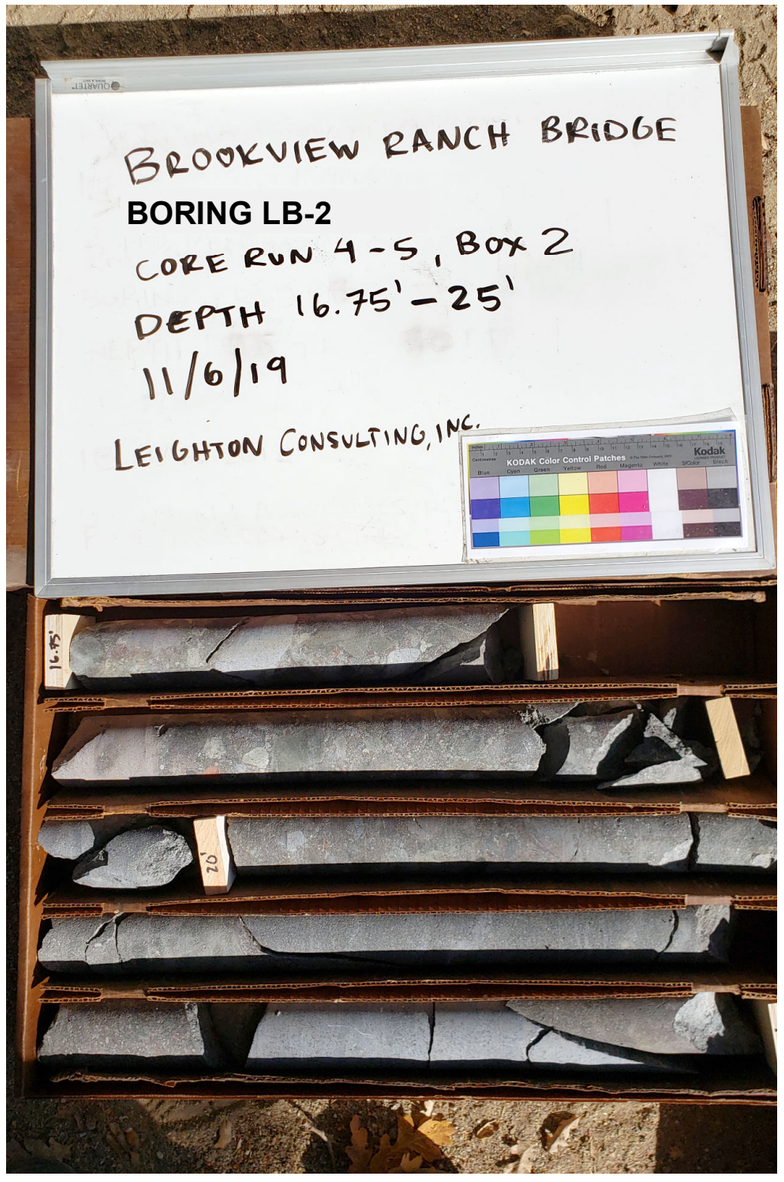
*** * * This log is a part of a report by Leighton and should not be used as a stand-alone document. * * ***

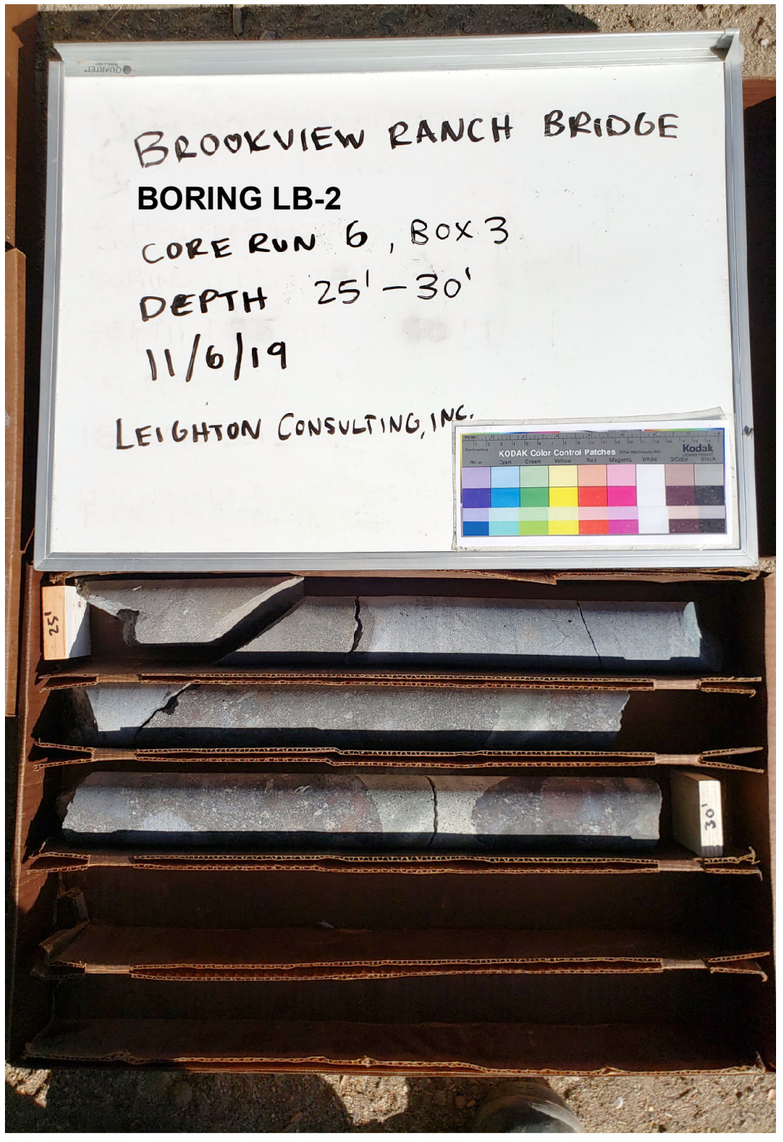


Project: 12563.001	Eng/Geol: RH/GF	**CORE BOX PHOTO, BORING LB-1** Brookview Ranch Bridge 2972 Triunfo Canyon Road Agoura Hills, Los Angeles County, California	Figure A-1
Scale: Not to scale	Date: September 2020		Leighton
Author: Leighton Geomatics (mmurphy)			

Map Saved as V:\Drafting\12563\001\Maps\12563-001_FA1_CBP-LB1_2019-12-09.mxd on 12/9/2019 9:31:03 AM







Project: 12563.001	Eng/Geol: RH/GF
Scale: Not to scale	Date: September 2020
Author: Leighton Geomatics (mmurphy)	

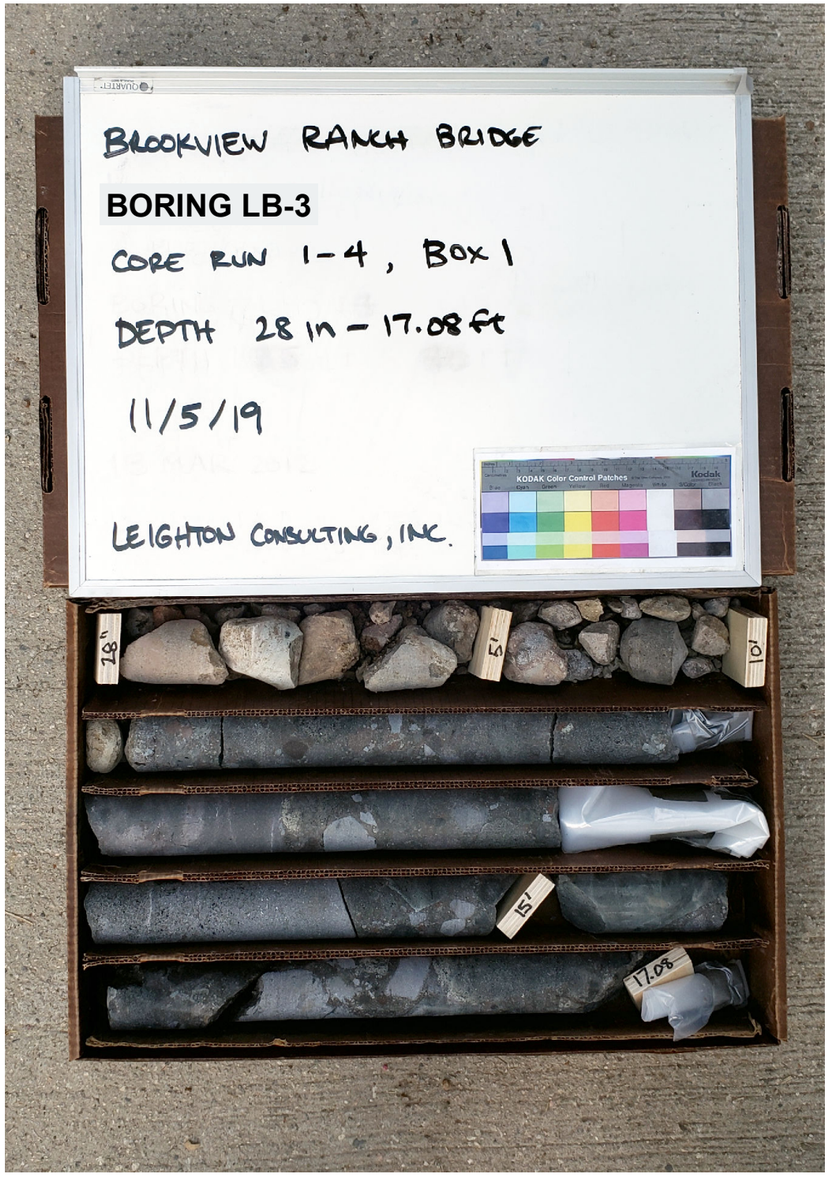
CORE BOX PHOTOS, LB-2

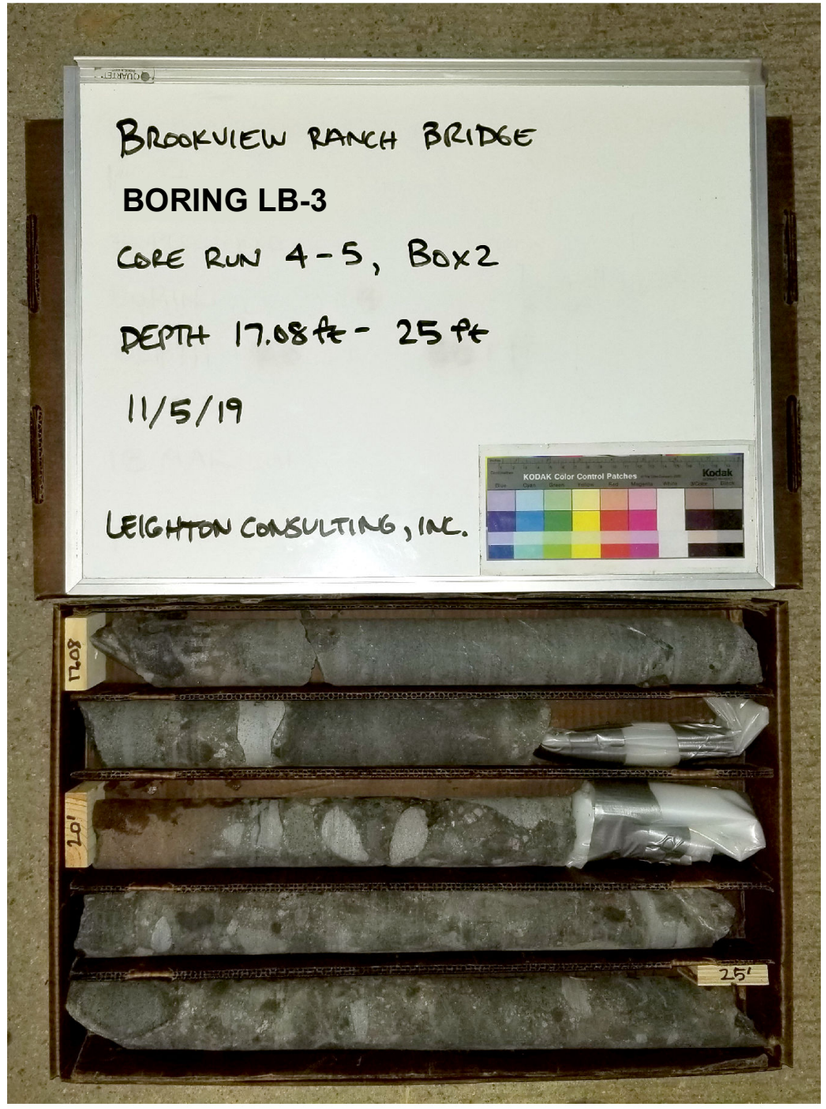
Brookview Ranch Bridge
2972 Triunfo Canyon Road
Agoura Hills, Los Angeles County, California

Figure A-2

Leighton

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Project: 12563.001	Eng/Geol: RH/GF
Scale: Not to scale	Date: September 2020
Author: Leighton Geomatics (mmurphy)	

CORE BOX PHOTOS, LB-3

Brookview Ranch Bridge
2972 Triunfo Canyon Road
Agoura Hills, Los Angeles County, California

Figure A-3

Leighton

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Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: 1
PROJECT NAME: Pegasus Creek Bridge
PROJECT NUMBER: VT-23292-02
BORING LOCATION: Per Plan

DRILLING DATE: April 11, 2006
DRILL RIG: Mobile B-90
DRILLING METHOD: 6" Odex
LOGGED BY: Wesley Smith

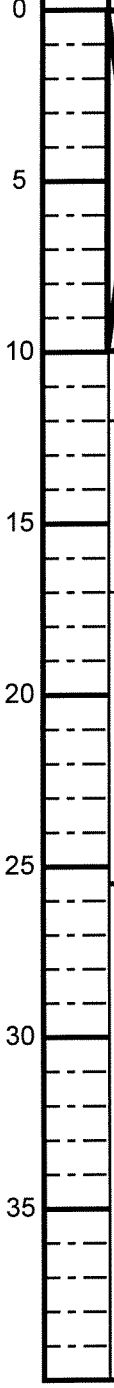
Vertical Depth	Sample Type: Bulk	Sample Type: SPT	Sample Type: Mod. Calif.	PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
0									
5	X		■	2/3/5		SM	96.5	25.1	**ALLUVIUM:** Slightlyclayey silty fine to coarse sand with fine to coarse gravel, some small cobbles, moist, loose, dark reddish brown.
10			▨	26/50 for 2"		GM	--	14.0	**ALLUVIUM:** Silty fine to coarse gravel and sand with cobbles, wet, dark reddish brown. Disturbed sample. ▼
15		■		50 for 5"		Tcvb	--	--	**CONEJO VOLCANICS:** Basalt, massive, dry, very dense, dark gray to moderate gray.
20		▭		50 for 4"		Tcvb	--	--	No Recovery: Same as above.
25		■		50 for 3"		Tcvb	--	--	**CONEJO VOLCANICS:** Basalt, fresh, strong competency, dry, very dense, dark brown.
30									Final Depth: 25.25 feet Groundwater encountered at about 10 feet.
35									

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

Earth Systems Southern California
1731-A Walter Street, Ventura, California 93003
PHONE: (805) 642-6727 FAX: (805) 642-1325

BORING NO: 2
PROJECT NAME: Pegasus Creek Bridge
PROJECT NUMBER: VT-23292-02
BORING LOCATION: Per Plan

DRILLING DATE: April 11, 2006
DRILL RIG: Mobile B-90
DRILLING METHOD: 6" Odex
LOGGED BY: Wesley Smith



PENETRATION RESISTANCE (BLOWS/6")	SYMBOL	USCS CLASS	UNIT DRY WT. (pcf)	MOISTURE CONTENT (%)	DESCRIPTION OF UNITS
		GM			**ALLUVIUM:** Silty sand gravels and cobbles, some small boulders, moist, loose to medium dense, dark reddish brown.
2/3/10		SM	--	--	**ALLUVIUM:** Silty fine to coarse sand, some fine to coarse gravel, moist to very moist, loose, dark reddish brown.
2/3/7		GM	--	--	**ALLUVIUM:** Gravelly fine to coarse sand, trace cobbles, wet, loose, dark reddish brown.
50 for 6"		GM	--	--	**ALLUVIUM:** Silty sandy gravels with cobbles, some small boulders, wet, dark reddish brown.
50 for 3"		Tcvb	--	--	**WEATHERED CONEJO VOLCANICS:** Basalt, strong competency, wet, very dense, dark gray.
100 for 4"		Tcvb	--	--	No Recovery: Same as above.
					Final Depth: 25.3 feet Groundwater was measured at 8 feet after drilling.

Note: The stratification lines shown represent the approximate boundaries between soil and/or rock types and the transitions may be gradual.

APPENDIX C

LABORATORY TEST RESULTS

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17781 Cowan
Irvine, CA 92614
Tel. (949) 222-5321
Fax (949) 263-8843

REPORT OF TEST OF ROCK CORE SPECIMENS - UNCONFINED COMPRESSIVE STRENGTH

Project Name: Brookview Ranch Bridge

Project No.: 12563.001

Report Date: 11/15/2019

FIELD TEST DATA

Boring: See Comments

Location: See Comments

Date Sampled: 11/4/19 - 11/6/19

Date Received: 11/8/2019

Sample Description: Rock Core (Dark Grey)

Sampled By: Geoff Faneros

Air Temperature During Test (F): 76°

Rate of Loading: **35 psi per second**

Tested By: R. Densmore

LABORATORY TEST DATA

Lab ID	TestDate	Diameter	Height	Area	Max Comp.	Compr. PSI	H/D Ratio	Corr. Factor	Compr. PSI	Break Type
10434	11/15/19	2.39	4.74	4.49	24550	5470	1.98	1.00	5470	2
10435	11/15/19	2.39	4.77	4.49	28220	8510	2.00	1.00	8510	2
10436	11/15/19	2.39	4.72	4.49	26450	5890	1.97	8.00	5890	2
10437	11/15/19	2.39	4.82	4.49	30230	6730	2.02	1.00	6730	4

Comments:

10434 = B-2 #1, 10.5-10.6

10435 = B-2 #2, 20.0-20.9

10436 = B-3 #1, 10.4-11.4

10437 = B-3 #2, 17.7-19.0

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TESTS for SULFATE CONTENT
CHLORIDE CONTENT and pH of SOILS

Project Name: Brookview Ranch Bridge Tested By : ACS/OHF Date: 11/14/19

Project No. : 12563.001 Input By: J. Ward Date: 11/19/19

Boring No.	B-1			
Sample No.	1			
Sample Depth (ft)	8"-5'			
Soil Identification:	Olive SC			
Wet Weight of Soil + Container (g)	165.79			
Dry Weight of Soil + Container (g)	160.80			
Weight of Container (g)	58.18			
Moisture Content (%)	4.86			
Weight of Soaked Soil (g)	100.59			

SULFATE CONTENT, DOT California Test 417, Part II

Beaker No.	310			
Crucible No.	11			
Furnace Temperature (°C)	860			
Time In / Time Out	10:30/11:15			
Duration of Combustion (min)	45			
Wt. of Crucible + Residue (g)	18.0337			
Wt. of Crucible (g)	18.0256			
Wt. of Residue (g) (A)	0.0081			
PPM of Sulfate (A) x 41150	333.31			
PPM of Sulfate, Dry Weight Basis	**350**			

CHLORIDE CONTENT, DOT California Test 422

ml of Extract For Titration (B)	15			
ml of AgNO3 Soln. Used in Titration (C)	1.1			
PPM of Chloride (C -0.2) * 100 * 30 / B	180			
PPM of Chloride, Dry Wt. Basis	**189**			

pH TEST, DOT California Test 643

pH Value	**7.57**			
Temperature °C	21.3			

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SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name: Brookview Ranch Bridge

Project No. : 12563.001

Boring No.: B-1

Sample No. : 1

Soil Identification:* Olive SC

Tested By : Y. Nguyen Date: 11/16/19

Input By: J. Ward Date: 11/19/19

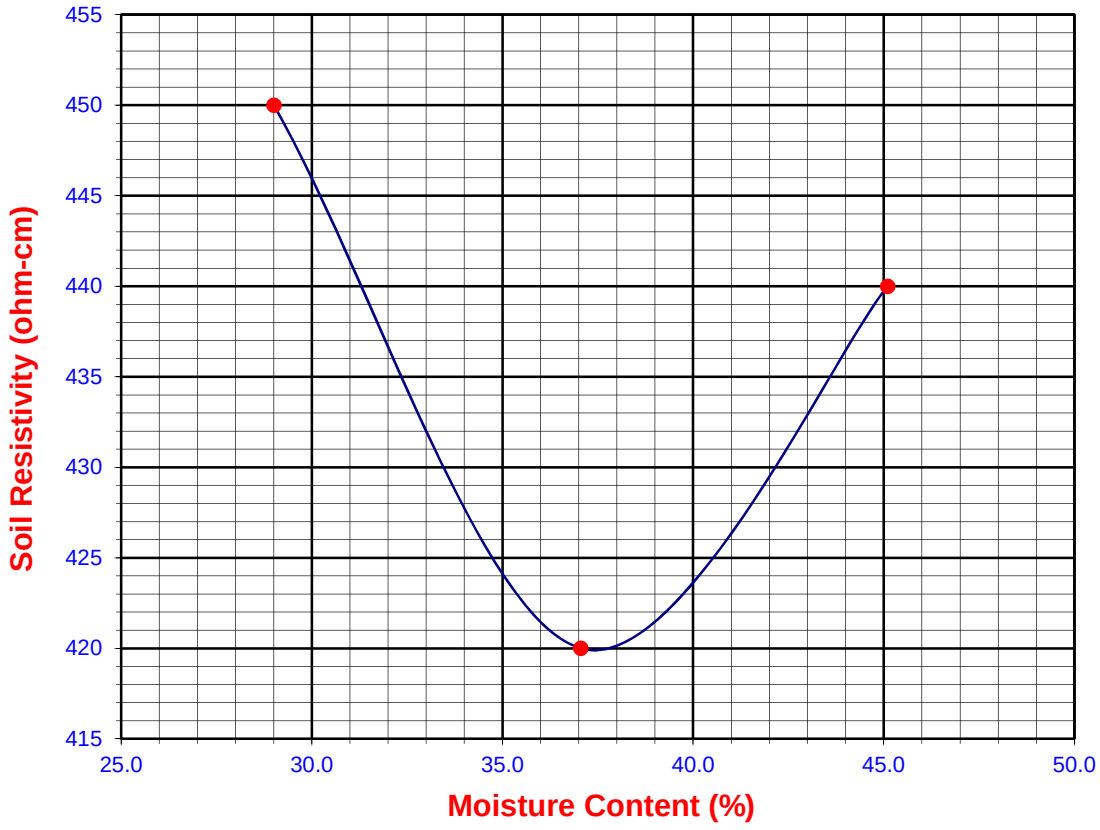
Depth (ft.) : 8"-5'

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	30	29.01	450	450
2	40	37.05	420	420
3	50	45.10	440	440
4				
5				

Moisture Content (%) (MCi)	4.86
Wet Wt. of Soil + Cont. (g)	165.79
Dry Wt. of Soil + Cont. (g)	160.80
Wt. of Container (g)	58.18
Container No.	
Initial Soil Wt. (g) (Wt)	130.30
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
420	**37.4**	**350**	**189**	**7.57**	**21.3**



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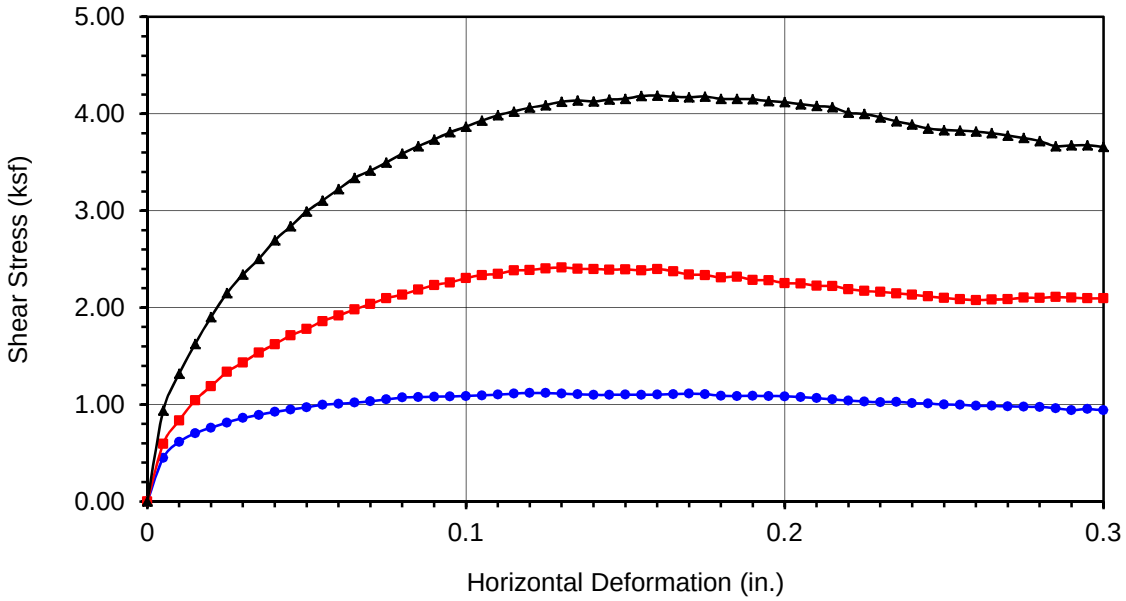
DIRECT SHEAR TEST

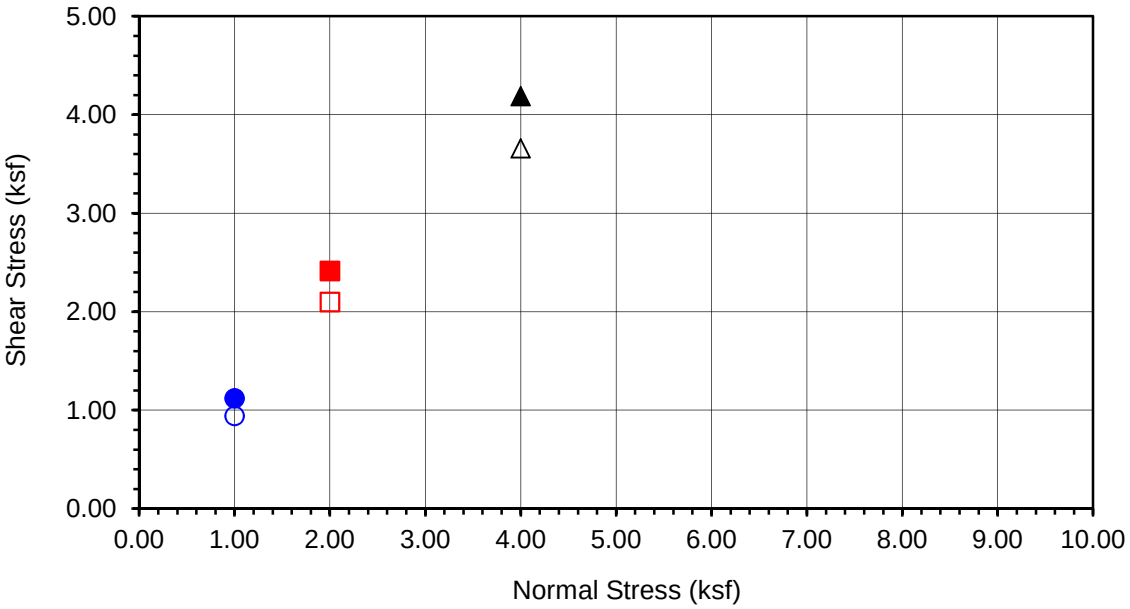
Consolidated Undrained

Project Name:	Brookview Ranch Bridge	Tested By:	G. Bathala	Date:	11/15/19
Project No.:	12563.001	Checked By:	J. Ward	Date:	11/19/19
Boring No.:	B-1	Sample Type:	Ring		
Sample No.:	3	Depth (ft.):	10'3"-10'9"		

Soil Identification: Dark olive brown well-graded sand with silt (SW-SM)

Sample Diameter(in):	2.415	2.415	2.415
Sample Thickness(in.):	1.000	1.000	1.000
Weight of Sample + ring(gm):	187.79	190.16	191.35
Weight of Ring(gm):	45.29	45.90	46.02
Before Shearing			
Weight of Wet Sample+Cont.(gm):	246.31	246.31	246.31
Weight of Dry Sample+Cont.(gm):	226.47	226.47	226.47
Weight of Container(gm):	57.94	57.94	57.94
Vertical Rdg.(in): Initial	0.2535	0.2107	0.0000
Vertical Rdg.(in): Final	0.2595	0.2210	-0.0170
After Shearing			
Weight of Wet Sample+Cont.(gm):	226.42	190.07	210.01
Weight of Dry Sample+Cont.(gm):	204.22	166.18	187.06
Weight of Container(gm):	78.62	39.83	59.25
Specific Gravity (Assumed):	2.70	2.70	2.70
Water Density(pcf):	62.43	62.43	62.43





Boring No.	**B-1**
Sample No.	**3**
Depth (ft)	**10'3"-10'9"**
Sample Type:	
Ring	
Soil Identification:	
Dark olive brown well-graded sand with silt (SW-SM)	

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 1.119	■ 2.414	▲ 4.188
Shear Stress @ End of Test (ksf)	○ 0.940	□ 2.097	△ 3.659
Deformation Rate (in./min.)	0.0500	0.0500	0.0500
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	11.77	11.77	11.77
Dry Density (pcf)	106.0	107.3	108.1
Saturation (%)	53.9	55.7	56.9
Soil Height Before Shearing (in.)	0.9940	0.9897	0.9830
Final Moisture Content (%)	17.7	18.9	18.0

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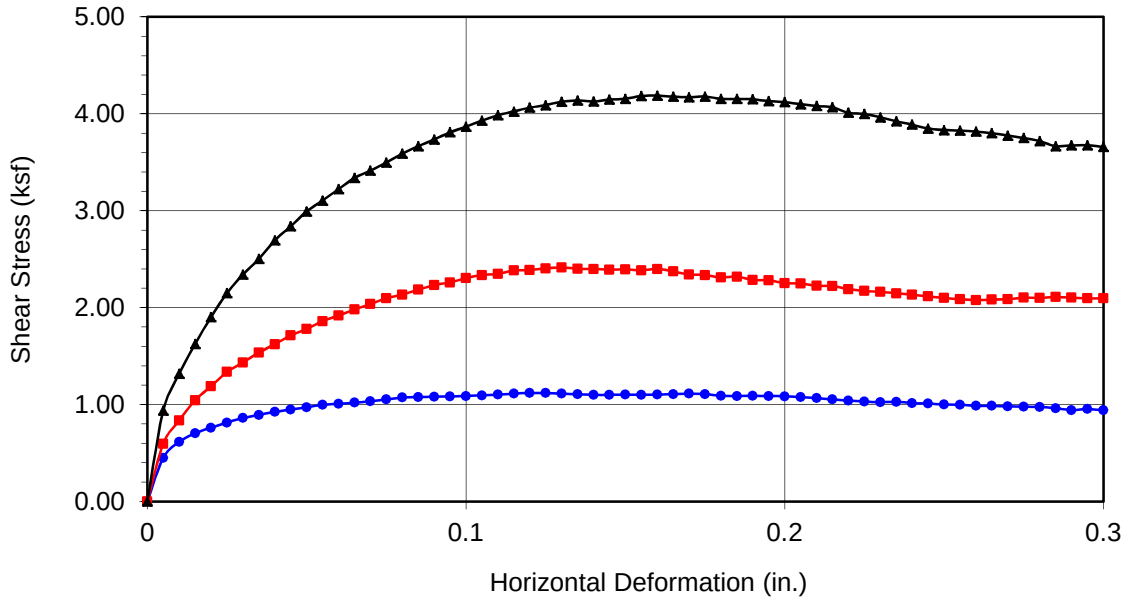
DIRECT SHEAR TEST RESULTS

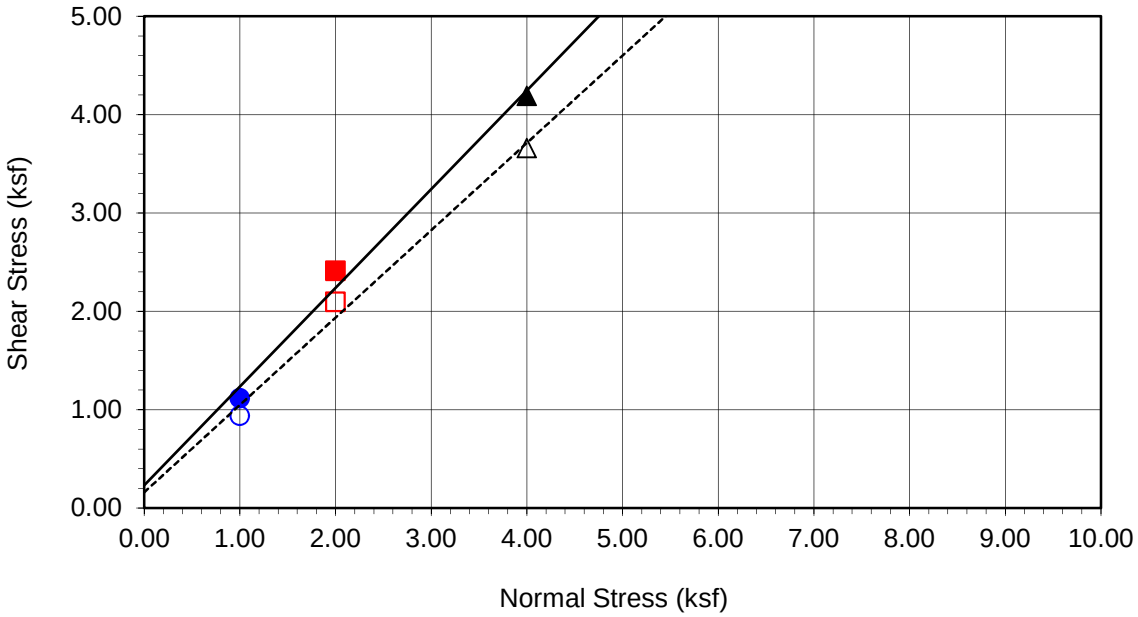
Consolidated Undrained

Project No.: 12563.001

Brookview Ranch Bridge

11-19





Boring No.	**B-1**
Sample No.	**3**
Depth (ft)	**10'3"-10'9"**
Sample Type:	Ring
Soil Identification:	Dark olive brown well-graded sand with silt (SW-SM)

Strength Parameters

	C (psf)	ϕ (^{o})
Peak	232	45
Ultimate	159	42

Normal Stress (kip/ft²)	1.000	2.000	4.000
Peak Shear Stress (kip/ft²)	● 1.119	■ 2.414	▲ 4.188
Shear Stress @ End of Test (ksf)	○ 0.940	□ 2.097	△ 3.659
Deformation Rate (in./min.)	0.0500	0.0500	0.0500
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	11.77	11.77	11.77
Dry Density (pcf)	106.0	107.3	108.1
Saturation (%)	53.9	55.7	56.9
Soil Height Before Shearing (in.)	0.9940	0.9897	0.9830
Final Moisture Content (%)	17.7	18.9	18.0

Leighton

DIRECT SHEAR TEST RESULTS

Consolidated Undrained

Project No.: 12563.001

Brookview Ranch Bridge

11-19

DS B-4, 3 @ 10'3 in-10'9 in

Leighton

EXPANSION INDEX of SOILS

ASTM D 4829

Project Name:	Brookview Ranch Bridge	Tested By:	S. Felter	Date:	11/13/19
Project No.:	12563.001	Checked By:	J. Ward	Date:	11/19/19
Boring No.:	B-1	Depth (ft.):	8"-5'		
Sample No.:	1				
Soil Identification:	Olive clayey sand (SC)				

Dry Wt. of Soil + Cont. (g)	1000.00
Wt. of Container No. (g)	0.00
Dry Wt. of Soil (g)	1000.00
Weight Soil Retained on #4 Sieve	0.00
Percent Passing # 4	100.00

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0250
Wt. Comp. Soil + Mold (g)	551.00	401.60
Wt. of Mold (g)	180.70	0.00
Specific Gravity (Assumed)	2.70	2.70
Container No.	O	O
Wet Wt. of Soil + Cont. (g)	738.50	582.30
Dry Wt. of Soil + Cont. (g)	652.40	507.82
Wt. of Container (g)	0.00	180.70
Moisture Content (%)	13.20	22.77
Wet Density (pcf)	111.7	118.2
Dry Density (pcf)	98.7	96.3
Void Ratio	0.708	0.751
Total Porosity	0.415	0.429
Pore Volume (cc)	85.8	91.0
Degree of Saturation (%) [S_{meas}]	**50.3**	81.8

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
11/13/19	10:05	1.0	0	0.4590
11/13/19	10:15	1.0	10	0.4590
Add Distilled Water to the Specimen				
11/13/19	12:40	1.0	145	0.4805
11/14/19	7:00	1.0	1245	0.4840
11/14/19	8:00	1.0	1305	0.4840

Expansion Index (EI_{meas}) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	**25**

Boring No.	B-1							
Sample No.	1							
Depth (ft.)	8"-5'							
Sample Type	Bulk							
Soil Identification	Olive clayey sand (SC)							
Moisture Correction								
Wet Weight of Soil + Container (g)	0.0							
Dry Weight of Soil + Container (g)	0.0							
Weight of Container (g)	1.0							
Moisture Content (%)	0.0							
Sample Dry Weight Determination								
Weight of Sample + Container (g)	711.1							
Weight of Container (g)	154.3							
Weight of Dry Sample (g)	556.8							
Container No.:								
After Wash								
Method (A or B)	A							
Dry Weight of Sample + Cont. (g)	461.0							
Weight of Container (g)	154.3							
Dry Weight of Sample (g)	306.7							
% Passing No. 200 Sieve	**44.9**							
% Retained No. 200 Sieve	55.1							

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PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: Brookview Ranch Bridge

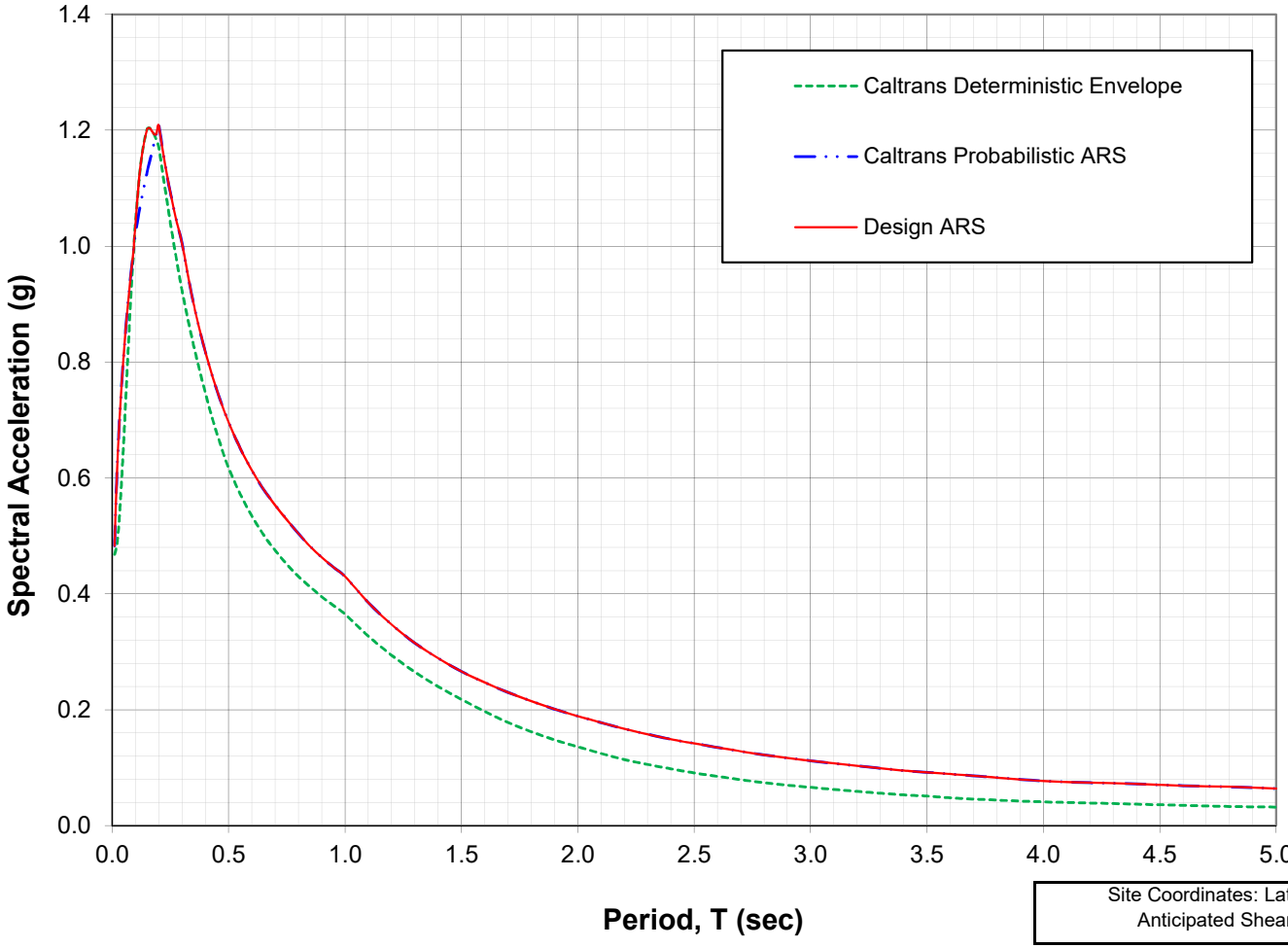
Project No.: 12563.001

Tested By: S. Felter Date: 11/13/19

APPENDIX D

SEISMIC HAZARD ANALYSIS

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Period	Sa
(sec)	(g)
0.01	0.483
0.05	0.816
0.10	1.042
0.15	1.202
0.20	1.208
0.25	1.092
0.30	1.005
0.35	0.900
0.40	0.818
0.45	0.751
0.50	0.696
0.60	0.613
0.70	0.553
0.80	0.504
0.90	0.463
1.00	0.430
1.50	0.266
2.00	0.189
2.50	0.142
3.00	0.112
3.50	0.092
4.00	0.077
4.40	0.072
5.00	0.064

Site Coordinates: Latitude: 34.122935; Longitude: -118.7935903
Anticipated Shear Wave Velocity-Vs_{30} (meters/sec) = 760

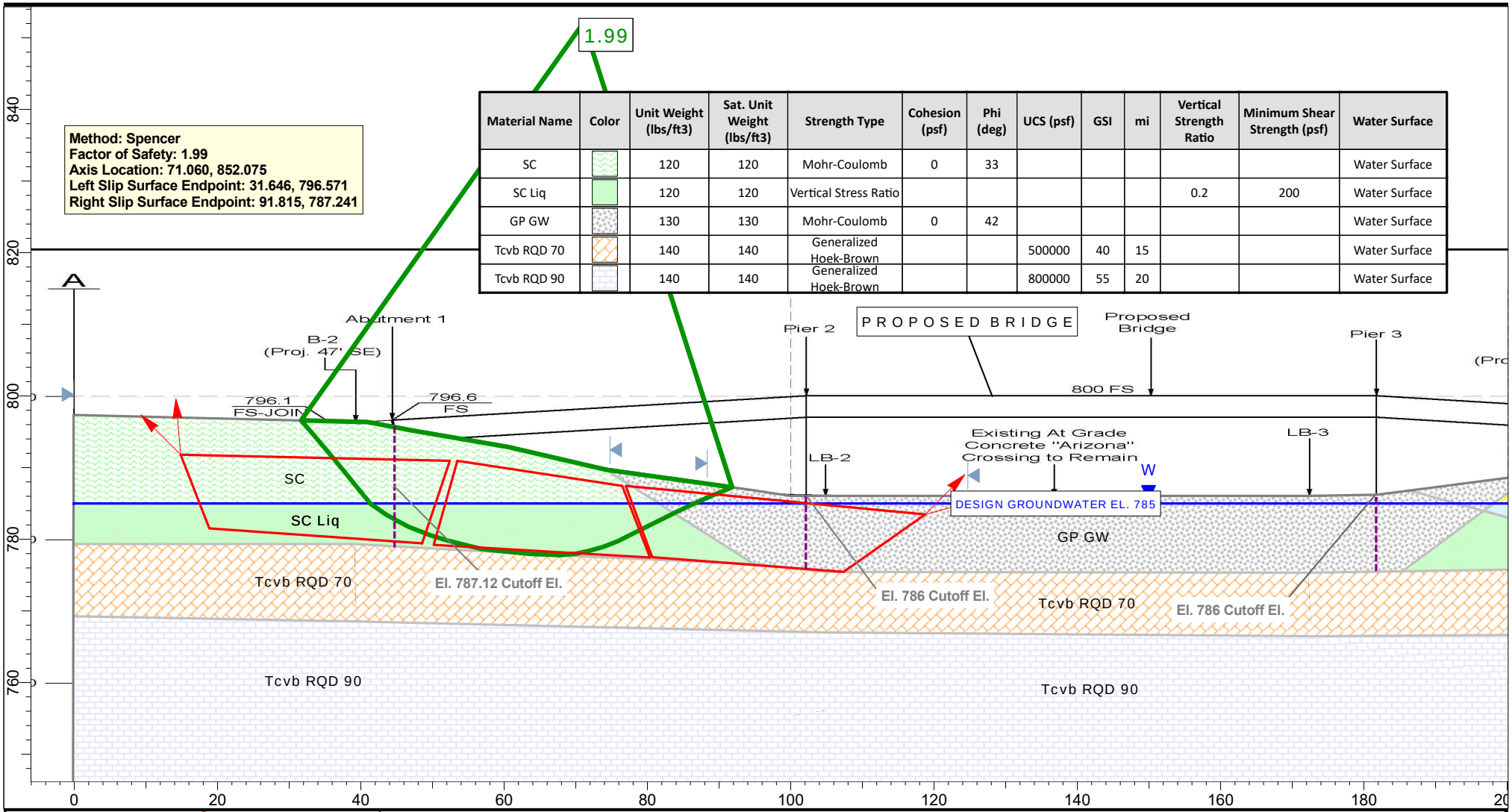
CALTRANS ARS CURVES
BROOKVIEW RANCH BRIDGE
COUNTY OF LOS ANGELES, CALIFORNIA

Project Name:	Brookview Ranch Bridge
Project No.:	12563.001
Designed/Checked by:	RPH/ JH
Date:	September 2020

Section A - A'

Post-Liquefaction Stability

\\Ds-sc1\project\InFocus Projects\12501 - 13000\12563 Brookview Ranch Bridge\001\Analyses\SLIDE\Section A_LQ_Blk SrfAlt_a1.slim



Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	Vertical Strength Ratio	Minimum Shear Strength (psf)	Water Surface
SC		120	120	Mohr-Coulomb	0	33						Water Surface
SC Liq		120	120	Vertical Stress Ratio						0.2	200	Water Surface
GP GW		130	130	Mohr-Coulomb	0	42						Water Surface
Tcvb RQD 70		140	140	Generalized Hoek-Brown			500000	40	15			Water Surface
Tcvb RQD 90		140	140	Generalized Hoek-Brown			800000	55	20			Water Surface

SLIDEINTERPRET 8.022

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

Project: Proposed Brookview Ranch Bridge, 2972 Triunfo Cyn Road, Agoura Hills, LA Co., CA				
Analyzed By: JEH	*Units:* feet	*Scale:* 1:240	*Project No.:* 12563.001	*File Name:* Section A_LQ_Blk SrfAlt_a1.slim
Date: January 6, 2020	*Condition:* Static			

Slide Analysis Information

Proposed Brookview Ranch Bridge, 2972 Triunfo Cyn Road, Agoura Hills, LA Co., CA

Project Summary

Slide Modeler Version: 8.022

General Settings

Units of Measurement:	Imperial Units
Time Units:	days
Permeability Units:	feet/second
Data Output:	Standard
Failure Direction:	Left to Right

Analysis Options

Slices Type:	Vertical

Analysis Methods Used
Janbu corrected
Spencer

Number of slices:	40
Tolerance:	0.005
Maximum number of iterations:	75
Check malpha < 0.2:	Yes
Create Interslice boundaries at intersections with water tables and piezos:	Yes
Initial trial value of FS:	1
Steffensen Iteration:	Yes

Groundwater Analysis

Groundwater Method:	Water Surfaces
Pore Fluid Unit Weight [lbs/ft3]:	62.4
Use negative pore pressure cutoff:	Yes
Maximum negative pore pressure [psf]:	0
Advanced Groundwater Method:	None

Random Numbers

Pseudo-random Seed:	10116
Random Number Generation Method:	Park and Miller v.3

Surface Options

Surface Type:	Non-Circular Block Search
Number of Surfaces:	5000
Multiple Groups:	Disabled
Pseudo-Random Surfaces:	Enabled
Convex Surfaces Only:	Enabled
Left Projection Angle (Start Angle) [°]:	95
Left Projection Angle (End Angle) [°]:	135
Right Projection Angle (Start Angle) [°]:	15
Right Projection Angle (End Angle) [°]:	45
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

Seismic Loading

Advanced seismic analysis: No
Staged pseudostatic analysis: No

Materials

Property	SM	SM Liq	SC	SC Liq	GP GW	Tcvb RQD 70	Tcvb RQD 90
Color							
Strength Type	Mohr-Coulomb	Vertical Stress Ratio	Mohr-Coulomb	Vertical Stress Ratio	Mohr-Coulomb	Generalized Hoek-Brown	Generalized Hoek-Brown
Unsaturated Unit Weight [lbs/ft3]	120	120	120	120	130	140	140
Saturated Unit Weight [lbs/ft3]	120	120	120	120	130	140	140
Cohesion [psf]	0		0		0		
Friction Angle [°]	33		33		42		
Unconfined Compressive Strength (intact) [psf]						500000	800000
GSI						40	55
mi						15	20
Disturbance						0	0
Tau/Sigma Ratio		0.2		0.2			
Min. Strength [psf]		200		200			
Tensile Strength [psf]		0		0			
Water Surface	Water Table	Water Table	Water Table	Water Table	Water Table	Water Table	Water Table
Hu Value	Automatically Calculated	Automatically Calculated	Automatically Calculated	Automatically Calculated	Automatically Calculated	Automatically Calculated	Automatically Calculated

Global Minimums

Method: janbu corrected

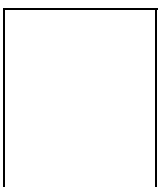
FS	1.940180
Axis Location:	70.215, 845.901
Left Slip Surface Endpoint:	34.547, 796.501
Right Slip Surface Endpoint:	88.335, 787.726
Resisting Horizontal Force:	15177.2 lb
Driving Horizontal Force:	7822.57 lb
Total Slice Area:	535.314 ft2
Surface Horizontal Width:	53.7877 ft
Surface Average Height:	9.95234 ft

Method: spencer

FS	1.990110
Axis Location:	71.060, 852.075
Left Slip Surface Endpoint:	31.646, 796.571
Right Slip Surface Endpoint:	91.815, 787.241
Resisting Moment:	1.31441e+06 lb-ft
Driving Moment:	660474 lb-ft
Resisting Horizontal Force:	16190.6 lb
Driving Horizontal Force:	8135.54 lb
Total Slice Area:	594.128 ft2
Surface Horizontal Width:	60.1689 ft
Surface Average Height:	9.87433 ft

Global Minimum Coordinates

Method: janbu corrected



X	Y
34.547	796.501
35.4484	795.341
36.3479	794.151
38.1472	791.71
39.8824	789.357
41.6176	787.074
43.1451	785.012
44.8469	783.538
46.4047	782.609
47.9625	781.708
50.8763	780.405
53.2533	779.525
55.4832	778.982
57.7133	778.612
59.9436	778.238
62.2824	778.027
64.6212	777.956
66.9598	777.862
69.2985	777.958
70.9349	778.25
72.6593	778.931
74.1523	779.774
75.6453	780.662
77.2401	781.605
78.8926	782.575
81.2331	783.933
83.2452	785.039
85.2573	786.074
86.796	786.874
88.3347	787.726

Method: spencer

X	Y
31.6461	796.571
33.5834	794.356
35.5208	792.065
37.458	789.71
39.3953	787.333
41.3094	784.967
43.5159	783.448
45.1141	782.537
46.7146	781.716
49.7083	780.535
52.191	779.792
54.4884	779.212
56.7858	778.655
58.505	778.465
60.2241	778.275
61.9433	778.109
63.6624	777.942
65.7755	777.866
67.8916	777.782
70.008	777.968
71.9086	778.384
73.8731	778.946
75.8277	779.709
78.66	781.128
81.4638	782.529
84.3314	783.935
87.1989	785.29
89.507	786.3
91.815	787.241

Valid/Invalid Surfaces

Method: janbu corrected

Number of Valid Surfaces: 4985
Number of Invalid Surfaces: 40

Error Codes:

Error Code -108 reported for 5 surfaces
Error Code -111 reported for 7 surfaces
Error Code -112 reported for 3 surfaces
Error Code -124 reported for 16 surfaces
Error Code -1000 reported for 9 surfaces

Method: spencer

Number of Valid Surfaces: 4934
Number of Invalid Surfaces: 91

Error Codes:

Error Code -108 reported for 17 surfaces
Error Code -111 reported for 27 surfaces
Error Code -112 reported for 17 surfaces
Error Code -124 reported for 16 surfaces
Error Code -1000 reported for 14 surfaces

Error Codes

The following errors were encountered during the computation:

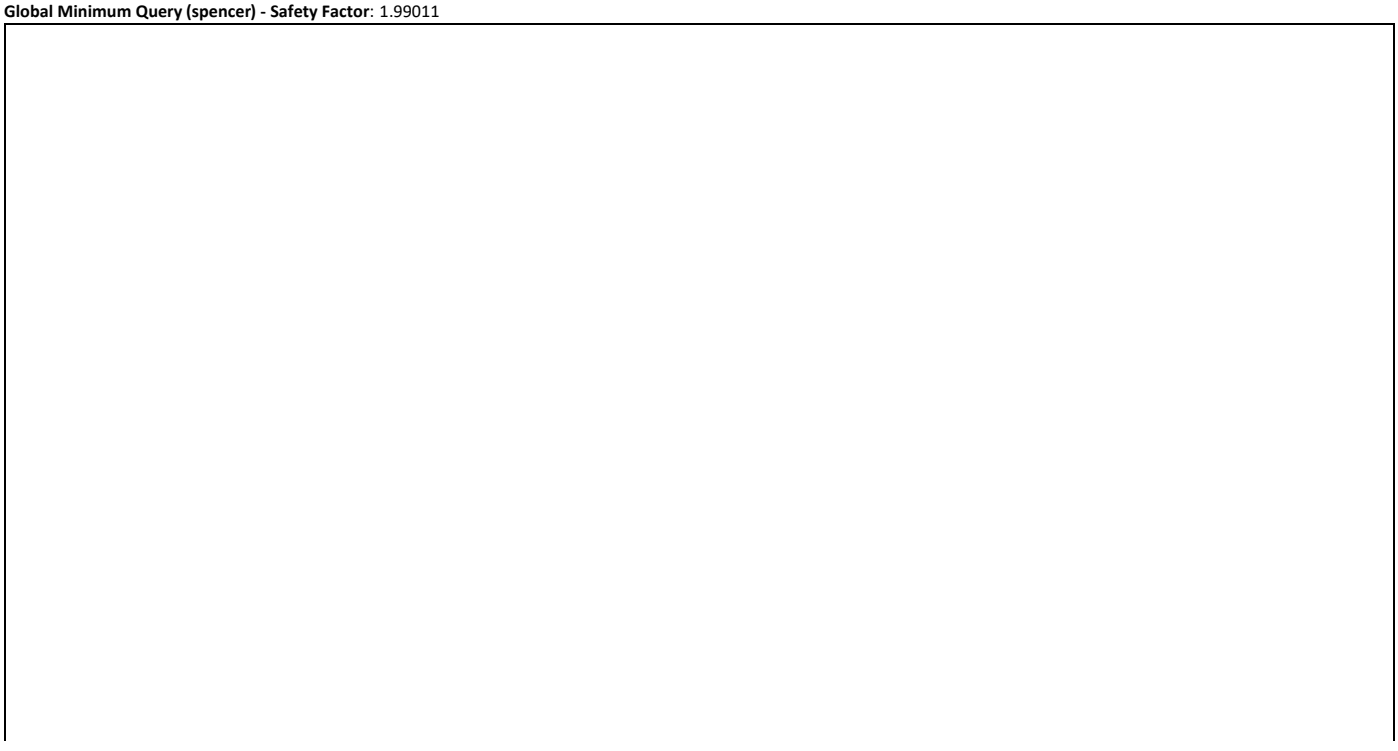
-108 = Total driving moment or total driving force < 0.1. This is to limit the calculation of extremely high safety factors if the driving force is very small (0.1 is an arbitrary number).
-111 = safety factor equation did not converge
-112 = The coefficient M-Alpha = cos(alpha)(1+tan(alpha)tan(phi)/F) < 0.2 for the final iteration of the safety factor calculation. This screens out some slip surfaces which may not be valid in the context of the analysis, in particular, deep seated slip surfaces with many high negative base angle slices in the passive zone.
-124 = A slice has a width less than the minimum acceptable value.
-1000 = No valid slip surface is generated

Slice Data

Global Minimum Query (janbu corrected) - Safety Factor: 1.94018

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [degrees]	Base Material	Base Cohesion [psf]	Base Friction Angle [degrees]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.901394	61.5659	-52.1561	SC	0	33	15.5923	30.2519	46.5838	0	46.5838	66.6535	66.6535
2	0.899554	185.891	-52.8966	SC	0	33	46.7719	90.7459	139.736	0	139.736	201.572	201.572
3	1.79925	756.708	-53.6127	SC	0	33	94.3825	183.119	281.978	0	281.978	410.055	410.055
4	1.73521	1219.93	-53.584	SC	0	33	157.83	306.218	471.536	0	471.536	685.485	685.485
5	1.73525	1689.52	-52.7627	SC	0	33	220.719	428.234	659.422	0	659.422	949.815	949.815
6	1.52742	1839.03	-53.4831	SC	0	33	270.621	525.053	808.509	0	808.509	1174.01	1174.01
7	1.70181	2347.7	-40.8866	SC Liq	266.856	0	137.542	266.856	1250.67	45.245	1205.42	1369.75	1324.51
8	1.55782	2315.99	-30.8207	SC Liq	273.295	0	140.861	273.295	1395.75	120.214	1275.54	1479.79	1359.58
9	1.55782	2432.61	-30.0252	SC Liq	276.85	0	142.693	276.85	1472.32	177.302	1295.01	1554.78	1377.48
10	1.4569	2364.68	-24.1042	SC Liq	279.473	0	144.045	279.473	1553.35	225.729	1327.62	1617.8	1392.07
11	1.4569	2434.61	-24.1042	SC Liq	280.937	0	144.799	280.937	1600.98	266.403	1334.58	1665.77	1399.36
12	2.37703	4096.11	-20.3079	SC Liq	281.805	0	145.247	281.805	1665.05	314.185	1350.86	1718.8	1404.61
13	1.11494	1957.9	-13.692	SC Liq	281.192	0	144.931	281.192	1717.86	350.106	1367.75	1753.17	1403.06
14	1.11494	1968.45	-13.692	SC Liq	279.695	0	144.159	279.695	1727.53	367.055	1360.47	1762.65	1395.6
15	1.11506	1973.41	-9.40861	SC Liq	277.698	0	143.13	277.698	1744.12	381.295	1362.82	1767.84	1386.54
16	1.11506	1972.34	-9.40861	SC Liq	275.2	0	141.843	275.2	1743.38	392.824	1350.56	1766.89	1374.06
17	1.11514	1971.56	-9.52605	SC Liq	272.715	0	140.562	272.715	1742.48	404.428	1338.05	1766.07	1361.64
18	1.11514	1970.81	-9.52605	SC Liq	270.244	0	139.288	270.244	1742.03	416.104	1325.92	1765.4	1349.3
19	1.16938	2058.49	-5.15671	SC Liq	267.018	0	137.625	267.018	1746.89	425.236	1321.66	1759.31	1334.08
20	1.16938	2036.71	-5.15671	SC Liq	261.976	0	135.027	261.976	1728.51	431.821	1296.69	1740.7	1308.88
21	2.33883	3984.23	-1.73113	SC Liq	253.238	0	130.523	253.238	1699.24	437.319	1261.92	1703.19	1265.87
22	1.16933	1943.22	-2.31511	SC Liq	244.165	0	125.847	244.165	1656.32	440.999	1215.32	1661.41	1220.41
23	1.16933	1911.84	-2.31511	SC Liq	238.209	0	122.777	238.209	1629.62	443.949	1185.67	1634.58	1190.63
24	1.16932	1873.75	2.35997	SC Liq	231.702	0	119.423	231.702	1607.76	443.92	1163.84	1602.84	1158.92
25	1.16932	1828.98	2.35997	SC Liq	224.646	0	115.786	224.646	1569.31	440.913	1128.4	1564.54	1123.62
26	1.63643	2462.38	10.1193	SC Liq	214.886	0	110.756	214.886	1526.12	430.297	1095.82	1506.35	1076.05
27	1.72442	2413.54	21.5522	SC Liq	200	0	103.083	200	1443.68	399.935	1043.74	1402.97	1003.03
28	1.49302	1886.43	29.431	SC Liq	200	0	103.083	200	1326.43	352.405	974.027	1268.27	915.869
29	1.49298	1685.9	30.7509	SC Liq	200	0	103.083	200	1195.58	298.41	897.173	1134.25	835.843
30	1.5948	1596.66	30.6108	SC Liq	200	0	103.083	200	1067.16	241.257	825.904	1006.17	764.915
31	1.65252	1433.26	30.3976	SC Liq	200	0	103.083	200	932.756	181.571	751.185	872.283	690.712
32	1.17021	879.783	30.1364	SC Liq	200	0	103.083	200	816.574	130.13	686.444	756.732	626.602
33	1.17021	768.307	30.1364	SC Liq	200	0	103.083	200	721.31	87.7388	633.571	661.467	573.728
34	1.08181	613.298	28.7783	SC Liq	200	0	103.083	200	628.188	48.0046	580.184	571.569	523.564
35	0.859933	418.294	28.7783	GP GW	0	42	302.284	586.485	666.087	14.7292	651.358	500.054	485.325
36	0.0703666	31.298	28.7783	GP GW	0	42	285.037	553.023	614.195	0	614.195	457.635	457.635
37	1.00605	401.298	27.2186	GP GW	0	42	249.58	484.23	537.791	0	537.791	409.422	409.422
38	1.00605	315.284	27.2186	GP GW	0	42	196.085	380.44	422.522	0	422.522	321.667	321.667
39	1.53873	314.937	27.4825	GP GW	0	42	128.571	249.45	277.042	0	277.042	210.162	210.162
40	1.53873	106.715	28.9877	GP GW	0	42	44.5918	86.5161	96.0858	0	96.0858	71.3806	71.3806

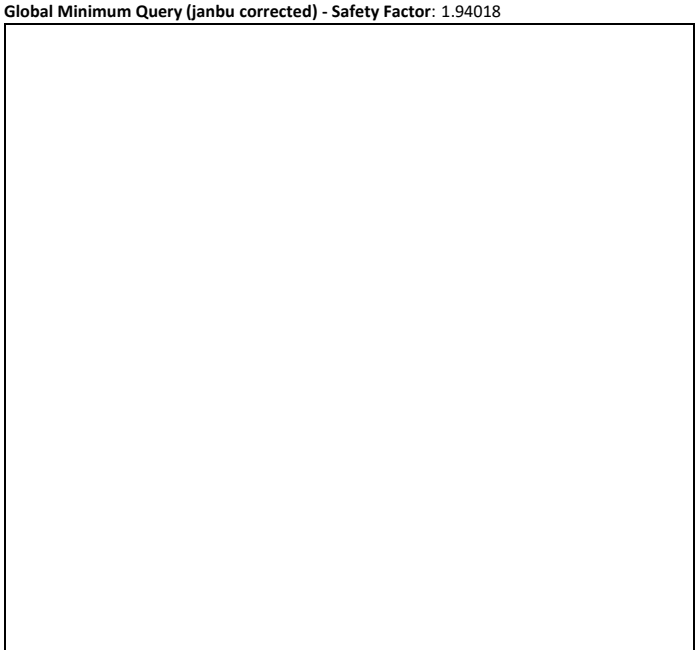
Global Minimum Query (spencer) - Safety Factor: 1.99011



Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [degrees]	Base Material	Base Cohesion [psf]	Base Friction Angle [degrees]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	1.93734	252.074	-48.8332	SC	0	33	29.5362	58.7802	90.5135	0	90.5135	124.292	124.292
2	1.93731	764.979	-49.7817	SC	0	33	88.6629	176.449	271.707	0	271.707	376.558	376.558
3	1.93726	1294.02	-50.5552	SC	0	33	148.621	295.773	455.451	0	455.451	636.098	636.098
4	1.93723	1833.08	-50.8229	SC	0	33	209.862	417.648	643.123	0	643.123	900.648	900.648
5	1.88764	2308.05	-51.0193	SC	0	33	270.539	538.402	829.066	0	829.066	1163.38	1163.38
6	0.0265078	35.9387	-51.0193	SC Liq	270.953	0	136.15	270.953	1092.06	1.01455	1091.04	1260.3	1259.29
7	1.10324	1534.03	-34.5405	SC Liq	272.95	0	137.153	272.95	1239.72	25.7292	1213.99	1334.12	1308.39
8	1.10324	1606.92	-34.5405	SC Liq	276.687	0	139.031	276.687	1301.31	73.1146	1228.19	1397	1323.89
9	1.59826	2439.19	-29.7056	SC Liq	280.179	0	140.786	280.179	1394.31	125.257	1269.06	1474.63	1349.38
10	1.60041	2550.75	-27.159	SC Liq	282.897	0	142.151	282.897	1472.61	179.323	1293.29	1545.54	1366.22
11	1.49686	2460.99	-21.5176	SC Liq	284.15	0	142.781	284.15	1550.93	223.353	1327.57	1607.22	1383.87
12	1.49686	2520.36	-21.5176	SC Liq	284.717	0	143.066	284.717	1589.31	260.179	1329.13	1645.71	1385.53
13	1.24135	2126.51	-16.658	SC Liq	284.575	0	142.995	284.575	1642.84	290.18	1352.66	1685.63	1395.45
14	1.24135	2149.87	-16.658	SC Liq	283.704	0	142.557	283.704	1661.32	313.358	1347.97	1703.98	1390.62
15	1.14872	2006.56	-14.1756	SC Liq	282.556	0	141.98	282.556	1688.53	333.999	1354.53	1724.39	1390.39
16	1.14872	2019.19	-14.1756	SC Liq	281.132	0	141.265	281.132	1699.43	352.105	1347.32	1735.11	1383
17	1.1487	2030.98	-13.6329	SC Liq	279.642	0	140.516	279.642	1712.36	369.85	1342.51	1746.44	1376.59
18	1.1487	2042.01	-13.6329	SC Liq	278.086	0	139.734	278.086	1721.9	387.234	1334.67	1755.79	1368.56
19	1.71914	3053.24	-6.30622	SC Liq	274.835	0	138.1	274.835	1756.36	401.854	1354.51	1771.62	1369.77
20	1.71914	3031.12	-6.30622	SC Liq	269.891	0	135.616	269.891	1743.68	413.709	1329.98	1758.67	1344.96
21	1.71916	3000.03	-5.52624	SC Liq	264.047	0	132.68	264.047	1729.49	424.826	1304.67	1742.33	1317.5
22	1.71916	2952.62	-5.52624	SC Liq	256.456	0	128.865	256.456	1702.2	435.205	1266.99	1714.67	1279.46
23	2.11311	3547.44	-2.06752	SC Liq	247.2	0	124.214	247.2	1679.29	442.775	1236.52	1683.78	1241
24	2.1161	3448.39	-2.26706	SC Liq	236.365	0	118.77	236.365	1629.16	447.768	1181.4	1633.87	1186.1
25	1.0582	1677.17	5.01115	SC Liq	227.489	0	114.31	227.489	1615.1	447.487	1167.61	1605.07	1157.59
26	1.0582	1634.26	5.01115	SC Liq	220.537	0	110.816	220.537	1573.68	441.697	1131.98	1563.96	1122.26
27	1.9006	2799.05	12.3486	SC Liq	209.38	0	105.21	209.38	1530.4	425.82	1104.58	1507.37	1081.55
28	1.9645	2672.27	15.9803	SC Liq	200	0	100.497	200	1429.17	395.286	1033.89	1400.39	1005.11
29	1.95462	2417.93	21.3097	SC Liq	200	0	100.497	200	1324.81	353.945	970.869	1285.61	931.667
30	2.83227	3051.9	26.6194	SC Liq	200	0	100.497	200	1182.46	285.868	896.588	1132.09	846.22
31	1.4019	1297.45	26.5471	SC Liq	200	0	100.497	200	1023.86	219.727	804.134	973.652	753.925
32	1.4019	1156.54	26.5471	SC Liq	200	0	100.497	200	919.236	176.022	743.214	869.027	693.005
33	1.1266	828.028	26.1118	SC Liq	200	0	100.497	200	823.925	136.941	686.984	774.667	637.726
34	1.1266	738.471	26.1118	SC Liq	200	0	100.497	200	741.243	102.484	638.759	691.985	589.501
35	0.61438	362.853	26.1118	GP GW	0	42	332.658	662.026	811.114	75.8595	735.254	648.061	572.202
36	2.25444	1072.65	25.2913	GP GW	0	42	281.447	560.111	655.295	33.2283	622.067	522.308	489.08
37	0.613086	221.781	25.2913	GP GW	0	42	229.409	456.549	507.049	0	507.049	398.651	398.651
38	1.15403	339.38	23.6337	GP GW	0	42	181.773	361.748	401.762	0	401.762	322.22	322.22
39	1.15403	239.487	23.6337	GP GW	0	42	128.27	255.272	283.508	0	283.508	227.379	227.379
40	2.30806	189.541	22.1959	GP GW	0	42	49.6928	98.8941	109.833	0	109.833	89.558	89.558

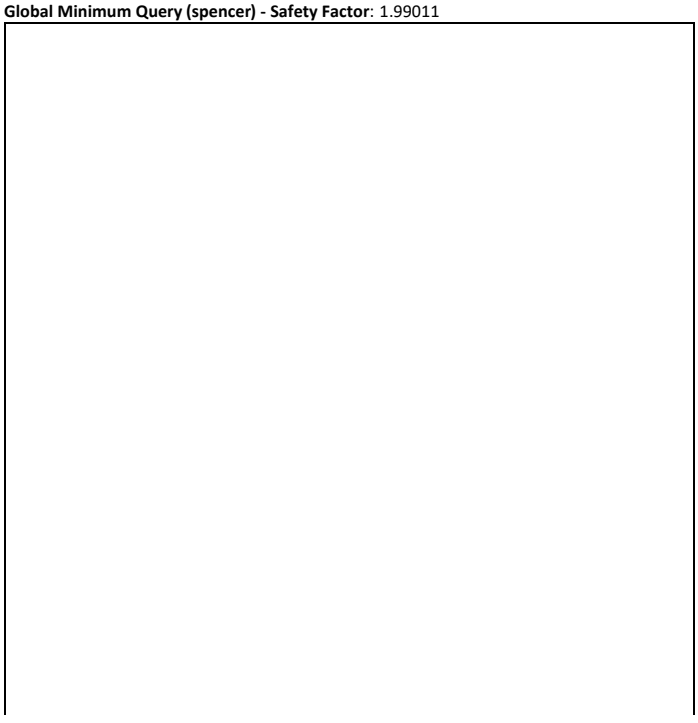
Interslice Data

Global Minimum Query (janbu corrected) - Safety Factor: 1.94018



Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [degrees]
1	34.547	796.501	0	0	0
2	35.4484	795.341	38.8395	0	0
3	36.3479	794.151	159.498	0	0
4	38.1472	791.71	664.213	0	0
5	39.8824	789.357	1477.01	0	0
6	41.6176	787.074	2568.04	0	0
7	43.1451	785.012	3788.65	0	0
8	44.8469	783.538	5378.17	0	0
9	46.4047	782.609	6437.94	0	0
10	47.9625	781.708	7522.96	0	0
11	49.4194	781.057	8308.4	0	0
12	50.8763	780.405	9123.69	0	0
13	53.2533	779.525	10214.8	0	0
14	54.3683	779.253	10506.5	0	0
15	55.4832	778.982	10801.9	0	0
16	56.5983	778.797	10951.4	0	0
17	57.7133	778.612	11102.4	0	0
18	58.8285	778.425	11258.9	0	0
19	59.9436	778.238	11416.8	0	0
20	61.113	778.132	11427	0	0
21	62.2824	778.027	11438.5	0	0
22	64.6212	777.956	11228.3	0	0
23	65.7905	777.909	11147.4	0	0
24	66.9598	777.862	11069.1	0	0
25	68.1292	777.91	10840.5	0	0
26	69.2985	777.958	10618.4	0	0
27	70.9349	778.25	9976.52	0	0
28	72.6593	778.931	8800.9	0	0
29	74.1523	779.774	7517.06	0	0
30	75.6453	780.662	6288.54	0	0
31	77.2401	781.605	5103.71	0	0
32	78.8926	782.575	4015.13	0	0
33	80.0628	783.254	3329.87	0	0
34	81.2331	783.933	2709.33	0	0
35	82.3149	784.528	2215.4	0	0
36	83.1748	785	1619.5	0	0
37	83.2452	785.039	1574.06	0	0
38	84.2512	785.556	1024.08	0	0
39	85.2573	786.074	591.986	0	0
40	86.796	786.874	156.162	0	0
41	88.3347	787.726	0	0	0

Global Minimum Query (spencer) - Safety Factor: 1.99011



Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [degrees]
1	31.6461	796.571	0	0	0
2	33.5834	794.356	143.319	11.2779	4.49938
3	35.5208	792.065	594.038	46.7452	4.49937
4	37.458	789.71	1378.57	108.48	4.49935
5	39.3953	787.333	2500.85	196.794	4.49938
6	41.2829	785	3924.09	308.789	4.49937
7	41.3094	784.967	3956.25	311.32	4.49937
8	42.4126	784.208	4746.36	373.494	4.49937
9	43.5159	783.448	5581.16	439.185	4.49937
10	45.1141	782.537	6627.54	521.525	4.49937
11	46.7146	781.716	7609.13	598.767	4.49937
12	48.2114	781.125	8310.7	653.974	4.49937
13	49.7083	780.535	9034.49	710.93	4.49937
14	50.9496	780.164	9467.19	744.98	4.49937
15	52.191	779.792	9907.3	779.612	4.49937
16	53.3397	779.502	10234.1	805.33	4.49938
17	54.4884	779.212	10564.9	831.362	4.49939
18	55.6371	778.934	10880.6	856.201	4.49937
19	56.7858	778.655	11199.8	881.319	4.49937
20	58.505	778.465	11296.1	888.895	4.49936
21	60.2241	778.275	11394.2	896.616	4.49937
22	61.9433	778.109	11453.8	901.304	4.49936
23	63.6624	777.942	11515.3	906.15	4.49939
24	65.7755	777.866	11381	895.576	4.49936
25	67.8916	777.782	11266.1	886.538	4.49938
26	68.9498	777.875	10995.3	865.227	4.49937
27	70.008	777.968	10732	844.509	4.49938
28	71.9086	778.384	9895.27	778.665	4.49937
29	73.8731	778.946	8893.82	699.86	4.49937
30	75.8277	779.709	7687.28	604.917	4.49937
31	78.66	781.128	5724.15	450.437	4.49937
32	80.0619	781.829	4866.15	382.92	4.49936
33	81.4638	782.529	4081.42	321.17	4.49938
34	82.5904	783.081	3513.23	276.458	4.49936
35	83.717	783.634	2990.69	235.34	4.49938
36	84.3314	783.935	2542.06	200.036	4.49936
37	86.5858	785	1209.5	95.1761	4.49936
38	87.1989	785.29	921.962	72.5498	4.49937
39	88.3529	785.795	509.301	40.0772	4.49937
40	89.507	786.3	218.102	17.1626	4.49937
41	91.815	787.241	0	0	0

Entity Information

Water Table

X	Y
-0.102	785
299.996	785

Block Search Window

X	Y
80.66	777.491
107.387	775.439
118.771	783.461
76.963	787.437

Block Search Window

X	Y
53.468	790.94
50.173	779.206
80.359	777.443
76.491	787.441

Block Search Window

X	Y
48.557	779.426
52.41	790.94
14.85	791.791
18.848	781.508

External Boundary

X	Y
-0.102	797.342
-0.102	785
-0.127493	779.324
-0.141769	769.235
-0.183	740.094
299.996	740.094
299.996	767.097
299.996	777.155
299.996	782.168
299.996	785
299.996	793.934
275.705	794.017
259.745	793.186
242.787	792.853
220.011	790.692
203.553	789.03
186.364	786.799
181.774	786.203
172.132	786.037
162.157	786.037
122.756	786.037
99.98	786.037
94.494	786.868
74.211	789.695
60.579	792.853
47.113	795.181
40.962	796.345

Material Boundary

X	Y
-0.127493	779.324
39.116	779.324
65.482	777.84
94.834	776.545
104.858	775.443
172.199	775.329
185.359	775.521
203.586	775.786
235.658	776.242
299.996	777.155

Material Boundary

X	Y
186.364	786.799
192.906	785
196.715	783.953
203.65	782.046
235.766	782.168
299.996	782.168

Material Boundary

X	Y
74.211	789.695
81.5741	785
94.834	776.545

Material Boundary

X	Y
185.359	775.521
196.715	783.953

Material Boundary

X	Y
-0.141769	769.235
39.31	768.532
70.998	767.769
103.735	767.016
172.74	766.455
202.844	766.636
299.996	767.097

Material Boundary

X	Y
-0.102	785
81.5741	785
192.906	785
198.126	785
299.996	785

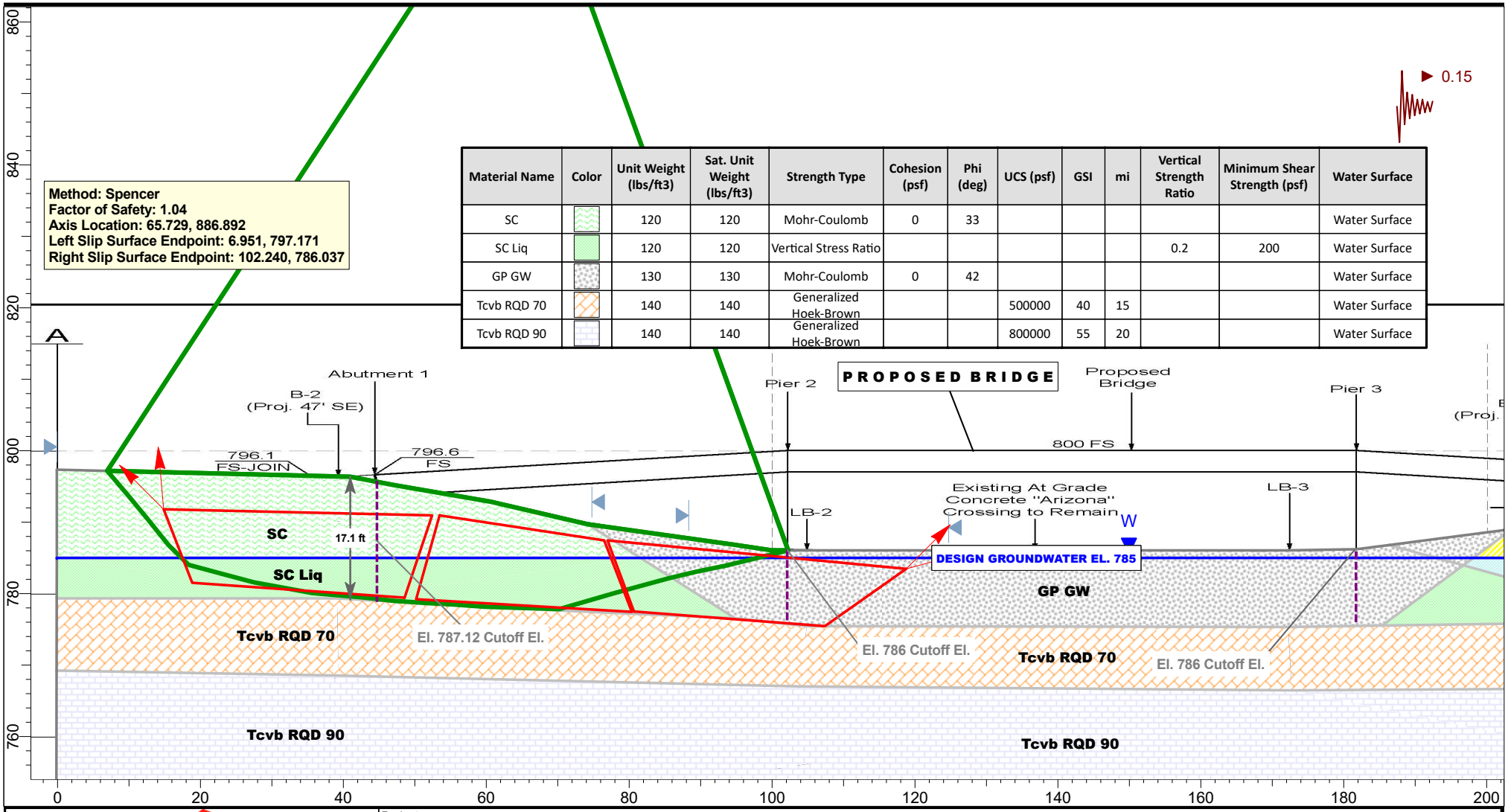
Material Boundary

X	Y
196.715	783.953
198.126	785
203.553	789.03

Section A - A'

Liquefied Residual Strength and Intertial Loading

\\Ds-sc1\project\InFocus Projects\12501 - 13000\12563 Brookview Ranch Bridge\001\Analyses\SLIDE\Section A_LQ_Blk SrfAlt_b1.slim



Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	Vertical Strength Ratio	Minimum Shear Strength (psf)	Water Surface
SC		120	120	Mohr-Coulomb	0	33						Water Surface
SC Liq		120	120	Vertical Stress Ratio						0.2	200	Water Surface
GP GW		130	130	Mohr-Coulomb	0	42						Water Surface
Tcvb RQD 70		140	140	Generalized Hoek-Brown			500000	40	15			Water Surface
Tcvb RQD 90		140	140	Generalized Hoek-Brown			800000	55	20			Water Surface

SLIDEINTERPRET 8.022

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

Project: **Proposed Brookview Ranch Bridge, 2972 Triunfo Cyn Road, Agoura Hills, LA Co., CA**

Analyzed By:	*Units:*	*Scale:*	*Project No.:*	*File Name:*
JEH	feet	1:240	**12563.001**	Section A_LQ_Blk SrfAlt_b1.slim

Date: January 6, 2020 *Condition:* **Liquefaction**

Slide Analysis Information

SLIDE - An Interactive Slope Stability Program

Project Summary

Slide Modeler Version: 8.022

General Settings

Units of Measurement:	Imperial Units
Time Units:	days
Permeability Units:	feet/second
Data Output:	Standard
Failure Direction:	Left to Right

Analysis Options

Slices Type:	Vertical

Analysis Methods Used
Janbu corrected
Spencer

Number of slices:	40
Tolerance:	0.005
Maximum number of iterations:	75
Check malpha < 0.2:	Yes
Create Interslice boundaries at intersections with water tables and piezos:	Yes
Initial trial value of FS:	1
Steffensen Iteration:	Yes

Groundwater Analysis

Groundwater Method:	Water Surfaces
Pore Fluid Unit Weight [lbs/ft3]:	62.4
Use negative pore pressure cutoff:	Yes
Maximum negative pore pressure [psf]:	0
Advanced Groundwater Method:	None

Random Numbers

Pseudo-random Seed:	10116
Random Number Generation Method:	Park and Miller v.3

Surface Options

Surface Type:	Non-Circular Block Search
Number of Surfaces:	5000
Multiple Groups:	Disabled
Pseudo-Random Surfaces:	Enabled
Convex Surfaces Only:	Enabled
Left Projection Angle (Start Angle) [°]:	95
Left Projection Angle (End Angle) [°]:	135
Right Projection Angle (Start Angle) [°]:	15
Right Projection Angle (End Angle) [°]:	45
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

Seismic Loading

Advanced seismic analysis: No
Staged pseudostatic analysis: No

Seismic Load Coefficient (Horizontal): 0.15

Materials

Property	SM	SM Liq	SC	SC Liq	GP GW	Tcvb RQD 70	Tcvb RQD 90
Color							
Strength Type	Mohr-Coulomb	Vertical Stress Ratio	Mohr-Coulomb	Vertical Stress Ratio	Mohr-Coulomb	Generalized Hoek-Brown	Generalized Hoek-Brown
Unsaturated Unit Weight [lbs/ft3]	120	120	120	120	130	140	140
Saturated Unit Weight [lbs/ft3]	120	120	120	120	130	140	140
Cohesion [psf]	0		0		0		
Friction Angle [°]	33		33		42		
Unconfined Compressive Strength (intact) [psf]						500000	800000
GSI						40	55
mi						15	20
Disturbance						0	0
Tau/Sigma Ratio		0.2		0.2			
Min. Strength [psf]		200		200			
Tensile Strength [psf]		0		0			
Water Surface	Water Table	Water Table	Water Table	Water Table	Water Table	Water Table	Water Table
Hu Value	Automatically Calculated	Automatically Calculated	Automatically Calculated	Automatically Calculated	Automatically Calculated	Automatically Calculated	Automatically Calculated

Global Minimums

Method: janbu corrected

FS	0.992101
Axis Location:	60.797, 866.153
Left Slip Surface Endpoint:	14.624, 796.984
Right Slip Surface Endpoint:	88.428, 787.713
Resisting Horizontal Force:	21350.5 lb
Driving Horizontal Force:	21520.5 lb
Total Slice Area:	809.403 ft2
Surface Horizontal Width:	73.8041 ft
Surface Average Height:	10.9669 ft

Method: spencer

FS	1.038320
Axis Location:	65.729, 886.892
Left Slip Surface Endpoint:	6.951, 797.171
Right Slip Surface Endpoint:	102.240, 786.037
Resisting Moment:	3.31212e+06 lb-ft
Driving Moment:	3.18989e+06 lb-ft
Resisting Horizontal Force:	28771.2 lb
Driving Horizontal Force:	27709.5 lb
Total Slice Area:	1051.5 ft2
Surface Horizontal Width:	95.2883 ft
Surface Average Height:	11.0349 ft

Global Minimum Coordinates

Method: janbu corrected



X	Y
14.6237	796.984
16.8938	794.071
19.1641	790.999
21.4344	787.888
23.5291	784.994
27.0519	783.778
29.7467	783.094
32.6801	782.623
35.3837	782.102
38.8319	781.318
42.3201	780.402
44.4864	780.084
46.6527	779.809
50.0891	779.527
52.6556	779.362
55.8887	779.043
59.1218	778.61
62.3549	778.122
65.9364	778.358
68.035	778.854
70.1339	779.574
72.5265	780.677
74.8208	781.804
77.3653	783.085
79.9097	784.277
83.1344	785.675
86.359	786.961
88.4278	787.713

Method: spencer

X	Y
6.95144	797.171
9.79757	793.819
12.6437	790.369
15.4898	786.82
18.336	784.019
22.9002	782.794
27.4639	781.569
31.5547	780.825
35.6455	780.081
39.4737	779.748
43.3018	779.415
47.13	778.97
51.3465	778.698
55.563	778.468
59.7795	778.161
63.2622	778.051
66.7449	777.942
70.2277	777.833
74.0693	778.952
77.911	780.052
81.7545	781.104
85.5982	782.159
89.442	783.08
93.2857	783.867
97.7627	784.949
102.24	786.037

Valid/Invalid Surfaces

Method: janbu corrected

Number of Valid Surfaces: 4986
Number of Invalid Surfaces: 34

Error Codes:

Error Code -112 reported for 12 surfaces
Error Code -124 reported for 16 surfaces

Error Code -1000 reported for 6 surfaces

Method: spencer

Number of Valid Surfaces: 4782
Number of Invalid Surfaces: 238

Error Codes:

Error Code -108 reported for 1 surface
Error Code -111 reported for 196 surfaces
Error Code -112 reported for 13 surfaces
Error Code -124 reported for 16 surfaces
Error Code -1000 reported for 12 surfaces

Error Codes

The following errors were encountered during the computation:

-108 = Total driving moment or total driving force < 0.1. This is to limit the calculation of extremely high safety factors if the driving force is very small (0.1 is an arbitrary number).
-111 = safety factor equation did not converge
-112 = The coefficient M-Alpha = cos(alpha)(1+tan(alpha)tan(phi)/F) < 0.2 for the final iteration of the safety factor calculation. This screens out some slip surfaces which may not be valid in the context of the analysis, in particular, deep seated slip surfaces with many high negative base angle slices in the passive zone.
-124 = A slice has a width less than the minimum acceptable value.
-1000 = No valid slip surface is generated

Slice Data

Global Minimum Query (janbu corrected) - Safety Factor: 0.992101

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [degrees]	Base Material	Base Cohesion [psf]	Base Friction Angle [degrees]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	2.27008	389.279	-52.0723	SC	0	33	59.2154	58.7477	90.4636	0	90.4636	166.453	166.453
2	2.27025	1189.55	-53.5344	SC	0	33	176.399	175.006	269.487	0	269.487	508.177	508.177
3	2.27028	2016.85	-53.8849	SC	0	33	297.215	294.867	454.056	0	454.056	861.414	861.414
4	2.09472	2602.3	-54.0976	SC	0	33	414.046	410.775	632.539	0	632.539	1204.47	1204.47
5	3.5228	5216.26	-19.0464	SC Liq	288.484	0	290.781	288.484	1373.68	38.2931	1335.39	1474.07	1435.78
6	1.34742	2111.57	-14.2504	SC Liq	296.042	0	298.399	296.042	1486.32	86.9153	1399.41	1562.11	1475.19
7	1.34742	2161.61	-14.2504	SC Liq	299.199	0	301.581	299.199	1522.6	108.269	1414.33	1599.19	1490.92
8	1.46669	2397.76	-9.11035	SC Liq	301.705	0	304.107	301.705	1582.82	126.284	1456.53	1631.58	1505.3
9	1.46669	2432.88	-9.11035	SC Liq	303.56	0	305.977	303.56	1606.45	140.961	1465.49	1655.51	1514.55
10	1.35178	2276.92	-10.905	SC Liq	305.593	0	308.026	305.593	1621.12	156.424	1464.69	1680.46	1524.04
11	1.35178	2313.85	-10.905	SC Liq	307.806	0	310.257	307.806	1647.97	172.675	1475.3	1707.75	1535.07
12	1.72414	3011.03	-12.821	SC Liq	310.67	0	313.144	310.67	1670.41	193.043	1477.37	1741.68	1548.64
13	1.72414	3083.55	-12.821	SC Liq	314.185	0	316.687	314.185	1711.61	217.528	1494.08	1783.68	1566.16
14	1.7441	3199.41	-14.7084	SC Liq	318.072	0	320.604	318.072	1744.69	244.054	1500.63	1828.84	1584.79
15	1.7441	3268.11	-14.7084	SC Liq	320.236	0	322.786	320.236	1783.47	272.623	1510.84	1868.2	1595.58
16	2.16627	4065.72	-8.36192	SC Liq	315.997	0	318.513	315.997	1826.91	296.842	1530.07	1873.73	1576.88
17	2.16626	4036.26	-7.23664	SC Liq	309.577	0	312.042	309.577	1821	315.358	1505.64	1860.62	1545.26
18	1.71821	3170.11	-4.69027	SC Liq	303.333	0	305.748	303.333	1818.26	328.339	1489.92	1843.34	1515
19	1.71821	3137.72	-4.69027	SC Liq	297.804	0	300.175	297.804	1799.89	337.135	1462.76	1824.52	1487.39
20	2.56647	4619.68	-3.65867	SC Liq	290.672	0	292.986	290.672	1780.04	346.654	1433.38	1798.77	1452.12
21	1.61659	2871.16	-5.64611	SC Liq	283.86	0	286.12	283.86	1745.9	356.76	1389.14	1774.19	1417.43
22	1.61659	2847.95	-5.64611	SC Liq	278.994	0	281.215	278.994	1732.06	366.733	1365.33	1759.86	1393.13
23	1.61652	2830.09	-7.62003	SC Liq	274.453	0	276.638	274.453	1711.27	378.467	1332.8	1748.28	1369.81
24	1.61652	2817.83	-7.62003	SC Liq	270.237	0	272.389	270.237	1704.29	391.962	1312.33	1740.74	1348.77
25	1.61655	2808.24	-8.58938	SC Liq	266.171	0	268.29	266.171	1693.98	406.328	1287.65	1734.5	1328.17
26	1.61655	2790.45	-8.58938	SC Liq	260.922	0	262.999	260.922	1683.82	421.564	1262.26	1723.55	1301.98
27	1.79078	3019.96	3.76479	SC Liq	252.178	0	254.186	252.178	1704.23	425.506	1278.72	1687.5	1261.99
28	1.79078	2905.49	3.76479	SC Liq	240.864	0	242.782	240.864	1639.51	418.153	1221.35	1623.53	1205.38
29	2.09858	3214.07	13.3146	SC Liq	226.512	0	228.315	226.512	1589.15	398.981	1190.17	1535.12	1136.14
30	2.0989	2938.88	18.9338	SC Liq	207.836	0	209.491	207.836	1476.82	361.021	1115.8	1404.95	1043.93
31	2.39253	2939.03	24.7408	SC Liq	200	0	201.592	200	1327.46	304.159	1023.3	1234.57	930.408
32	2.29436	2364.97	26.1708	SC Liq	200	0	201.592	200	1136.4	234.583	901.816	1037.33	802.748
33	1.27226	1137.18	26.7217	SC Liq	200	0	201.592	200	1002.03	179.421	822.607	900.542	721.121
34	1.27226	1020.39	26.7217	SC Liq	200	0	201.592	200	910.226	139.455	770.771	808.74	669.285
35	2.54438	1703.88	25.1031	SC Liq	200	0	201.592	200	770.361	82.2803	688.081	675.915	593.634
36	1.6668	883.498	23.4406	SC Liq	200	0	201.592	200	623.246	22.5405	600.706	535.84	513.299
37	1.55793	652.575	23.4406	GP GW	0	42	654.931	649.758	721.632	0	721.632	437.667	437.667
38	1.61228	490.884	21.7352	GP GW	0	42	449.862	446.309	495.676	0	495.676	316.334	316.334
39	1.61228	309.067	21.7352	GP GW	0	42	283.239	281.002	312.084	0	312.084	199.168	199.168
40	2.06881	139.966	19.9883	GP GW	0	42	94.7513	94.0029	104.401	0	104.401	69.9363	69.9363

Global Minimum Query (spencer) - Safety Factor: 1.03832

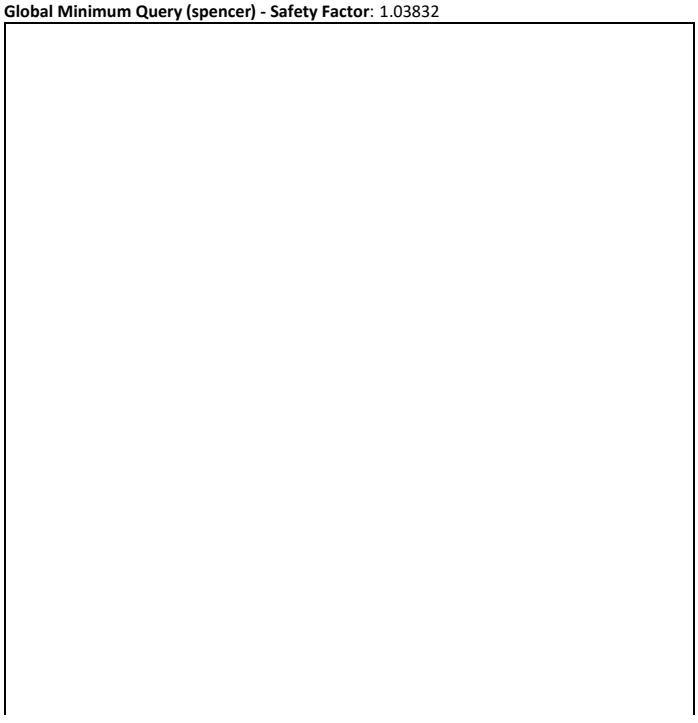
Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [degrees]	Base Material	Base Cohesion [psf]	Base Friction Angle [degrees]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	2.84613	560.495	-49.66	SC	0	33	65.2765	67.7779	104.369	0	104.369	181.231	181.231
2	2.84613	1698.39	-50.4811	SC	0	33	194.824	202.29	311.5	0	311.5	547.682	547.682
3	2.84613	2870.11	-51.2747	SC	0	33	324.357	336.786	518.605	0	518.605	923.102	923.102
4	1.84934	2448.03	-44.5386	SC	0	33	479.478	497.852	766.626	0	766.626	1238.44	1238.44
5	0.996805	1482.87	-44.5386	SC Liq	291.406	0	280.651	291.406	1037.85	30.596	1007.25	1314.02	1283.42
6	2.28211	3602.2	-15.0218	SC Liq	299.628	0	288.57	299.628	1440.69	80.307	1360.39	1518.13	1437.83
7	2.28211	3754.74	-15.0218	SC Liq	305.353	0	294.084	305.353	1502.26	118.522	1383.74	1581.18	1462.66
8	4.56368	7966.14	-15.0234	SC Liq	313.941	0	302.355	313.941	1594.61	175.844	1418.76	1675.76	1499.91
9	2.04541	3746.65	-10.3091	SC Liq	321.214	0	309.359	321.214	1725.17	225.667	1499.51	1781.44	1555.78
10	2.04541	3825.78	-10.3091	SC Liq	324.308	0	312.339	324.308	1761.61	248.883	1512.73	1818.43	1569.54
11	2.04541	3904.91	-10.3091	SC Liq	327.402	0	315.319	327.402	1798.05	272.099	1525.96	1855.41	1583.31
12	2.04541	3984.04	-10.3091	SC Liq	330.496	0	318.299	330.496	1834.5	295.314	1539.18	1892.39	1597.08
13	1.91407	3779.05	-4.97636	SC Liq	332.446	0	320.177	332.446	1920.67	312.122	1608.55	1948.55	1636.43
14	1.91407	3806.66	-4.97636	SC Liq	333.25	0	320.951	333.25	1934.56	322.522	1612.04	1962.51	1639.99
15	1.91407	3832.47	-4.97636	SC Liq	333.868	0	321.546	333.868	1947.54	332.922	1614.61	1975.53	1642.61
16	1.91407	3809.48	-4.97636	SC Liq	329.385	0	317.229	329.385	1935.63	343.322	1592.31	1963.26	1619.93
17	1.91407	3770.96	-6.62711	SC Liq	322.933	0	311.015	322.933	1897.08	355.46	1541.62	1933.21	1577.75
18	1.91407	3738.84	-6.62711	SC Liq	316.802	0	305.11	316.802	1880.72	369.337	1511.38	1916.16	1546.83
19	2.10825	4071.64	-3.69352	SC Liq	310.153	0	298.707	310.153	1891.63	380.521	1511.11	1910.91	1530.39
20	2.10825	4013.86	-3.69352	SC Liq	302.973	0	291.792	302.973	1864.48	389.014	1475.47	1883.32	1494.3
21	2.10825	3953.42	-3.1232	SC Liq	295.672	0	284.76	295.672	1842.2	396.849	1445.35	1857.73	1460.88
22	2.10825	3890.31	-3.1232	SC Liq	288.25	0	277.612	288.25	1812.47	404.027	1408.44	1827.61	1423.59
23	4.21651	7610.73	-4.16228	SC Liq	277.559	0	267.315	277.559	1761.82	417.19	1344.63	1781.27	1364.08
24	3.48273	6069.71	-1.7974	SC Liq	262.526	0	252.837	262.526	1723.58	430.173	1293.4	1731.51	1301.34
25	3.48273	5780.45	-1.7974	SC Liq	244.551	0	235.526	244.551	1640.66	436.993	1203.67	1648.05	1211.06
26	3.48273	5488.94	-1.7974	SC Liq	226.446	0	218.089	226.446	1557.1	443.813	1113.28	1563.94	1120.13
27	3.84168	5430.88	16.2357	SC Liq	200.271	0	192.88	200.271	1547.57	412.319	1135.25	1491.4	1079.08
28	1.92084	2394.66	15.9839	SC Liq	200	0	192.619	200	1373.74	360.249	1013.49	1318.57	958.319
29	1.92084	2224.34	15.9839	SC Liq	200	0	192.619	200	1282.78	325.916	956.864	1227.61	901.69
30	1.92172	2057.94	15.3013	SC Liq	200	0	192.619	200	1187.89	292.345	895.547	1135.19	842.848
31	1.92172	1893.33	15.3013	SC Liq	200	0	192.619	200	1100.23	259.537	840.689	1047.53	787.99
32	1.92189	1728.65	15.3506	SC Liq	200	0	192.619	200	1012.82	226.672	786.145	959.939	733.267
33	1.92189	1563.6	15.3506	SC Liq	200	0	192.619	200	924.908	193.75	731.158	872.031	678.281
34	0.313876	239.89	13.4787	SC Liq	200	0	192.619	200	861.704	174.942	686.762	815.536	640.594
35	3.52987	2368.37	13.4787	GP GW	0	42	750.389	779.144	1011.53	146.198	865.327	831.668	685.47
36	3.84374	1914.09	11.5771	GP GW	0	42	541.328	562.072	719.479	95.2341	624.244	608.585	513.351
37	2.23851	797.282	13.5819	GP GW	0	42	433.154	449.752	553.295	53.7939	499.501	448.649	394.855
38	2.23851	542.378	13.5819	GP GW	0	42	317.899	330.081	386.64	20.0476	366.592	309.838	289.79
39	0.20983	37.7108	13.6591	GP GW	0	42	255.101	264.876	295.758	1.5835	294.174	233.764	232.181
40	4.26719	327.307	13.6591	GP GW	0	42	109.836	114.045	126.66	0	126.66	99.9677	99.9677

Interslice Data

Global Minimum Query (janbu corrected) - Safety Factor: 0.992101

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [degrees]
1	14.6237	796.984	0	0	0
2	16.8938	794.071	178.606	0	0
3	19.1641	790.999	757.906	0	0
4	21.4344	787.888	1753.86	0	0
5	23.5291	784.994	3049.75	0	0
6	27.0519	783.778	4410.7	0	0
7	28.3993	783.436	4807.39	0	0
8	29.7467	783.094	5219.44	0	0
9	31.2134	782.858	5475.83	0	0
10	32.6801	782.623	5740.12	0	0
11	34.0319	782.363	6059.91	0	0
12	35.3837	782.102	6389.03	0	0
13	37.1078	781.71	6920.49	0	0
14	38.8319	781.318	7472.48	0	0
15	40.576	780.86	8154.99	0	0
16	42.3201	780.402	8861.5	0	0
17	44.4864	780.084	9317.43	0	0
18	46.6527	779.809	9703.08	0	0
19	48.3709	779.668	9874.81	0	0
20	50.0891	779.527	10049.3	0	0
21	52.6556	779.362	10232.7	0	0
22	54.2722	779.203	10449.2	0	0
23	55.8887	779.043	10668.5	0	0
24	57.5053	778.827	10986.4	0	0
25	59.1218	778.61	11308.2	0	0
26	60.7383	778.366	11680.6	0	0
27	62.3549	778.122	12057	0	0
28	64.1457	778.24	11823.9	0	0
29	65.9364	778.358	11603	0	0
30	68.035	778.854	10785	0	0
31	70.1339	779.574	9693.73	0	0
32	72.5265	780.677	8156.82	0	0
33	74.8208	781.804	6737.13	0	0
34	76.0931	782.445	5992.47	0	0
35	77.3653	783.085	5289.09	0	0
36	79.9097	784.277	4079.5	0	0
37	81.5765	785	3403.36	0	0
38	83.1344	785.675	1925.94	0	0
39	84.7467	786.318	907.673	0	0
40	86.359	786.961	266.562	0	0
41	88.4278	787.713	0	0	0

Global Minimum Query (spencer) - Safety Factor: 1.03832



Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [degrees]
1	6.95144	797.171	0	0	0
2	9.79757	793.819	248.06	44.6854	10.2117
3	12.6437	790.369	1023.09	184.3	10.2118
4	15.4898	786.82	2371.15	427.138	10.2117
5	17.3392	785	3246.73	584.866	10.2117
6	18.336	784.019	4207.41	757.922	10.2117
7	20.6181	783.407	4971.5	895.566	10.2117
8	22.9002	782.794	5783.6	1041.86	10.2118
9	27.4639	781.569	7551.79	1360.38	10.2117
10	29.5093	781.197	8122.87	1463.25	10.2117
11	31.5547	780.825	8713.28	1569.61	10.2117
12	33.6001	780.453	9323.02	1679.45	10.2118
13	35.6455	780.081	9952.09	1792.77	10.2117
14	37.5596	779.915	10226.2	1842.15	10.2118
15	39.4737	779.748	10505.3	1892.42	10.2117
16	41.3877	779.581	10789.3	1943.58	10.2117
17	43.3018	779.415	11076.1	1995.25	10.2117
18	45.2159	779.192	11468.3	2065.9	10.2117
19	47.13	778.97	11863.4	2137.07	10.2117
20	49.2382	778.834	12101.8	2180.02	10.2118
21	51.3465	778.698	12342.5	2223.37	10.2117
22	53.4547	778.583	12547.1	2260.23	10.2117
23	55.563	778.468	12753.8	2297.47	10.2117
24	59.7795	778.161	13308.9	2397.47	10.2118
25	63.2622	778.051	13527.2	2436.78	10.2117
26	66.7449	777.942	13753.3	2477.51	10.2117
27	70.2277	777.833	13987.3	2519.66	10.2117
28	74.0693	778.952	12329.6	2221.06	10.2118
29	75.9902	779.502	11563	2082.95	10.2117
30	77.911	780.052	10820.9	1949.27	10.2117
31	79.8327	780.578	10134.8	1825.69	10.2118
32	81.7545	781.104	9470.2	1705.96	10.2117
33	83.6763	781.631	8824.95	1589.72	10.2117
34	85.5982	782.159	8201.32	1477.39	10.2118
35	85.9121	782.234	8112.02	1461.3	10.2117
36	89.442	783.08	4962.69	893.978	10.2117
37	93.2857	783.867	2602.55	468.823	10.2117
38	95.5242	784.408	1453.3	261.797	10.2117
39	97.7627	784.949	613.937	110.595	10.2118
40	97.9726	785	550.985	99.2543	10.2117
41	102.24	786.037	0	0	0

Entity Information

Water Table

X	Y
-0.102	785
299.996	785

Block Search Window

X	Y
80.66	777.491
107.387	775.439
118.771	783.461
76.963	787.437

Block Search Window

X	Y
53.468	790.94
50.173	779.206
80.359	777.443
76.491	787.441

Block Search Window

X	Y
48.557	779.426
52.41	790.94
14.85	791.791
18.848	781.508

External Boundary

X	Y
-0.102	797.342
-0.102	785
-0.127493	779.324
-0.141769	769.235
-0.183	740.094
299.996	740.094
299.996	767.097
299.996	777.155
299.996	782.168
299.996	785
299.996	793.934
275.705	794.017
259.745	793.186
242.787	792.853
220.011	790.692
203.553	789.03
186.364	786.799
181.774	786.203
172.132	786.037
162.157	786.037
122.756	786.037
99.98	786.037
94.494	786.868
74.211	789.695
60.579	792.853
47.113	795.181
40.962	796.345

Material Boundary

X	Y
-0.127493	779.324
39.116	779.324
65.482	777.84
94.834	776.545
104.858	775.443
172.199	775.329
185.359	775.521
203.586	775.786
235.658	776.242
299.996	777.155

Material Boundary

X	Y
186.364	786.799
192.906	785
196.715	783.953
203.65	782.046
235.766	782.168
299.996	782.168

Material Boundary

X	Y
74.211	789.695
81.5741	785
94.834	776.545

Material Boundary

X	Y
185.359	775.521
196.715	783.953

Material Boundary

X	Y
-0.141769	769.235
39.31	768.532
70.998	767.769
103.735	767.016
172.74	766.455
202.844	766.636
299.996	767.097

Material Boundary

X	Y
-0.102	785
81.5741	785
192.906	785
198.126	785
299.996	785

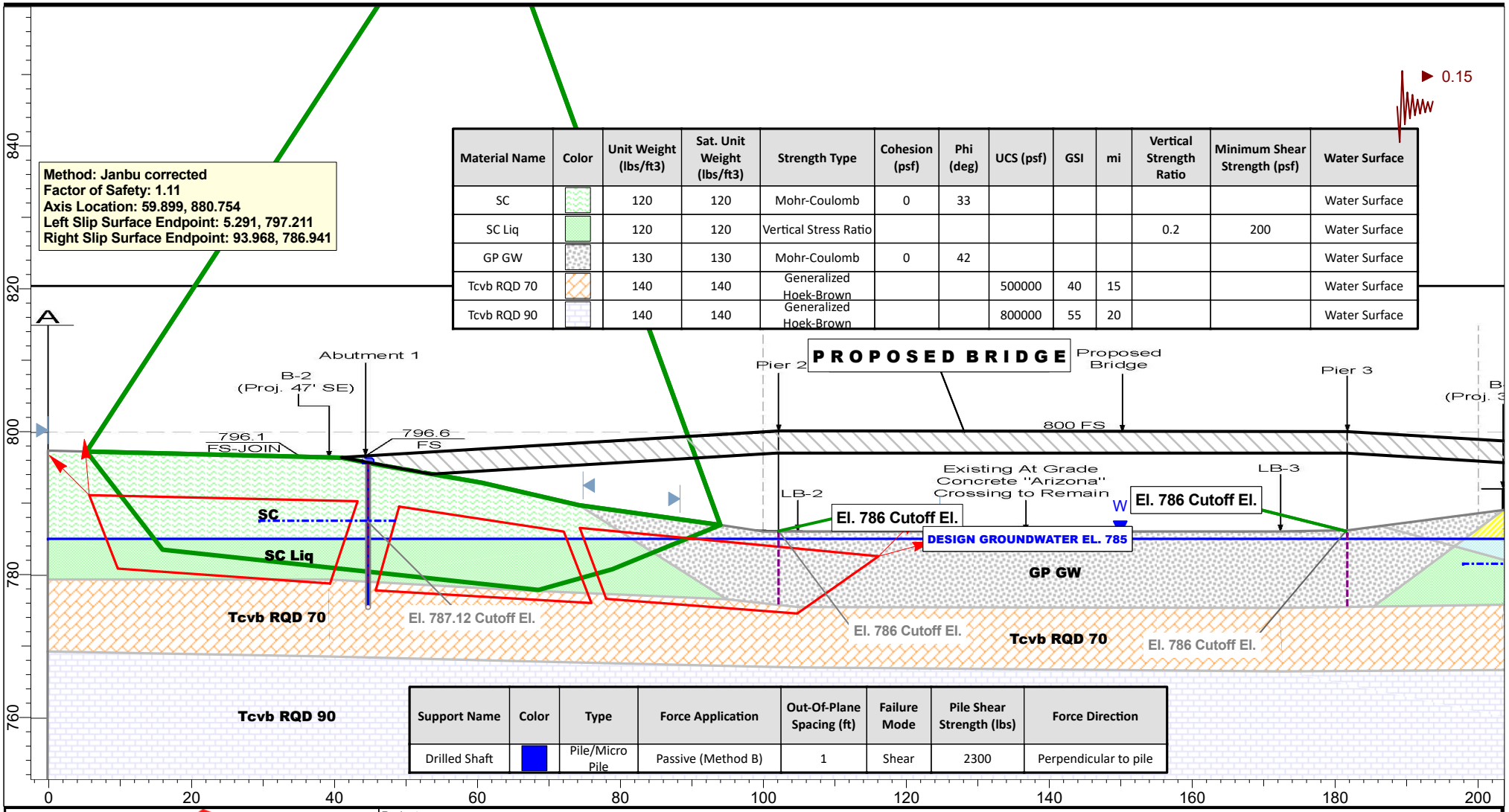
Material Boundary

X	Y
196.715	783.953
198.126	785
203.553	789.03

Section A - A' Drilled Shaft Load Demand

Liquefied Residual Strength and Intertial Loading

\\Ds-sc1\project\InFocus Projects\12501 - 13000\12563 Brookview Ranch Bridge\001\Analyses\SLIDE\Section A_LQ_Blk SrfAlt_SPLD_m1.slim



Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	Vertical Strength Ratio	Minimum Shear Strength (psf)	Water Surface
SC		120	120	Mohr-Coulomb	0	33						Water Surface
SC Liq		120	120	Vertical Stress Ratio						0.2	200	Water Surface
GP GW		130	130	Mohr-Coulomb	0	42						Water Surface
Tcvb RQD 70		140	140	Generalized Hoek-Brown			500000	40	15			Water Surface
Tcvb RQD 90		140	140	Generalized Hoek-Brown			800000	55	20			Water Surface

Support Name	Color	Type	Force Application	Out-Of-Plane Spacing (ft)	Failure Mode	Pile Shear Strength (lbs)	Force Direction
Drilled Shaft		Pile/Micro Pile	Passive (Method B)	1	Shear	2300	Perpendicular to pile

SLIDEINTERPRET 8.022

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

Project: **Proposed Brookview Ranch Bridge, 2972 Triunfo Cyn Road, Agoura Hills, LA Co., CA**

Analyzed By:	*Units:*	*Scale:*	*Project No.:*	*File Name:*
JEH	feet	1:240	**12563.001**	Section A_LQ_Blk SrfAlt_SPLD_m1.slim

Date: January 6, 2020

Condition: **Liquefaction**

Slide Analysis Information

Proposed Brookview Ranch Bridge, 2972 Triunfo Cyn Road, Agoura Hills, LA Co., CA

Project Summary

Slide Modeler Version: 8.022

General Settings

Units of Measurement:	Imperial Units
Time Units:	days
Permeability Units:	feet/second
Data Output:	Standard
Failure Direction:	Left to Right

Analysis Options

Slices Type:	Vertical

Analysis Methods Used
Janbu corrected
Spencer

Number of slices:	40
Tolerance:	0.005
Maximum number of iterations:	75
Check malpha < 0.2:	Yes
Create Interslice boundaries at intersections with water tables and piezos:	Yes
Initial trial value of FS:	1
Steffensen Iteration:	Yes

Groundwater Analysis

Groundwater Method:	Water Surfaces
Pore Fluid Unit Weight [lbs/ft3]:	62.4
Use negative pore pressure cutoff:	Yes
Maximum negative pore pressure [psf]:	0
Advanced Groundwater Method:	None

Random Numbers

Pseudo-random Seed:	10116
Random Number Generation Method:	Park and Miller v.3

Surface Options

Surface Type:	Non-Circular Block Search
Number of Surfaces:	5000
Multiple Groups:	Disabled
Pseudo-Random Surfaces:	Enabled
Convex Surfaces Only:	Enabled
Left Projection Angle (Start Angle) [°]:	95
Left Projection Angle (End Angle) [°]:	135
Right Projection Angle (Start Angle) [°]:	15
Right Projection Angle (End Angle) [°]:	45
Minimum Elevation:	Not Defined
Minimum Depth [ft]:	0
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

Seismic Loading

Advanced seismic analysis: No
Staged pseudostatic analysis: No

Seismic Load Coefficient (Horizontal): 0.15

Materials

Property	SM	SM Liq	SC	SC Liq	GP GW	Tcvb RQD 70	Tcvb RQD 90
Color							
Strength Type	Mohr-Coulomb	Vertical Stress Ratio	Mohr-Coulomb	Vertical Stress Ratio	Mohr-Coulomb	Generalized Hoek-Brown	Generalized Hoek-Brown
Unsaturated Unit Weight [lbs/ft3]	120	120	120	120	130	140	140
Saturated Unit Weight [lbs/ft3]	120	120	120	120	130	140	140
Cohesion [psf]	0		0		0		
Friction Angle [°]	33		33		42		
Unconfined Compressive Strength (intact) [psf]						500000	800000
GSI						40	55
mi						15	20
Disturbance						0	0
Tau/Sigma Ratio		0.2		0.2			
Min. Strength [psf]		200		200			
Tensile Strength [psf]		0		0			
Water Surface	Water Table	Water Table	Water Table	Water Table	Water Table	Water Table	Water Table
Hu Value	Automatically Calculated	Automatically Calculated	Automatically Calculated	Automatically Calculated	Automatically Calculated	Automatically Calculated	Automatically Calculated

Support

Drilled Shaft

Support Type: Pile/Micro Pile
Force Application: Passive
Out-of-Plane Spacing: 1 ft
Failure Mode: Shear
Pile Shear Strength: 2300 lb
Force Direction: Perpendicular to pile

Global Minimums

Method: janbu corrected

FS	1.107480
Axis Location:	59.899, 880.754
Left Slip Surface Endpoint:	5.291, 797.211
Right Slip Surface Endpoint:	93.968, 786.941
Resisting Horizontal Force:	29346.7 lb
Driving Horizontal Force:	26498.6 lb
Passive Horizontal Support Force:	2300 lb
Maximum Single Support Force:	2300 lb
Total Support Force:	2300 lb
Total Slice Area:	1005.89 ft2
Surface Horizontal Width:	88.6775 ft
Surface Average Height:	11.3432 ft

Method: spencer

FS	1.166740
Axis Location:	76.874, 873.621
Left Slip Surface Endpoint:	25.062, 796.731
Right Slip Surface Endpoint:	107.299, 786.037
Resisting Moment:	2.66597e+06 lb-ft
Driving Moment:	2.28497e+06 lb-ft
Resisting Horizontal Force:	26472.7 lb
Driving Horizontal Force:	22689.4 lb
Passive Support Moment:	212320 lb-ft
Passive Horizontal Support Force:	2300 lb
Maximum Single Support Force:	2300 lb
Total Support Force:	2300 lb
Total Slice Area:	786.617 ft2
Surface Horizontal Width:	82.2372 ft
Surface Average Height:	9.56522 ft

Global Minimum Coordinates

Method: janbu corrected

X	Y
5.29068	797.211
15.9478	783.484
68.542	777.854
78.8676	780.753
93.9682	786.941

Method: spencer

X	Y
25.0616	796.731
35.6551	784.669
50.067	779.311
78.1149	778.002
107.299	786.037

Valid/Invalid Surfaces

Method: janbu corrected

Number of Valid Surfaces: 4973
Number of Invalid Surfaces: 27

Error Codes:

Error Code -108 reported for 1 surface
Error Code -112 reported for 7 surfaces
Error Code -124 reported for 19 surfaces

Method: spencer

Number of Valid Surfaces: 4489
Number of Invalid Surfaces: 511

Error Codes:

Error Code -108 reported for 7 surfaces
Error Code -111 reported for 474 surfaces
Error Code -112 reported for 11 surfaces
Error Code -124 reported for 19 surfaces

Error Codes

The following errors were encountered during the computation:

-108 = Total driving moment or total driving force < 0.1. This is to limit the calculation of extremely high safety factors if the driving force is very small (0.1 is an arbitrary number).
-111 = safety factor equation did not converge
-112 = The coefficient M-Alpha = cos(alpha)(1+tan(alpha)tan(phi)/F) < 0.2 for the final iteration of the safety factor calculation. This screens out some slip surfaces which may not be valid in the context of the analysis, in particular, deep seated slip surfaces with many high negative base angle slices in the passive zone.
-124 = A slice has a width less than the minimum acceptable value.

Slice Data

Global Minimum Query (janbu corrected) - Safety Factor: 1.10748

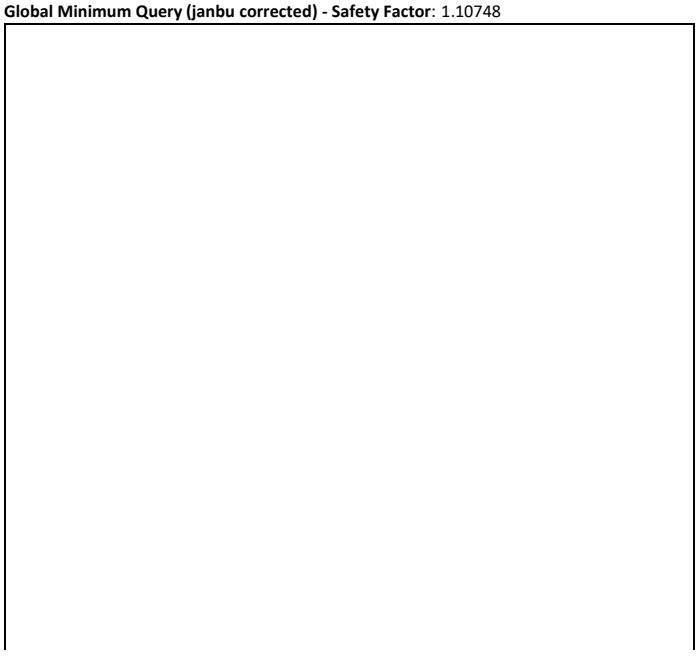
Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [degrees]	Base Material	Base Cohesion [psf]	Base Friction Angle [degrees]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	2.36997	425.915	-52.1766	SC	0	33	58.6263	64.9275	99.9796	0	99.9796	175.496	175.496
2	2.36997	1277.75	-52.1766	SC	0	33	175.879	194.783	299.938	0	299.938	526.49	526.49
3	2.36997	2129.58	-52.1766	SC	0	33	293.132	324.638	499.898	0	499.898	877.483	877.483
4	2.36997	2981.41	-52.1766	SC	0	33	410.385	454.493	699.858	0	699.858	1228.48	1228.48
5	1.17726	1797.66	-52.1766	SC Liq	295.935	0	267.215	295.935	1163.56	47.3054	1116.25	1507.76	1460.46
6	2.2867	3721.85	-6.10973	SC Liq	305.07	0	275.463	305.07	1596.48	102.255	1494.22	1625.96	1523.71
7	2.2867	3773.78	-6.10973	SC Liq	306.558	0	276.807	306.558	1619.03	117.529	1501.51	1648.66	1531.13
8	2.2867	3825.72	-6.10973	SC Liq	308.045	0	278.149	308.045	1641.59	132.802	1508.79	1671.37	1538.56
9	2.2867	3877.65	-6.10973	SC Liq	309.532	0	279.492	309.532	1664.15	148.076	1516.07	1694.06	1545.99
10	2.2867	3929.58	-6.10973	SC Liq	311.019	0	280.835	311.019	1686.71	163.35	1523.36	1716.77	1553.42
11	2.2867	3981.51	-6.10973	SC Liq	312.507	0	282.178	312.507	1709.26	178.624	1530.64	1739.47	1560.85
12	2.2867	4033.44	-6.10973	SC Liq	313.994	0	283.521	313.994	1731.82	193.897	1537.93	1762.17	1568.28
13	2.2867	4085.37	-6.10973	SC Liq	315.481	0	284.864	315.481	1754.38	209.171	1545.21	1784.87	1575.7
14	2.2867	4137.3	-6.10973	SC Liq	316.969	0	286.207	316.969	1776.94	224.445	1552.5	1807.58	1583.13
15	2.2867	4189.24	-6.10973	SC Liq	318.456	0	287.55	318.456	1799.5	239.718	1559.78	1830.28	1590.56
16	2.2867	4240.97	-6.10973	SC Liq	319.926	0	288.877	319.926	1821.98	254.992	1566.98	1852.9	1597.91
17	2.2867	4235.03	-6.10973	SC Liq	316.352	0	285.65	316.352	1819.74	270.266	1549.48	1850.32	1580.05
18	2.2867	4183.45	-6.10973	SC Liq	308.786	0	278.819	308.786	1797.96	285.539	1512.42	1827.8	1542.26
19	2.2867	4132.58	-6.10973	SC Liq	301.282	0	272.043	301.282	1776.48	300.813	1475.66	1805.6	1504.78
20	2.2867	4089.24	-6.10973	SC Liq	294.436	0	265.861	294.436	1758.22	316.087	1442.14	1786.68	1470.59
21	2.2867	4047.93	-6.10973	SC Liq	287.768	0	259.84	287.768	1740.83	331.36	1409.47	1768.65	1437.29
22	2.2867	4006.61	-6.10973	SC Liq	281.1	0	253.819	281.1	1723.45	346.634	1376.81	1750.62	1403.98
23	2.2867	3965.3	-6.10973	SC Liq	274.432	0	247.799	274.432	1706.06	361.908	1344.16	1732.59	1370.68
24	2.2867	3923.99	-6.10973	SC Liq	267.764	0	241.778	267.764	1688.68	377.182	1311.49	1714.56	1337.37
25	2.2867	3878.39	-6.10973	SC Liq	260.721	0	235.418	260.721	1669.45	392.455	1277	1694.65	1302.2
26	2.2867	3805.13	-6.10973	SC Liq	251.259	0	226.875	251.259	1638.38	407.729	1230.65	1662.67	1254.94
27	2.2867	3726.93	-6.10973	SC Liq	241.365	0	217.941	241.365	1605.2	423.003	1182.19	1628.53	1205.52
28	2.2867	3648.74	-6.10973	SC Liq	231.471	0	209.007	231.471	1572.01	438.276	1133.74	1594.38	1156.11
29	2.06512	3128.74	15.6846	SC Liq	217.443	0	196.34	217.443	1573.25	427.821	1145.43	1518.12	1090.3
30	2.06512	2866.48	15.6846	SC Liq	200	0	180.59	200	1441.58	391.636	1049.95	1390.87	999.239
31	2.06512	2606.44	15.6846	SC Liq	200	0	180.59	200	1315.66	355.452	960.211	1264.95	909.502
32	2.06512	2393.65	15.6846	SC Liq	200	0	180.59	200	1212.62	319.267	893.356	1161.91	842.647
33	2.06512	2199.87	15.6846	SC Liq	200	0	180.59	200	1118.79	283.082	835.704	1068.08	784.995
34	1.9007	1825.5	22.2833	SC Liq	200	0	180.59	200	1038.57	240.689	797.884	964.57	723.881
35	1.9007	1605.43	22.2833	SC Liq	200	0	180.59	200	922.785	192.086	730.699	848.781	656.695
36	1.9007	1385.35	22.2833	SC Liq	200	0	180.59	200	807.002	143.484	663.518	732.998	589.514
37	2.33059	1369.87	22.2833	GP GW	0	42	625.097	692.282	858.243	89.3851	768.858	602.085	512.7
38	2.33059	982.098	22.2833	GP GW	0	42	491.159	543.949	633.907	29.7901	604.117	432.636	402.846
39	2.36864	600.812	22.2833	GP GW	0	42	318.136	352.329	391.302	0	391.302	260.934	260.934
40	2.36864	200.271	22.2833	GP GW	0	42	106.045	117.443	130.434	0	130.434	86.9777	86.9777

Global Minimum Query (spencer) - Safety Factor: 1.16674

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [degrees]	Base Material	Base Cohesion [psf]	Base Friction Angle [degrees]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	2.06065	283.898	-48.7075	SC	0	33	43.1521	50.3473	77.5279	0	77.5279	126.66	126.66
2	2.06065	851.693	-48.7075	SC	0	33	129.456	151.042	232.584	0	232.584	379.98	379.98
3	2.06065	1419.49	-48.7075	SC	0	33	215.76	251.736	387.641	0	387.641	633.3	633.3
4	2.06065	1987.28	-48.7075	SC	0	33	302.065	352.431	542.695	0	542.695	886.619	886.619
5	2.06065	2555.08	-48.7075	SC	0	33	388.369	453.126	697.752	0	697.752	1139.94	1139.94
6	0.290295	405.576	-48.7075	SC Liq	277.362	0	237.724	277.362	948.706	10.3049	938.402	1219.37	1209.07
7	2.05884	3004.79	-20.3965	SC Liq	282.991	0	242.548	282.991	1292.65	44.5017	1248.15	1382.83	1338.33
8	2.05884	3181.57	-20.3965	SC Liq	290.61	0	249.079	290.61	1370.2	92.2708	1277.93	1462.81	1370.54
9	2.05884	3350.87	-20.3965	SC Liq	297.502	0	254.986	297.502	1444.53	140.04	1304.49	1539.34	1399.3
10	2.05884	3457.74	-20.3965	SC Liq	298.33	0	255.695	298.33	1492.04	187.809	1304.23	1587.11	1399.3
11	2.05884	3550.61	-20.3965	SC Liq	297.799	0	255.24	297.799	1684.56	235.578	1448.98	1779.46	1543.88
12	2.05884	3644.27	-20.3965	SC Liq	297.343	0	254.849	297.343	1575.36	283.347	1292.01	1670.12	1386.77
13	2.05884	3744.14	-20.3965	SC Liq	297.491	0	254.976	297.491	1619.86	331.116	1288.74	1714.67	1383.55
14	2.15753	3941.38	-2.67074	SC Liq	293.733	0	251.755	293.733	1797.3	358.141	1439.16	1809.05	1450.91
15	2.15753	3870.87	-2.67074	SC Liq	285.94	0	245.076	285.94	1764.88	364.421	1400.46	1776.32	1411.9
16	2.15753	3800.36	-2.67074	SC Liq	278.148	0	238.398	278.148	1732.47	370.701	1361.77	1743.59	1372.89
17	2.15753	3729.85	-2.67074	SC Liq	270.355	0	231.718	270.355	1700.06	376.981	1323.08	1710.87	1333.88
18	2.15753	3659.07	-2.67074	SC Liq	262.538	0	225.018	262.538	1667.52	383.261	1284.26	1678.02	1294.76
19	2.15753	3568.21	-2.67074	SC Liq	252.86	0	216.724	252.86	1625.79	389.541	1236.25	1635.9	1246.36
20	2.15753	3464.86	-2.67074	SC Liq	242.024	0	207.436	242.024	1578.35	395.821	1182.52	1588.02	1192.2
21	2.15753	3361.52	-2.67074	SC Liq	231.188	0	198.149	231.188	1530.89	402.101	1128.79	1540.14	1138.04
22	2.15753	3258.17	-2.67074	SC Liq	220.351	0	188.86	220.351	1483.45	408.381	1075.07	1492.26	1083.88
23	2.15753	3154.82	-2.67074	SC Liq	209.515	0	179.573	209.515	1436	414.662	1021.34	1444.38	1029.71
24	2.15753	3051.47	-2.67074	SC Liq	200	0	171.418	200	1388.69	420.942	967.745	1396.68	975.741
25	2.15753	2972.61	-2.67074	SC Liq	200	0	171.418	200	1353.33	427.222	926.106	1361.32	934.102
26	2.15753	2942.65	-2.67074	SC Liq	200	0	171.418	200	1339.89	433.502	906.39	1347.89	914.386
27	2.01618	2645.48	15.3927	SC Liq	200	0	171.418	200	1420.56	419.324	1001.24	1373.37	954.045
28	2.01618	2463.45	15.3927	SC Liq	200	0	171.418	200	1328.3	384.687	943.611	1281.11	896.419
29	2.01618	2281.43	15.3927	SC Liq	200	0	171.418	200	1236.03	350.05	885.981	1188.84	838.788
30	2.01618	2099.4	15.3927	SC Liq	200	0	171.418	200	1143.76	315.414	828.349	1096.57	781.156
31	2.01618	1917.37	15.3927	SC Liq	200	0	171.418	200	1051.49	280.777	770.718	1004.3	723.525
32	2.1909	1855.24	15.3927	GP GW	0	42	745.975	870.359	1211.27	244.64	966.632	1005.9	761.258
33	2.1909	1596.47	15.3927	GP GW	0	42	646.153	753.893	1044.29	207.002	837.284	866.394	659.392
34	2.1909	1337.64	15.3927	GP GW	0	42	546.299	637.389	877.257	169.364	707.893	726.856	557.492
35	2.1909	1074.22	15.3927	GP GW	0	42	443.864	517.874	706.883	131.726	575.157	584.683	452.957
36	2.1909	807.899	15.3927	GP GW	0	42	339.81	396.47	534.414	94.0877	440.326	440.861	346.774
37	2.1909	559.825	15.3927	GP GW	0	42	245.983	286.998	375.194	56.4497	318.744	307.472	251.023
38	2.1909	381.252	15.3927	GP GW	0	42	191.119	222.986	266.463	18.8116	247.651	213.846	195.035
39	1.88334	190.42	15.3927	GP GW	0	42	124.184	144.89	160.917	0	160.917	126.728	126.728
40	1.88334	63.4732	15.3927	GP GW	0	42	45.2258	52.7667	58.6032	0	58.6032	46.1521	46.1521

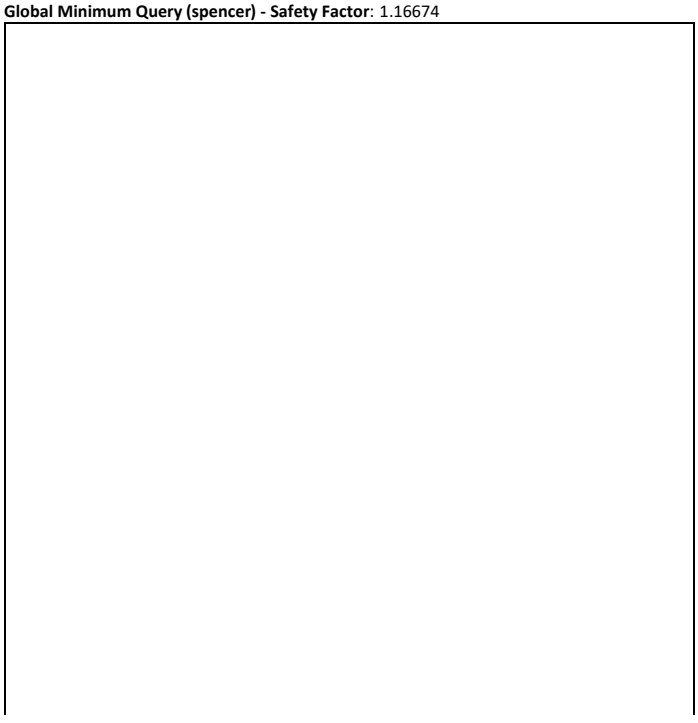
Interslice Data

Global Minimum Query (janbu corrected) - Safety Factor: 1.10748



Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [degrees]
1	5.29068	797.211	0	0	0
2	7.66065	794.158	222.4	0	0
3	10.0306	791.106	889.601	0	0
4	12.4006	788.053	2001.6	0	0
5	14.7705	785	3558.41	0	0
6	15.9478	783.484	5260.37	0	0
7	18.2345	783.239	5544.34	0	0
8	20.5212	782.994	5838.38	0	0
9	22.8079	782.749	6142.48	0	0
10	25.0946	782.504	6456.66	0	0
11	27.3813	782.26	6780.9	0	0
12	29.668	782.015	7115.22	0	0
13	31.9547	781.77	7459.6	0	0
14	34.2414	781.525	7814.05	0	0
15	36.5281	781.281	8178.57	0	0
16	38.8148	781.036	8553.16	0	0
17	41.1015	780.791	8937.81	0	0
18	43.3883	780.546	9328.81	0	0
19	45.675	780.302	7530.19	0	0
20	47.9617	780.057	7928.08	0	0
21	50.2484	779.812	8329.94	0	0
22	52.5351	779.567	8735.87	0	0
23	54.8218	779.322	9145.89	0	0
24	57.1085	779.078	9560	0	0
25	59.3952	778.833	9978.18	0	0
26	61.6819	778.588	10400.2	0	0
27	63.9686	778.343	10824.2	0	0
28	66.2553	778.099	11250	0	0
29	68.542	777.854	11677.4	0	0
30	70.6071	778.434	10806.3	0	0
31	72.6722	779.014	10006.6	0	0
32	74.7374	779.593	9240.86	0	0
33	76.8025	780.173	8502.96	0	0
34	78.8676	780.753	7790.41	0	0
35	80.7683	781.532	6892.89	0	0
36	82.669	782.311	6052.54	0	0
37	84.5697	783.09	5269.37	0	0
38	86.9003	784.045	3116.99	0	0
39	89.2309	785	1450.28	0	0
40	91.5995	785.971	364.955	0	0
41	93.9682	786.941	0	0	0

Global Minimum Query (spencer) - Safety Factor: 1.16674



Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [degrees]
1	25.0616	796.731	0	0	0
2	27.1222	794.385	135.371	22.629	9.48998
3	29.1829	792.039	541.486	90.516	9.48995
4	31.2435	789.692	1218.34	203.661	9.48997
5	33.3042	787.346	2165.94	362.064	9.48996
6	35.3648	785	3384.29	565.725	9.48994
7	35.6551	784.669	3689.53	616.751	9.48996
8	37.714	783.904	4629.39	773.859	9.48994
9	39.7728	783.138	5641.65	943.071	9.48995
10	41.8316	782.373	6724.02	1124	9.48993
11	43.8905	781.607	7857.32	1313.45	9.48997
12	45.9493	780.842	7181.58	1200.49	9.48995
13	48.0082	780.076	8408.4	1405.57	9.48997
14	50.067	779.311	9684	1618.8	9.48995
15	52.2245	779.21	9911.77	1656.88	9.48998
16	54.382	779.109	10140.1	1695.05	9.48999
17	56.5396	779.009	10369.1	1733.33	9.48999
18	58.6971	778.908	10598.7	1771.7	9.48993
19	60.8546	778.808	10828.9	1810.18	9.48993
20	63.0122	778.707	11059.1	1848.67	9.48998
21	65.1697	778.606	11289.2	1887.13	9.48996
22	67.3272	778.506	11519.1	1925.56	9.48995
23	69.4848	778.405	11748.8	1963.95	9.48992
24	71.6423	778.304	11978.3	2002.32	9.48995
25	73.7998	778.204	12205.1	2040.24	9.48998
26	75.9573	778.103	12416.6	2075.59	9.48996
27	78.1149	778.002	12622.2	2109.96	9.48997
28	80.1311	778.557	11884.2	1986.59	9.48995
29	82.1472	779.113	11170.1	1867.21	9.4899
30	84.1634	779.668	10479.8	1751.84	9.49002
31	86.1796	780.223	9813.54	1640.45	9.48993
32	88.1958	780.778	9171.15	1533.07	9.48995
33	90.3867	781.381	7081	1183.68	9.48998
34	92.5776	781.984	5271.92	881.266	9.48995
35	94.7685	782.587	3744	625.856	9.48996
36	96.9594	783.19	2504.24	418.614	9.48994
37	99.1503	783.794	1557.01	260.273	9.48994
38	101.341	784.397	874.604	146.201	9.48996
39	103.532	785	351.456	58.7503	9.48997
40	105.415	785.519	62.208	10.3988	9.48992
41	107.299	786.037	0	0	0

Entity Information

Water Table

X	Y
-0.102	785
299.996	785

Block Search Window

X	Y
78.007	776.595
104.734	774.543
116.118	782.565
74.31	786.541

Block Search Window

X	Y
49.049	789.516
45.754	777.782
75.94	776.019
72.072	786.017

Block Search Window

X	Y
39.3786	778.757
43.2316	790.271
5.67164	791.122
9.66964	780.839

External Boundary

X	Y
-0.102	797.342
-0.102	785
-0.127493	779.324
-0.141769	769.235
-0.183	740.094
299.996	740.094
299.996	767.097
299.996	777.155
299.996	782.168
299.996	785
299.996	793.934
275.705	794.017
259.745	793.186
242.787	792.853
220.011	790.692
203.553	789.03
186.364	786.799
181.774	786.203
172.132	786.037
162.157	786.037
122.756	786.037
99.98	786.037
94.494	786.868
74.211	789.695
60.579	792.853
47.113	795.181
40.962	796.345

Material Boundary

X	Y
-0.127493	779.324
39.116	779.324
65.482	777.84
94.834	776.545
104.858	775.443
172.199	775.329
185.359	775.521
203.586	775.786
235.658	776.242
299.996	777.155

Material Boundary

X	Y
186.364	786.799
192.906	785
196.715	783.953
203.65	782.046
235.766	782.168
299.996	782.168

Material Boundary

X	Y
74.211	789.695
81.5741	785
94.834	776.545

Material Boundary

X	Y
185.359	775.521
196.715	783.953

Material Boundary

X	Y
-0.141769	769.235
39.31	768.532
70.998	767.769
103.735	767.016
172.74	766.455
202.844	766.636
299.996	767.097

Material Boundary

X	Y
-0.102	785
81.5741	785
192.906	785
198.126	785
299.996	785

Material Boundary

X	Y
196.715	783.953
198.126	785
203.553	789.03

APPENDIX E

SHAFT ANALYSIS

Leighton

```
     ==========================================================================

                       SHAFT for Windows, Version 2017.8.5

                        Serial Number :  136154732

                     VERTICALLY LOADED DRILLED SHAFT ANALYSIS
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                            All Rights Reserved

     ==========================================================================


     Path to file locations      : P:\InFocus Projects\12501 - 13000\12563
Brookview Ranch Bridge\001\Analyses\Shaft\24 in\Service\
     Name of input data file     : Abut 1_service_24in.sf8d
     Name of output file         : Abut 1_service_24in.sf8o
     Name of plot output file    : Abut 1_service_24in.sf8p
     Name of runtime file        : Abut 1_service_24in.sf8r


     --------------------------------------------------------------------------
                          Time and Date of Analysis
     --------------------------------------------------------------------------

               Date:  January 03, 2020     Time:  12:05:57

     12563.001 Brookview Ranch-Abutment 1


     PROPOSED DEPTH =      19.0 FT
     ----------------


     NUMBER OF LAYERS =    2
     ------------------


     WATER TABLE DEPTH =      10.0 FT.
     -------------------




     SOIL INFORMATION
     ---------------

     LAYER NO  1----SAND

       AT THE TOP
```

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.330E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.100E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.000E+00

AT THE BOTTOM

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.360E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.200E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.170E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.100E+01
LRFD RESISTANCE FACTOR (TIP RESISTANCE) = 0.100E+01

LAYER NO 2----STRONG ROCK

AT THE TOP

DIAMETER OF SOCKET, FT = 0.200E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+08
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.170E+02

AT THE BOTTOM

DIAMETER OF SOCKET, FT = 0.200E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.500E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.100E+01

LRFD RESISTANCE FACTOR (TIP RESISTANCE) = 0.100E+01

(*) ESTIMATED BY THE PROGRAM BASED ON OTHER PARAMETERS

INPUT DRILLED SHAFT INFORMATION

MINIMUM SHAFT DIAMETER = 2.000 FT.
MAXIMUM SHAFT DIAMETER = 2.000 FT.
RATIO BASE/SHAFT DIAMETER = 0.000 FT.
ANGLE OF BELL = 0.000 DEG.
IGNORED TOP PORTION = 0.000 FT.
IGNORED BOTTOM PORTION = 0.000 FT.
ELASTIC MODULUS, Ec = 0.360E+07 LB/SQ IN

COMPUTATION RESULTS

- CASE ANALYZED : 1
VARIATION LENGTH : 1
VARIATION DIAMETER : 1

DRILLED SHAFT INFORMATION

DIAMETER OF STEM = 2.000 FT.
DIAMETER OF BASE = 2.000 FT.
END OF STEM TO BASE = 0.000 FT.
ANGLE OF BELL = 0.000 DEG.
IGNORED TOP PORTION = 0.000 FT.
IGNORED BOTTOM PORTION = 0.000 FT.
AREA OF ONE PERCENT STEEL = 4.524 SQ.IN.
ELASTIC MODULUS, Ec = 0.360E+07 LB/SQ IN
VOLUME OF UNDERREAM = 0.000 CU.YDS.
SHAFT LENGTH = 19.000 FT.

PREDICTED RESULTS

QS = ULTIMATE SIDE RESISTANCE;
QB = ULTIMATE BASE RESISTANCE;
WT = WEIGHT OF DRILLED SHAFT (UPLIFT CAPACITY ONLY);
QU = TOTAL ULTIMATE RESISTANCE;
LRFD QS = TOTAL SIDE FRICTION USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE SIDE RESISTANCE;
LRFD QB = TOTAL BASE BEARING USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE BASE RESISTANCE
LRFD QU = TOTAL CAPACITY WITH LRFD RESISTANCE FACTOR.

LENGTH (FT)	VOLUME (CU.YDS)	QS (TONS)	QB (TONS)	QU (TONS)	LRFD QS (TONS)	LRFD QB (TONS)	LRFD QU (TONS)
1.0	0.12	0.88	0.00	0.88	0.88	0.00	0.88
2.0	0.23	2.11	0.00	2.11	2.11	0.00	2.11
3.0	0.35	3.64	0.00	3.64	3.64	0.00	3.64
4.0	0.47	5.42	0.00	5.42	5.42	0.00	5.42
5.0	0.58	7.44	0.00	7.44	7.44	0.00	7.44
6.0	0.70	9.68	0.00	9.68	9.68	0.00	9.68
7.0	0.81	12.13	0.00	12.13	12.13	0.00	12.13
8.0	0.93	14.78	0.00	14.78	14.78	0.00	14.78
9.0	1.05	17.63	0.00	17.63	17.63	0.00	17.63
10.0	1.16	20.68	0.00	20.68	20.68	0.00	20.68
11.0	1.28	23.85	0.00	23.85	23.85	0.00	23.85
12.0	1.40	27.15	0.00	27.15	27.15	0.00	27.15
13.0	1.51	30.56	0.00	30.56	30.56	0.00	30.56
14.0	1.63	34.10	0.00	34.10	34.10	0.00	34.10
15.0	1.75	37.77	0.00	37.77	37.77	0.00	37.77
16.0	1.86	41.55	0.00	41.55	41.55	0.00	41.55
17.0	1.98	45.46	678.59	724.05	45.46	678.59	724.05
18.0	2.09	117.00	678.59	795.58	117.00	678.59	795.58
19.0	2.21	188.54	678.59	867.12	188.54	678.59	867.12

AXIAL LOAD VS SETTLEMENT CURVES

LOAD SETTLEMENT RELATIONSHIP

TOP LOAD TONS	TOP MOVEMENT IN.
0.2502E+02	0.1035E-01
0.3753E+02	0.1553E-01

0.5627E+02	0.2329E-01
0.8435E+02	0.3494E-01
0.1264E+03	0.5241E-01
0.1894E+03	0.7862E-01
0.2837E+03	0.1179E+00
0.4097E+03	0.1769E+00
0.5938E+03	0.2653E+00
0.8671E+03	0.3967E+00
0.8671E+03	0.3967E+00
0.8671E+03	0.3967E+00
0.8671E+03	0.3967E+00
0.8671E+03	0.3967E+00
0.8671E+03	0.3967E+00

```
     ==========================================================================

                       SHAFT for Windows, Version 2017.8.5

                        Serial Number :  136154732

                     VERTICALLY LOADED DRILLED SHAFT ANALYSIS
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     ==========================================================================


     Path to file locations      : P:\InFocus Projects\12501 - 13000\12563
Brookview Ranch Bridge\001\Analyses\Shaft\24 in\Strength\
     Name of input data file     : Abut 1_strength_24in.sf8d
     Name of output file         : Abut 1_strength_24in.sf8o
     Name of plot output file    : Abut 1_strength_24in.sf8p
     Name of runtime file        : Abut 1_strength_24in.sf8r


     ---------------------------------------------------------------------------
                           Time and Date of Analysis
     ---------------------------------------------------------------------------

               Date:  January 15, 2020     Time:  10:02:33

     12563.001 Brookview Ranch-Abutment 1


     TOTAL LOAD =      77.0 TONS
     ------------


     NUMBER OF LAYERS =    2
     ------------------


     WATER TABLE DEPTH =      10.0 FT.
     -------------------




     SOIL INFORMATION
     ---------------

     LAYER NO  1----SAND

       AT THE TOP
```

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.330E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.100E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.000E+00

AT THE BOTTOM

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.360E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.200E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.170E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.500E+00
LRFD RESISTANCE FACTOR (TIP RESISTANCE) = 0.500E+00

LAYER NO 2----STRONG ROCK

AT THE TOP

DIAMETER OF SOCKET, FT = 0.200E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.170E+02

AT THE BOTTOM

DIAMETER OF SOCKET, FT = 0.200E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.500E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.500E+00

```
  LRFD RESISTANCE FACTOR (TIP RESISTANCE)          = 0.500E+00


(*) ESTIMATED BY THE PROGRAM BASED ON OTHER PARAMETERS


INPUT DRILLED SHAFT INFORMATION
-------------------------------

 MINIMUM SHAFT DIAMETER    =    2.000  FT.
 MAXIMUM SHAFT DIAMETER    =    2.000  FT.
 RATIO BASE/SHAFT DIAMETER =    0.000  FT.
 ANGLE OF BELL             =    0.000  DEG.
 IGNORED TOP PORTION       =    0.000  FT.
 IGNORED BOTTOM PORTION    =    0.000  FT.
 ELASTIC MODULUS, Ec       = 0.360E+07 LB/SQ IN




COMPUTATION RESULTS
-------------------


- CASE ANALYZED      :     1
  VARIATION LENGTH   :     1
  VARIATION DIAMETER :     1


DRILLED SHAFT INFORMATION

-------------------------

 DIAMETER OF STEM          =    2.000  FT.
 DIAMETER OF BASE          =    2.000  FT.
 END OF STEM TO BASE       =    0.000  FT.
 ANGLE OF BELL             =    0.000  DEG.
 IGNORED TOP PORTION       =    0.000  FT.
 IGNORED BOTTOM PORTION    =    0.000  FT.
 AREA OF ONE PERCENT STEEL =    4.524  SQ.IN.
 ELASTIC MODULUS, Ec       = 0.360E+07 LB/SQ IN
 VOLUME OF UNDERREAM       =    0.000  CU.YDS.
```

PREDICTED RESULTS

QS = ULTIMATE SIDE RESISTANCE;
QB = ULTIMATE BASE RESISTANCE;
WT = WEIGHT OF DRILLED SHAFT (UPLIFT CAPACITY ONLY);
QU = TOTAL ULTIMATE RESISTANCE;
LRFD QS = TOTAL SIDE FRICTION USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE SIDE RESISTANCE;
LRFD QB = TOTAL BASE BEARING USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE BASE RESISTANCE
LRFD QU = TOTAL CAPACITY WITH LRFD RESISTANCE FACTOR.

LENGTH (FT)	VOLUME (CU.YDS)	QS (TONS)	QB (TONS)	QU (TONS)	LRFD QS (TONS)	LRFD QB (TONS)	LRFD QU (TONS)
1.0	0.12	0.88	0.00	0.88	0.44	0.00	0.44
2.0	0.23	2.11	0.00	2.11	1.06	0.00	1.06
3.0	0.35	3.64	0.00	3.64	1.82	0.00	1.82
4.0	0.47	5.42	0.00	5.42	2.71	0.00	2.71
5.0	0.58	7.44	0.00	7.44	3.72	0.00	3.72
6.0	0.70	9.68	0.00	9.68	4.84	0.00	4.84
7.0	0.81	12.13	0.00	12.13	6.06	0.00	6.06
8.0	0.93	14.78	0.00	14.78	7.39	0.00	7.39
9.0	1.05	17.63	0.00	17.63	8.82	0.00	8.82
10.0	1.16	20.68	0.00	20.68	10.34	0.00	10.34
11.0	1.28	23.85	0.00	23.85	11.93	0.00	11.93
12.0	1.40	27.15	0.00	27.15	13.57	0.00	13.57
13.0	1.51	30.56	0.00	30.56	15.28	0.00	15.28
14.0	1.63	34.10	0.00	34.10	17.05	0.00	17.05
15.0	1.75	37.77	0.00	37.77	18.88	0.00	18.88
16.0	1.86	41.55	0.00	41.55	20.78	0.00	20.78
17.0	1.98	45.46	437.46	482.92	22.73	218.73	241.46

AXIAL LOAD VS SETTLEMENT CURVES

TOP LOAD TONS	TOP MOVEMENT IN.
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00

0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00

```
     ==========================================================================

                       SHAFT for Windows, Version 2017.8.5

                        Serial Number :  136154732

                     VERTICALLY LOADED DRILLED SHAFT ANALYSIS
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                            All Rights Reserved

     ==========================================================================


     Path to file locations      : P:\InFocus Projects\12501 - 13000\12563
Brookview Ranch Bridge\001\Analyses\Shaft\36 in\Service\
     Name of input data file     : Pier 2_service_36in.sf8d
     Name of output file         : Pier 2_service_36in.sf8o
     Name of plot output file    : Pier 2_service_36in.sf8p
     Name of runtime file        : Pier 2_service_36in.sf8r


     --------------------------------------------------------------------------
                          Time and Date of Analysis
     --------------------------------------------------------------------------

               Date:  January 03, 2020     Time:  12:20:09

     12563.001 Brookview Ranch-Pier 2


     PROPOSED DEPTH =      13.0 FT
     ----------------


     NUMBER OF LAYERS =    2
     ------------------


     WATER TABLE DEPTH =       5.0 FT.
     -------------------




     SOIL INFORMATION
     ---------------

     LAYER NO  1----SAND

       AT THE TOP
```

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.330E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.100E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.000E+00

AT THE BOTTOM

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.360E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.200E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.100E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.100E+01
LRFD RESISTANCE FACTOR (TIP RESISTANCE) = 0.100E+01

LAYER NO 2----STRONG ROCK

AT THE TOP

DIAMETER OF SOCKET, FT = 0.300E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.100E+02

AT THE BOTTOM

DIAMETER OF SOCKET, FT = 0.300E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.500E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.100E+01

```
  LRFD RESISTANCE FACTOR (TIP RESISTANCE)          = 0.100E+01


(*) ESTIMATED BY THE PROGRAM BASED ON OTHER PARAMETERS


INPUT DRILLED SHAFT INFORMATION
-------------------------------

 MINIMUM SHAFT DIAMETER    =    3.000  FT.
 MAXIMUM SHAFT DIAMETER    =    3.000  FT.
 RATIO BASE/SHAFT DIAMETER =    0.000  FT.
 ANGLE OF BELL             =    0.000  DEG.
 IGNORED TOP PORTION       =    0.000  FT.
 IGNORED BOTTOM PORTION    =    0.000  FT.
 ELASTIC MODULUS, Ec       = 0.360E+07 LB/SQ IN




COMPUTATION RESULTS
-------------------


- CASE ANALYZED      :     1
  VARIATION LENGTH   :     1
  VARIATION DIAMETER :     1


DRILLED SHAFT INFORMATION

-------------------------

 DIAMETER OF STEM          =    3.000  FT.
 DIAMETER OF BASE          =    3.000  FT.
 END OF STEM TO BASE       =    0.000  FT.
 ANGLE OF BELL             =    0.000  DEG.
 IGNORED TOP PORTION       =    0.000  FT.
 IGNORED BOTTOM PORTION    =    0.000  FT.
 AREA OF ONE PERCENT STEEL =   10.180  SQ.IN.
 ELASTIC MODULUS, Ec       = 0.360E+07 LB/SQ IN
 VOLUME OF UNDERREAM       =    0.000  CU.YDS.
 SHAFT LENGTH              =   13.000  FT.
```

PREDICTED RESULTS

QS = ULTIMATE SIDE RESISTANCE;
QB = ULTIMATE BASE RESISTANCE;
WT = WEIGHT OF DRILLED SHAFT (UPLIFT CAPACITY ONLY);
QU = TOTAL ULTIMATE RESISTANCE;
LRFD QS = TOTAL SIDE FRICTION USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE SIDE RESISTANCE;
LRFD QB = TOTAL BASE BEARING USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE BASE RESISTANCE
LRFD QU = TOTAL CAPACITY WITH LRFD RESISTANCE FACTOR.

LENGTH (FT)	VOLUME (CU.YDS)	QS (TONS)	QB (TONS)	QU (TONS)	LRFD QS (TONS)	LRFD QB (TONS)	LRFD QU (TONS)
1.0	0.26	1.34	0.00	1.34	1.34	0.00	1.34
2.0	0.52	3.28	0.00	3.28	3.28	0.00	3.28
3.0	0.79	5.69	0.00	5.69	5.69	0.00	5.69
4.0	1.05	8.56	0.00	8.56	8.56	0.00	8.56
5.0	1.31	11.84	0.00	11.84	11.84	0.00	11.84
6.0	1.57	15.39	0.00	15.39	15.39	0.00	15.39
7.0	1.83	19.19	0.00	19.19	19.19	0.00	19.19
8.0	2.09	23.26	0.00	23.26	23.26	0.00	23.26
9.0	2.36	27.59	0.00	27.59	27.59	0.00	27.59
10.0	2.62	32.19	853.04	885.23	32.19	853.04	885.23
11.0	2.88	139.50	853.04	992.54	139.50	853.04	992.54
12.0	3.14	246.81	853.04	1099.84	246.81	853.04	1099.84
13.0	3.40	354.11	853.04	1207.15	354.11	853.04	1207.15

AXIAL LOAD VS SETTLEMENT CURVES

LOAD SETTLEMENT RELATIONSHIP

TOP LOAD TONS	TOP MOVEMENT IN.
0.5036E+02	0.1061E-01
0.7555E+02	0.1591E-01
0.1133E+03	0.2387E-01
0.1700E+03	0.3580E-01
0.2550E+03	0.5370E-01
0.3824E+03	0.8055E-01
0.5736E+03	0.1208E+00
0.8559E+03	0.1812E+00

0.1207E+04	0.2581E+00
0.1207E+04	0.2581E+00
0.1207E+04	0.2581E+00
0.1207E+04	0.2581E+00
0.1207E+04	0.2581E+00
0.1207E+04	0.2581E+00
0.1207E+04	0.2581E+00

```
     ==========================================================================

                       SHAFT for Windows, Version 2017.8.5

                        Serial Number :  136154732

                     VERTICALLY LOADED DRILLED SHAFT ANALYSIS
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                            All Rights Reserved

     ==========================================================================


     Path to file locations      : P:\InFocus Projects\12501 - 13000\12563
Brookview Ranch Bridge\001\Analyses\Shaft\36 in\Strength\
     Name of input data file     : Pier 2_strength_36in.sf8d
     Name of output file         : Pier 2_strength_36in.sf8o
     Name of plot output file    : Pier 2_strength_36in.sf8p
     Name of runtime file        : Pier 2_strength_36in.sf8r


     ---------------------------------------------------------------------------
                           Time and Date of Analysis
     ---------------------------------------------------------------------------

               Date:  January 16, 2020     Time:  11:01:06

     12563.001 Brookview Ranch-Pier 2


     PROPOSED DEPTH =      50.0 FT
     ----------------


     NUMBER OF LAYERS =    2
     ------------------


     WATER TABLE DEPTH =       5.0 FT.
     -------------------




     SOIL INFORMATION
     ---------------

     LAYER NO  1----SAND

       AT THE TOP
```

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.330E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.100E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.000E+00

AT THE BOTTOM

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.360E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.200E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.100E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.500E+00
LRFD RESISTANCE FACTOR (TIP RESISTANCE) = 0.500E+00

LAYER NO 2----STRONG ROCK

AT THE TOP

DIAMETER OF SOCKET, FT = 0.300E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.100E+02

AT THE BOTTOM

DIAMETER OF SOCKET, FT = 0.300E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.500E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.500E+00

```
  LRFD RESISTANCE FACTOR (TIP RESISTANCE)          = 0.500E+00


(*) ESTIMATED BY THE PROGRAM BASED ON OTHER PARAMETERS


INPUT DRILLED SHAFT INFORMATION
-------------------------------

 MINIMUM SHAFT DIAMETER    =    3.000  FT.
 MAXIMUM SHAFT DIAMETER    =    3.000  FT.
 RATIO BASE/SHAFT DIAMETER =    0.000  FT.
 ANGLE OF BELL             =    0.000  DEG.
 IGNORED TOP PORTION       =    0.000  FT.
 IGNORED BOTTOM PORTION    =    0.000  FT.
 ELASTIC MODULUS, Ec       = 0.360E+07 LB/SQ IN




COMPUTATION RESULTS
-------------------


- CASE ANALYZED      :     1
  VARIATION LENGTH   :     1
  VARIATION DIAMETER :     1


DRILLED SHAFT INFORMATION

-------------------------

 DIAMETER OF STEM          =    3.000  FT.
 DIAMETER OF BASE          =    3.000  FT.
 END OF STEM TO BASE       =    0.000  FT.
 ANGLE OF BELL             =    0.000  DEG.
 IGNORED TOP PORTION       =    0.000  FT.
 IGNORED BOTTOM PORTION    =    0.000  FT.
 AREA OF ONE PERCENT STEEL =   10.180  SQ.IN.
 ELASTIC MODULUS, Ec       = 0.360E+07 LB/SQ IN
 VOLUME OF UNDERREAM       =    0.000  CU.YDS.
 SHAFT LENGTH              =   50.000  FT.
```

PREDICTED RESULTS

QS = ULTIMATE SIDE RESISTANCE;
QB = ULTIMATE BASE RESISTANCE;
WT = WEIGHT OF DRILLED SHAFT (UPLIFT CAPACITY ONLY);
QU = TOTAL ULTIMATE RESISTANCE;
LRFD QS = TOTAL SIDE FRICTION USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE SIDE RESISTANCE;
LRFD QB = TOTAL BASE BEARING USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE BASE RESISTANCE
LRFD QU = TOTAL CAPACITY WITH LRFD RESISTANCE FACTOR.

LENGTH (FT)	VOLUME (CU.YDS)	QS (TONS)	QB (TONS)	QU (TONS)	LRFD QS (TONS)	LRFD QB (TONS)	LRFD QU (TONS)
end 215							
1.0	0.26	1.34	0.00	1.34	0.67	0.00	0.67
2.0	0.52	3.28	0.00	3.28	1.64	0.00	1.64
3.0	0.79	5.69	0.00	5.69	2.85	0.00	2.85
4.0	1.05	8.56	0.00	8.56	4.28	0.00	4.28
5.0	1.31	11.84	0.00	11.84	5.92	0.00	5.92
6.0	1.57	15.39	0.00	15.39	7.69	0.00	7.69
7.0	1.83	19.19	0.00	19.19	9.60	0.00	9.60
8.0	2.09	23.26	0.00	23.26	11.63	0.00	11.63
9.0	2.36	27.59	0.00	27.59	13.80	0.00	13.80
10.0	2.62	32.19	853.04	885.23	16.10	426.52	442.61
11.0	2.88	139.50	853.04	992.54	69.75	426.52	496.27
12.0	3.14	246.81	853.04	1099.84	123.40	426.52	549.92
13.0	3.40	354.11	853.04	1207.15	177.06	426.52	603.58
14.0	3.67	461.42	853.04	1314.46	230.71	426.52	657.23
15.0	3.93	568.73	853.04	1421.77	284.36	426.52	710.88
16.0	4.19	676.03	853.04	1529.07	338.02	426.52	764.54
17.0	4.45	783.34	853.04	1636.38	391.67	426.52	818.19
18.0	4.71	890.65	853.04	1743.69	445.32	426.52	871.84
19.0	4.97	997.96	853.04	1851.00	498.98	426.52	925.50
20.0	5.24	1105.26	853.04	1958.30	552.63	426.52	979.15
21.0	5.50	1212.57	853.04	2065.61	606.29	426.52	1032.81
22.0	5.76	1319.88	853.04	2172.92	659.94	426.52	1086.46
23.0	6.02	1427.19	853.04	2280.23	713.59	426.52	1140.11
24.0	6.28	1534.49	853.04	2387.53	767.25	426.52	1193.77
25.0	6.55	1641.80	853.04	2494.84	820.90	426.52	1247.42
26.0	6.81	1749.11	853.04	2602.15	874.55	426.52	1301.07
27.0	7.07	1856.42	853.04	2709.46	928.21	426.52	1354.73
28.0	7.33	1963.72	853.04	2816.76	981.86	426.52	1408.38
29.0	7.59	2071.03	853.04	2924.07	1035.52	426.52	1462.04
30.0	7.85	2178.34	853.04	3031.38	1089.17	426.52	1515.69
31.0	8.12	2285.65	853.04	3138.69	1142.82	426.52	1569.34
32.0	8.38	2392.95	853.04	3245.99	1196.48	426.52	1623.00
33.0	8.64	2500.26	853.04	3353.30	1250.13	426.52	1676.65

34.0	8.90	2607.57	853.04	3460.61	1303.78	426.52	1730.30
35.0	9.16	2714.88	853.04	3567.92	1357.44	426.52	1783.96
36.0	9.43	2822.18	853.04	3675.22	1411.09	426.52	1837.61
37.0	9.69	2929.49	853.04	3782.53	1464.75	426.52	1891.26
38.0	9.95	3036.80	853.04	3889.84	1518.40	426.52	1944.92
39.0	10.21	3144.11	853.04	3997.14	1572.05	426.52	1998.57
40.0	10.47	3251.41	853.04	4104.45	1625.71	426.52	2052.23
41.0	10.74	3358.72	853.04	4211.76	1679.36	426.52	2105.88
42.0	11.00	3466.03	853.04	4319.07	1733.01	426.52	2159.53
43.0	11.26	3573.34	853.04	4426.37	1786.67	426.52	2213.19

AXIAL LOAD VS SETTLEMENT CURVES

LOAD SETTLEMENT RELATIONSHIP

TOP LOAD TONS	TOP MOVEMENT IN.
0.7210E+02	0.2563E-01
0.1082E+03	0.3844E-01
0.1622E+03	0.5767E-01
0.2433E+03	0.8650E-01
0.3650E+03	0.1297E+00
0.5439E+03	0.1946E+00
0.8021E+03	0.2919E+00
0.1189E+04	0.4379E+00
0.1770E+04	0.6568E+00
0.2641E+04	0.9853E+00
0.3948E+04	0.1478E+01
0.4426E+04	0.1658E+01
0.4426E+04	0.1658E+01
0.4426E+04	0.1658E+01
0.4426E+04	0.1658E+01

```
     ==========================================================================

                       SHAFT for Windows, Version 2017.8.5

                        Serial Number :  136154732

                     VERTICALLY LOADED DRILLED SHAFT ANALYSIS
                      (c) Copyright ENSOFT, Inc., 1987-2017
                            All Rights Reserved

     ==========================================================================


     Path to file locations      : P:\InFocus Projects\12501 - 13000\12563
Brookview Ranch Bridge\001\Analyses\Shaft\36 in\Service\
     Name of input data file     : Pier 3_service_36in.sf8d
     Name of output file         : Pier 3_service_36in.sf8o
     Name of plot output file    : Pier 3_service_36in.sf8p
     Name of runtime file        : Pier 3_service_36in.sf8r


     ---------------------------------------------------------------------------
                           Time and Date of Analysis
     ---------------------------------------------------------------------------

               Date:  January 03, 2020     Time:  12:20:55

     12563.001 Brookview Ranch-Pier 3


     PROPOSED DEPTH =      13.0 FT
     ----------------


     NUMBER OF LAYERS =    2
     ------------------


     WATER TABLE DEPTH =       5.0 FT.
     -------------------




     SOIL INFORMATION
     ---------------

     LAYER NO  1----SAND

       AT THE TOP
```

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.330E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.100E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.000E+00

AT THE BOTTOM

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.360E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.200E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.100E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.100E+01
LRFD RESISTANCE FACTOR (TIP RESISTANCE) = 0.100E+01

LAYER NO 2----STRONG ROCK

AT THE TOP

DIAMETER OF SOCKET, FT = 0.300E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.100E+02

AT THE BOTTOM

DIAMETER OF SOCKET, FT = 0.300E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.500E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.100E+01

```
  LRFD RESISTANCE FACTOR (TIP RESISTANCE)          = 0.100E+01


(*) ESTIMATED BY THE PROGRAM BASED ON OTHER PARAMETERS


INPUT DRILLED SHAFT INFORMATION
-------------------------------

 MINIMUM SHAFT DIAMETER    =    3.000  FT.
 MAXIMUM SHAFT DIAMETER    =    3.000  FT.
 RATIO BASE/SHAFT DIAMETER =    0.000  FT.
 ANGLE OF BELL             =    0.000  DEG.
 IGNORED TOP PORTION       =    0.000  FT.
 IGNORED BOTTOM PORTION    =    0.000  FT.
 ELASTIC MODULUS, Ec       = 0.360E+07 LB/SQ IN




COMPUTATION RESULTS
-------------------


- CASE ANALYZED      :     1
  VARIATION LENGTH   :     1
  VARIATION DIAMETER :     1


DRILLED SHAFT INFORMATION

-------------------------

 DIAMETER OF STEM          =    3.000  FT.
 DIAMETER OF BASE          =    3.000  FT.
 END OF STEM TO BASE       =    0.000  FT.
 ANGLE OF BELL             =    0.000  DEG.
 IGNORED TOP PORTION       =    0.000  FT.
 IGNORED BOTTOM PORTION    =    0.000  FT.
 AREA OF ONE PERCENT STEEL =   10.180  SQ.IN.
 ELASTIC MODULUS, Ec       = 0.360E+07 LB/SQ IN
 VOLUME OF UNDERREAM       =    0.000  CU.YDS.
 SHAFT LENGTH              =   13.000  FT.
```

PREDICTED RESULTS

QS = ULTIMATE SIDE RESISTANCE;
QB = ULTIMATE BASE RESISTANCE;
WT = WEIGHT OF DRILLED SHAFT (UPLIFT CAPACITY ONLY);
QU = TOTAL ULTIMATE RESISTANCE;
LRFD QS = TOTAL SIDE FRICTION USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE SIDE RESISTANCE;
LRFD QB = TOTAL BASE BEARING USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE BASE RESISTANCE
LRFD QU = TOTAL CAPACITY WITH LRFD RESISTANCE FACTOR.

LENGTH (FT)	VOLUME (CU.YDS)	QS (TONS)	QB (TONS)	QU (TONS)	LRFD QS (TONS)	LRFD QB (TONS)	LRFD QU (TONS)
1.0	0.26	1.34	0.00	1.34	1.34	0.00	1.34
2.0	0.52	3.28	0.00	3.28	3.28	0.00	3.28
3.0	0.79	5.69	0.00	5.69	5.69	0.00	5.69
4.0	1.05	8.56	0.00	8.56	8.56	0.00	8.56
5.0	1.31	11.84	0.00	11.84	11.84	0.00	11.84
6.0	1.57	15.39	0.00	15.39	15.39	0.00	15.39
7.0	1.83	19.19	0.00	19.19	19.19	0.00	19.19
8.0	2.09	23.26	0.00	23.26	23.26	0.00	23.26
9.0	2.36	27.59	0.00	27.59	27.59	0.00	27.59
10.0	2.62	32.19	853.04	885.23	32.19	853.04	885.23
11.0	2.88	139.50	853.04	992.54	139.50	853.04	992.54
12.0	3.14	246.81	853.04	1099.84	246.81	853.04	1099.84
13.0	3.40	354.11	853.04	1207.15	354.11	853.04	1207.15

AXIAL LOAD VS SETTLEMENT CURVES

LOAD SETTLEMENT RELATIONSHIP

TOP LOAD TONS	TOP MOVEMENT IN.
0.5036E+02	0.1061E-01
0.7555E+02	0.1591E-01
0.1133E+03	0.2387E-01
0.1700E+03	0.3580E-01
0.2550E+03	0.5370E-01
0.3824E+03	0.8055E-01
0.5736E+03	0.1208E+00
0.8559E+03	0.1812E+00

0.1207E+04	0.2581E+00
0.1207E+04	0.2581E+00
0.1207E+04	0.2581E+00
0.1207E+04	0.2581E+00
0.1207E+04	0.2581E+00
0.1207E+04	0.2581E+00
0.1207E+04	0.2581E+00

```
     ==========================================================================

                       SHAFT for Windows, Version 2017.8.5

                        Serial Number :  136154732

                     VERTICALLY LOADED DRILLED SHAFT ANALYSIS
                      (c) Copyright ENSOFT, Inc., 1987-2017
                            All Rights Reserved

     ==========================================================================


     Path to file locations      : P:\InFocus Projects\12501 - 13000\12563
Brookview Ranch Bridge\001\Analyses\Shaft\36 in\Strength\
     Name of input data file     : Pier 3_strength_36in.sf8d
     Name of output file         : Pier 3_strength_36in.sf8o
     Name of plot output file    : Pier 3_strength_36in.sf8p
     Name of runtime file        : Pier 3_strength_36in.sf8r


     ---------------------------------------------------------------------------
                           Time and Date of Analysis
     ---------------------------------------------------------------------------

               Date:  January 15, 2020     Time:  10:14:51

     12563.001 Brookview Ranch-Pier 3


     TOTAL LOAD =     515.0 TONS
     ------------


     NUMBER OF LAYERS =    2
     ------------------


     WATER TABLE DEPTH =       5.0 FT.
     -------------------




     SOIL INFORMATION
     ---------------

     LAYER NO  1----SAND

       AT THE TOP
```

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.330E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.100E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.000E+00

AT THE BOTTOM

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.360E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.200E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.100E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.500E+00
LRFD RESISTANCE FACTOR (TIP RESISTANCE) = 0.500E+00

LAYER NO 2----STRONG ROCK

AT THE TOP

DIAMETER OF SOCKET, FT = 0.300E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.100E+02

AT THE BOTTOM

DIAMETER OF SOCKET, FT = 0.300E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.500E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.500E+00

```
  LRFD RESISTANCE FACTOR (TIP RESISTANCE)          = 0.500E+00


(*) ESTIMATED BY THE PROGRAM BASED ON OTHER PARAMETERS


INPUT DRILLED SHAFT INFORMATION
-------------------------------

 MINIMUM SHAFT DIAMETER    =    3.000  FT.
 MAXIMUM SHAFT DIAMETER    =    3.000  FT.
 RATIO BASE/SHAFT DIAMETER =    0.000  FT.
 ANGLE OF BELL             =    0.000  DEG.
 IGNORED TOP PORTION       =    0.000  FT.
 IGNORED BOTTOM PORTION    =    0.000  FT.
 ELASTIC MODULUS, Ec       = 0.360E+07 LB/SQ IN




COMPUTATION RESULTS
-------------------


- CASE ANALYZED      :     1
  VARIATION LENGTH   :     1
  VARIATION DIAMETER :     1


DRILLED SHAFT INFORMATION

-------------------------

 DIAMETER OF STEM          =    3.000  FT.
 DIAMETER OF BASE          =    3.000  FT.
 END OF STEM TO BASE       =    0.000  FT.
 ANGLE OF BELL             =    0.000  DEG.
 IGNORED TOP PORTION       =    0.000  FT.
 IGNORED BOTTOM PORTION    =    0.000  FT.
 AREA OF ONE PERCENT STEEL =   10.180  SQ.IN.
 ELASTIC MODULUS, Ec       = 0.360E+07 LB/SQ IN
 VOLUME OF UNDERREAM       =    0.000  CU.YDS.
```

PREDICTED RESULTS

QS = ULTIMATE SIDE RESISTANCE;
QB = ULTIMATE BASE RESISTANCE;
WT = WEIGHT OF DRILLED SHAFT (UPLIFT CAPACITY ONLY);
QU = TOTAL ULTIMATE RESISTANCE;
LRFD QS = TOTAL SIDE FRICTION USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE SIDE RESISTANCE;
LRFD QB = TOTAL BASE BEARING USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE BASE RESISTANCE
LRFD QU = TOTAL CAPACITY WITH LRFD RESISTANCE FACTOR.

LENGTH (FT)	VOLUME (CU.YDS)	QS (TONS)	QB (TONS)	QU (TONS)	LRFD QS (TONS)	LRFD QB (TONS)	LRFD QU (TONS)
1.0	0.26	1.34	0.00	1.34	0.67	0.00	0.67
2.0	0.52	3.28	0.00	3.28	1.64	0.00	1.64
3.0	0.79	5.69	0.00	5.69	2.85	0.00	2.85
4.0	1.05	8.56	0.00	8.56	4.28	0.00	4.28
5.0	1.31	11.84	0.00	11.84	5.92	0.00	5.92
6.0	1.57	15.39	0.00	15.39	7.69	0.00	7.69
7.0	1.83	19.19	0.00	19.19	9.60	0.00	9.60
8.0	2.09	23.26	0.00	23.26	11.63	0.00	11.63
9.0	2.36	27.59	0.00	27.59	13.80	0.00	13.80
10.0	2.62	32.19	853.04	885.23	16.10	426.52	442.61
11.0	2.88	139.50	853.04	992.54	69.75	426.52	496.27
12.0	3.14	246.81	853.04	1099.84	123.40	426.52	549.92

AXIAL LOAD VS SETTLEMENT CURVES

LOAD SETTLEMENT RELATIONSHIP

TOP LOAD TONS	TOP MOVEMENT IN.
0.3659E+02	0.9232E-02
0.5489E+02	0.1385E-01
0.8234E+02	0.2077E-01
0.1235E+03	0.3116E-01
0.1853E+03	0.4674E-01
0.2779E+03	0.7011E-01
0.4168E+03	0.1052E+00
0.6251E+03	0.1577E+00
0.9251E+03	0.2366E+00
0.1100E+04	0.2827E+00

0.1100E+04	0.2827E+00
0.1100E+04	0.2827E+00
0.1100E+04	0.2827E+00
0.1100E+04	0.2827E+00
0.1100E+04	0.2827E+00

```
     ==========================================================================

                       SHAFT for Windows, Version 2017.8.5

                        Serial Number :  136154732

                     VERTICALLY LOADED DRILLED SHAFT ANALYSIS
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     --------------------------------------------------------------------------
                           Time and Date of Analysis
     --------------------------------------------------------------------------

               Date:  January 15, 2020     Time:  09:54:51

     12563.001 Brookview Ranch-Abutment 4


     PROPOSED DEPTH =      19.0 FT
     ----------------


     NUMBER OF LAYERS =    2
     ------------------


     WATER TABLE DEPTH =      11.0 FT.
     -------------------




     SOIL INFORMATION
     ---------------

     LAYER NO  1----SAND

       AT THE TOP
```

SIDE FRICTION PROCEDURE: Ko METHOD
LATERAL EARTH-PRESSURE COEFFICIENT - Ko = 0.250E+00
INTERNAL FRICTION ANGLE, DEG. = 0.380E+02 (*)
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.100E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.000E+00

AT THE BOTTOM

SIDE FRICTION PROCEDURE: Ko METHOD
LATERAL EARTH-PRESSURE COEFFICIENT - Ko = 0.250E+00
INTERNAL FRICTION ANGLE, DEG. = 0.398E+02 (*)
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.200E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.170E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.100E+01
LRFD RESISTANCE FACTOR (TIP RESISTANCE) = 0.100E+01

LAYER NO 2----STRONG ROCK

AT THE TOP

DIAMETER OF SOCKET, FT = 0.200E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.170E+02

AT THE BOTTOM

DIAMETER OF SOCKET, FT = 0.200E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.500E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.100E+01

LRFD RESISTANCE FACTOR (TIP RESISTANCE) = 0.100E+01

(*) ESTIMATED BY THE PROGRAM BASED ON OTHER PARAMETERS

INPUT DRILLED SHAFT INFORMATION

MINIMUM SHAFT DIAMETER = 2.000 FT.
MAXIMUM SHAFT DIAMETER = 2.000 FT.
RATIO BASE/SHAFT DIAMETER = 0.000 FT.
ANGLE OF BELL = 0.000 DEG.
IGNORED TOP PORTION = 0.000 FT.
IGNORED BOTTOM PORTION = 0.000 FT.
ELASTIC MODULUS, Ec = 0.360E+07 LB/SQ IN

COMPUTATION RESULTS

- CASE ANALYZED : 1
VARIATION LENGTH : 1
VARIATION DIAMETER : 1

DRILLED SHAFT INFORMATION

DIAMETER OF STEM = 2.000 FT.
DIAMETER OF BASE = 2.000 FT.
END OF STEM TO BASE = 0.000 FT.
ANGLE OF BELL = 0.000 DEG.
IGNORED TOP PORTION = 0.000 FT.
IGNORED BOTTOM PORTION = 0.000 FT.
AREA OF ONE PERCENT STEEL = 4.524 SQ.IN.
ELASTIC MODULUS, Ec = 0.360E+07 LB/SQ IN
VOLUME OF UNDERREAM = 0.000 CU.YDS.
SHAFT LENGTH = 19.000 FT.

PREDICTED RESULTS

QS = ULTIMATE SIDE RESISTANCE;
QB = ULTIMATE BASE RESISTANCE;
WT = WEIGHT OF DRILLED SHAFT (UPLIFT CAPACITY ONLY);
QU = TOTAL ULTIMATE RESISTANCE;
LRFD QS = TOTAL SIDE FRICTION USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE SIDE RESISTANCE;
LRFD QB = TOTAL BASE BEARING USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE BASE RESISTANCE
LRFD QU = TOTAL CAPACITY WITH LRFD RESISTANCE FACTOR.

LENGTH (FT)	VOLUME (CU.YDS)	QS (TONS)	QB (TONS)	QU (TONS)	LRFD QS (TONS)	LRFD QB (TONS)	LRFD QU (TONS)
1.0	0.12	0.07	0.00	0.07	0.07	0.00	0.07
2.0	0.23	0.22	0.00	0.22	0.22	0.00	0.22
3.0	0.35	0.45	0.00	0.45	0.45	0.00	0.45
4.0	0.47	0.75	0.00	0.75	0.75	0.00	0.75
5.0	0.58	1.13	0.00	1.13	1.13	0.00	1.13
6.0	0.70	1.59	0.00	1.59	1.59	0.00	1.59
7.0	0.81	2.12	0.00	2.12	2.12	0.00	2.12
8.0	0.93	2.74	0.00	2.74	2.74	0.00	2.74
9.0	1.05	3.43	0.00	3.43	3.43	0.00	3.43
10.0	1.16	4.20	0.00	4.20	4.20	0.00	4.20
11.0	1.28	5.04	0.00	5.04	5.04	0.00	5.04
12.0	1.40	5.92	0.00	5.92	5.92	0.00	5.92
13.0	1.51	6.85	0.00	6.85	6.85	0.00	6.85
14.0	1.63	7.81	0.00	7.81	7.81	0.00	7.81
15.0	1.75	8.82	0.00	8.82	8.82	0.00	8.82
16.0	1.86	9.87	0.00	9.87	9.87	0.00	9.87
17.0	1.98	10.96	437.46	448.41	10.96	437.46	448.41
18.0	2.09	82.49	437.46	519.95	82.49	437.46	519.95
19.0	2.21	154.03	437.46	591.49	154.03	437.46	591.49

AXIAL LOAD VS SETTLEMENT CURVES

LOAD SETTLEMENT RELATIONSHIP

TOP LOAD TONS	TOP MOVEMENT IN.
0.2232E+02	0.1035E-01
0.3349E+02	0.1553E-01

0.5023E+02	0.2329E-01
0.7534E+02	0.3494E-01
0.1130E+03	0.5241E-01
0.1695E+03	0.7862E-01
0.2542E+03	0.1179E+00
0.3780E+03	0.1769E+00
0.5621E+03	0.2653E+00
0.5915E+03	0.2795E+00
0.5915E+03	0.2795E+00
0.5915E+03	0.2795E+00
0.5915E+03	0.2795E+00
0.5915E+03	0.2795E+00
0.5915E+03	0.2795E+00

```
     ==========================================================================

                       SHAFT for Windows, Version 2017.8.5

                        Serial Number :  136154732

                     VERTICALLY LOADED DRILLED SHAFT ANALYSIS
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                            All Rights Reserved

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     Name of plot output file    : Abut 4_strength_24in.sf8p
     Name of runtime file        : Abut 4_strength_24in.sf8r


     ---------------------------------------------------------------------------
                          Time and Date of Analysis
     ---------------------------------------------------------------------------

               Date:  January 15, 2020     Time:  09:59:34

     12563.001 Brookview Ranch-Abutment 4


     TOTAL LOAD =      80.0 TONS
     ------------


     NUMBER OF LAYERS =    2
     ------------------


     WATER TABLE DEPTH =      11.0 FT.
     -------------------




     SOIL INFORMATION
     ---------------

     LAYER NO  1----SAND

       AT THE TOP
```

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.330E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.100E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.000E+00

AT THE BOTTOM

SIDE FRICTION PROCEDURE, KULHAWY AND CHEN METHOD
PRECONSOLIDATION STRESS EXPONENT - M = 0.700E+00
INTERNAL FRICTION ANGLE, DEG. = 0.360E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.200E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.120E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.170E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.500E+00
LRFD RESISTANCE FACTOR (TIP RESISTANCE) = 0.500E+00

LAYER NO 2----STRONG ROCK

AT THE TOP

DIAMETER OF SOCKET, FT = 0.200E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.170E+02

AT THE BOTTOM

DIAMETER OF SOCKET, FT = 0.200E+01
SPACING OF DISCONTINUITIES,FT = 0.400E+01
THICKNESS OF INDIVIDUAL DISCONTINUITIES,FT = 0.500E+00
UNIAXIAL COMPRESSION STRENGTH OF ROCK,LB/SQ FT = 0.115E+07
UNIAXIAL COMPRESSION STRENGTH OF CONCRETE,LB/SQ FT = 0.576E+06
ELASTIC MODULUS FOR THE INTACT ROCK, LB/SQ IN. = 0.125E+07
ROCK QUALITY DESIGNATION (RQD) % = 0.600E+02
DEPTH, FT = 0.500E+02

LRFD RESISTANCE FACTOR (SIDE FRICTION) = 0.500E+00

```
  LRFD RESISTANCE FACTOR (TIP RESISTANCE)          = 0.500E+00


(*) ESTIMATED BY THE PROGRAM BASED ON OTHER PARAMETERS


INPUT DRILLED SHAFT INFORMATION
-------------------------------

 MINIMUM SHAFT DIAMETER    =    2.000  FT.
 MAXIMUM SHAFT DIAMETER    =    2.000  FT.
 RATIO BASE/SHAFT DIAMETER =    0.000  FT.
 ANGLE OF BELL             =    0.000  DEG.
 IGNORED TOP PORTION       =    0.000  FT.
 IGNORED BOTTOM PORTION    =    0.000  FT.
 ELASTIC MODULUS, Ec       = 0.360E+07 LB/SQ IN




COMPUTATION RESULTS
-------------------


- CASE ANALYZED      :     1
  VARIATION LENGTH   :     1
  VARIATION DIAMETER :     1


DRILLED SHAFT INFORMATION

-------------------------

 DIAMETER OF STEM          =    2.000  FT.
 DIAMETER OF BASE          =    2.000  FT.
 END OF STEM TO BASE       =    0.000  FT.
 ANGLE OF BELL             =    0.000  DEG.
 IGNORED TOP PORTION       =    0.000  FT.
 IGNORED BOTTOM PORTION    =    0.000  FT.
 AREA OF ONE PERCENT STEEL =    4.524  SQ.IN.
 ELASTIC MODULUS, Ec       = 0.360E+07 LB/SQ IN
 VOLUME OF UNDERREAM       =    0.000  CU.YDS.
```

PREDICTED RESULTS

QS = ULTIMATE SIDE RESISTANCE;
QB = ULTIMATE BASE RESISTANCE;
WT = WEIGHT OF DRILLED SHAFT (UPLIFT CAPACITY ONLY);
QU = TOTAL ULTIMATE RESISTANCE;
LRFD QS = TOTAL SIDE FRICTION USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE SIDE RESISTANCE;
LRFD QB = TOTAL BASE BEARING USING LRFD RESISTANCE FACTOR
TO THE ULTIMATE BASE RESISTANCE
LRFD QU = TOTAL CAPACITY WITH LRFD RESISTANCE FACTOR.

LENGTH (FT)	VOLUME (CU.YDS)	QS (TONS)	QB (TONS)	QU (TONS)	LRFD QS (TONS)	LRFD QB (TONS)	LRFD QU (TONS)
1.0	0.12	0.88	0.00	0.88	0.44	0.00	0.44
2.0	0.23	2.11	0.00	2.11	1.06	0.00	1.06
3.0	0.35	3.64	0.00	3.64	1.82	0.00	1.82
4.0	0.47	5.42	0.00	5.42	2.71	0.00	2.71
5.0	0.58	7.44	0.00	7.44	3.72	0.00	3.72
6.0	0.70	9.68	0.00	9.68	4.84	0.00	4.84
7.0	0.81	12.13	0.00	12.13	6.06	0.00	6.06
8.0	0.93	14.78	0.00	14.78	7.39	0.00	7.39
9.0	1.05	17.63	0.00	17.63	8.82	0.00	8.82
10.0	1.16	20.68	0.00	20.68	10.34	0.00	10.34
11.0	1.28	23.92	0.00	23.92	11.96	0.00	11.96
12.0	1.40	27.28	0.00	27.28	13.64	0.00	13.64
13.0	1.51	30.76	0.00	30.76	15.38	0.00	15.38
14.0	1.63	34.36	0.00	34.36	17.18	0.00	17.18
15.0	1.75	38.09	0.00	38.09	19.05	0.00	19.05
16.0	1.86	41.94	0.00	41.94	20.97	0.00	20.97
17.0	1.98	45.91	437.46	483.36	22.95	218.73	241.68

AXIAL LOAD VS SETTLEMENT CURVES

TOP LOAD TONS	TOP MOVEMENT IN.
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00

0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00
0.0000E+00	0.0000E+00

Appendix C2
Infiltration Testing Report

GeoSoils Consultants Inc.
GEOTECHNICAL GEOLOGIC ENVIRONMENTAL

January 17, 2018
W.O. 7100

BROOKVIEW RANCH
2972 Triunfo Canyon Road
Agoura Hills, California 91301

Attention: Mr. Tom Knapp

Subject: LID Stormwater Infiltration Testing Report, Tract 2804, APN 2063-003-026 and 2063-003-028, 2972 Triunfo Canyon Road, Agoura Hills, County of Los Angeles, California

Gentlemen:

At your request, GeoSoils Consultants, Inc. (GSC) has prepared this infiltration testing report for the subject site located at 2972 Triunfo Canyon Road, Agoura Hills, California. The Double-Ring Infiltrometer Test (ASTM D3385) procedure performed was in accordance with the County of Los Angeles-Low Impact Development Stormwater Infiltration Guidelines dated June 30, 2017. The locations of the tests performed are depicted on Plate 1, Infiltration Test Location Map.

Geologic Conditions

The subject site is located within the geologic map of the Point Dume USGS Quadrangle. The site is underlain by artificial fill and alluvium. The depths of soil are depicted on the test-pit logs (TP-1 and TP-2), Appendix A and Plate 1. The percolation testing was performed in natural alluvium. According to the Seismic Hazard Zone Report for the Point Dume 7.5-minute Quadrangle, the site is not located within any seismic hazard zones or Alquist-Priolo Earthquake fault zones. The historical high groundwater is located approximately 10 feet below grade.

6634 Valjean Avenue, Van Nuys, California 91406 Phone: (818) 785-2158 Fax: (818) 785-1548

Double-Ring Infiltrometer Test (ASTM D3385) Test Procedure

Two infiltration tests were performed at the locations shown on the Infiltration Test Location Map, Plate 1. The tests were performed with the double ring infiltrometer at a depth of 6 feet below the ground surface.

Prior to the testing, the rings are pre-soaked for 4 hours. The infiltration test was conducted by taking readings at 30 minute intervals due to slow draining conditions. The test was repeated eight times. The field test data collected is presented in Appendix B.

Excavation Percolation Test Results

Reduction factors applied to the measured infiltration rate are as follows:

REDUCTION FACTORS	
Double-ring infiltrometer	$RF_t = 2.0$
Site variability, number of tests and thoroughness of subsurface investigation	$RF_v = 2.0$
Long Term Siltation, Plugging, and Maintenance	$RF_s = 2.0$

Total Reduction Factor, $RF = RF_t \times RF_v \times RF_s = 8$
Design Infiltration Rate = Measured Percolation Rate/RF

The test results are provided below on Table 1 and enclosed in Appendix B.

TABLE 1

Infiltration Test Pit	Test Depth (feet)	Design Infiltration Rate (in/hr)	
		Inner Ring	Annular Ring
TP-1	6.0	0.15	0.14
TP-2	6.0	0.86	0.75

Conclusion

It is our opinion that the site is not feasible for LID stormwater infiltration. Review of the State Seismic Hazard Zone report indicates a historic high groundwater level of approximately 10 feet below the ground surface. Although groundwater was not encountered in the test pits excavated on the site, a ten-foot clearance is required between the bottom of the BMP zone and the historic high groundwater level. The fill depth

encountered on site necessitated a deeper infiltration encroaching within the groundwater clearance zone. Infiltration rate requirements are not met due to an infiltration rate of less than 0.3 in/hr (TP-1). In addition, the clay content in the alluvium may impede the infiltration rate and result in ponding and/or standing water.

CLOSURE

We appreciate the opportunity to be of service. If you have any questions, please do not hesitate to contact us.

Very truly yours,

GEOSOILS CONSULTANTS, INC.

LANCE R. PUTNAM
CEG 2469

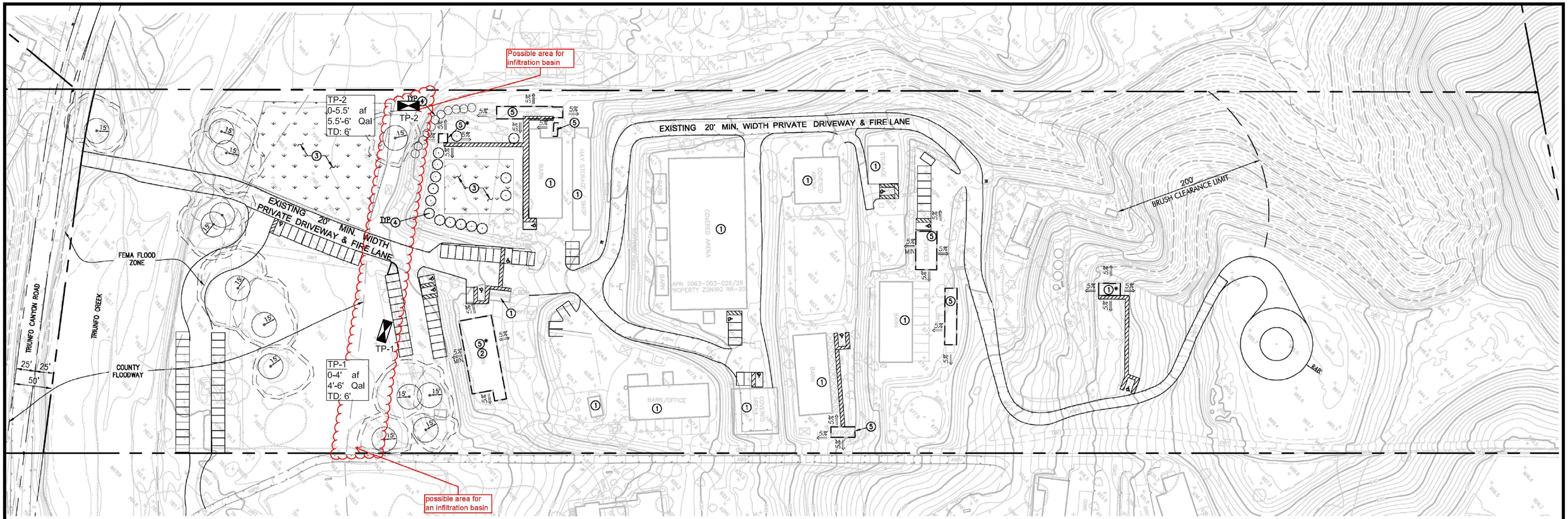
KAREN L. MILLER
GE 2257

ELIZETTE VIRAMONTES
Staff Geologist

LRP.KLM.EV.W:LID SW Infiltration Testing

Encl: Plate 1, Infiltration Test Location Map
Appendix A, Field Exploration and Logs of Excavations
Plates TP-1 and TP-2, Test Pit Logs
Appendix B, Double-Ring Infiltrometer Test Data and Calculations

cc: (5) Addressee



GENERAL NOTES:

1. PROVISIONS SHALL BE MADE FOR CONTRIBUTORY DRAINAGE AT ALL TIMES.
2. OWNER WILL MAINTAIN DRAINAGE DEVICES AND KEEP FREE OF DEBRIS.
3. NO WORK IS ALLOWED WITHIN THE PROTECTED ZONE OF OAK TREES WITHOUT AN OAK TREE REPORT AND PERMIT.
4. FINISHED FLOOR SHALL BE 8 INCHES MINIMUM ABOVE FINISHED GRADE.
5. TOTAL LANDSCAPE AREA 433,261 SQUARE FEET, 45% OF LOT
6. TOTAL TURF AREA 36,000 SQUARE FEET, 3.7% OF LOT
7. TOTAL DROUGHT TOLERANT LANDSCAPING AREA
8. HYDROZONING IRRIGATION TECHNIQUES SHALL BE INCORPORATED INTO THE LANDSCAPE AREA.
9. THIS SITE IS IN A FEDERALLY DESIGNATED SPECIAL FLOOD AREA. ALL FUTURE BUILDINGS, AND OTHER STRUCTURES (INCLUDING WALLS AND FENCES) PROPOSED WITHIN THIS ZONE MUST MEET REQUIREMENTS OF THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP), TITLE 44, SECTION 60.3 AND TITLE 62, SECTIONS 110.1 AND 110.2 OF THE LOS ANGELES BUILDING CODE
10. ALL SLOPES AROUND STRUCTURES 5% MIN AWAY

LID NOTES:

LANDSCAPING AND LANDSCAPE IRRIGATION

1. MINIMUM OF TWO 15 GALLON TREES TO BE PLANTED AND MAINTAINED. TREES SHAL BE LOCATED NEAR IMPERVIOUS SURFACES (10 FOOT MAXIMUM DISTANCE). ONE OF THE TREES MAY VE ON THE DROUGHT-TOLERANT PLANT LIST AS REQUIRED UNDER THE COUNTY'S GREEN BUILDING ORDINANCE. IN VERY HIGH FIRE HAZARD SEVERITY ZONES, APPLICANT SHOULD VERIFY COMPLIANCE WITH FIRE DEPARTMENT'S REQUIREMENTS.
2. INSTALL SMART IRRIGATION CONTROLLERS. AUTOMATIC IRRIGATION SYSTEM CONTROLLERS FOR LANDSCAPING SHALL BE INSTALLED AT THE TIME OF FINAL INSPECTION AND SHALL COMPLY WITH THE FOLLOWING:
   A) CONTROLLERS SHALL BE WEATHER OR SOIL MOISTURE BASED CONTROLLERS THAT AUTOMATICALLY ADJUST IRRIGATION IN RESPONSE TO CHANGES IN PLANTS' NEEDS AS WEATHER CONDITIONS CHANGE.
   B) WEATHER BASED CONTROLLERS WITHOUT INTEGRAL RAIN SENSORS OR COMMUNICATION SYSTEMS THAT ACCOUNT FOR LOCAL RAINFALL SHALL HAVE A SEPARATE WIRED OR WIRELESS RAIN SENSOR WHICH CONNECTS OR COMMUNICATES WITH THE CONTROLLER(S). SOIL MOISTURE BASED CONTROLLERS ARE NOT REQUIRED TO HAVE RAIN SENSOR INPUT.

CONSTRUCTION NOTES: ON-SITE

1. EXISTING BUILDING
2. EXISTING BUILDING TO BE DEMOLISHED
3. EXISTING TURF AREA
4. EXISTING TREES (PISTTOSPORUM SILVER SHEEN AND OLIVE TREES)
5. EXISTING BUILDING, REMEDIAL PERMIT APPLICATION
6. INSTALL 15 GALLON TREES

LEGEND:

- PARCEL BOUNDARY
- OAK TREE / 5' OFFSET FROM DRIP LINE
- SHRUB/BRUSH/OTHER TREES
- EXISTING FIRE HYDRANT
- EXISTING PISTTOSPORUM SILVER SHEEN
- EXISTING OLIVE TREES
- TURF AREA
- BUILDING WITH NO FOUNDATION

SCALE: 1" = 60'

0 60 120 180

EXPLANATION

af	ARTIFICIAL FILL
Qal	ALLUVIUM
TP-2	APPROXIMATE LOCATION OF TEST PIT

GSC GeoSoils Consultants Inc.
GEOTECHNICAL•GEOLOGICAL•ENVIRONMENTAL
6634 Valjean Avenue
Van Nuys, CA 91406

INFILTRATION TEST LOCATION MAP
2972 TRIUNFO CANYON ROAD
AGOURA HILLS, CALIFORNIA
BROOK VIEW RANCH

WORK ORDER	DATE	SCALE
7100	1/2018	1" = 60'
REVISED		

PLATE 1

MDN 19620

DIGALERT 811

REGISTERED PROFESSIONAL ENGINEER RICHARD E. DOSS No. C48987 Exp. 9-30-18 CIVIL STATE OF CALIFORNIA

PLANS PREPARED BY:
PACIFIC COAST CIVIL, INC.
30141 AGOURA ROAD, SUITE 200
AGOURA HILLS, CA 91301
PH: (818) 865-4168
FAX: (818) 865-4198

PLANS PREPARED UNDER THE DIRECTION OF:

RICHARD E. DOSS R.C.E. C48987 DATE

NO.	DATE	BY	APPR

COUNTY OF LOS ANGELES

2972 TRIUNFO CANYON RD.
AGOURA HILLS, CA 91301
APN. 2063-003-026, -028

DRAINAGE PLAN

OWNER/DEVELOPER:
BROOKVIEW RANCH, LLC
DR. THOMAS & CHERYL KNAPP
2972 TRIUNFO CANYON RD.
AGOURA HILLS, CA 91301

PCC W.O.: 15-1354

SHEET: 2 OF 2

X:\2001 w.o\gsc-cad\7100\1-11-18\CURRENT\PLATE 1 INFILTRATION TEST LOCATION MAP 1-11-18.dwg, 1/17/2018 10:50:24 AM, Adobe PDF.pc3

January 17, 2018
W.O. 7100

APPENDIX A

FIELD EXPLORATION AND LOGS OF EXCAVATIONS

January 17, 2018
W.O. 7100

APPENDIX A

FIELD EXPLORATION PROCEDURES AND LOGS OF EXCAVATIONS

Backhoe Test Pits

Two backhoe test pits (TP-1 and TP-2) were excavated to a depth of six feet on the site.

The purpose of the test pits was to perform the double-ring infiltration test at 6 feet depth and to determine the geologic conditions at each area.

TEST PIT LOG 1

GEOSOILS CONSULTANTS, INC.

CLIENT: Brookview Ranch ELEVATION: ____ WORK ORDER NO.: 7100

ADDRESS: 2972 Triunfo Canyon Road, Agoura Hills LOGGED BY: EV DATE: 1/3/18

Depth	Material Type	Material Description	Comments
0-4'	Artificial Fill (af)	Light to grayish brown SAND and gravel, dense, dry with layer of cloth and dark brown, clayey, very fine sand, dry, dense with rock fragments	
4'-6'	Quaternary Alluvium (Qal)	Dark brown, clayey SILT to silty, very fine SAND, contains roots, caliche, dense, slightly moist, slightly porous	Double-Ring Infilration Test 1 done @ 6'

Scale: H: 1"= 2' V: 1"= 2' Pit Orient.: N30W Natural Slope: Angle ___ T. D. 6'

Illustration

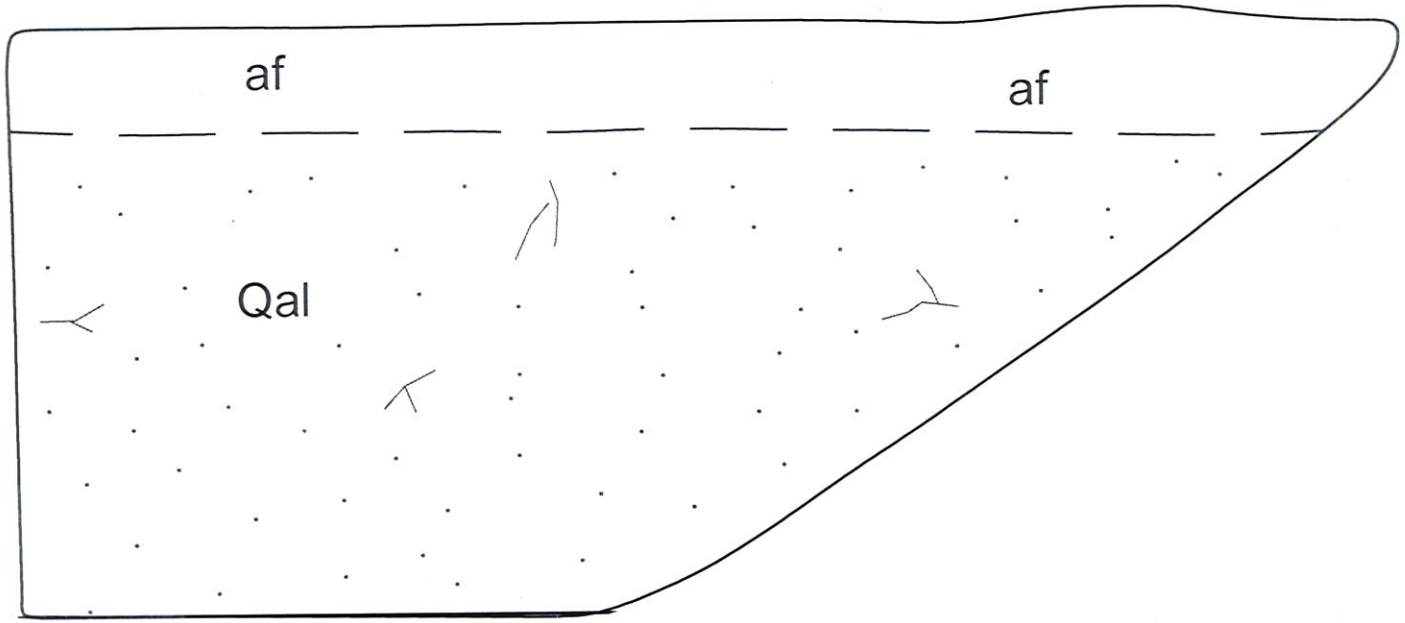


Plate TP-1

TEST PIT LOG 2

GEOSOILS CONSULTANTS, INC.

CLIENT: Brookview Ranch ELEVATION: ____ WORK ORDER NO.: 7100

ADDRESS: 2972 Triunfo Canyon Road, Agoura Hills LOGGED BY: EV DATE: 1/3/18

Depth	Material Type	Material Description	Comments
0-5.5'	Artificial Fill (af)	Medium brown, clayey SILT to silty, fine SAND, contains gravel and angular concrete fragments, roots, slightly porous, burrows, dense, dry	
5.5'-6'	Quaternary Alluvium (Qal)	Medium brown SILT to very fine, sandy SILT, dense, dry, minimal rock fragments	Double-Ring Infiltration Test 2 done @ 6'

Scale: H: 1"= 2' V: 1"= 2' Pit Orient.: N40E Natural Slope: Angle ___ T. D. 6'

Illustration

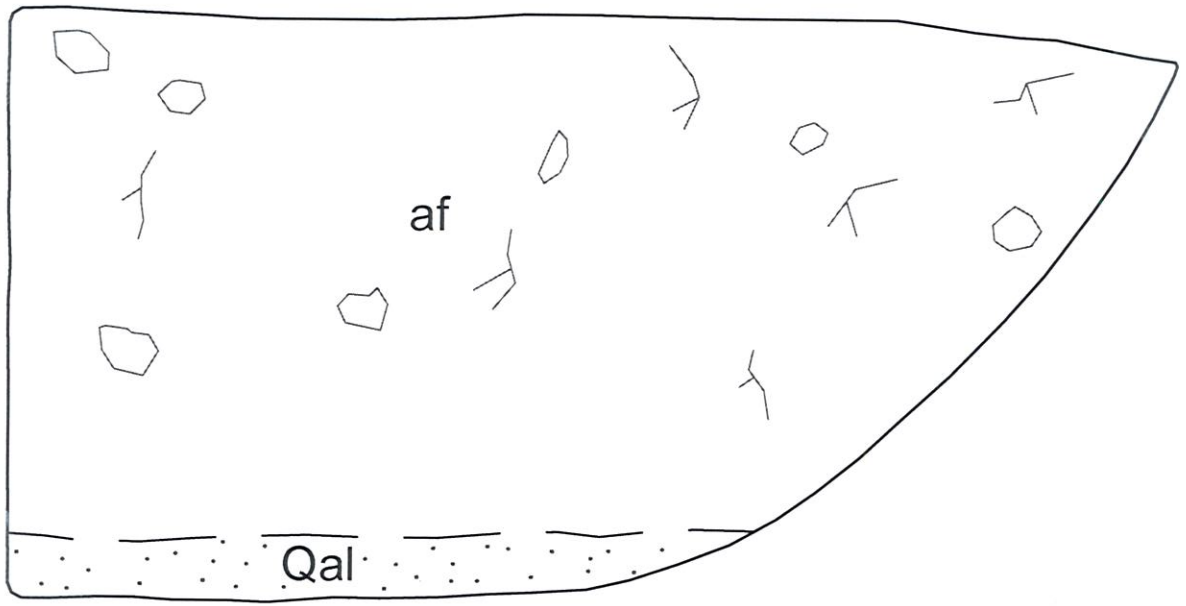


Plate TP-2

January 17, 2018
W.O. 7100

APPENDIX B

DOUBLE-RING INFILTROMETER TEST DATA AND CALCULATIONS

Figure VII.12. Sample Test Data Form for Double Ring Infiltrometer Test

Double Ring Infiltrometer Test Data

Project Name and Test Location:				Constants			Ring Data		Liquid Containers	
TP-1-17 (W.O. 7100)							Area, Ar (cm^2)	Depth of Liquid (in)	No.	Vol, Vr (in^3/in)
						Inner Ring:	729.659			
Test By:	EV	USCS Class:				Annular Space:	2188.976			
Water Table Depth:				Penetration of Rings into Soil (in.)			Inner:	4	Outer:	4
Date of Test	1/3/2018	Liquid Used:	Water	pH:	8	Ground Temp (F):		70-80	at Depth:	70-80
Liquid Level Maintained by using:		( ) Flow valve	( ) Float Valve	(x) Marriotte Tube	( ) Other:					
Additional Comments: Clear, 70-80 degrees. Presoak start 8:50 am. End										

Time Interval	Time (hr. min)	Dt (min) & Total	Inner Ring		Annular Ring		Liquid Temp F	Infiltration Rate, I**		Remarks
			Elev, H (cm)	ΔH (cm) &	Elev H (cm)	ΔH (cm) &		Inner (in/hr)	Outer (in/hr)	
1 - Start	12:50		58.1		56.9					
End	1:20	30	50.5	7.6	48.6	8.3		2.63	3.00	
2 - Start	1:20		56.6		55.3					
End	1:50	30	48.3	8.3	48.9	6.4		2.88	2.31	
3 - Start	1:50		56.8		56.9					
End	2:20	30	52.9	3.9	52.6	4.3		1.35	1.55	
4 - Start	2:20		57.7		56.7					
End	2:50	30	51.3	6.4	52.2	4.5		2.22	1.63	
5 - Start	2:50		57.6		55.6					
End	3:20	30	49.6	8	50.3	5.3		2.77	1.92	
6 - Start	3:20		57.4		56.2					
End	3:50	30	54.1	3.3	53.2	3		1.14	1.08	
7 - Start	3:50		57.3		56					
End	4:20	30	54.0	3.3	52.9	3.1		1.14	1.12	
8 - Start	4:20		57.1		56.2					
End	4:50	30	53.4	3.7	52.7	3.5		1.28	1.27	
						Average (in/hr)		**1.19**	**1.16**	
					Design Infiltration Rate (in/hr)			**0.15**	**0.14**	

***Flow, Qf = ΔH x Vr **Infiltration Rate, I = (Qf/Ar)/Δt**

Figure VII.12. Sample Test Data Form for Double Ring Infiltrometer Test

Double Ring Infiltrometer Test Data

Project Name and Test Location:				Constants				Ring Data		Liquid Containers	
TP-2-17 (W.O. 7100)								Area, Ar (cm^2)	Depth of Liquid (in)	No.	Vol, Vr (in^3/in)
							Inner Ring:	729.659			
Test By:	EV	USCS Class:					Annular Space:	2188.976			
Water Table Depth:				Penetration of Rings into Soil (in.)				Inner:	4	Outer:	4
Date of Test	1/4/2018	Liquid Used:	Water	pH:	7.2		Ground Temp (F):	70-80		at Depth:	70-80
Liquid Level Maintained by using:			( ) Flow valve	( ) Float Valve		(x) Marriotte Tube		( ) Other:			
Additional Comments: Clear, 70-80 degrees. Presoak start 8:20 am. End at 12:20.											

Time Interval	Time (hr. min)	Dt (min) & Total	Inner Ring		Annular Ring		Liquid Temp F	Infiltration Rate, I**		Remarks
			Elev, H (cm)	ΔH (cm) &	Elev H (cm)	ΔH (cm) &		Inner (in/hr)	Outer (in/hr)	
1 - Start	12:20		57.5		57					
End	12:50	30	39.4	18.1	39.2	17.8		6.27	6.44	
2 - Start	12:50		57.3		56.4					
End	1:20	30	38.4	18.9	41.8	14.6		6.55	5.28	
3 - Start	1:20		57.2		56					
End	1:50	30	38.7	18.5	40	16		6.41	5.79	
4 - Start	1:50		57.3		56.6					
End	2:20	30	38.2	19.1	41.4	15.2		6.62	5.50	
5 - Start	2:20		57.3		57					
End	2:50	30	37.9	19.4	40.7	16.3		6.72	5.89	
6 - Start	2:50		57.2		56.6					
End	3:20	30	36.6	20.6	39.8	16.8		7.14	6.07	
7 - Start	3:20		57.4		56.2					
End	3:50	30	37.2	20.2	39.8	16.4		7.00	5.93	
8 - Start	3:50		57.8		56.3					
End	4:40	30	38.8	19	40	16.3		6.58	5.89	
						Average (in/hr)		**6.91**	**5.97**	
					Design Infiltration Rate (in/hr)			**0.86**	**0.75**	

***Flow, Qf = ΔH x Vr **Infiltration Rate, I = (Qf/Ar)/Δt**

Appendix D1
2019 Traffic Analysis

ASSOCIATED TRANSPORTATION ENGINEERS

100 North Hope Avenue, Suite 4, Santa Barbara, CA 93110 Phone (805) 687-4418 Fax (805) 682-8509

February 21, 2019 19004L02

Tom Knapp
Managing Member
Brookview Ranch LLC
2972 Triunfo Canyon Road
Agoura Hills, CA 91301

TRAFFIC ANALYSIS FOR THE BROOKVIEW RANCH PROJECT – LOS ANGELES COUNTY

Associated Transportation Engineers (ATE) has prepared the following traffic analysis for the Brookview Ranch Project (the "Project"), located in the unincorporated area of Los Angeles County south of Agoura Hills. The study presents the trip generation and trip distribution estimates developed for the Project, evaluates potential impacts based on County thresholds, and reviews site access and parking.

PROJECT DESCRIPTION

The Brookview Ranch Project is located at 2972 Triunfo Canyon Road in the unincorporated area of Los Aneles County south of the City of Agoura Hills. Figure 1 (attached) illustrates the location of the Project site. In May 2016, the County approved RPP201501047 authorizing the use of an existing 3,600 SF covered outdoor dance pavilion and separate refreshments stands as part of a special events facility adjacent to the existing Brookview Ranch equestrian center. Brookview has operated the special events facility since May 2016, generally with events occurring between March 15 and November 30. Brookview proposes the construction of a new sound-insulated event reception building on the Project site to minimize noise impacts to surrounding neighbors. All construction would occur within previously developed and disturbed areas of the Project site. The Project will not expand the size or operations of the special event facility. The purpose of the Project is to move noise-generating activity, including all amplified music, into a sound-insulated event reception building. The new 5,120 SF event reception building would contain a 3,600 SF event dance area, a 628-square foot catering staging area, a 400 SF buffet area, 387 SF of restrooms, and

105 SF of storage. In addition, a new 280 SF entry foyer at the east entrance of the building and a 200-square foot entry foyer at the south entrance of the building would be constructed as double-entry foyers to assist with sound insulation and ensure sound does not escape the facility when the outside doors are opened. Once the new event reception building is constructed, the existing outdoor dance pavilion would be decommissioned and re-used as a barn for the horse ranch and the refreshment stands would be removed. Figure 2 shows the Project site plan.

With the Project, consistent with current operations, Brookview could host events at the site from March 15 to November 30 generally twice a month Friday through Sunday and twice a month Friday through Saturday with a maximum of 100 events per year. Events typically would host up to 130 people with a maximum event size of 240 guests. Use of the Project site as an event venue would occur from approximately 9:00 AM to 11:00 PM. Only one event would occur per day. Amplified music would cease at 10:00 PM on the day of the event. The event party typically would arrive at the Project site between 9:00 AM and 12:00 PM to prepare for the event. Event party preparation would occur within the reconstructed bride's dressing room and the existing barns at the Project site. Guests typically would arrive between 2:30 and 3:30 PM, depending on the season.

EVENT TRIP GENERATION ESIMATES

Table 1 summarizes the Project trip generation estimates developed for the 130 and 240-person events. The trip generation estimates assume an average vehicle occupancy (AVO) of 2.5 attendees per vehicle. The analysis also assumes that 75% if the all attendees would arrive and depart from the events during a 1-hour period, a conservative assumption since arrival and departure patterns for events typically spread beyond a 1-hour period. The analysis also assumes that 8 employee/delivery trips for events with 130 attendees and 10 employee/delivery trips for events with 240 attendees.

Table 1
Event Trip Generation Estimates

Scenario	Size	AVO	ADT	Event Start(a)	Event End(a)
130 Attendees	130 Attendees 8 Emp./Deliveries	2.5 1.0	104 ADT 16 ADT **120 ADT**	39 PHT 0 PHT **39 PHT**	39 PHT 0 PHT **39 PHT**
240 Attendees	240 Attendees 10 Emp./Deliveries	2.5 1.0	192 ADT 20ADT **212 ADT**	72 PHT 0 PHT **72 PHT**	72 PHT 0 PHT **72 PHT**

(a) Assumes 75% of guests arrive/depart during a one-hour period.

The data presented in Table 1 indicate that the Project is forecast to generate 120 average daily trips (ADT) and 39 peak hour trips (PHT) for 130-person events and 212 ADT and 72

PHT for 210-person events. The peak hour trips would occur outside of the typical AM (7-9 AM) and PM (4-6 PM) peak hour periods since the events would not generally start or end during these time periods.

PROJECT TRIP DISTRIBUTION

The trip distribution pattern was developed for the Project based on the available travel routes to and from the site and existing traffic volumes. The primary routes for Project access are Triunfo Canyon Road and Kanan Road. Table 2 presents the trip distribution pattern developed for the Project. The Project trip distribution percentages and Project traffic additions to the study-area roadways are illustrated on Figure 3 and 4.

Table 2
Project Trip Distribution

Origin/Destination	Direction	Percentage	Project-Added Traffic (130 person)	Project-Added Traffic (240 Person)
Triunfo Canyon Road	West	5%	6 ADT	10 ADT
Kanan Road	North (to US 101)	65%	78 ADT	138 ADT
	South (to PCH)	30%	36 ADT	64 ADT
Total:		**100%**	**120 ADT**	**212 ADT**

PROJECT SPECIFIC ANALYSIS

Existing average daily and peak hour traffic volumes for the segments of Triunfo Canyon Road east and west of the Project site were obtained from traffic count data on file with Los Angeles County. Figure 5 illustrates the existing roadway volumes. The Project generated traffic volumes were added to the existing volumes and the Existing + Project volumes are presented on Figure 6 and 7.

In rating roadway operations, "Levels of Service" (LOS) A through F are used, with LOS A indicating free flow operations and LOS F indicating congested operations more complete definitions of levels of service are attached. Levels of service were calculated for Triunfo Canyon Road using the two-lane highway methodology contained in the Los Angeles County Traffic Impact Analysis Report Guidelines, which is attached for reference.

Tables 3 and 4 illustrates the Existing and Existing + Project average daily traffic and peak hour volumes and levels of service for Triunfo Canyon Road; and identify potential impacts based on County thresholds for the 130-person and 240-person events.

Table 3
Existing + Project Roadway Volumes – 130-Person Event

Roadway Segment	Average Daily Trips				Project Impact?
	Existing ADT	Existing PHT/LOS	Existing + Project ADT	Existing + Project PHT/LOS	
Triunfo Canyon Rd n/o Kanan	1,760 ADT	285/LOS A	1,874 ADT	322/LOS A	No
Triunfo Canyon Rd w/o Site	890 ADT	83/LOS A	896 ADT	85/LOS A	No

Table 4
Existing + Project Roadway Volumes – 240-Person Event

Roadway Segment	Average Daily Trips				Project Impact?
	Existing ADT	Existing PHT/LOS	Existing + Project ADT	Existing + Project PHT/LOS	
Triunfo Canyon Rd n/o Kanan	1,760 ADT	285/LOS A	1,961 ADT	353/LOS A	No
Triunfo Canyon Rd w/o Site	890 ADT	83/LOS A	901 ADT	87/LOS A	No

The data presented in Tables 3 and 4 indicate that Triunfo Canyon Road currently operates acceptably at LOS A with existing volumes and would continue to operate at LOS A with the addition of traffic generated by the Project. The Project would therefore not impact roadway operations based on County thresholds.

CUMULATIVE + PROJECT TRAFFIC VOLUMES

Cumulative traffic volume forecasts were evaluated based on a list of related projects located within the surrounding areas of Los Angeles County. The cumulative projects list and map are attached. The only project on the list which would add traffic to Triunfo Canyon Road is the Triunfo Creek Vineyard, which is proposing to host events with up to 300 guests. The cumulative forecast therefore assumes a 300-person event at this facility. The Cumulative traffic forecasts are presented on Figure 8 and the Cumulative + Project traffic forecasts are presented on Figure 9 and 10.

Tables 5 and 6 illustrate the average daily and peak hour traffic volumes and levels of service for Triunfo Canyon Road for the Cumulative and Cumulative + Project scenarios; and identify potential impacts based on County thresholds for the 130-person and 240-person events.

Table 5
Cumulative + Project Roadway Volumes – 130-Person Event

Roadway Segment	Average Daily Trips				Project Impact?
	Cumulative ADT	Cumulative PHT/LOS	Cumulative + Project ADT	Cumulative + Project PHT/LOS	
Triunfo Canyon Rd n/o Kanan	2,007 ADT	370/LOS A	2,121 ADT	407/LOS A	No
Triunfo Canyon Rd w/o Site	903 ADT	88/LOS A	909 ADT	90/LOS A	No

Table 6
Cumulative + Project Roadway Volumes – 240-Person Event

Roadway Segment	Average Daily Trips				Project Impact?
	Cumulative ADT	Cumulative PHT/LOS	Cumulative + Project ADT	Cumulative + Project PHT/LOS	
Triunfo Canyon Rd n/o Kanan	2,007 ADT	370/LOS A	2,208 ADT	438/LOS A	No
Triunfo Canyon Rd w/o Site	903 ADT	88/LOS A	914 ADT	92/LOS A	No

The data presented in Tables 5 and 6 indicate that Triunfo Canyon Road would operate acceptably at LOS A with Cumulative and Cumulative + Project volumes. The Project would therefore not contribute to cumulative roadway impacts based on County thresholds.

Site Access and Parking Management

Parking for events at Brookview Ranch will be provided in the existing 167-space surface parking lot. Brookview will continue to implement a traffic and parking management plan for events held at the site. Brookview staff are stationed at various locations on-site to direct guests to the appropriate parking area before the start of the event. At the end of events, staff limits the number of guests exiting the site at one time to reduce congestion at the site driveway.

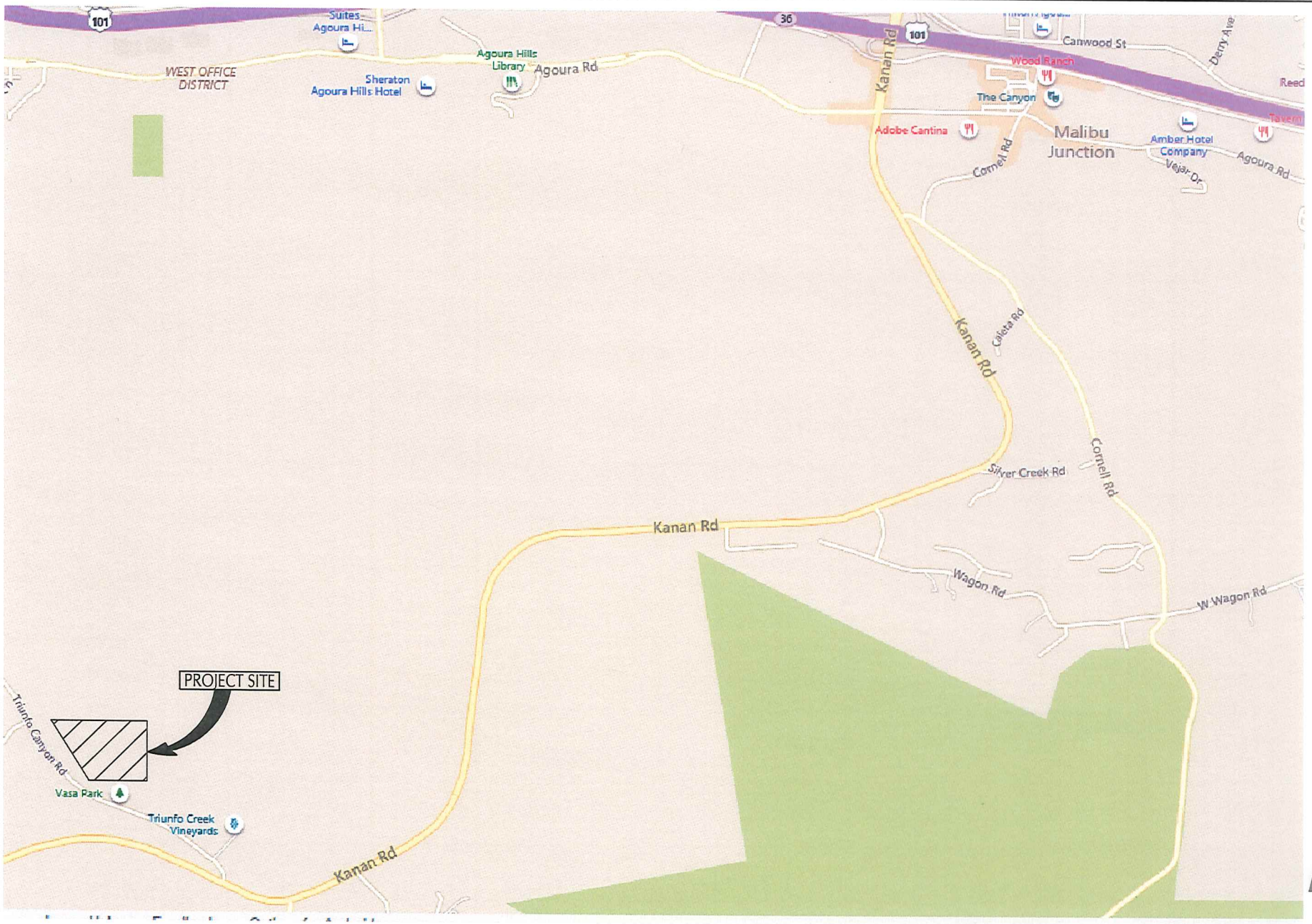


This concludes ATE's traffic study for the Brookview Ranch Project

Associated Transportation Engineers

Scott A. Schell, AICP, PTP
Principal Transportation Planner

SAS/DLD/BDS

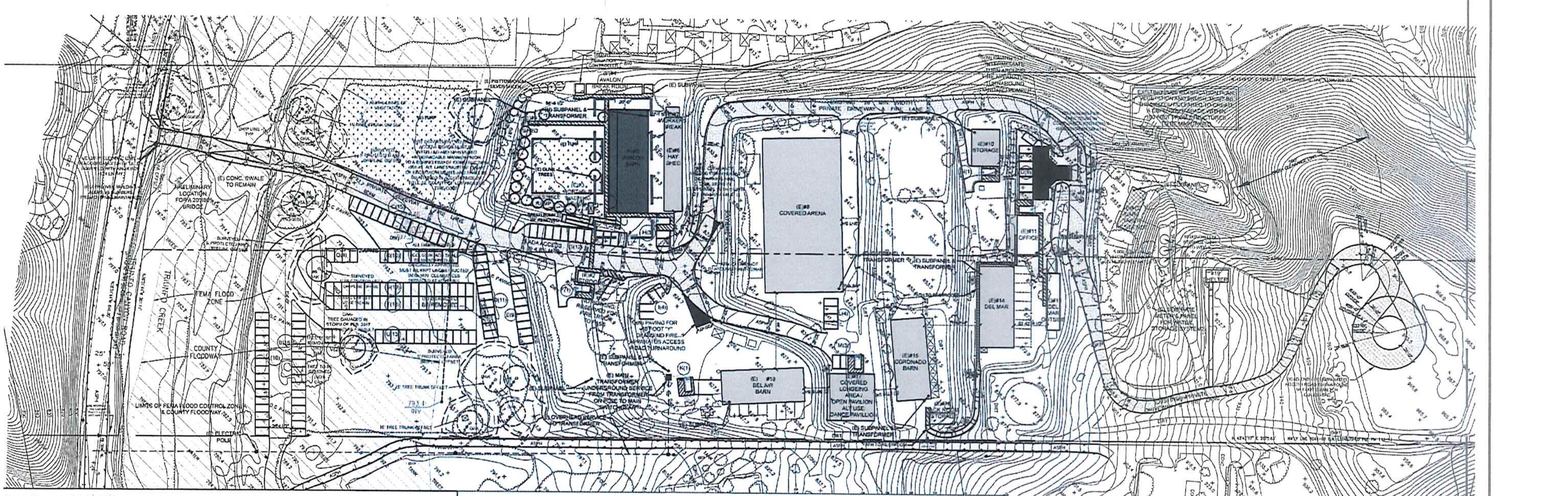


ASSOCIATED
TRANSPORTATION
ENGINEERS

PROJECT SITE LOCATION

FIGURE 1

BDS - ATE#19004



SIGN TYPE "C": NO PARKING / FIRE LANE ← (12")

SIGN TYPE "D": NO PARKING / FIRE LANE (12" × 18")

D103.6: NO PARKING-FIRE LANE SIGNS
SIGNS SHALL HAVE A MIN DIMENSION OF 12" WIDE BY 18" HIGH AND HAVE RED LETTERS ON A WHITE REFLECTIVE BACKGROUND. SIGNS SHALL BE POSTED ON BOTH SIDES OF THE FIRE APPARATUS ROAD SINCE ROADS ARE 20'-26' IN WIDTH.

LEGEND

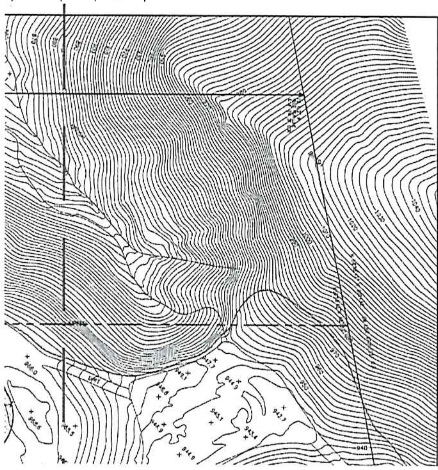
- PERMITTED
- UNPERMITTED W/ PERMIT APPLICATION PENDING
- LIMITS OF FEMA FLOOD CONTROL ZONE A & COUNTY FLOODWAY
- CUP APPLICATION PENDING (RCUP-201400116)

SITE PLAN

NORTH

SCALE: 1/64"=1'-0"

MATCH LINE



COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY DIVISION

SECURITY REQUIREMENTS
PLAN REVIEW LIST

GENERAL PROJECT INFORMATION

PLAN CHECK NO.________ DISTRICT NO ________

JOB ADDRESS________ CITY ________ ZIP ________

NOTE: Numbers in the parenthesis ( ) refer to sections of the 2014 edition of the Los Angeles County Building Code.

INSTRUCTIONS
- The following notes must be included on the plans.

GENERAL REQUIREMENTS

1. The unlatching of any door or leaf shall not require more than one operation. (1008.1.9.5)
2. Regardless of the occupant load served, egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort. Except as follows: (1008.1.9)
   a. In buildings of occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main exterior door or doors are permitted to be equipped with key-operated locking devices from the egress side provided the locking device is readily distinguishable as locked, and a readily visible durable sign is posted on the egress side on or adjacent to the door stating: "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED". The sign shall be in letters 1-in. high on a contrasting background. The use of the key-operated locking device is revocable by the building official for due cause.
   b. Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts has no doorknob or surface-mounted hardware.
   c. Doors from individual dwelling of sleeping units of Group R occupancies having an occupant load of
   b. A swinging door of width greater than 5-ft may be secured as set forth in Section 6711.
   c. In residential occupancies, doors not required by Sections 1020 or 1008 may be equipped with security-type hardware which requires a key to release from the interior side of the door if the sleeping rooms are protected with a fire-warning system as set forth in Section 907.2.11 and an automatic sprinkler system as required by Section 903.2.8.
4. In Groups B, F, M and S, horizontal sliding or vertical security grilles are permitted at the main exit and shall be openable from the inside without the use of a key or special knowledge or effort during periods that the space is occupied. The grilles shall remain secured in the full-open position during the period of occupancy by the general public. Where two or more means of egress are required, not more than one-half of the exits or exit access doorways shall be equipped with horizontal sliding or vertical security grilles. (1008.1.4.4)
5. Swinging wooden doors which are openable from the inside without the use of a key shall be one of the following: (6709.1)
   a. Solid-core doors not less than 1-3/8-in. in thickness. (6709.1.1)
   b. Panel-type doors having: (6709.1.2)
      i. Individual panels fabricated of lumber not less than 1-3/8 in. thick, provided shaped portions of the panels are not less than 1/4-in. thick, and not more than 300-sq in. in area.
   b. Where a pair of doors serves a storage or equipment room, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf.
   c. Where a pair of doors serves an occupant load of less than 50 persons in a Group B, F or S occupancy, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf. The inactive leaf shall not have doorknobs, panic bars or similar operating hardware.
   d. Where the occupancy load exceeds 50 persons in a Group B, F or S occupancy, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf provided that the inactive leaf is not needed to meet egress width requirements and the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The inactive leaf shall not have doorknobs, panic bars or similar operating hardware.
   e. Where a pair of doors serves patient care rooms in Group I-2 occupancies, self-latching edge- or surface-mounted bolts are permitted on the inactive leaf, given the inactive leaf is not needed to satisfy egress width requirements and the inactive leaf contains no doorknobs, panic bars or similar operating hardware.
7. A single swinging door, the active leaf of a pair of doors, and the bottom leaf of Dutch door shall be equipped with a deadbolt and latch. (6709.2)
   a. The latch may be omitted from doors in Group B Occupancies.
   b. Dead bolts shall have hardened inserts and have a minimum throw of 1-in. with an embedment of not less than 5/8-in.
   c. Latching device shall have a dead latch if mechanism has a key locking feature.
   d. Hook shape or expanding lug deadbolt shall have a minimum throw of 3/4-in.
   e. Dead bolts of locks which automatically activate two or more dead bolts shall embed at least 1/2-in., but need not exceed 3/4-in. into the holding devices receiving the projected bolts.
9. Door stops on wooden jambs for in-swinging doors shall be of one-piece construction with the jamb or joined by a rabbet. (6709.4)
10. Use non-removable pins for hinges of swinging doors which are accessible from the outside when the door is closed. (6709.5)
11. Use cylinder guards on cylinder locks whenever the cylinder projects beyond the outside face of the door or is otherwise accessible to attack tools. (6709.6)
12. Sliding glass doors shall be equipped with locking devices and shall have a testing label per Section 6706.5. Sliding glass doors used for emergency exiting required by Section 1029 or an exit required by Section 1003 shall be openable from the inside without the use of a key, tool or excessive force. (6710)
13. Metal or wooden overhead and sliding doors shall be secured with a deadbolt lock, padlock with a hardened steel shackle, or equivalent when not otherwise locked by electric power operation. When door width exceeds 9-ft., both jambs shall be secured by locking device or restrained by a guide or retainer. Cylinder guards shall be installed on all mortise or rim-type cylinder locks installed on hollow-metal doors whenever the cylinder projects beyond the face of the door or is otherwise accessible to gripping tools. (6711)
14. Metal accordion grate or grille-type doors shall be equipped with metal guides at top and bottom, and a cylinder lock or padlock and hardened steel shackle shall be provided. Cylinder guards shall be installed on all mortise or rim-type cylinder locks installed in hollow-metal doors whenever the cylinder projects beyond the face of the door or is otherwise accessible to gripping tools. (6712)
15. Windows within 40-in. of a required locking device on a door when in the closed and locked position and openable from the inside without the use of a key, shall be fully tempered glass, laminated glass of at least 1/4-in. thick, approved burglary-resistant material, or guarded by metal bars, screens or grilles in an approved manner. (6714)
16. Lights with a least dimension greater than 6-in. but less than 48-in. in Groups B, F, M and S Occupancies shall be fully tempered glass, laminated glass of at

render the building as secure as the devices required by Section 6715. In Groups B, F, M and S Occupancies, such locking devices shall be a glide bar, bolt, cross bar, and/or padlock with hardened steel shackle. (6715.3)

20. Wooden hatchways of less than 1-3/4-in.-thick solid wood shall be covered on the inside with 16 gauge sheet metal attached with screws at 6-in maximum centers around the perimeter. (6717.1)
21. Hatchway, scuttles, and similar openings shall be secured from the inside with a slide bar, slide bolt, and/or padlock with a hardened steel shackle. (6717.2)
22. Outside pin-type hinges for hatchways, scuttles and similar openings shall be provided with non-removable pins or a means by which the door can be opened through removal of hinge pin door is in the closed position.
23. Other openings exceeding 96-sq in. with a dimension exceeding 8-in. shall be secured by bars, screens or grilles in an approved manner.
24. Each tenant space shall be separated from tenant spaces by a fire partition. (402.4.2.1)
25. A tenant separation wall is required between space and the mall.

Security Requirements.doc 04-10-2014

FLOODWAY/WATERCOURSE NOTES:

THIS SITE IS IN A FEDERALLY DESIGNATED SPECIAL FLOOD HAZARD AREA. ALL FUTURE BUILDINGS, AND OTHER STRUCTURES (WALLS AND FENCES) PROPOSED WITHIN THIS ZONE MUST MEET REQUIREMENTS OF THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) SECTION 60.3 AND TITLE 26, SECTIONS 110.1 AND 110.2 OF THE LOS ANGELES BUILDING CODE.

DATE OF MAINTENANCE AGREEMENT: 05-05-2010

PROPOSED IMPERVIOUS AREA: 4290 SQ. FT.

DESIGN STORM: (CHECK ONE) X 85TH PERCENTILE __ 0.75-INCH
SWQDv: 2192 FT³ 100 PERCENT TO BE RETAINED ONSITE

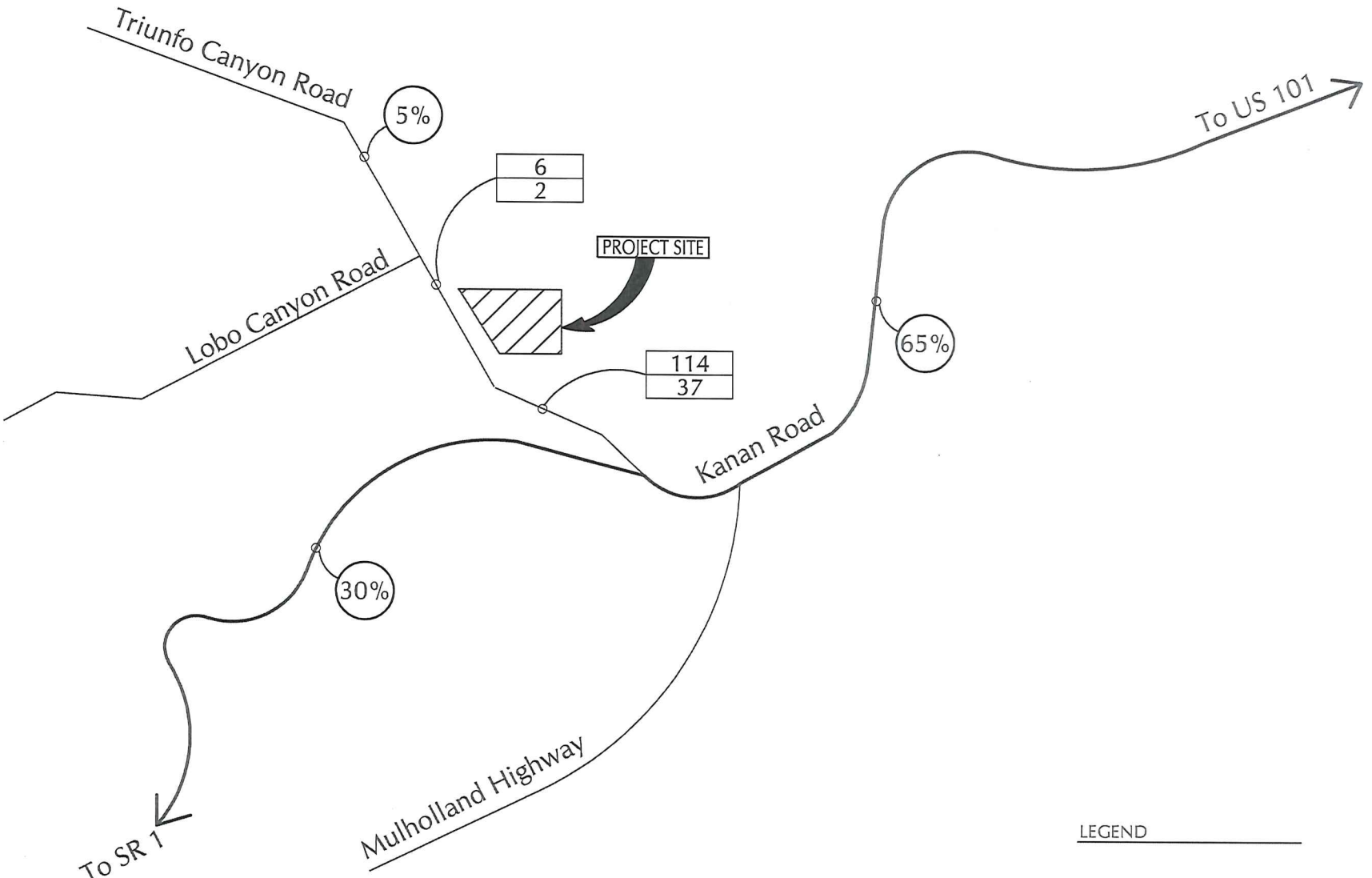
LID SOLUTION: (CHECK ONE) __ INFILTRATION X BIOFILTRATION

ASSOCIATED TRANSPORTATION ENGINEERS

PROJECT SITE PLAN

FIGURE 2

BDS - ATE#19004

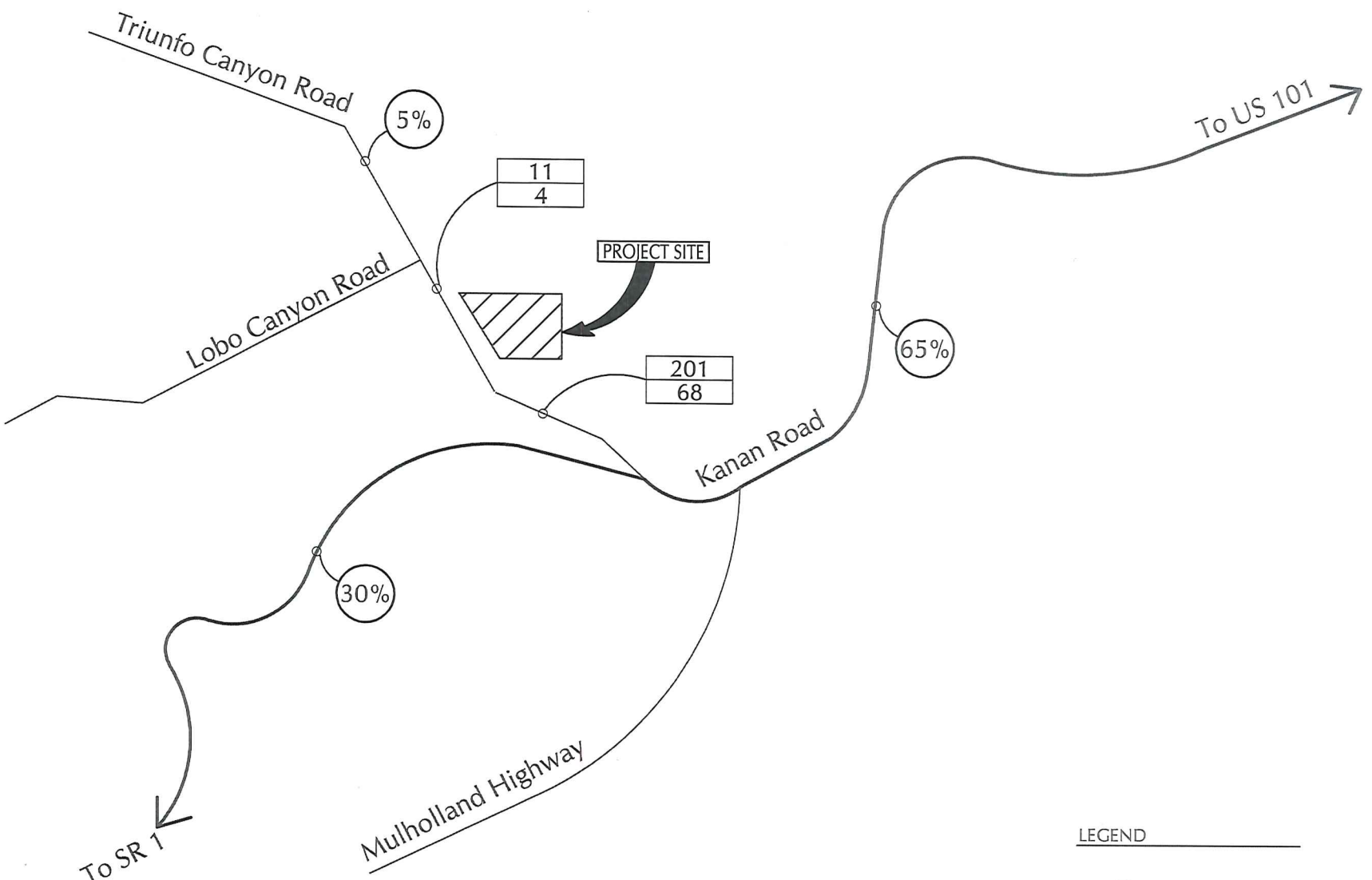


ASSOCIATED TRANSPORTATION ENGINEERS

PROJECT ADDED - 130 PERSON EVENT
AVERAGE DAILY AND PEAK HOUR TRAFFIC VOLUMES

FIGURE 3

BDS - ATE#19004

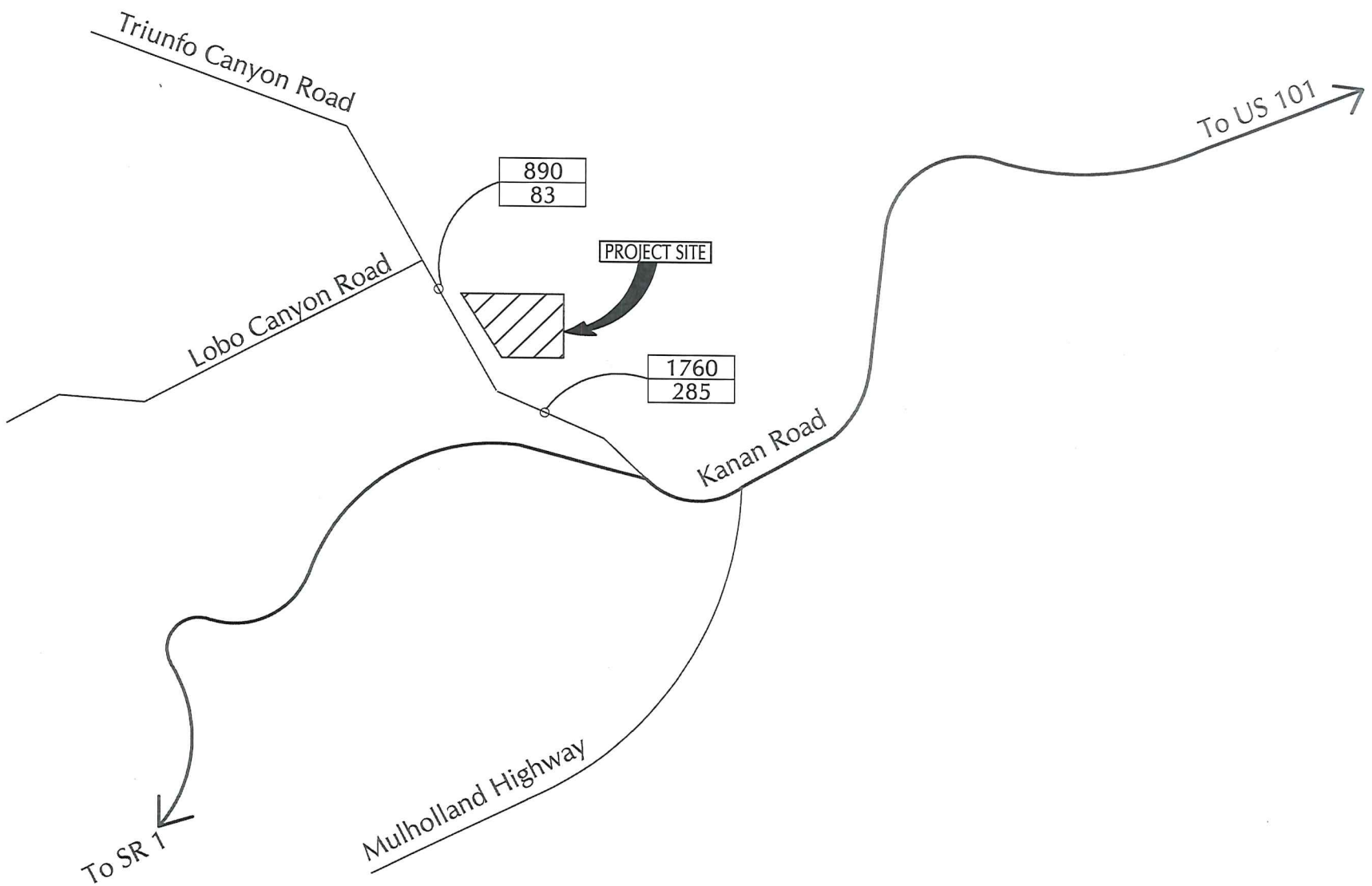


ASSOCIATED TRANSPORTATION ENGINEERS

PROJECT ADDED - 240 PERSON EVENT
AVERAGE DAILY AND PEAK HOUR TRAFFIC VOLUMES

FIGURE 4

BDS - ATE#19004

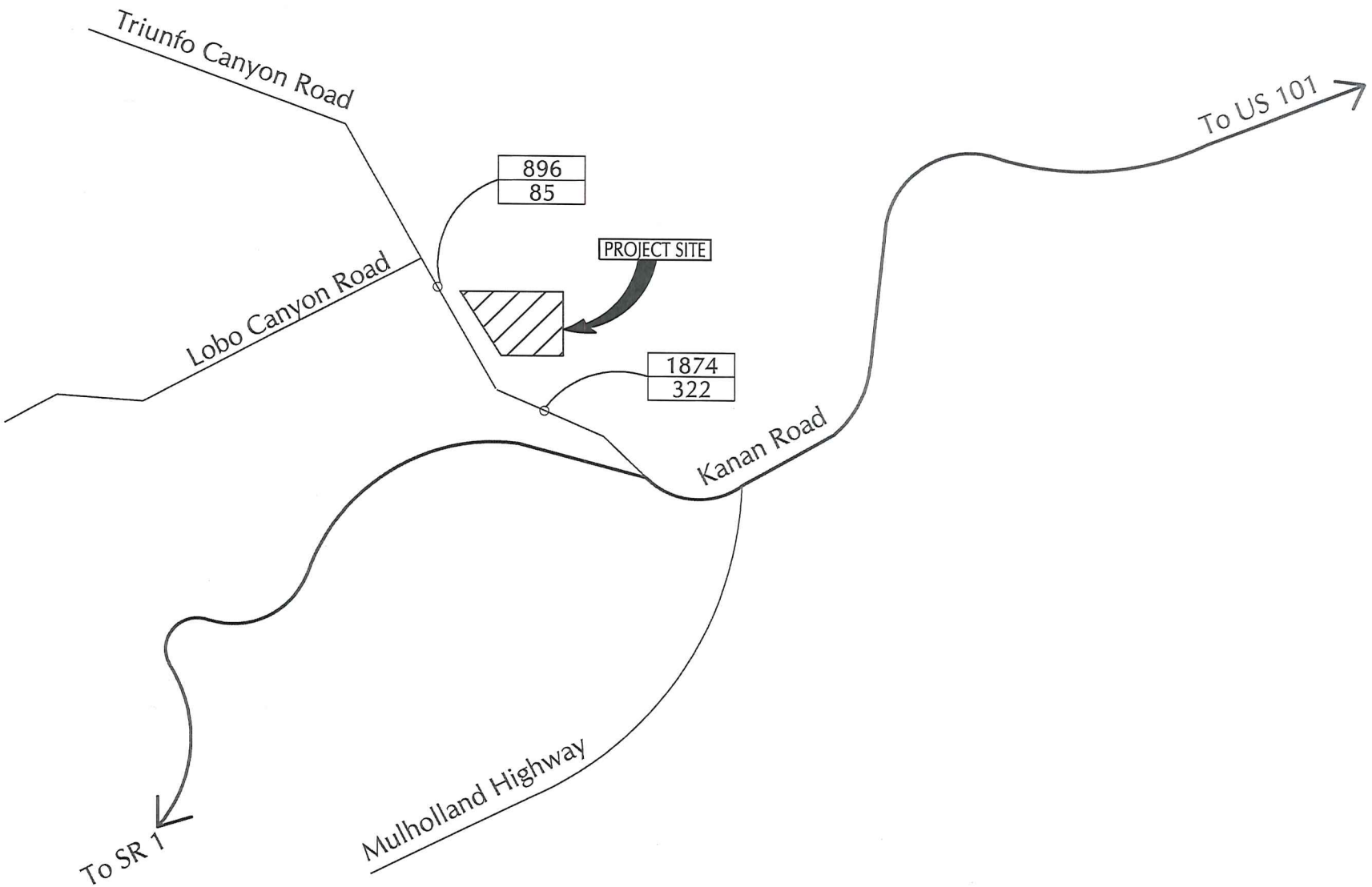


ASSOCIATED TRANSPORTATION ENGINEERS

EXISTING AVERAGE DAILY AND PEAK HOUR TRAFFIC VOLUMES

FIGURE 5

BDS - ATE#19004

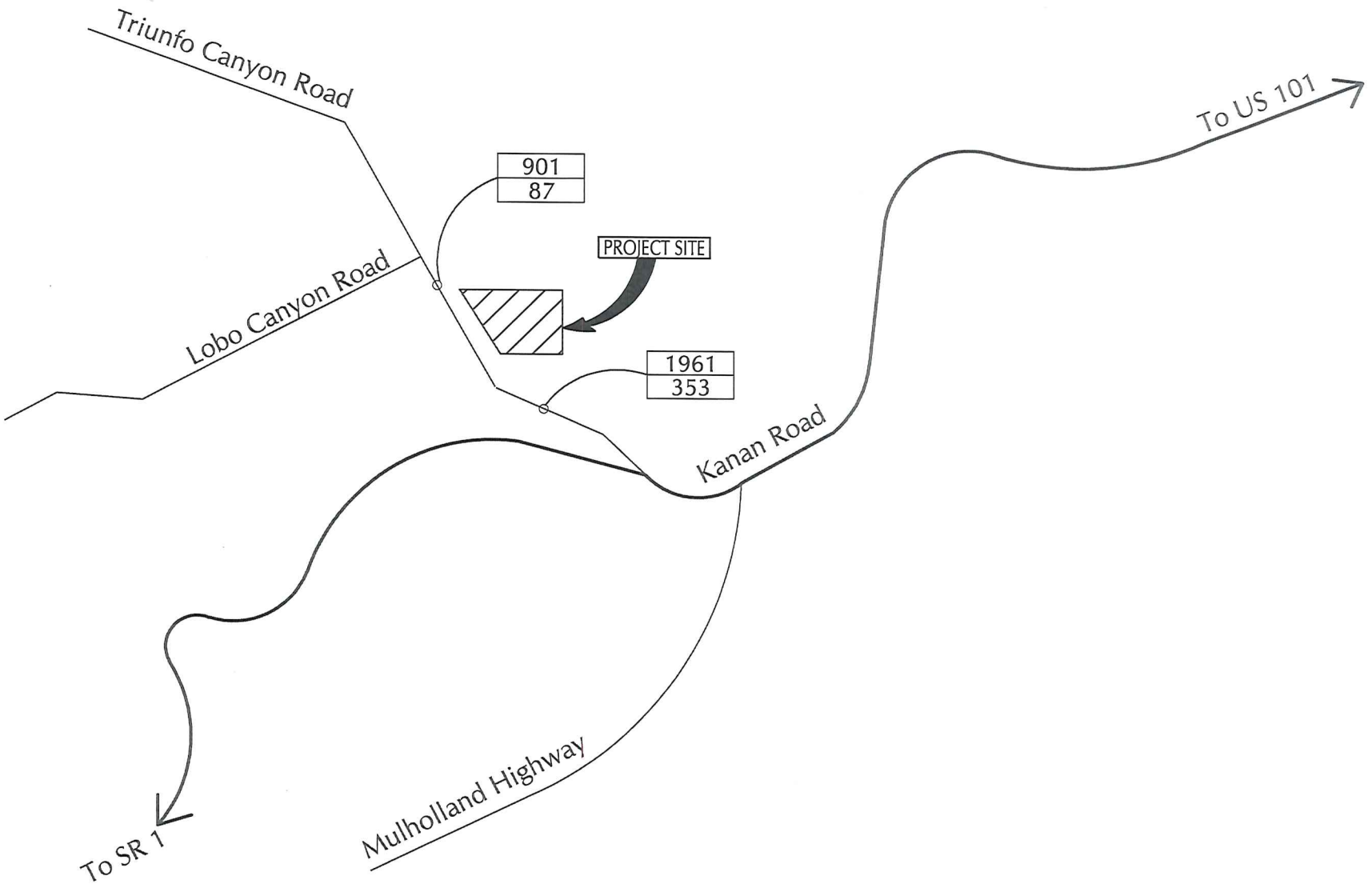


ASSOCIATED TRANSPORTATION ENGINEERS

EXISTING + PROJECT - 130 PERSON EVENT
AVERAGE DAILY AND PEAK HOUR TRAFFIC VOLUMES

FIGURE 6

BDS - ATE#19004

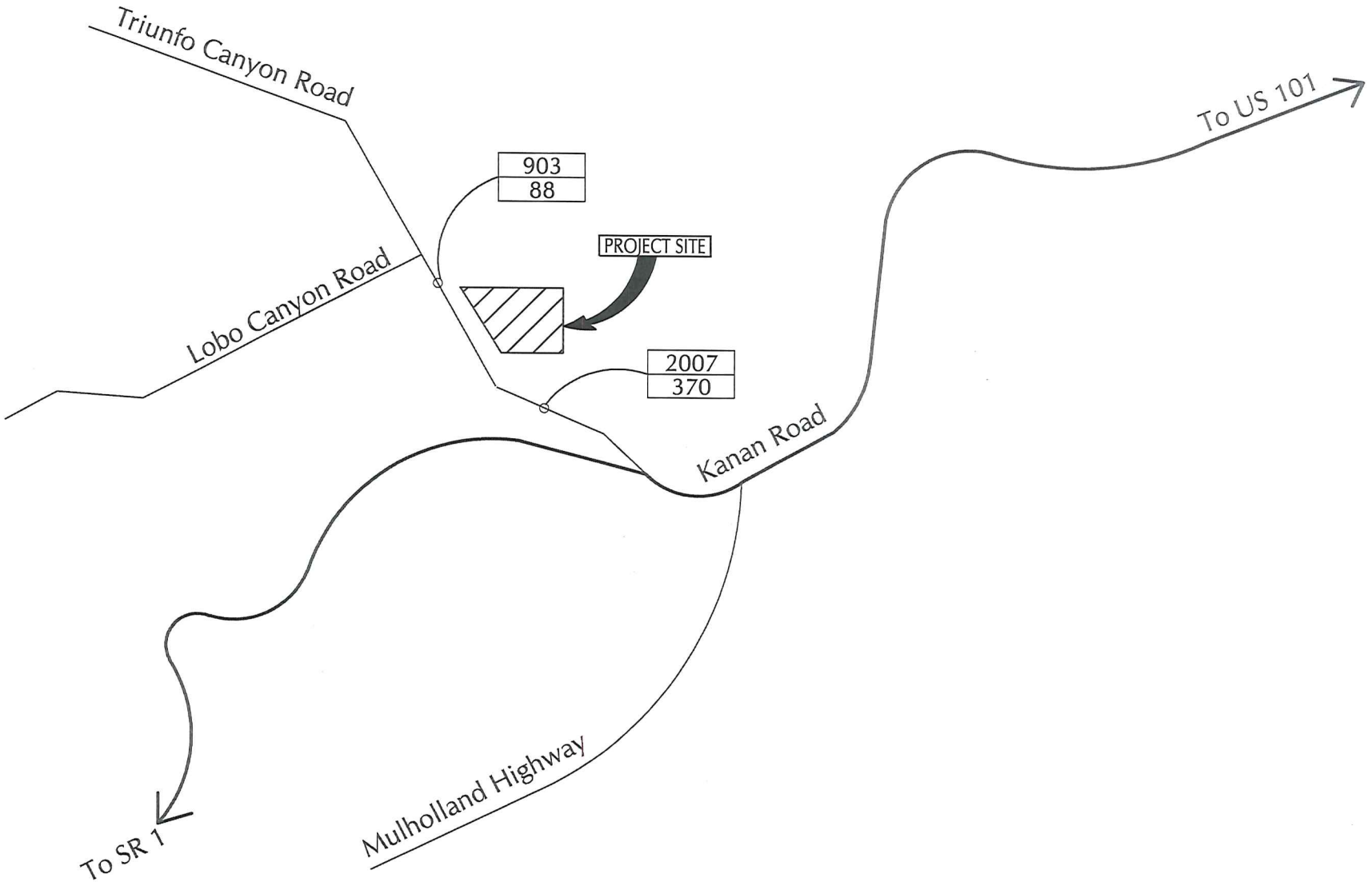


ASSOCIATED TRANSPORTATION ENGINEERS

EXISTING + PROJECT - 240 PERSON EVENT
AVERAGE DAILY AND PEAK HOUR TRAFFIC VOLUMES

FIGURE 7

BDS - ATE#19004

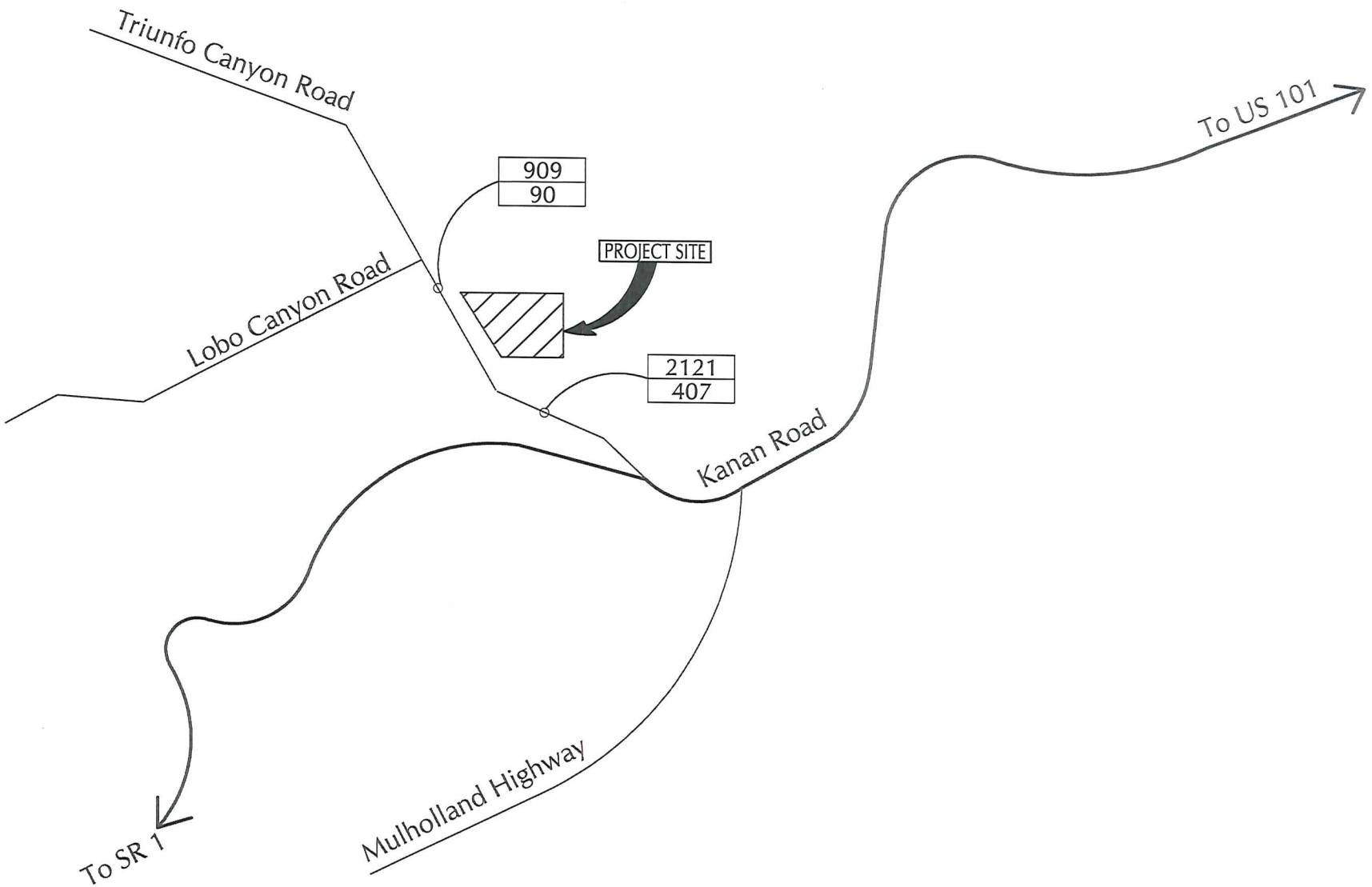


ASSOCIATED TRANSPORTATION ENGINEERS

CUMULATIVE AVERAGE DAILY AND PEAK HOUR TRAFFIC VOLUMES

FIGURE 8

BDS - ATE#19004

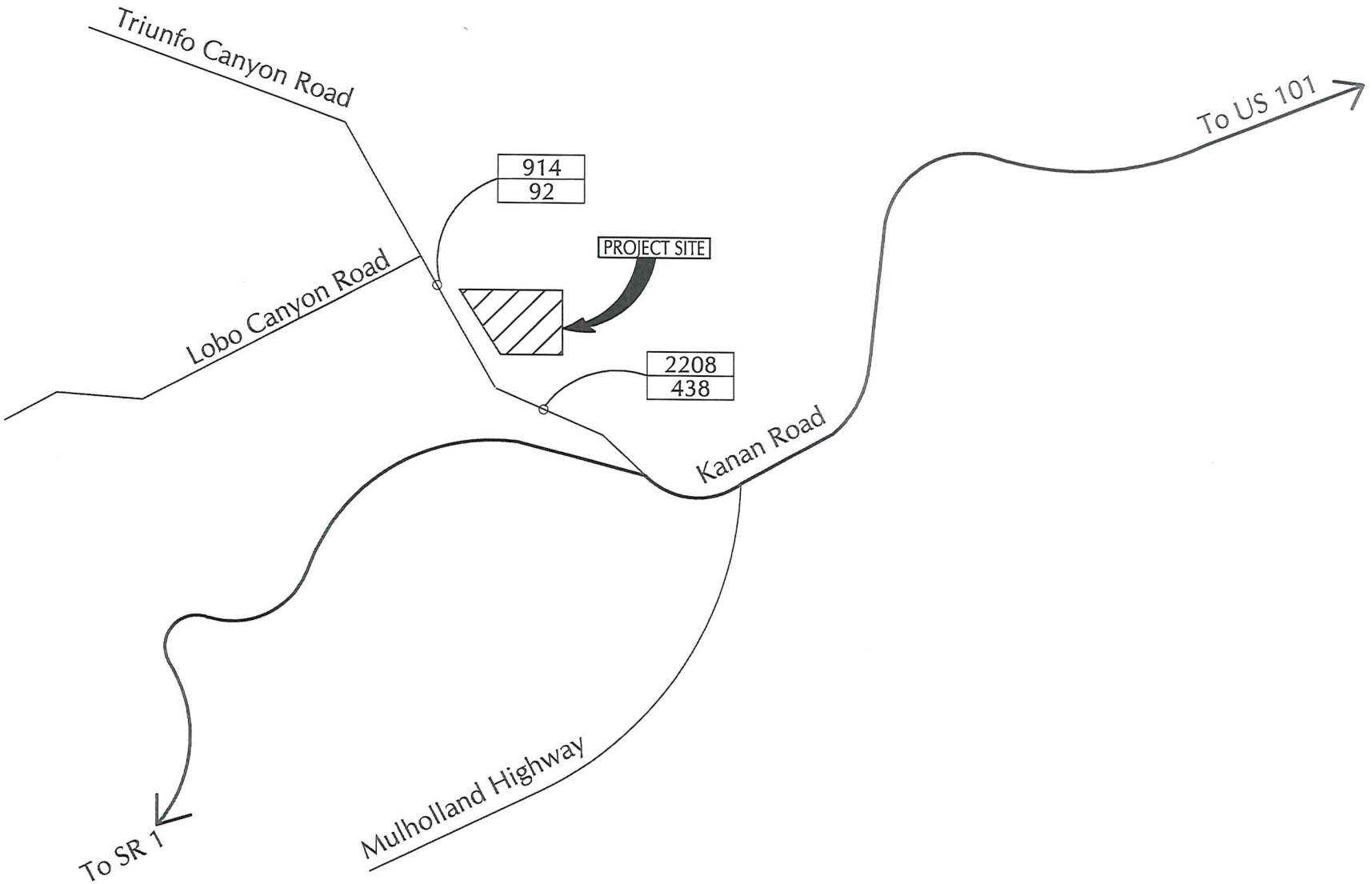


ASSOCIATED TRANSPORTATION ENGINEERS

CUMULATIVE + PROJECT - 130 PERSON EVENT
AVERAGE DAILY AND PEAK HOUR TRAFFIC VOLUMES

FIGURE 9

BDS - ATE#19004



ASSOCIATED TRANSPORTATION ENGINEERS

CUMULATIVE + PROJECT - 240 PERSON EVENT
AVERAGE DAILY AND PEAK HOUR TRAFFIC VOLUMES

FIGURE 10

BDS - ATE#19004

LEVEL OF SERVICE DEFINITIONS

The ability of a roadway system to carry traffic is most often expressed in terms of "Levels of Service" (LOS). LOS A through F are used, with LOS A indicating very good operations and LOS F indicating poor operations. More complete level of service definitions are listed in the following table.

LOS	Definition
A	Conditions of free unobstructed flow, no delays and all signal phases sufficient in duration to clear all approaching vehicles.
B	Conditions of stable flow, very little delay, a few phases are unable to handle all approaching vehicles.
C	Conditions of stable flow, delays are low to moderate, full use of peak direction signal phases is experienced.
D	Conditions approaching unstable flow, delays are moderate to heavy, significant signal time deficiencies are experienced for short durations during the peak traffic period.
E	Conditions of unstable flow, delays are significant, signal phase timing is generally insufficient, congestion exists for extended duration throughout the peak period.
F	Conditions of forced flow, travel speeds are low and volumes are well above capacity. This condition is often caused when vehicles released by an upstream signal are unable to proceed because of back-ups from a downstream signal.

Source: Highway Capacity Manual, December 2000.

analysis, use the established significant impact thresholds for two-lane roadways as shown on page 6.

5. Significant Impact Threshold

For intersections, the impact is considered significant if the project related increase in the volume to capacity (v/c) ratio equals or exceeds the threshold shown below.

INTERSECTIONS		
Preproject		Project V/C Increase
LOS	V/C	
C	0.71 to 0.80	0.04 or more
D	0.81 to 0.90	0.02 or more
E/F	0.91 or more	0.01 or more

The project is deemed to have a significant impact on two-lane roadways when it adds the following percentages based on LOS of the preproject conditions.

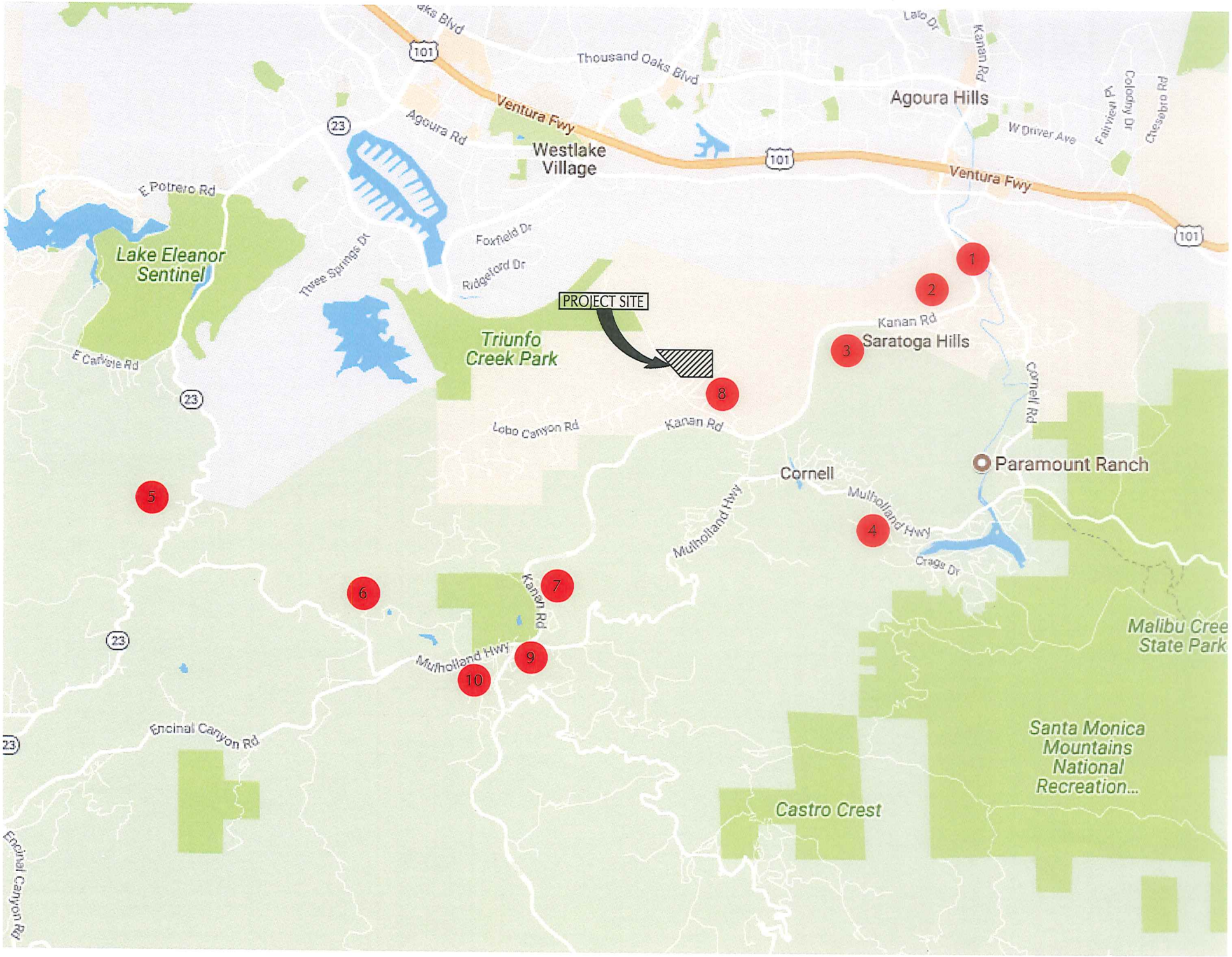
TWO-LANE ROADWAYS				
		Percentages Increase in Passenger Car Per Hour (PCPH) by Project		
		Preproject LOS		
Directional Split	Total Capacity (PCPH)	C	D	E/F
50/50	2,800	4	2	1
60/40	2,650	4	2	1
70/30	2,500	4	2	1
80/20	2,300	4	2	1
90/10	2,100	4	2	1
100/0	2,000	4	2	1

Associated Transportation Engineers
#19004 - Brookview Ranch

CUMULATIVE PROJECT LIST TRIP GENERATION

			ADT		WEEKDAY PM PEAK HOUR					
Land-Use	SIZE	UNITS	Rate	Trips	Rate	Trips	IN %	Trips	OUT %	Trips
1 Triangle Ranch (a)	61	SFD	9.44	576	1.00	61	63%	38	37%	23
2 Astoria Estate LLC (a)	5	SFD	9.44	47	1.00	5	63%	3	37%	2
3 Burns (a)	3	SFD	9.44	28	1.00	3	63%	2	37%	1
4 Vintage/Hidden Parks (a)	8	SFD	9.44	76	1.00	8	63%	5	37%	3
5 Kasco (a)	2	SFD	9.44	19	1.00	2	63%	1	37%	1
6 Semler Ranch (b)	450	guests	-	80	-	9	-	3	-	6
7 Rocky Oaks Guest Ranch (c)	4	rooms	8.36	33	0.7	3	57%	2	43%	1
8 Triunfo Creek Vineyard (d)	300	guests	-	260	-	90	0%	-	100%	90
9 Cielo Farms (e)	100	guests	-	112	-	13	0%	-	100%	13
10 Calamigos Ranch(f)			-	-	-	-	-	-	-	-
Total				**1231**		**194**		**54**		**140**

(a) ITE rates for Single-Family Detached Housing (#210) - PM peak hour
(b) ATE average winery trip generation ADT/PM PHT
(c) ITE rates for Hotel (#310) - PM peak hour
(d) Assumes 2.5 AVO, and peak hour volume is 0.75 of ADT
(e) Assumes 2.0 AVO, and peak hour volume is 0.11 of ADT
(f) Inactive


Thousand Oaks Blvd
Ventura Fwy
101
Agoura Hills
Westlake Village
Agoura Rd
23
E Potrero Rd
Lake Eleanor Sentinel
Three Springs Dr
Foxfield Dr
Ridgeford Dr
PROJECT SITE
Triunfo Creek Park
E Carlisle Rd
Lobo Canyon Rd
Kanan Rd
Saratoga Hills
Cornell Rd
Paramount Ranch
Cornell
Mulholland Hwy
Crags Dr
Malibu Creek State Park
Encinal Canyon Rd
Santa Monica Mountains National Recreation...
Castro Crest
1
2
3
4
5
6
7
8
9
10

Subdivisions – Tracts and Parcel Maps

	Project Name / Applicant	APNs	Tract or Parcel No.	Project Description
1	Triangle Ranch	2063036001 2063005013 2063006022	TR52419	61 Single Family Residences Currently being amended
2	Astoria Estate LLC	2063004022	TR52805	5 Single Family Residences
3	Burns	2063018023 2063018039	PM071223	3 Single Family Residences
4	Vintage / Hidden Parks		TR49899 and -01	8 Single Family Residences
5	Kasco	4472002027	PM069051	2 Single Family Residences

Pending / Processing Applications

	Project Name / Applicant	APNs	Project No.	Project Description
6	Semler Ranch	2058016030	2017-004583 2008-00641 RPPL2017007304 RPPL2017007295 RPPL2017007303 RPPL2017007305	Master plan for site, including ranch, horse boarding, special events, tours, wine tasting. Relocation of Malibu Wines located off-site. Malibu Wine Bar – 1200 guests Winery / Tasting Room 450 guests
7	Rocky Oaks Guest Ranch	2058017025	R2014-02690 RCUP-201400127	Convert SFR to a guest ranch and special events (15 events with 100 persons, 21 events

				with 200 persons, 7 days a week). Guest ranch, 4 rooms, max 8 guests per night.
9	Cielo Wines	4464008018, 019, 029, 032, 044, 045	R2015-03796 RCUP201500135	Wine tasting room, max 75 guests, 7 days a week. Large events, 200 persons, 40 per year. Larger events, 300 persons, 3 per year.
8	Triunfo Creek Vineyard	2063003015, 016, 017, 018, 020	R2015-01074 RCUP-201500048	New winery, tasting room, special events (300 guests / 300 events per year) and meeting center. Use of site will include filming. Existing dance pavilion on site.
10	Calamigos Ranch	4471009009 4471009009 4471006015 4471006008 4471006017 4471006011	NOT YET ACTIVE?	CDP for Health Retreat

Appendix D2
2021 Vehicle Miles Traveled Study

ASSOCIATED TRANSPORTATION ENGINEERS

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Since 1978

Richard L. Pool, P.E.
Scott A. Schell

February 10, 2020

19004L05

Tom Knapp
Managing Member
Brookview Ranch LLC
2972 Triunfo Canyon Road
Agoura Hills, CA 91301

VMT STUDY AND EVENT TRAFFIC AND PARKING MANAGEMENT PLAN FOR THE BROOKVIEW RANCH PROJECT – LOS ANGELES COUNTY

Associated Transportation Engineers (ATE) has prepared the following Vehicles Miles Traveled (VMT) study and Event Traffic and Parking Management Plan for the Brookview Ranch Project, located in the unincorporated area of Los Angeles County south of Agoura Hills. It is our understanding that this analysis will be used by County staff to assess the potential CEQA transportation impacts of the Project and review the adequacy of the traffic and parking management measures implemented during events.

A traffic analysis was previously completed for the Project by ATE in 2019 (study dated February 21, 2019). That study, which will be resubmitted under separate cover, provided trip generation estimates for the Project, evaluated roadway operations in the Project study area, provided cumulative traffic volume forecasts, and reviewed the access and parking management efforts that are implemented at the site for events.

PROJECT DESCRIPTION

The Brookview Ranch Project is located at 2972 Triunfo Canyon Road in the unincorporated area of Los Angeles County south of the City of Agoura Hills. In May 2016, the County approved RPPL2015001047 authorizing the use of an existing 3,600 SF covered outdoor dance pavilion and separate refreshments stands as part of a special events facility adjacent to the existing Brookview Ranch equestrian center. Brookview has operated the special events facility since May 2016, with events generally occurring between March 15 and November 30.

As a good faith gesture to neighbors and the County, Brookview has not held weddings since November 2018 while it processes a Conditional Use Permit (CUP) for the construction of an indoor event reception facility (to significantly decrease noise impacts). Brookview is proposing to construct a new sound-insulated event reception building on the Project site to minimize noise impacts to surrounding neighbors. The Project will not expand the size or operations of the special event facility. The purpose of the Project is to move noise-generating activity, including all amplified music, into a sound-insulated event reception building.

PREVIOUS AND PROPOSED EVENT LEVELS

Historically, Brookview hosted events at the Project site from March through November with a maximum of 100 events per year. Typically, two to three events were held per weekend (i.e., Fridays, Saturdays, and/or Sundays); however, only one event occurred per day. The average size of the events was approximately 130 people, with maximum events ranging from 240 to 250 people. The schedule of events for future operations will remain the same (100 per year, March through November), however, the number of event attendees will change subject to new regulations. Future events would be limited to a maximum of 200 guests to comply with the event attendance limit specified in the Santa Monica Mountains North Area Community Standards District (November 2020) for event facilities.

EVENT TRAFFIC AND PARKING MANAGMEMENT PLAN

The following section reviews the event traffic and parking management strategies that have been and will continue to be implemented at the Project site to accommodate vehicle arrivals and parking demands during events. The event traffic and parking management system has been designed to accommodate the peak vehicle arrivals without creating vehicle queueing on Triunfo Canyon Road.

Events Size and Schedules

The following summarizes the proposed event schedule and attendance limits.

- 100 events per year between March and November on Fridays, Saturdays, and Sundays.
- Maximum events limited to 200 guests per the Santa Monica Mountains North Area Community Standards District.
- Events generally start between 2:00 and 3:00 PM.
- Event sound cut off occurs at 10 PM (outdoor sound ceases at 8 PM) and guests leave the property by 11:00 PM.
- Staff depart by 12:00 AM.

Brookview Ranch Event Employees

Brookview Ranch would utilize approximately 10 employees during events, including:

- On-Site Manager: Responsible for maintaining the ranch property.
- Wedding Planner & Assistant: One full time planner and assistant who coordinate and run the events.
- Security/Parking Attendants: Two security guards and two parking attendants used to direct guest vehicles to parking lots and drop-off areas, ensure that guests are directed to the proper locations and ensure that property is not damaged.
- Golf Cart Drivers: Two golf cart drivers transport guests from parking areas to the ceremony/reception sites (guests also have the option to walk to different sites).

Off-Site Vendors

In addition to the Brookview Ranch employees, there would be approximately 10 vendors accessing the site during events, as follows:

- Off-site vendors begin arriving at the site at approximately 12:00 to 1:00 PM. Vendors include caterers, photographers, florists, bartenders, baker, etc.
- Outside event rentals are delivered on Wednesdays of the event week.
- Used rentals are picked up on the Monday following the weekend's events.

Parking and Traffic Control

Figure 1 (attached) shows the locations of the parking lots that would be used to accommodate event guests and the locations where the parking lot attendants and traffic control cones are deployed as the parking lots fill up. Figure 2 shows the on-site circulation pattern for guest vehicle arrivals and departures. Figure 3 shows the locations of the directional parking signs that are implemented to direct event guests and the location of the Uber-Lyft drop-off/pick-up zone.

- Event guest parking occurs on-site in Parking Lots 1, 2 and 3 which provide 153 spaces (see Figure 1), plus 18 spaces for employees and vendors on-site. No additional off-site parking is required (peak demand is 80 guest vehicles).
- Valet parking is an optional expense for events, but is not required given the amount of parking provided in the on-site lots.
- The parking lots are coned off as they become full and guests are directed to the next lot in sequence (Parking Lot 1, then Parking Lot 2, then Parking Lot 3). Attendants are stationed behind the cone locations to direct traffic as they move to each lot.
- Directional "Parking" signs are used to guide guest vehicles to the parking lots (see Figure 3).

- An Uber and Lyft pickup and drop-off zone is provided within Parking Lot 3 (see Figure 3).

EVENT TRIP GENERATION ESTIMATES

As noted above, permitted events have historically occurred since May of 2016. Event attendance data for 2018 was reviewed to determine the baseline level of traffic associated with the event facility (attendance data attached). The data indicate that the average size of events during 2018 was 138 guests. As a "worst-case" assumption, the trip generation analysis assumes an event size of 200 guests (net increase of 62 guests over baseline conditions) based on the new Santa Monica Mountains North Area Community Standards District regulations.

The trip generation estimates assume an average vehicle occupancy (AVO) of 2.5 attendees per vehicle. The peak hour analysis assumes that 75% of the attendees would arrive and depart from the events during a 1-hour period, a conservative assumption since arrival and departure patterns for events typically spread beyond a 1-hour period. The analysis also assumes 10 Brookview Ranch employees and 10 off-site vendors (DJ, photographers, florists, bartenders etc.) for existing and future events. Table 1 presents the results of the trip generation analysis.

Table 1
Event Trip Generation Estimates

Scenario	Size	AVO	ADT	Event Start(a)	Event End(a)
Existing Baseline 138 Attendees	138 Attendees	2.5	110 ADT	41 PHT	41 PHT
	10 Brookview Emps.	1.0	20 ADT	0 PHT	0 PHT
	10 Off-Site Emps.	1.5	14 ADT	0 PHT	0 PHT
			144 ADT	*39 PHT*	*39 PHT*
Future Events 200 Attendees(b)	200 Attendees	2.5	160 ADT	60 PHT	60 PHT
	10 Brookview Emps.	1.0	20 ADT	0 PHT	0 PHT
	10 Off-Site Emps.	1.5	14 ADT	0 PHT	0 PHT
			194 ADT	*60 PHT*	*60 PHT*
Net Increase 62 Attendees			**+50 ADT**	**+21 PHT**	**+21 PHT**

(a) Assumes 75% of guests arrive/depart during a one-hour period.

(b) The previous study prepared for the Project assumed a greater number of attendees based on the Santa Monica Mountains North Area Community Standards District regulations in effect at the time and empirical data provided by the Applicant. The Project will be required to limit attendance to 200 guests pursuant to the new Santa Monica Mountains North Area Community Standards District and subject to Hearing Officer or Regional Planning Commission approval.

The data presented in Table 1 indicate that the Project is forecast to generate a net increase of 50 average daily trips (ADT) and 21 peak hour trips (PHT) assuming the increase in event sizes from 138 guests to 200 guests. These traffic increases would occur a maximum of 100 days per year and thus do not represent annual average volumes that are used for the VMT analysis. The annual average trip generation for the Project is 14 AADT (50 ADT X 100 days/365 days = 14 AADT).

VMT ANALYSIS

Los Angeles County recently published the new Transportation Impact Analysis Guidelines[1], in compliance with Senate Bill 743, which include a requirement to analyze Vehicle Miles Traveled (VMT) as the transportation impact metric for CEQA rather than the traditional Level of Service (LOS) metric used previously. "Vehicle Miles Traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. For land use projects, vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact.

The Los Angeles County Transportation Impact Analysis Guidelines contain the following thresholds, guidelines, and screening criteria for evaluating potential VMT impacts.

> **"Section 3. - California Environmental Quality Act (CEQA) Transportation Impact Analysis Process**
>
> Section 3.1. - Development Projects
>
> *Section 3.1.1. - Introduction*
>
> The updated CEQA Guidelines certified and adopted by the California Natural Resources Agency in December 2018 are now in effect. Accordingly, Public Works recognizes the need to provide information based on guidance from the Office of Planning and Research and the California Air Resources Board on the assessment of vehicle miles traveled (VMT), thresholds of significance, and mitigation measures for development projects and land use plans in accordance with the amended Appendix G question below:
>
> - For a development project, would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)(1)?

1 Transportation Impact Analysis Guidelines, Los Angeles County Public Works, July 23, 2020.

For development projects, the intent of this question is to assess whether a proposed project or plan adequately reduces total VMT. Public Works provides the following guidance regarding screening and impact criteria to address this question. The following screening criteria and impact criteria are only meant to serve as guidance for projects to determine whether a Transportation Impact Analysis should be performed, and the criteria to determine if a project generates a significant transportation impact. The criteria shall be determined on a project-by-project basis as approved by Public Works.

Section 3.1.2. - Screening Criteria

Section 3.1.2.1. - Non-Retail Project Trip Generation Screening Criteria

If the answer is no to the question below, further analysis is not required, and a less than significant determination can be made.

- Does the development project generate a net increase of 110 or more daily vehicle trips?

A project's daily vehicle trip generation should be estimated using the most recent edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. If the project proposed land use is not listed in the ITE Trip Generation Manual, please submit a trip generation study to Public Works for review and approval."

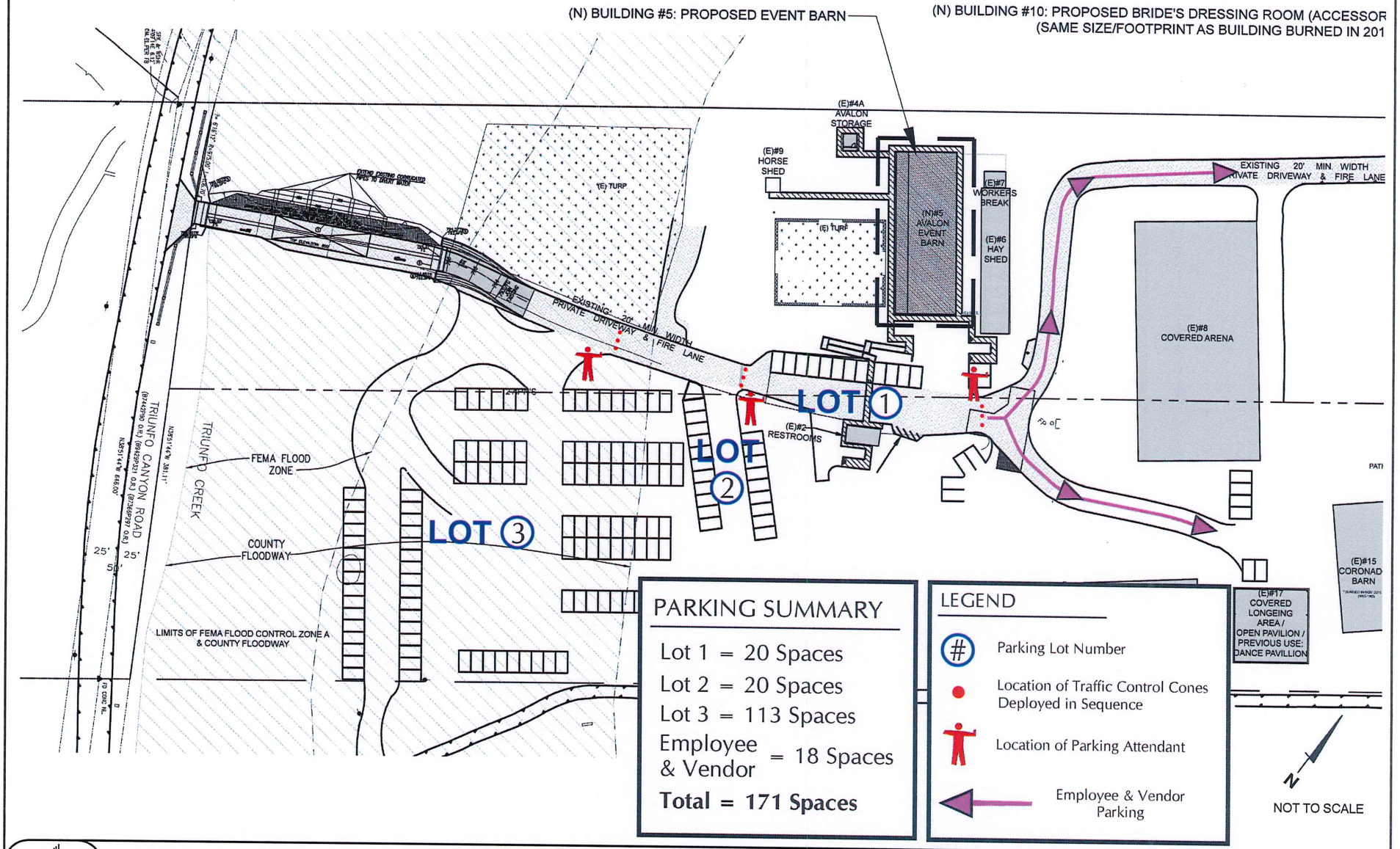
Trip generation estimates were calculated for the Project based on operational data (increase in event guests, number of employees, etc.) as presented in Table 1. As shown in the table and discussed above, the Project is forecast to generate a net increase of 50 ADT on the 100 event days and 14 AADT when annualized over the course of a year. The Project would therefore have a less-than-significant VMT impact based on the County's CEQA guidelines and screening criteria (less than 110 ADT).

This concludes ATE's VMT Study and Event Traffic and Parking Management Plan for the Brookview Ranch Project.

Associated Transportation Engineers

Scott A. Schell
Principal Transportation Planner

Attachments

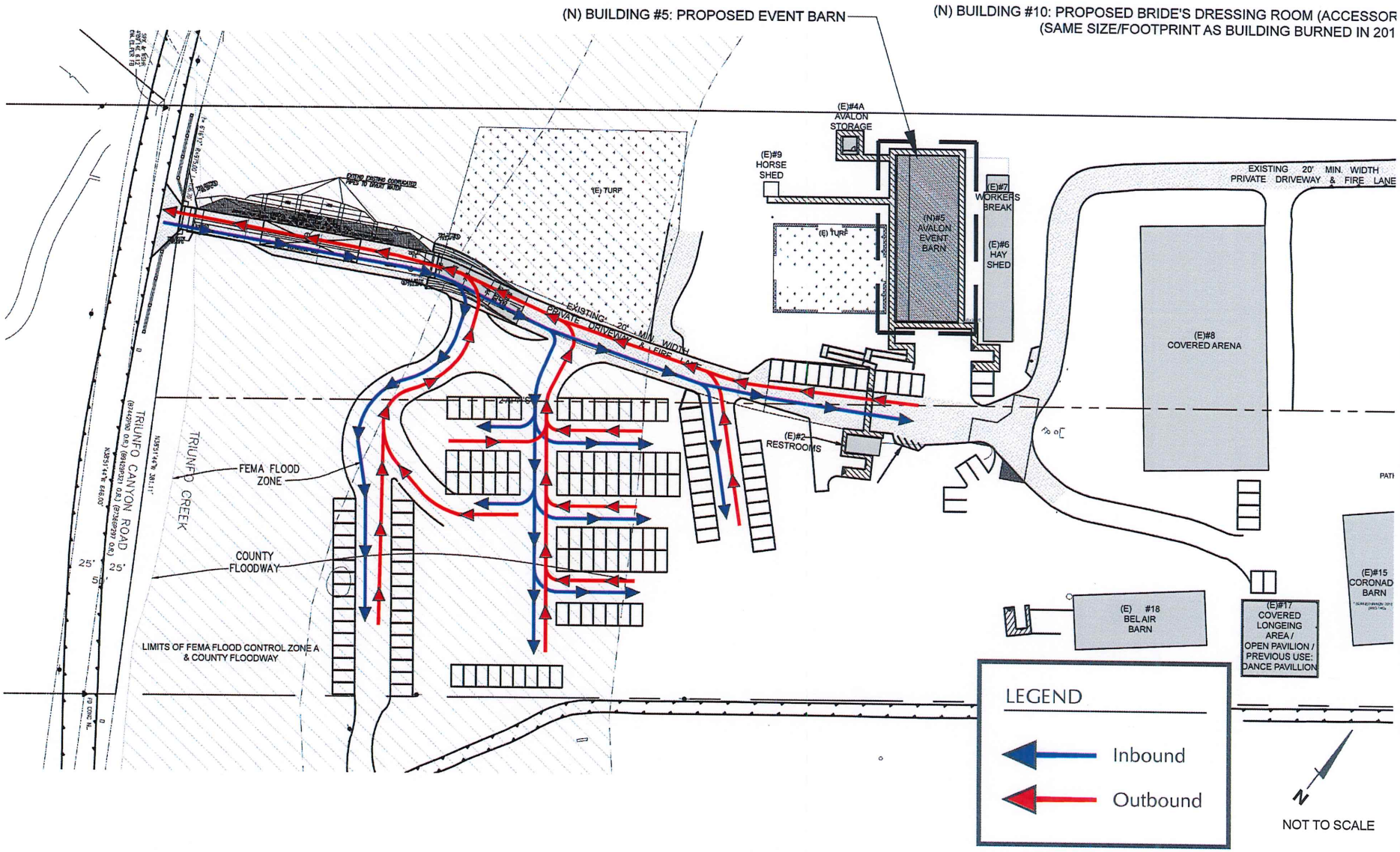


ASSOCIATED TRANSPORTATION ENGINEERS

PARKING LOT LOCATIONS AND TRAFFIC CONTROL PLAN (CONES AND PARKING ATTENDANTS)

FIGURE 1

JH - ATE#19004

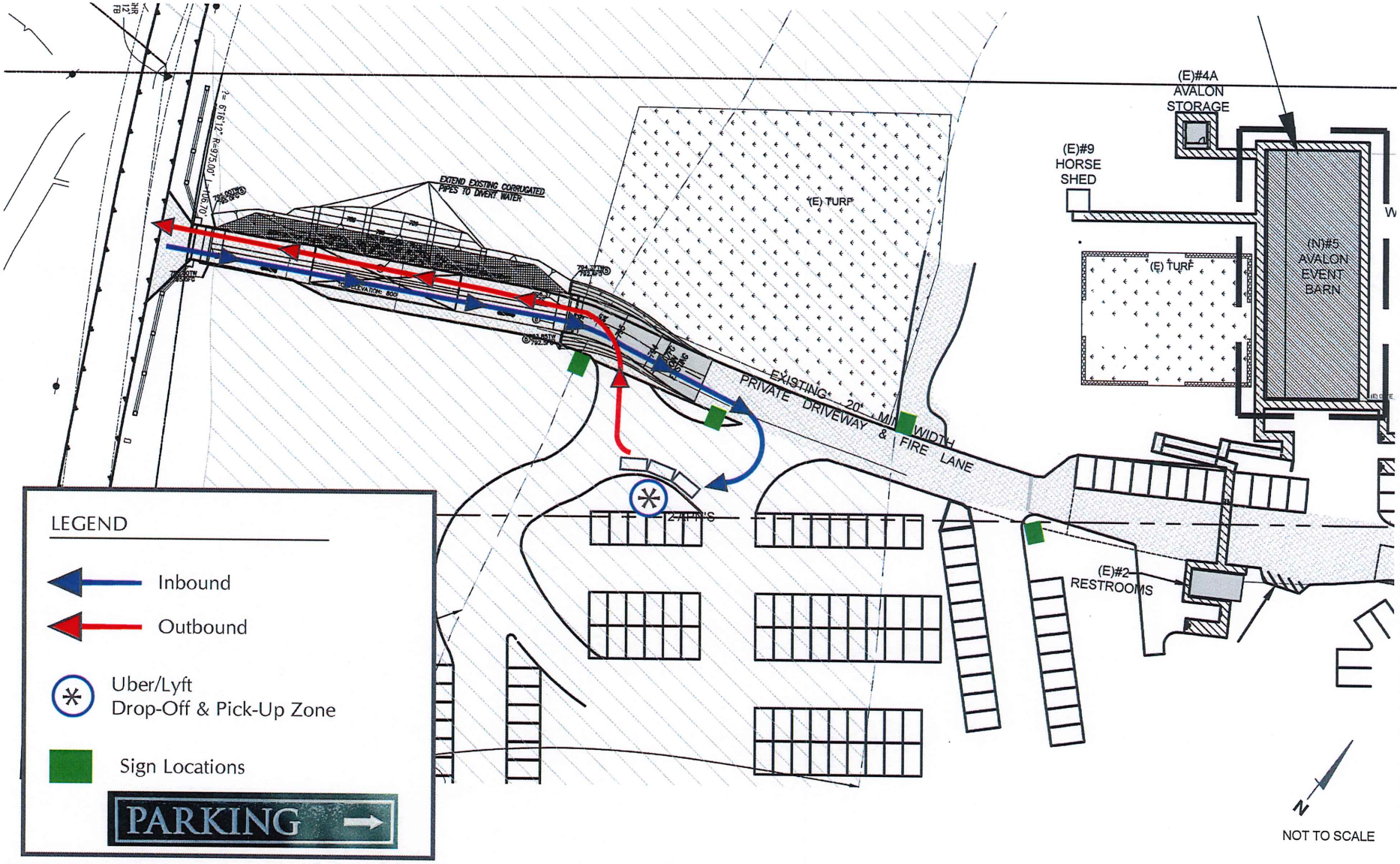


ASSOCIATED TRANSPORTATION ENGINEERS

ON-SITE VEHICULAR CIRCULATION FLOWS

FIGURE 2

JH - ATE#19004



ASSOCIATED
TRANSPORTATION
ENGINEERS

UBER/LYFT DROP-OFF & PICK-UP ZONE AND PARKING SIGN LOCATIONS

FIGURE 3

JH - ATE#19004

BROOKVIEW RANCH 2018 ATTENDANCE DATA

Event	Count	Brookview Staff (Including Catering	DJ	Security	Cake, Florist	Bartenders	Photographers
February							
2.17.18	200	10	1	2	2	3	2
March						3	2
3.24.18	150	10	1	2	2	3	2
3.31.18	120	10	1	2	2	3	2
April		10				3	2
4.7.18	175	10	1	2	2	3	2
4.13.18	90	10	1	2	2	3	2
4.14.18	180	10	1	2	2	3	2
4.21.18	130	10	1	2	2	3	2
4.27.18	85	10	1	2	2	3	2
4.28.18	150	10	1	2	2	3	2
4.29.18	75	10	1	2	2	3	2
May						3	2
5.5.18	210	10	1	2	2	3	2
5.6.18	85	10	1	2	2	3	2
5.12.18	130	10	1	2	2	3	2
5.18.18	150	10	1	2	2	3	2
5.19.18	120	10	1	2	2	3	2
5.25.18	140	10	1	2	2	3	2
5.26.18	240	10	1	2	2	3	2
5.27.18	120	10	1	2	2	3	2
June							
6.2.18	150	10	1	2	2	3	2
6.8.18	175	10	1	2	2	3	2
6.9.18	160	10	1	2	2	3	2
6.15.18	90	10	1	2	2	3	2
6.16.18	250	10	1	2	2	3	2
6.23.18	180	10	1	2	2	3	2
6.24.18	110	10	1	2	2	3	2
6.29.18	85	10	1	2	2	3	2
6.30.18	150	10	1	2	2	3	2
July							
7.1.18	150	10	1	2	2	3	2
7.6.18	90	10	1	2	2	3	2
7.7.18	160	10	1	2	2	3	2
7.8.18	120	10	1	2	2	3	2
7.13.18	100	10	1	2	2	3	2
7.14.18	160	10	1	2	2	3	2
7.15.18	130	10	1	2	2	3	2
7.20.18	120	10	1	2	2	3	2
7.21.18	180	10	1	2	2	3	2
7.22.18	75	10	1	2	2	3	2
7.27.18	85	10	1	2	2	3	2
7.28.18	150	10	1	2	2	3	2

BROOKVIEW RANCH 2018 ATTENDANCE DATA

7.29.18	85	10	1	2	2	3	2
August							
8.4.18	175	10	1	2	2	3	2
8.11.18	175	10	1	2	2	3	2
8.12.18	80	10	1	2	2	3	2
8.18.18	160	10	1	2	2	3	2
8.19.18	75	10	1	2	2	3	2
8.24.18	110	10	1	2	2	3	2
8.25.18	175	10	1	2	2	3	2
8.26.18	85	10	1	2	2	3	2
8.31.18	80	10	1	2	2	3	2
September							
9.1.18	150	10	1	2	2	3	2
9.2.18	110	10	1	2	2	3	2
9.8.18	140	10	1	2	2	3	2
9.9.18	90	10	1	2	2	3	2
9.14.18	110	10	1	2	2	3	2
9.15.18	175	10	1	2	2	3	2
9.22.18	150	10	1	2	2	3	2
9.23.18	75	10	1	2	2	3	2
9.28.18	175	10	1	2	2	3	2
9.29.18	200	10	1	2	2	3	2
9.30.18	140	10	1	2	2	3	2
October							
10.5.18	100	10	1	2	2	3	2
10.6.18	175	10	1	2	2	3	2
10.7.18	180	10	1	2	2	3	2
10.13.18	150	10	1	2	2	3	2
10.19.18	85	10	1	2	2	3	2
10.20.18	180	10	1	2	2	3	2
10.21.18	110	10	1	2	2	3	2
10.27.18	180	10	1	2	2	3	2
November							
11.2.18	120	10	1	2	2	3	2
11.3.18	150	10	1	2	2	3	2
Assumed Guest Count Because Of Fire							
11.9.18	100	10	1	2	2	3	2
11.10.18	175	10	1	2	2	3	2
11.16.18	120	10	1	2	2	3	2
11.17.18	200	10	1	2	2	3	2
11.18.18	210	10	1	2	2	3	2
Average	138.2666667						

Appendix E
Fire Flow Availability

Wedu.

COUNTY OF LOS ANGELES FIRE DEPARTMENT
FIRE PREVENTION DIVISION

FORM 196
Rev. 04/03

Fire Prevention Engineering
5823 Rickenbacker Road
Commerce, CA 90040
Telephone (323) 890-4125 Fax (323) 890-4129

Information on Fire Flow Availability for Building Permit

For All Buildings Other Than Single Family Dwellings (R-3)

INSTRUCTIONS:

Complete parts I, II (A) when:
Verifying fire flow, fire hydrant location and fire hydrant size.

Complete parts I, II (A), & II (B) when:
For buildings equipped with fire sprinkler systems, and/or private on-site fire hydrants.

PROJECT INFORMATION
(To Be Completed By Applicant)

PART I

Building Address: 2972 Triunfo Cyn Rd

City or Area: Agoura Hills

Nearest Cross Street: Lobo Canyon

Distance of Nearest Cross Street: 200 ft

Applicant: Brookview Ranch LLC Telephone: (310) 570-6313

Address: 2972 Triunfo Cyn Rd

City: Agoura Hills

Occupancy (Use of Building): Events Sprinklered: Yes ☑ No ☐

Type of Construction: Wood framing

Square Footage: 5,000 Number of Stories: 1

Present Zoning: R-R 20

Applicant's Signature

1/22/2020
Date

PART II (A) **INFORMATION ON FIRE FLOW AVAILABILITY**
(To be completed by Water Purveyor)

The distance from the fire hydrant to the property line is 252'

feet via vehicular access. The fire flow services will be rendered from a 10"

inch diameter water main. The hydrant is located on the corner of Lobo Canyon & Triunfo Canyon
(Street)

XXX (Feet) XXX (Direction) XXX (Nearest Cross - Street)

Under normal operation conditions the fire flow available from this 6" X 4 X 2 1/2" (size)

hydrant is 1250 GPM at 20 PSI residual for 2 hours at 189 PSI static

---

PART II (B) **SPRINKLERED BUILDINGS ONLY**

Detector Location: (check one) ☐ Above Grade ☐ Below Grade ☐ Either

Backflow protection required (fire sprinklers/private hydrant): ☐ Yes ☐ No

Type of Protection Required: (check one)

☐ Double Check Detector Assembly ☐ Reduced Pressure Principal Detector Assembly

☐ Other Domestic Meter Size

PART II (C)

Las Virgenes Municipal Water District
Water Purveyor

Signature Joanne Bodenhamer

1/28/20
Date

Planning & New Development Technician
Title

PART III **Conditions for Approval by the Building Department**
(To be completed by Building Department)

The building permit may be issued for single family dwellings when the above information is complete and shows that the following minimum requirements are met and the property is not in the High Fire Hazard Severity Zone or the Very High Fire Hazard Severity Zone.

* The water system is capable of delivering at least 1250 GPM at 20 PSI for two hours.
* The structure is less than 3,600 square feet.
* The distance from the structure to the fire hydrant does not exceed 450 feet via vehicular access.
* The proposed construction must be within 150 feet of a vehicular access roadway that is a minimum of 20 feet wide, paved with concrete or asphalt and does not exceed 15% grade.

APPROVED BY DATE OFFICE

This information is Considered Valid for Twelve Months

Fire Prevention Division approval of the site plan will be required before a Building Permit can be Issued by the **Building Department**.

Las Virgenes Municipal Water District is not responsible for the accuracy of this presentation. This presentation is for illustrative purposes only. Verify the physical location of all property lines, water lines and ancillary information prior to use.



2972 Triunfo Cany

Appendix F1
Drainage Concept/Hydrology Study/ LID

DRAINAGE CONCEPT/ HYDROLOGY STUDY/LID

FOR

2972 Triunfo Canyon Road
Brookview Ranch

COUNTY OF LOS ANGELES

Prepared by:

Sikand Engineering Associates
15230 Burbank Boulevard, Suite 100
Van Nuys, California 91411
Telephone: 818-787-8550

W.O. 5120-004-00

Date: 06-15-2020

Table of Content:

Section 1 INTRODUCTION

Purpose of The Study
Project Description
Hydrologic Maps, Criteria & Methodology
Summary

Section 2 LID: Q_{PM} & V_M CALCULATION

LID HYDRO CALC Calculations
HYDROCALC Result Summary
Drawdown Calculations
Pre Vs Post Volume Mitigation Calculations
Biofiltration summary for Subareas – 1A-5A

INTRODUCTION

Purpose of the Study

The purpose of this study is to provide criteria for the proposed LID device design based on the proposed site plan for Brookview Ranch.

Project Description

EXISTING CONDITION: The existing project site is located along the north side of Triunfo Canyon Road just east of Lobo Canyon Road. The site is currently an equestrian boarding and riding facility. It has also been used as an outdoor wedding venue. There are currently several barns, a caretakers residence, a covered riding arena and other equestrian related facilities on the site.

The existing drainage pattern is from north to south via surface flow discharging to Triunfo Creek. Currently the property is accessed via a concrete "Arizona Crossing" with CMP pipes underneath to pass the low flows. The property is inaccessible in large rainfall events.

***PROPOSED CONDITION*:** The proposed site work includes demolition of the existing Avalon barn, storage room and refreshment stand to be replaced with the Avalon Event Barn which will be an indoor wedding event venue. It will also include replacing the existing caretaker's residence with a larger building in the same location. There will also be the replacement of the Bride's Dressing Room which burned down in the Woolsey Fire. In addition, Los Angeles County Fire Department has required that the access to the property be upgraded through the construction of a bridge over Triunfo Creek. The bridge will be located at the same location as the existing "Arizona Crossing". It will consist of an 80' center span with a 56' approach on the south and a 60' approach on the north.

LID Discussion and Summary

PROJECT DESIGNATION:
This report follows the LID criteria and methodology set forth by the Los Angeles County Department of Public Works, as explained in the Low Impact Development Manual. The Brookview Ranch project is subject to the stormwater management requirements for Designated Projects under the following category:

- Development project equal to one acre or greater of disturbed area and adding more than 10,000 square feet of impervious surface area.

PERCOLATION REPORT SUMMARY:

Per LID Stormwater Infiltration Testing Report, Tract 2804, APN 2063-003-026amd 2063-003-028, 2972 Triunfo Canyon Road, Agoura Hills, County of Los Angeles by GeoSoils Consultants Inc. dated January 17, 2018 "Page 2" infiltration is not feasible due to high groundwater and low infiltration rates.(Soils report is provided along with the submittal package)

PROJECT LID SUMMARY:

LID implementation for the project site follows the criteria and guidelines provided in the 2014 Los Angeles County Department of Public Works Low Impact Development Manual.

Since this project involves the redevelopment of less than 50% of the currently existing impervious area on the site, only the new / changed impervious areas which are proposed will be subject to LID requirements.

These areas have been designed to bio-filtrate 1.5 times the Stormwater Quality Design Volume (SWQDv), through the use of 3 Filterra biofiltration basins. They are located at the following locations.

1. Adjacent to the Bride's Dressing Room. The runoff from the new Caretaker's Residence as well as the Bride's dressing room will be directed to this unit.
2. Near the lower fire department turnaround. This will treat the runoff from the new fire department turnaround.
3. Adjacent to the Avalon Event Barn.

Locations for the proposed Water Quality improvements have been shown on the Proposed Water Quality Map.

SOURCE CONTROL MEASURES:
The following source control measures are proposed for the project:

- Storm Drain Message and Signage: Storm Drain Stenciling will be provided on all proposed Catch Basins during Final Design Plans, per LA County standards.
- Outdoor Material Storage Area: Not Applicable.
- Outdoor Trash Storage: Not Applicable
- Outdoor Loading Dock Area: Not Applicable.
- Outdoor Vehicle Area: Not Applicable.
- Fuel and Maintenance Area: Not Applicable.
- Landscape Irrigation Practices: Landscape Plans will be prepared to County standards by a Licensed Landscape Architect as part of the project requirements.
- Building Materials: The selection of Building Materials will be made per LA County standards by a Licensed Architect.
- Animal Care and Handling Facilities: Not Applicable.
- Outdoor Horticulture Areas: Not Applicable.

HARVEST AND RE-USE FEASIBILITY:

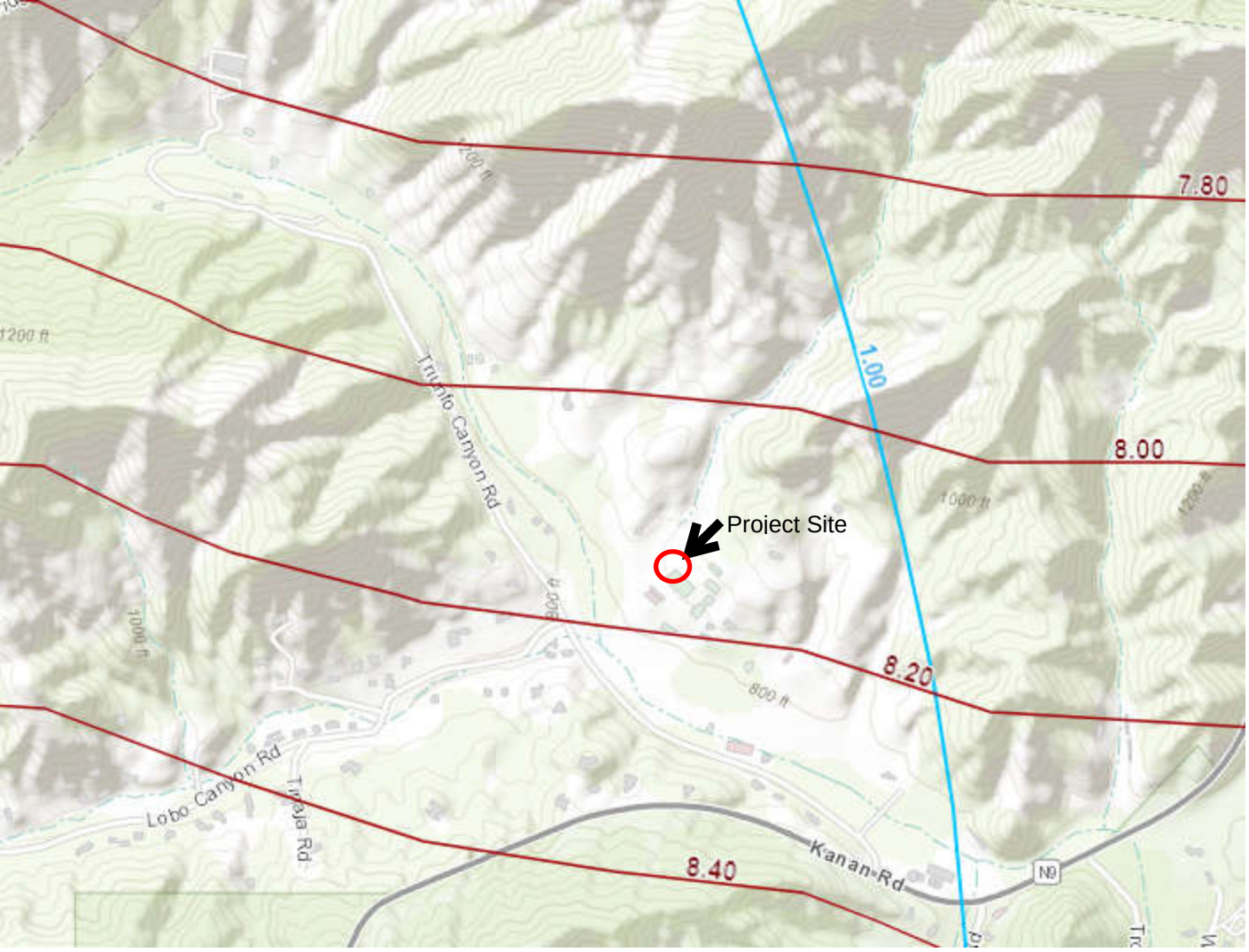
Due to the low infiltration rate of the soil of the project site, rainfall harvest and use would not account for the SWQDv required for the site, therefore biofiltration was utilized as a BMP element for water quality treatment.

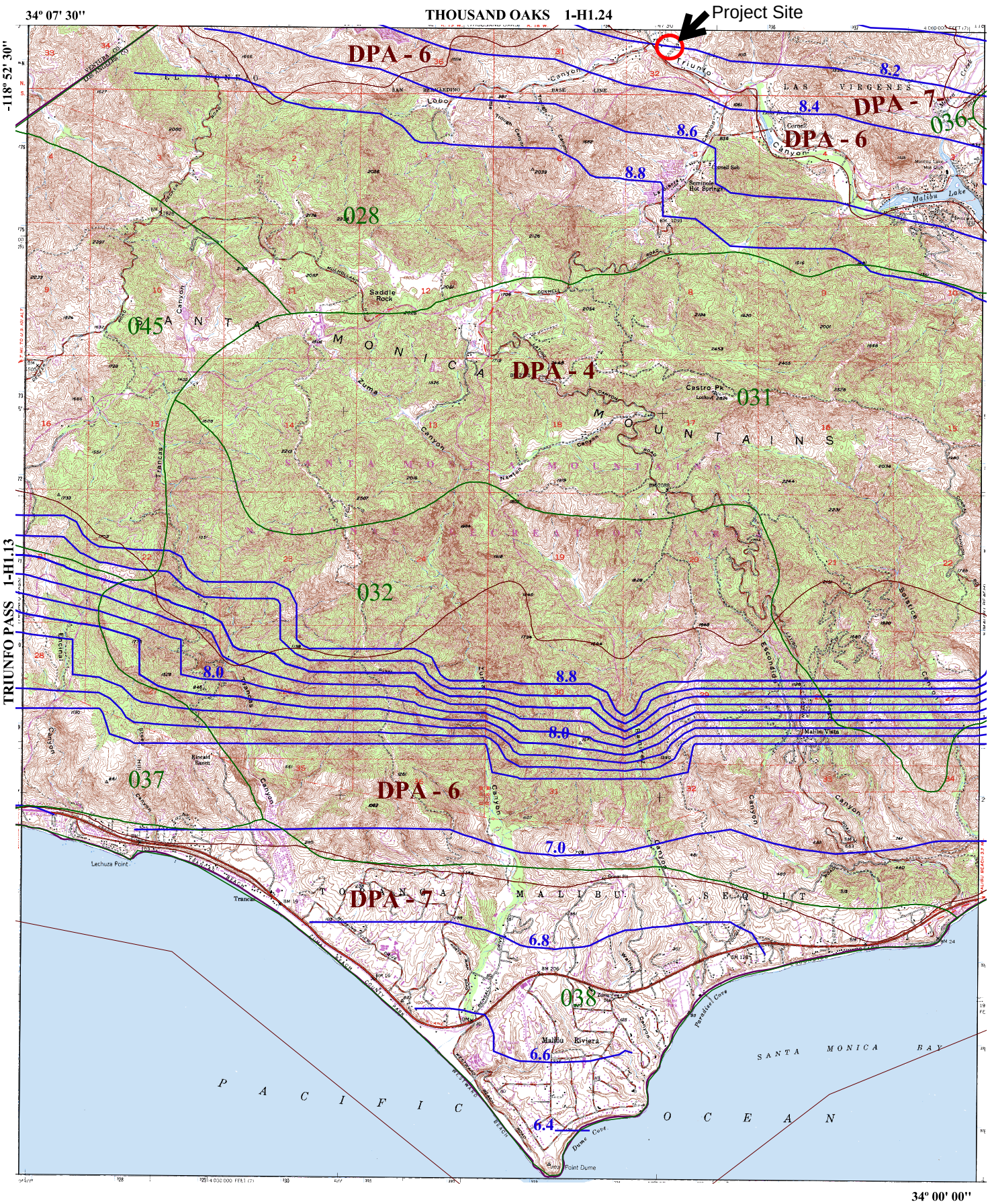
STORMWATER QUALITY CONTROL MEASURES:

The Stormwater Quality Control Measures chosen to provide treatment for the project include:

Site: Biofiltration through the implementation of 3 Filterra Units

The On-Site Stormwater Quality Control Measures have been incorporated into the site to provide the required treatment for the LID storm event. The Filterra Units been designed to treat 1.5 times the SWQDv. All Water Quality Calculations can be found in Section 4 of this report.


7.80
1.00
8.00
8.20
8.40
Project Site
Triunfo Canyon Rd
Lobo Canyon Rd
Troja Rd
Kanan Rd
1200 ft
1000 ft
800 ft


34° 07' 30"
THOUSAND OAKS 1-H1.24
Project Site
-118° 52' 30"
TRIUNFO PASS 1-H1.13
MALIBU BEACH 1-H1.15
-118° 45' 00"
34° 00' 00"
DPA - 6
DPA - 7
DPA - 4
DPA - 6
DPA - 6
DPA - 7
8.2
8.4
8.6
8.8
8.8
8.0
8.0
7.0
6.8
6.6
6.4
028
045
031
032
037
038
036
SANTA MONICA MOUNTAINS
PACIFIC OCEAN
SANTA MONICA BAY
Saddle Rock
Castro Pk
Malibu Vista
Malibu Riviera
Lechuza Point
Point Dume
Malibu Lake
Triunfo Canyon
Zuma Canyon
Trancas Canyon
Escondido Canyon
Solstice Canyon
Corral Canyon
Latigo Canyon
Encinal Canyon
Puerco Canyon
Portuguese Bend
Palos Verdes Peninsula
1 0 1 2 Miles
N
W E
S
016 SOIL CLASSIFICATION AREA
7.2 INCHES OF RAINFALL
DPA - 6 DEBRIS POTENTIAL AREA
25-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.878
10-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.714
POINT DUME
50-YEAR 24-HOUR ISOHYET
1-H1.14
LOS ANGELES COUNTY PUBLIC WORKS
Public Service That Works

Peak Flow Hydrologic Analysis

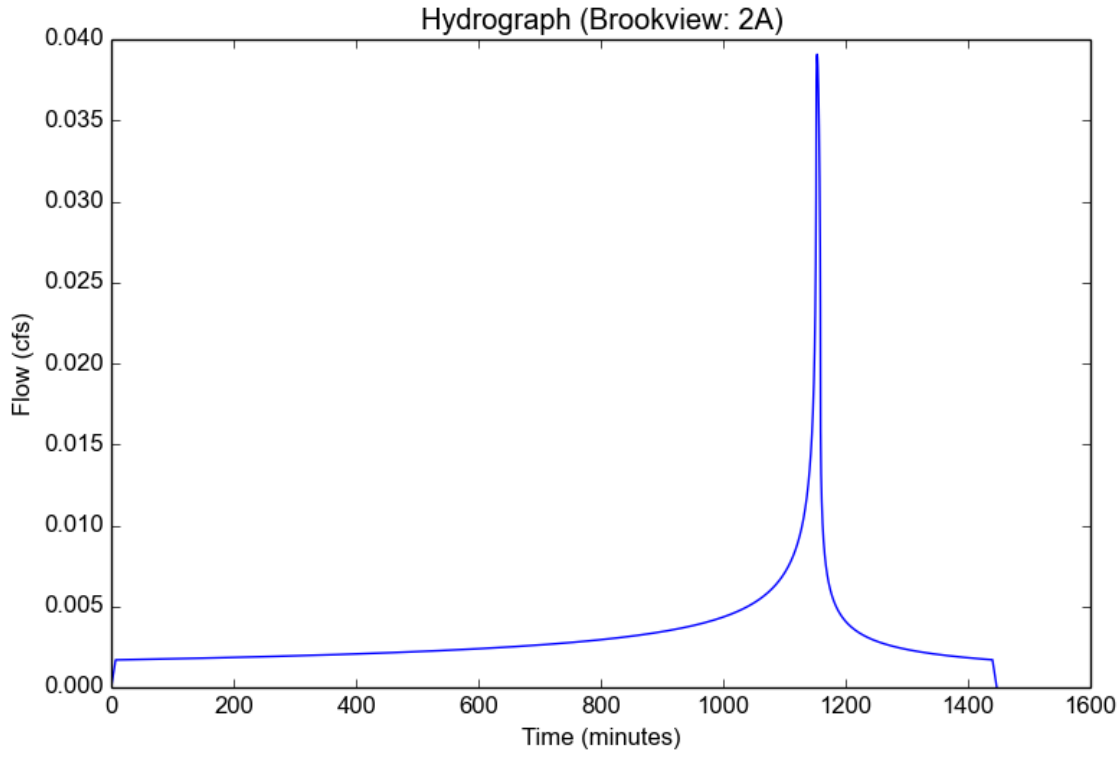
File location: X:/Admin/5120/5120-004-00 - Brookview Ranch/LID/Brookview Report.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Brookview
Subarea ID	2A
Area (ac)	0.086
Flow Path Length (ft)	90.0
Flow Path Slope (vft/hft)	0.02
85th Percentile Rainfall Depth (in)	1.0
Percent Impervious	0.99
Soil Type	28
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.0
Peak Intensity (in/hr)	0.5094
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.892
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	0.0391
Burned Peak Flow Rate (cfs)	0.0391
24-Hr Clear Runoff Volume (ac-ft)	0.0063
24-Hr Clear Runoff Volume (cu-ft)	276.1634



Peak Flow Hydrologic Analysis

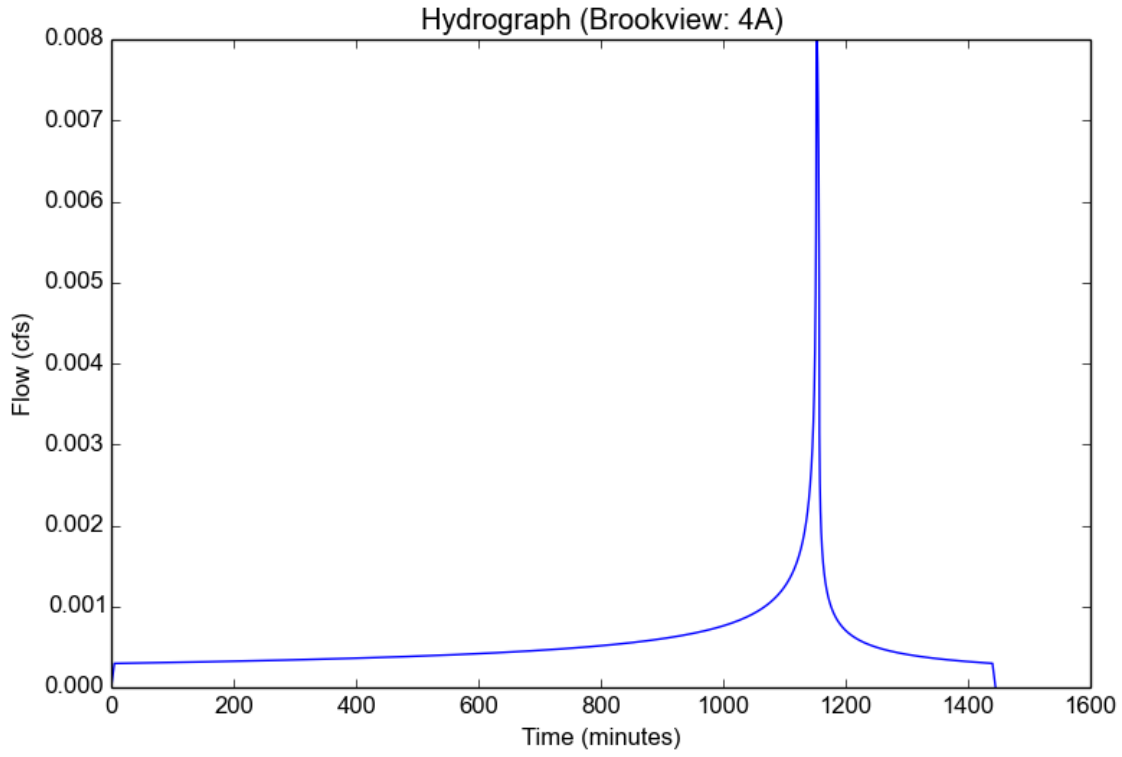
File location: X:/Admin/5120/5120-004-00 - Brookview Ranch/LID/Brookview Report.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Brookview
Subarea ID	4A
Area (ac)	0.015
Flow Path Length (ft)	47.0
Flow Path Slope (vft/hft)	0.01
85th Percentile Rainfall Depth (in)	1.0
Percent Impervious	0.99
Soil Type	28
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.0
Peak Intensity (in/hr)	0.5966
Undeveloped Runoff Coefficient (Cu)	0.1191
Developed Runoff Coefficient (Cd)	0.8922
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.008
Burned Peak Flow Rate (cfs)	0.008
24-Hr Clear Runoff Volume (ac-ft)	0.0011
24-Hr Clear Runoff Volume (cu-ft)	48.1682



Peak Flow Hydrologic Analysis

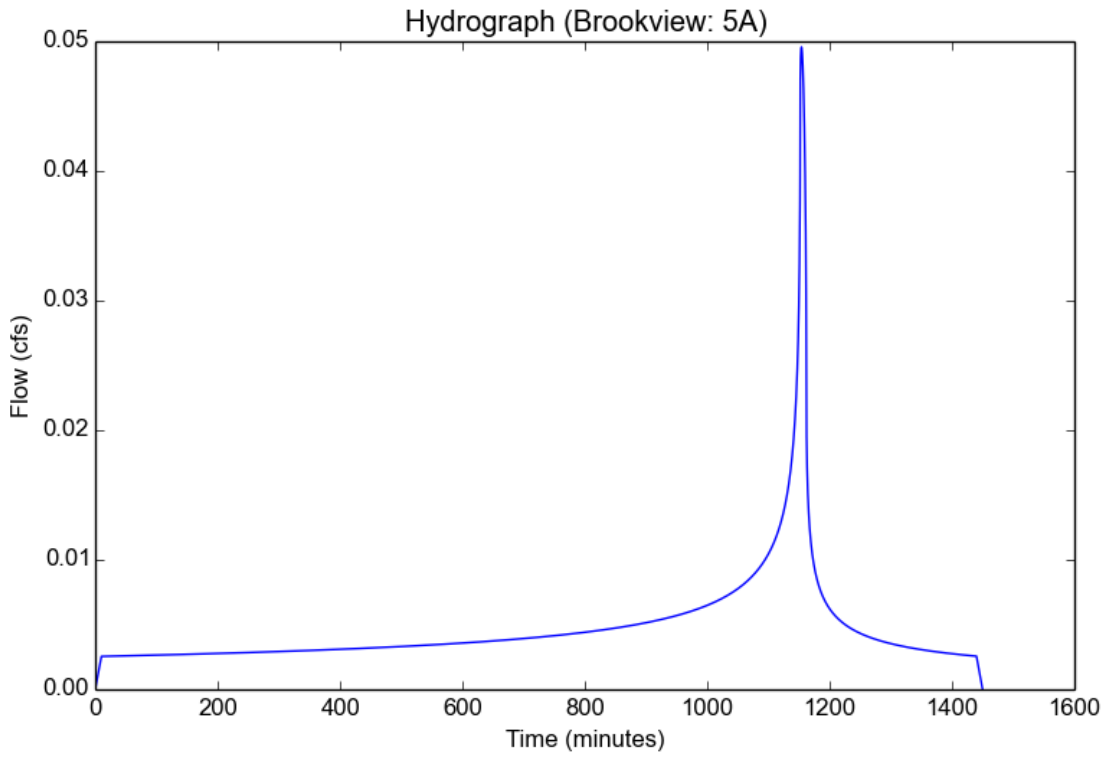
File location: X:/Admin/5120/5120-004-00 - Brookview Ranch/LID/Brookview Report.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Brookview
Subarea ID	5A
Area (ac)	0.129
Flow Path Length (ft)	160.0
Flow Path Slope (vft/hft)	0.02
85th Percentile Rainfall Depth (in)	1.0
Percent Impervious	0.99
Soil Type	28
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.0
Peak Intensity (in/hr)	0.4307
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.892
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	0.0496
Burned Peak Flow Rate (cfs)	0.0496
24-Hr Clear Runoff Volume (ac-ft)	0.0095
24-Hr Clear Runoff Volume (cu-ft)	414.2453



Filterra Sizing Tool

Applicable in the Area Goverened by the Los Angeles County MS4 Permit
(NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

For final design please contact:
Tamara Mamon - Stormwater Consultant
tmamon@conteches.com
Phone: 818-519-1781

Contact Information		**Project Information**	
Engineer of Record Name	Doug Farmer	Project Name	Brookview Ranch
Engineer of Record Company Name	Sikand	Project Location	Agoura Hills
Engineer of Record Office Zip Code	91411	Catchment Name	2A

Drainage Area Inputs		
Drainage Area	**3746**	ft^2
Runoff coefficient	**0.892**	-
Time of concentration	**7**	min
Long term reliable infiltration rate	**0.00**	in/hr
85th percentile, 24-hour depth (see hyperlink below)	**1.00**	in
LA County Rainfall Depth Analysis		
Filterra Configuration (Select from Drop-Down)	**Offline**	
Refer to "Filterra Configurations" tab for descriptions and detail drawings for download.		

Constants		
LAX Airport 85th Percentile, 24-hour depth (for reference only)	1.02	in
Filterra hydraulic loading capacity	1.45	gpm/ft^2
Outputs		
Stormwater Quality Design Volume	278	ft^3
Design Rainfall Intensity for Equivalent Long Term Capture	0.398	in/hr
Site Scaling Factor	0.98	-
Stormwater Quality Design Flow Rate	0.03	cfs
Design Alternatives Available	**Stand Alone Filterra Permitted**	

Design Recommendations

Primary Recommendation - Stand Alone Filterra

Adjusted Filterra Design Intensity	0.428	in/hr
Stormwater Quality Design Flow Rate	0.03	cfs
Required Filterra Area	10	ft^2
Filterra Model ID	**FT 4x4**	

Alternative Recommendation - Filterra + Infiltration Storage

Required Filterra Area	10	ft^2
Filterra Model ID	**FT 4x4**	
ChamberMaxx volume	0	ft^3
ChamberMaxx count	**0**	chambers

To be constent with approval of the Filterra Bioretention System as an alternative biofiltration specification granted by the Los Angeles Regional Water Quality Control Board on October 9, 2017, Filterra use is subject to the following conditions:

1. Filterra systems must be designed and sized following the methodology in Section 4 of the August 2015 report prepared by Geosyntec Consultants, entitled "Filterra Equivalency Analysis and Design Criteria" which is the basis for this design tool.
2. Filterra systems use an engineered biofiltration media. Filterra systems, including the engineered biofiltration media, must be provided by the manufacturer. No substitution of materials/media is allowed.
3. Filterra is only applicable as an alternative on-site biofiltration design in situations where a project applicant has demonstrated that it is technically infeasible to retain 100 percent of the SWQDv on-site.
4. Hydromodification requirements of Section VI.D.7.c.iv of the Los Angeles County MS4 Permit must be considered separately regardless of what type of biofiltration is used.
5. Operation and maintenance of Filterra systems must be conducted consistent with the recommendations in the Filterra maintenance manual provided by Contech Engineered Solutions.
6. In the area governed by the Los Angeles Region Phase I stormwater permit, conventional biofilters must be sized to treat 1.5X the SWQDV. This results in an average annual capture rate of 93%. Filterra systems sized using this tool will also treat at least 93% of the average annual runoff volume.

Filterra Sizing Tool

Applicable in the Area Goverened by the Los Angeles County MS4 Permit
(NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

For final design please contact:
Tamara Mamon - Stormwater Consultant
tmamon@conteches.com
Phone: 818-519-1781

Contact Information		**Project Information**	
Engineer of Record Name	Doug Farmer	Project Name	Brookview Ranch
Engineer of Record Company Name	Sikand	Project Location	Agoura Hills
Engineer of Record Office Zip Code	91411	Catchment Name	3A

Drainage Area Inputs		
Drainage Area	**1742**	ft^2
Runoff coefficient	**0.892**	-
Time of concentration	**6**	min
Long term reliable infiltration rate	**0.00**	in/hr
85th percentile, 24-hour depth (see hyperlink below)	**1.00**	in
LA County Rainfall Depth Analysis		
Filterra Configuration (Select from Drop-Down)	**Offline**	

Refer to "Filterra Configurations" tab for descriptions and detail drawings for download.

Constants		
LAX Airport 85th Percentile, 24-hour depth (for reference only)	1.02	in
Filterra hydraulic loading capacity	1.45	gpm/ft^2
Outputs		
Stormwater Quality Design Volume	130	ft^3
Design Rainfall Intensity for Equivalent Long Term Capture	0.404	in/hr
Site Scaling Factor	0.98	-
Stormwater Quality Design Flow Rate	0.01	cfs
Design Alternatives Available	**Stand Alone Filterra Permitted**	

Design Recommendations

Primary Recommendation - Stand Alone Filterra

Adjusted Filterra Design Intensity	0.434	in/hr
Stormwater Quality Design Flow Rate	0.02	cfs
Required Filterra Area	5	ft^2
Filterra Model ID	**FT 4x4**	

Alternative Recommendation - Filterra + Infiltration Storage

Required Filterra Area	5	ft^2
Filterra Model ID	**FT 4x4**	
ChamberMaxx volume	0	ft^3
ChamberMaxx count	**0**	chambers

To be constent with approval of the Filterra Bioretention System as an alternative biofiltration specification granted by the Los Angeles Regional Water Quality Control Board on October 9, 2017, Filterra use is subject to the following conditions:

1. Filterra systems must be designed and sized following the methodology in Section 4 of the August 2015 report prepared by Geosyntec Consultants, entitled "Filterra Equivalency Analysis and Design Criteria" which is the basis for this design tool.
2. Filterra systems use an engineered biofiltration media. Filterra systems, including the engineered biofiltration media, must be provided by the manufacturer. No substitution of materials/media is allowed.
3. Filterra is only applicable as an alternative on-site biofiltration design in situations where a project applicant has demonstrated that it is technically infeasible to retain 100 percent of the SWQDv on-site.
4. Hydromodification requirements of Section VI.D.7.c.iv of the Los Angeles County MS4 Permit must be considered separately regardless of what type of biofiltration is used.
5. Operation and maintenance of Filterra systems must be conducted consistent with the recommendations in the Filterra maintenance manual provided by Contech Engineered Solutions.
6. In the area governed by the Los Angeles Region Phase I stormwater permit, conventional biofilters must be sized to treat 1.5X the SWQDV. This results in an average annual capture rate of 93%. Filterra systems sized using this tool will also treat at least 93% of the average annual runoff volume.

Filterra Sizing Tool

Applicable in the Area Goverened by the Los Angeles County MS4 Permit
(NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

For final design please contact:
Tamara Mamon - Stormwater Consultant
tmamon@conteches.com
Phone: 818-519-1781

Contact Information		**Project Information**	
Engineer of Record Name	Doug Farmer	Project Name	Brookview Ranch
Engineer of Record Company Name	Sikand	Project Location	Agoura Hills
Engineer of Record Office Zip Code	91411	Catchment Name	5A

Drainage Area Inputs		
Drainage Area	**5619**	ft^2
Runoff coefficient	**0.892**	-
Time of concentration	**10**	min
Long term reliable infiltration rate	**0.00**	in/hr
85th percentile, 24-hour depth (see hyperlink below)	**1.00**	in
LA County Rainfall Depth Analysis		
Filterra Configuration (Select from Drop-Down)	**Offline**	
Refer to "Filterra Configurations" tab for descriptions and detail drawings for download.		

Constants		
LAX Airport 85th Percentile, 24-hour depth (for reference only)	1.02	in
Filterra hydraulic loading capacity	1.45	gpm/ft^2
Outputs		
Stormwater Quality Design Volume	418	ft^3
Design Rainfall Intensity for Equivalent Long Term Capture	0.382	in/hr
Site Scaling Factor	0.98	-
Stormwater Quality Design Flow Rate	0.04	cfs
Design Alternatives Available	**Stand Alone Filterra Permitted**	

Design Recommendations

Primary Recommendation - Stand Alone Filterra

Adjusted Filterra Design Intensity	0.410	in/hr
Stormwater Quality Design Flow Rate	0.05	cfs
Required Filterra Area	14	ft^2
Filterra Model ID	**FT 4x4**	

Alternative Recommendation - Filterra + Infiltration Storage

Required Filterra Area	14	ft^2
Filterra Model ID	**FT 4x4**	
ChamberMaxx volume	0	ft^3
ChamberMaxx count	**0**	chambers

To be constent with approval of the Filterra Bioretention System as an alternative biofiltration specification granted by the Los Angeles Regional Water Quality Control Board on October 9, 2017, Filterra use is subject to the following conditions:

1. Filterra systems must be designed and sized following the methodology in Section 4 of the August 2015 report prepared by Geosyntec Consultants, entitled "Filterra Equivalency Analysis and Design Criteria" which is the basis for this design tool.
2. Filterra systems use an engineered biofiltration media. Filterra systems, including the engineered biofiltration media, must be provided by the manufacturer. No substitution of materials/media is allowed.
3. Filterra is only applicable as an alternative on-site biofiltration design in situations where a project applicant has demonstrated that it is technically infeasible to retain 100 percent of the SWQDv on-site.
4. Hydromodification requirements of Section VI.D.7.c.iv of the Los Angeles County MS4 Permit must be considered separately regardless of what type of biofiltration is used.
5. Operation and maintenance of Filterra systems must be conducted consistent with the recommendations in the Filterra maintenance manual provided by Contech Engineered Solutions.
6. In the area governed by the Los Angeles Region Phase I stormwater permit, conventional biofilters must be sized to treat 1.5X the SWQDV. This results in an average annual capture rate of 93%. Filterra systems sized using this tool will also treat at least 93% of the average annual runoff volume.

GeoSoils Consultants Inc.
GEOTECHNICAL GEOLOGIC ENVIRONMENTAL

January 17, 2018
W.O. 7100

BROOKVIEW RANCH
2972 Triunfo Canyon Road
Agoura Hills, California 91301

Attention: Mr. Tom Knapp

Subject: LID Stormwater Infiltration Testing Report, Tract 2804, APN 2063-003-026 and 2063-003-028, 2972 Triunfo Canyon Road, Agoura Hills, County of Los Angeles, California

Gentlemen:

At your request, GeoSoils Consultants, Inc. (GSC) has prepared this infiltration testing report for the subject site located at 2972 Triunfo Canyon Road, Agoura Hills, California. The Double-Ring Infiltrometer Test (ASTM D3385) procedure performed was in accordance with the County of Los Angeles-Low Impact Development Stormwater Infiltration Guidelines dated June 30, 2017. The locations of the tests performed are depicted on Plate 1, Infiltration Test Location Map.

Geologic Conditions

The subject site is located within the geologic map of the Point Dume USGS Quadrangle. The site is underlain by artificial fill and alluvium. The depths of soil are depicted on the test-pit logs (TP-1 and TP-2), Appendix A and Plate 1. The percolation testing was performed in natural alluvium. According to the Seismic Hazard Zone Report for the Point Dume 7.5-minute Quadrangle, the site is not located within any seismic hazard zones or Alquist-Priolo Earthquake fault zones. The historical high groundwater is located approximately 10 feet below grade.

6634 Valjean Avenue, Van Nuys, California 91406 Phone: (818) 785-2158 Fax: (818) 785-1548

Double-Ring Infiltrometer Test (ASTM D3385) Test Procedure

Two infiltration tests were performed at the locations shown on the Infiltration Test Location Map, Plate 1. The tests were performed with the double ring infiltrometer at a depth of 6 feet below the ground surface.

Prior to the testing, the rings are pre-soaked for 4 hours. The infiltration test was conducted by taking readings at 30 minute intervals due to slow draining conditions. The test was repeated eight times. The field test data collected is presented in Appendix B.

Excavation Percolation Test Results

Reduction factors applied to the measured infiltration rate are as follows:

REDUCTION FACTORS	
Double-ring infiltrometer	$RF_t = 2.0$
Site variability, number of tests and thoroughness of subsurface investigation	$RF_v = 2.0$
Long Term Siltation, Plugging, and Maintenance	$RF_s = 2.0$

Total Reduction Factor, $RF = RF_t \times RF_v \times RF_s = 8$
Design Infiltration Rate = Measured Percolation Rate/RF

The test results are provided below on Table 1 and enclosed in Appendix B.

TABLE 1

Infiltration Test Pit	Test Depth (feet)	Design Infiltration Rate (in/hr)	
		Inner Ring	Annular Ring
TP-1	6.0	0.15	0.14
TP-2	6.0	0.86	0.75

Conclusion

It is our opinion that the site is not feasible for LID stormwater infiltration. Review of the State Seismic Hazard Zone report indicates a historic high groundwater level of approximately 10 feet below the ground surface. Although groundwater was not encountered in the test pits excavated on the site, a ten-foot clearance is required between the bottom of the BMP zone and the historic high groundwater level. The fill depth

encountered on site necessitated a deeper infiltration encroaching within the groundwater clearance zone. Infiltration rate requirements are not met due to an infiltration rate of less than 0.3 in/hr (TP-1). In addition, the clay content in the alluvium may impede the infiltration rate and result in ponding and/or standing water.

CLOSURE

We appreciate the opportunity to be of service. If you have any questions, please do not hesitate to contact us.

Very truly yours,

GEOSOILS CONSULTANTS, INC.

LANCE R. PUTNAM
CEG 2469

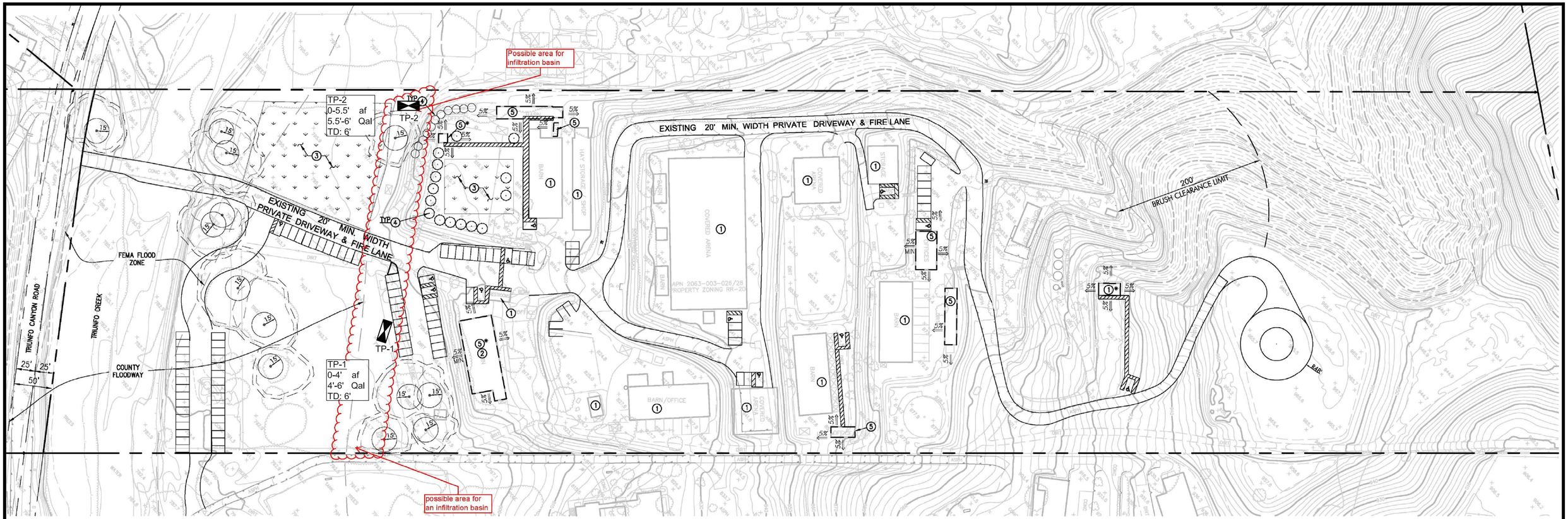
KAREN L. MILLER
GE 2257

ELIZETTE VIRAMONTES
Staff Geologist

LRP.KLM.EV.W:LID SW Infiltration Testing

Encl: Plate 1, Infiltration Test Location Map
Appendix A, Field Exploration and Logs of Excavations
Plates TP-1 and TP-2, Test Pit Logs
Appendix B, Double-Ring Infiltrometer Test Data and Calculations

cc: (5) Addressee



GENERAL NOTES:

1. PROVISIONS SHALL BE MADE FOR CONTRIBUTORY DRAINAGE AT ALL TIMES.
2. OWNER WILL MAINTAIN DRAINAGE DEVICES AND KEEP FREE OF DEBRIS.
3. NO WORK IS ALLOWED WITHIN THE PROTECTED ZONE OF OAK TREES WITHOUT AN OAK TREE REPORT AND PERMIT.
4. FINISHED FLOOR SHALL BE 8 INCHES MINIMUM ABOVE FINISHED GRADE.
5. TOTAL LANDSCAPE AREA 433,261 SQUARE FEET, 45% OF LOT
6. TOTAL TURF AREA 36,000 SQUARE FEET, 3.7% OF LOT
7. TOTAL DROUGHT TOLERANT LANDSCAPING AREA
8. HYDROZONING IRRIGATION TECHNIQUES SHALL BE INCORPORATED INTO THE LANDSCAPE AREA.
9. THIS SITE IS IN A FEDERALLY DESIGNATED SPECIAL FLOOD AREA. ALL FUTURE BUILDINGS, AND OTHER STRUCTURES (INCLUDING WALLS AND FENCES) PROPOSED WITHIN THIS ZONE MUST MEET REQUIREMENTS OF THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP), TITLE 44, SECTION 60.3 AND TITLE 62, SECTIONS 110.1 AND 110.2 OF THE LOS ANGELES BUILDING CODE
10. ALL SLOPES AROUND STRUCTURES 5% MIN AWAY

LID NOTES:

LANDSCAPING AND LANDSCAPE IRRIGATION

1. MINIMUM OF TWO 15 GALLON TREES TO BE PLANTED AND MAINTAINED. TREES SHAL BE LOCATED NEAR IMPERVIOUS SURFACES (10 FOOT MAXIMUM DISTANCE). ONE OF THE TREES MAY VE ON THE DROUGHT-TOLERANT PLANT LIST AS REQUIRED UNDER THE COUNTY'S GREEN BUILDING ORDINANCE. IN VERY HIGH FIRE HAZARD SEVERITY ZONES, APPLICANT SHOULD VERIFY COMPLIANCE WITH FIRE DEPARTMENT'S REQUIREMENTS.
2. INSTALL SMART IRRIGATION CONTROLLERS. AUTOMATIC IRRIGATION SYSTEM CONTROLLERS FOR LANDSCAPING SHALL BE INSTALLED AT THE TIME OF FINAL INSPECTION AND SHALL COMPLY WITH THE FOLLOWING:
   A) CONTROLLERS SHALL BE WEATHER OR SOIL MOISTURE BASED CONTROLLERS THAT AUTOMATICALLY ADJUST IRRIGATION IN RESPONSE TO CHANGES IN PLANTS' NEEDS AS WEATHER CONDITIONS CHANGE.
   B) WEATHER BASED CONTROLLERS WITHOUT INTEGRAL RAIN SENSORS OR COMMUNICATION SYSTEMS THAT ACCOUNT FOR LOCAL RAINFALL SHALL HAVE A SEPARATE WIRED OR WIRELESS RAIN SENSOR WHICH CONNECTS OR COMMUNICATES WITH THE CONTROLLER(S). SOIL MOISTURE BASED CONTROLLERS ARE NOT REQUIRED TO HAVE RAIN SENSOR INPUT.

CONSTRUCTION NOTES: ON-SITE

1. EXISTING BUILDING
2. EXISTING BUILDING TO BE DEMOLISHED
3. EXISTING TURF AREA
4. EXISTING TREES (PISTTOSPORUM SILVER SHEEN AND OLIVE TREES)
5. EXISTING BUILDING, REMEDIAL PERMIT APPLICATION
6. INSTALL 15 GALLON TREES

LEGEND:

- PARCEL BOUNDARY
- OAK TREE / 5' OFFSET FROM DRIP LINE
- SHRUB/BRUSH/OTHER TREES
- EXISTING FIRE HYDRANT
- EXISTING PISTTOSPORUM SILVER SHEEN
- EXISTING OLIVE TREES
- TURF AREA
- BUILDING WITH NO FOUNDATION

SCALE: 1" = 60'

0 60 120 180

EXPLANATION

af	ARTIFICIAL FILL
Qal	ALLUVIUM
TP-2	APPROXIMATE LOCATION OF TEST PIT

GSC GeoSoils Consultants Inc.
GEOTECHNICAL•GEOLOGICAL•ENVIRONMENTAL
6634 Valjean Avenue
Van Nuys, CA 91406

INFILTRATION TEST LOCATION MAP
2972 TRIUNFO CANYON ROAD
AGOURA HILLS, CALIFORNIA
BROOK VIEW RANCH

WORK ORDER	DATE	SCALE
7100	1/2018	1" = 60'
REVISED	PLATE 1	MDN 19620

DIGALERT 811

REGISTERED PROFESSIONAL ENGINEER RICHARD E. DOSS No. C48987 Exp. 9-30-18 CIVIL STATE OF CALIFORNIA

PLANS PREPARED BY:
PACIFIC COAST CIVIL, INC.
30141 AGOURA ROAD, SUITE 200
AGOURA HILLS, CA 91301
PH: (818) 865-4168
FAX: (818) 865-4198

PLANS PREPARED UNDER THE DIRECTION OF:

RICHARD E. DOSS R.C.E. C48987 DATE

NO.	DATE	BY	APPR

COUNTY OF LOS ANGELES

2972 TRIUNFO CANYON RD.
AGOURA HILLS, CA 91301
APN. 2063-003-026, -028

DRAINAGE PLAN

OWNER/DEVELOPER:
BROOKVIEW RANCH, LLC
DR. THOMAS & CHERYL KNAPP
2972 TRIUNFO CANYON RD.
AGOURA HILLS, CA 91301

PCC W.O.: 15-1354

SHEET: 2 OF 2

X:\2001 w.o\gsc-cad\7100\1-11-18\CURRENT\PLATE 1 INFILTRATION TEST LOCATION MAP 1-11-18.dwg, 1/17/2018 10:50:24 AM, Adobe PDF.pc3

January 17, 2018
W.O. 7100

APPENDIX A

FIELD EXPLORATION AND LOGS OF EXCAVATIONS

January 17, 2018
W.O. 7100

APPENDIX A

FIELD EXPLORATION PROCEDURES AND LOGS OF EXCAVATIONS

Backhoe Test Pits

Two backhoe test pits (TP-1 and TP-2) were excavated to a depth of six feet on the site.

The purpose of the test pits was to perform the double-ring infiltration test at 6 feet depth and to determine the geologic conditions at each area.

TEST PIT LOG 1

GEOSOILS CONSULTANTS, INC.

CLIENT: Brookview Ranch ELEVATION: ____ WORK ORDER NO.: 7100

ADDRESS: 2972 Triunfo Canyon Road, Agoura Hills LOGGED BY: EV DATE: 1/3/18

Depth	Material Type	Material Description	Comments
0-4'	Artificial Fill (af)	Light to grayish brown SAND and gravel, dense, dry with layer of cloth and dark brown, clayey, very fine sand, dry, dense with rock fragments	
4'-6'	Quaternary Alluvium (Qal)	Dark brown, clayey SILT to silty, very fine SAND, contains roots, caliche, dense, slightly moist, slightly porous	Double-Ring Infilration Test 1 done @ 6'

Scale: H: 1"= 2' V: 1"= 2' Pit Orient.: N30W Natural Slope: Angle ___ T. D. 6'

Illustration

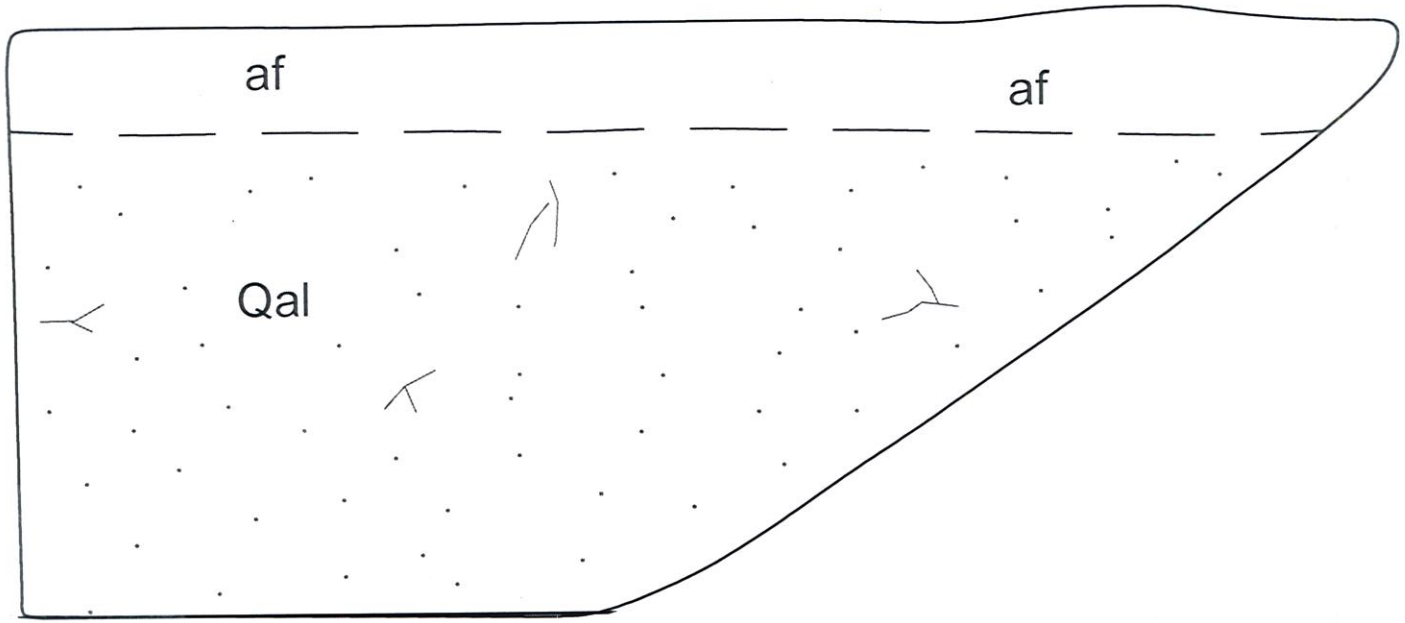


Plate TP-1

TEST PIT LOG 2

GEOSOILS CONSULTANTS, INC.

CLIENT: Brookview Ranch ELEVATION: ____ WORK ORDER NO.: 7100

ADDRESS: 2972 Triunfo Canyon Road, Agoura Hills LOGGED BY: EV DATE: 1/3/18

Depth	Material Type	Material Description	Comments
0-5.5'	Artificial Fill (af)	Medium brown, clayey SILT to silty, fine SAND, contains gravel and angular concrete fragments, roots, slightly porous, burrows, dense, dry	
5.5'-6'	Quaternary Alluvium (Qal)	Medium brown SILT to very fine, sandy SILT, dense, dry, minimal rock fragments	Double-Ring Infiltration Test 2 done @ 6'

Scale: H: 1"= 2' V: 1"= 2' Pit Orient.: N40E Natural Slope: Angle ___ T. D. 6'

Illustration

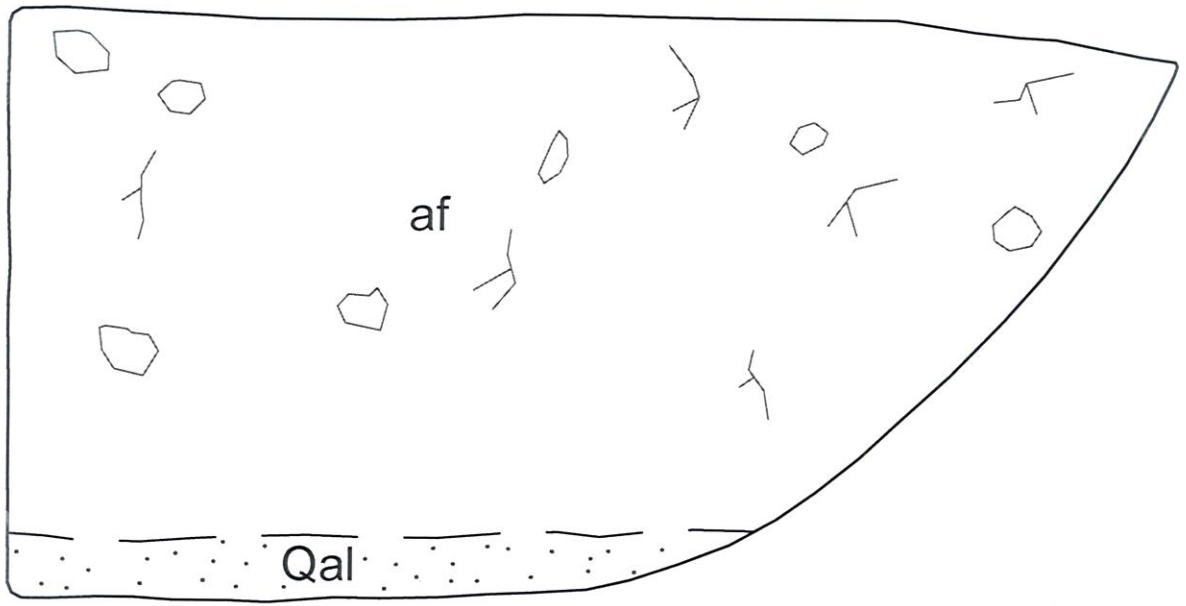


Plate TP-2

January 17, 2018
W.O. 7100

APPENDIX B

DOUBLE-RING INFILTROMETER TEST DATA AND CALCULATIONS

Figure VII.12. Sample Test Data Form for Double Ring Infiltrometer Test

Double Ring Infiltrometer Test Data

Project Name and Test Location:				Constants			Ring Data		Liquid Containers	
TP-1-17 (W.O. 7100)							Area, Ar (cm^2)	Depth of Liquid (in)	No.	Vol, Vr (in^3/in)
						Inner Ring:	729.659			
Test By:	EV	USCS Class:				Annular Space:	2188.976			
Water Table Depth:				Penetration of Rings into Soil (in.)			Inner:	4	Outer:	4
Date of Test	1/3/2018	Liquid Used:	Water	pH:	8	Ground Temp (F):		70-80	at Depth:	70-80
Liquid Level Maintained by using:		( ) Flow valve	( ) Float Valve	(x) Marriotte Tube	( ) Other:					
Additional Comments: Clear, 70-80 degrees. Presoak start 8:50 am. End										

Time Interval	Time (hr. min)	Dt (min) & Total	Inner Ring		Annular Ring		Liquid Temp F	Infiltration Rate, I**		Remarks
			Elev, H (cm)	ΔH (cm) &	Elev H (cm)	ΔH (cm) &		Inner (in/hr)	Outer (in/hr)	
1 - Start	12:50		58.1		56.9					
End	1:20	30	50.5	7.6	48.6	8.3		2.63	3.00	
2 - Start	1:20		56.6		55.3					
End	1:50	30	48.3	8.3	48.9	6.4		2.88	2.31	
3 - Start	1:50		56.8		56.9					
End	2:20	30	52.9	3.9	52.6	4.3		1.35	1.55	
4 - Start	2:20		57.7		56.7					
End	2:50	30	51.3	6.4	52.2	4.5		2.22	1.63	
5 - Start	2:50		57.6		55.6					
End	3:20	30	49.6	8	50.3	5.3		2.77	1.92	
6 - Start	3:20		57.4		56.2					
End	3:50	30	54.1	3.3	53.2	3		1.14	1.08	
7 - Start	3:50		57.3		56					
End	4:20	30	54.0	3.3	52.9	3.1		1.14	1.12	
8 - Start	4:20		57.1		56.2					
End	4:50	30	53.4	3.7	52.7	3.5		1.28	1.27	
						Average (in/hr)		**1.19**	**1.16**	
					Design Infiltration Rate (in/hr)			**0.15**	**0.14**	

***Flow, Qf = ΔH x Vr **Infiltration Rate, I = (Qf/Ar)/Δt**

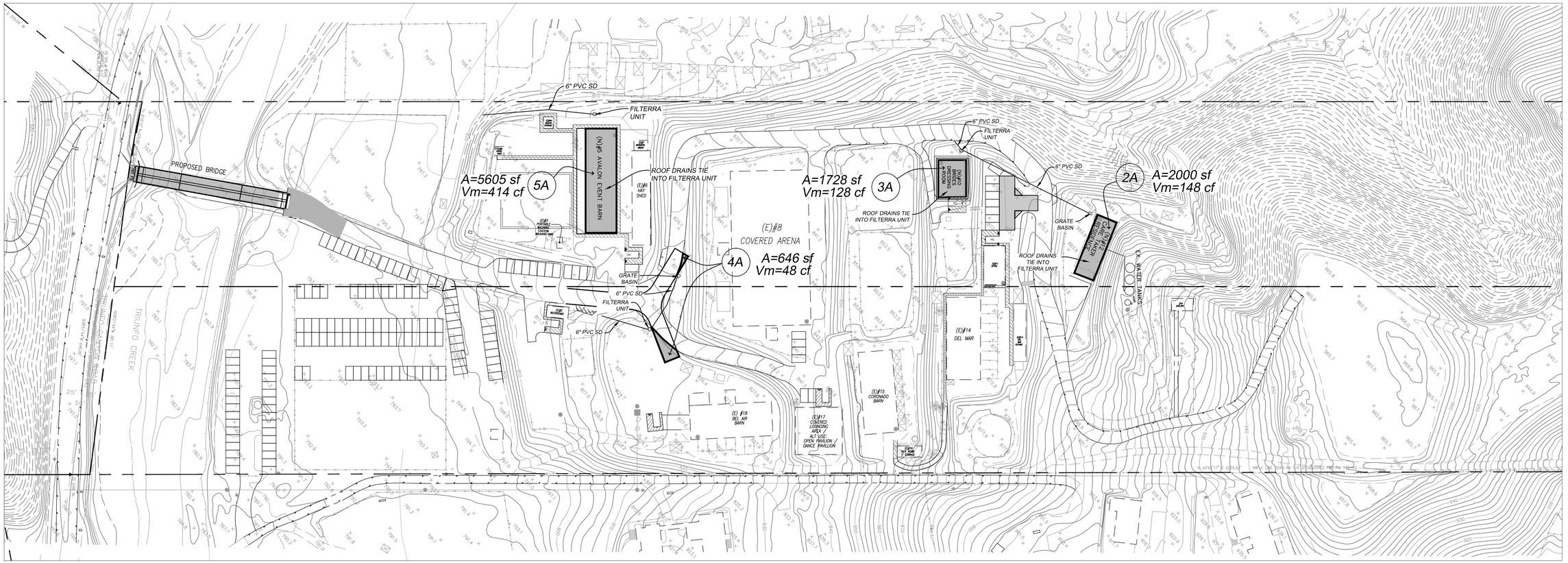
Figure VII.12. Sample Test Data Form for Double Ring Infiltrometer Test

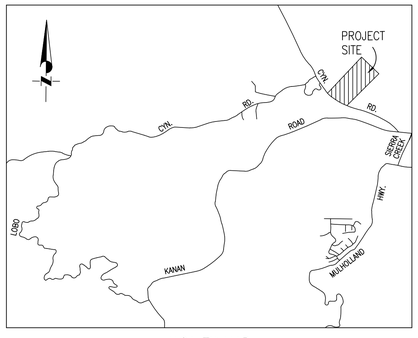
Double Ring Infiltrometer Test Data

Project Name and Test Location:				Constants				Ring Data		Liquid Containers	
TP-2-17 (W.O. 7100)								Area, Ar (cm^2)	Depth of Liquid (in)	No.	Vol, Vr (in^3/in)
							Inner Ring:	729.659			
Test By:	EV	USCS Class:					Annular Space:	2188.976			
Water Table Depth:				Penetration of Rings into Soil (in.)				Inner:	4	Outer:	4
Date of Test	1/4/2018	Liquid Used:	Water	pH:	7.2		Ground Temp (F):	70-80		at Depth:	70-80
Liquid Level Maintained by using:			( ) Flow valve	( ) Float Valve		(x) Marriotte Tube		( ) Other:			
Additional Comments: Clear, 70-80 degrees. Presoak start 8:20 am. End at 12:20.											

Time Interval	Time (hr. min)	Dt (min) & Total	Inner Ring		Annular Ring		Liquid Temp F	Infiltration Rate, I**		Remarks
			Elev, H (cm)	ΔH (cm) &	Elev H (cm)	ΔH (cm) &		Inner (in/hr)	Outer (in/hr)	
1 - Start	12:20		57.5		57					
End	12:50	30	39.4	18.1	39.2	17.8		6.27	6.44	
2 - Start	12:50		57.3		56.4					
End	1:20	30	38.4	18.9	41.8	14.6		6.55	5.28	
3 - Start	1:20		57.2		56					
End	1:50	30	38.7	18.5	40	16		6.41	5.79	
4 - Start	1:50		57.3		56.6					
End	2:20	30	38.2	19.1	41.4	15.2		6.62	5.50	
5 - Start	2:20		57.3		57					
End	2:50	30	37.9	19.4	40.7	16.3		6.72	5.89	
6 - Start	2:50		57.2		56.6					
End	3:20	30	36.6	20.6	39.8	16.8		7.14	6.07	
7 - Start	3:20		57.4		56.2					
End	3:50	30	37.2	20.2	39.8	16.4		7.00	5.93	
8 - Start	3:50		57.8		56.3					
End	4:40	30	38.8	19	40	16.3		6.58	5.89	
						Average (in/hr)		**6.91**	**5.97**	
					Design Infiltration Rate (in/hr)			**0.86**	**0.75**	

***Flow, Qf = ΔH x Vr **Infiltration Rate, I = (Qf/Ar)/Δt**





VICINITY MAP
N.T.S.

LEGEND:

(1) *TRIBUTARY DESIGNATION*

PLAN SCALE:
1" = 60'

30' 0' 60' 120'

OWNER/DEVELOPER:

BROOKVIEW RANCH, LLC
DR. THOMAS & CHERYL KNAPP
2972 TRIUNFO CANYON RD.
AGOURA HILLS, CA 91301

NO.	REVISIONS	BY	DATE

PREPARED BY:

SIKAND
Engineering | Planning | Surveying
15230 Burbank Blvd.
Van Nuys, CA 91411
Tel: (818) 787-8550
Fax: (818) 901-7451
info@sikand.com

COUNTY OF LOS ANGELES

PROPOSED WATER QUALITY MAP
FOR
2972 TRIUNFO CANYON RD.
AGOURA HILLS, CA 91301
APN. 2063-003-026, -028

DATE: 6/16/2020
DRAWING NO.: 5120-004
SHEET NUMBER: 1 *OF* 1 *SHEETS*
SCALE: AS SHOWN

Appendix F2
Hydraulic Calculations for Proposed Bridge

Hydraulic Calculations

for

Proposed Bridge

for

Brookview Ranch

in

Agoura Hills, Los Angeles County, California

Prepared for:

Brookview Ranch, LLC
2972 Triunfo Canyon Road, Agoura Hills, CA 91301

Prepared by:

SIKAND
Engineering | Planning | Surveying

15230 Burbank Blvd.
Van Nuys, CA 91411
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January 6, 2021

Table of Contents

1.0 INTRODUCTION 3

2.0 EXISTING CONDITION HEC-RAS SECTIONS AND TABLE 6

3.0 PROPOSED CONDITION HEC-RAS SECTIONS AND TABLE 14

4.0 HEC-RAS LOCATION MAP 23

5.0 PRELIMINARY BRIDGE PLAN AND PROFILE 25

1.0 Introduction

Brookview Ranch is proposing the construction of property improvements, including an indoor special events facility. As a condition of their approval, the Los Angeles County Fire Department has required that the access to the property be upgraded through the construction of a bridge over Triunfo Creek and an Arizona crossing. However, since Triunfo Canyon Road falls within the Los Angeles County capital flood plain and would be under up to 3' of flooding during a 50 year capital storm event, it is not feasible to span the entire floodplain and provide "all weather access". Instead, the objective of this bridge is to improve the access so that it would be passable as long as Triunfo Canyon Road is passable. The main objective of this hydraulic analysis was to provide an engineering assessment of flows within Triunfo Creek for the construction of the proposed vehicular bridge over Triunfo Creek to serve the Brookview Ranch property. The existing "Arizona Crossing", with nine-24" diameter corrugated metal pipe (CMP) openings to pass low flows will remain in place with the construction of the proposed bridge.

With guidance from the Los Angeles County Public Works and Regional Planning Departments, and the project's biological consultant, Envicom Corporation, the proposed bridge piers and abutments will be constructed within the physical limits of the "Arizona Crossing", so as to minimize impacts to nearby sensitive habitat.

The hydraulic analysis was performed using the County-accepted hydraulic modeling program HEC-RAS (Hydrological Engineering Centre -River Analysis System) software, Version 5.0.1 running on a Windows 10 PC platform. HEC-RAS is a computer program that models the hydraulics of water flow through natural rivers and other channels. The basis for the model are survey cross-sections, derived from field survey and topographic map data, set both upstream and downstream, through which accepted flow (Q) values are evaluated. Energy losses are generalized using roughness and contraction/expansion coefficients. Water surface elevations are computed, and a graphical printout is created for each cross-section.

The input data for this evaluation is the Q50, Burn and Bulked Capital flow Q=22,005 cfs, which

was provided by the Los Angeles County Department of Public Works. Cross-section data for Triunfo Creek and Lobo Creek was provided by Chris Nelson and Associates, professional land surveyors. Roughness coefficients (referred to as Manning's values) were obtained from the Hydraulic Reference Manual for Version 5.0 and were selected as follows: 0.035 for river bed and 0.05 for the vegetated banks, while contraction/expansion coefficients were selected as 0.1 and 0.3, respectively.

The modeling process was applied to both the existing condition and the proposed, developed condition for comparison purposes. As noted above, the existing "Arizona Crossing" features nine 24" openings and will remain in place with bridge construction. For purposes of computational simplicity, these openings were omitted from both the existing and proposed condition calculations. Therefore, water surface elevations are conservatively overestimated.

A bridge structure placed in the stream path, as proposed here, creates a backwater effect at piers and abutments. At the same time, the existing "Arizona Crossing" creates a hydraulic jump due to a sudden increase in the elevation of flow line. Both of these conditions contribute to a difference of water surface before and after the proposed bridge.

The water surface elevation at the upstream side of the"Arizona Crossing" under the existing condition (Section 7.38) is 797.16'. The water surface elevation at the same point after the bridge is constructed is 800.40'. However, at Section 7.4, which is located approximately 6' upstream from the bridge (and above) the proposed water surface elevations match the existing water surface elevations. Section 7.4 is approximately 100' downstream of the northerly property boundary. Similarly, downstream of the bridge, the water surface elevation matches that of the existing condition from Section 7.15 and lower.

Another consideration in hydraulic analysis is 'scour', which also occurs when flow paths are altered, such as the construction of a bridge pier or "Arizona Crossing". However, with the "Arizona Crossing" already in place, it is anticipated that adequate scour protection will be provided to the proposed piers and abutments.

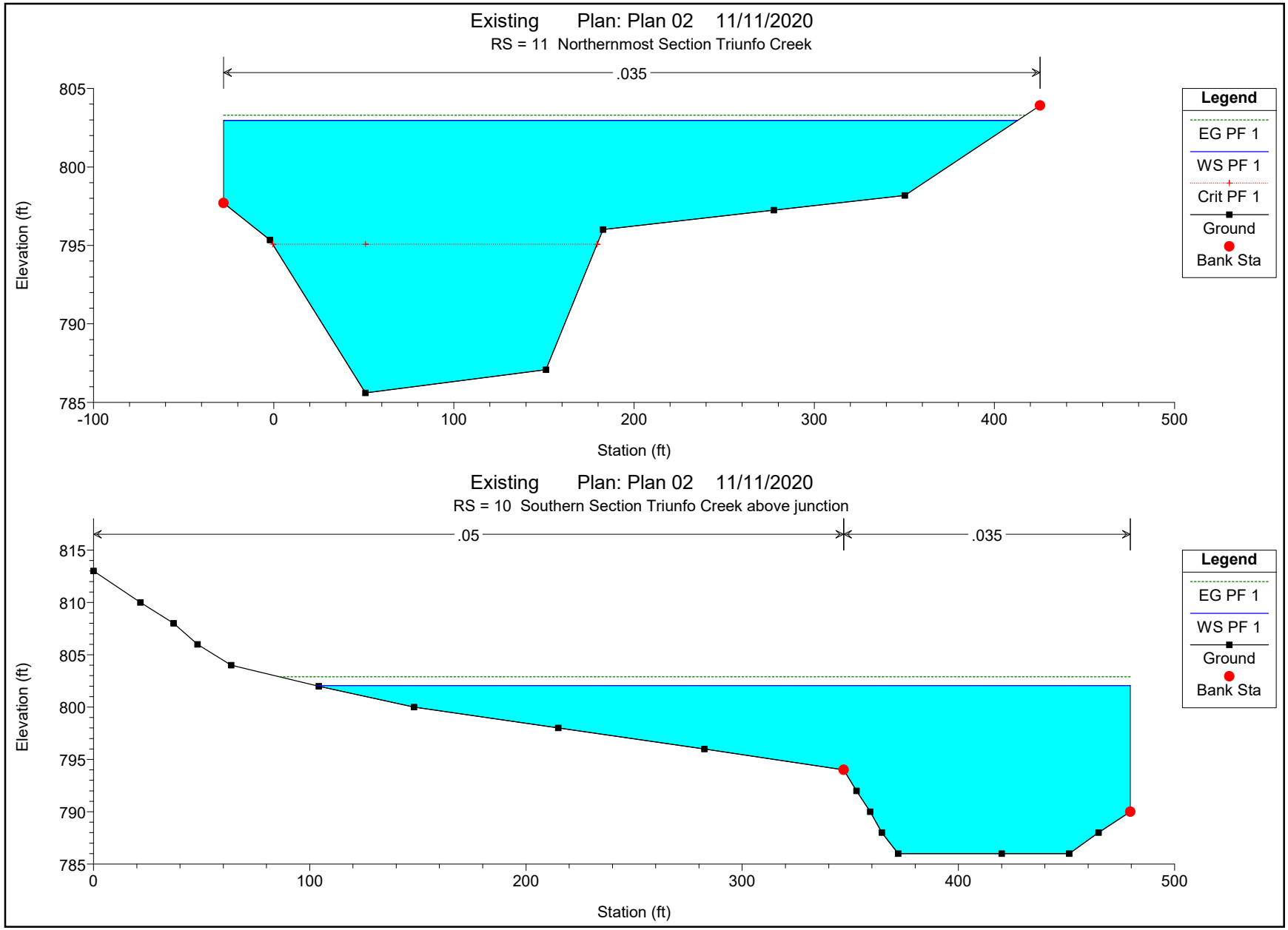
The result of this study demonstrates that the proposed bridge, consisting of an 80 foot middle span, 56 and 60 foot approaches and a 20 foot wide deck, will not significantly affect water surface elevations, either upstream or downstream from the selected bridge location.

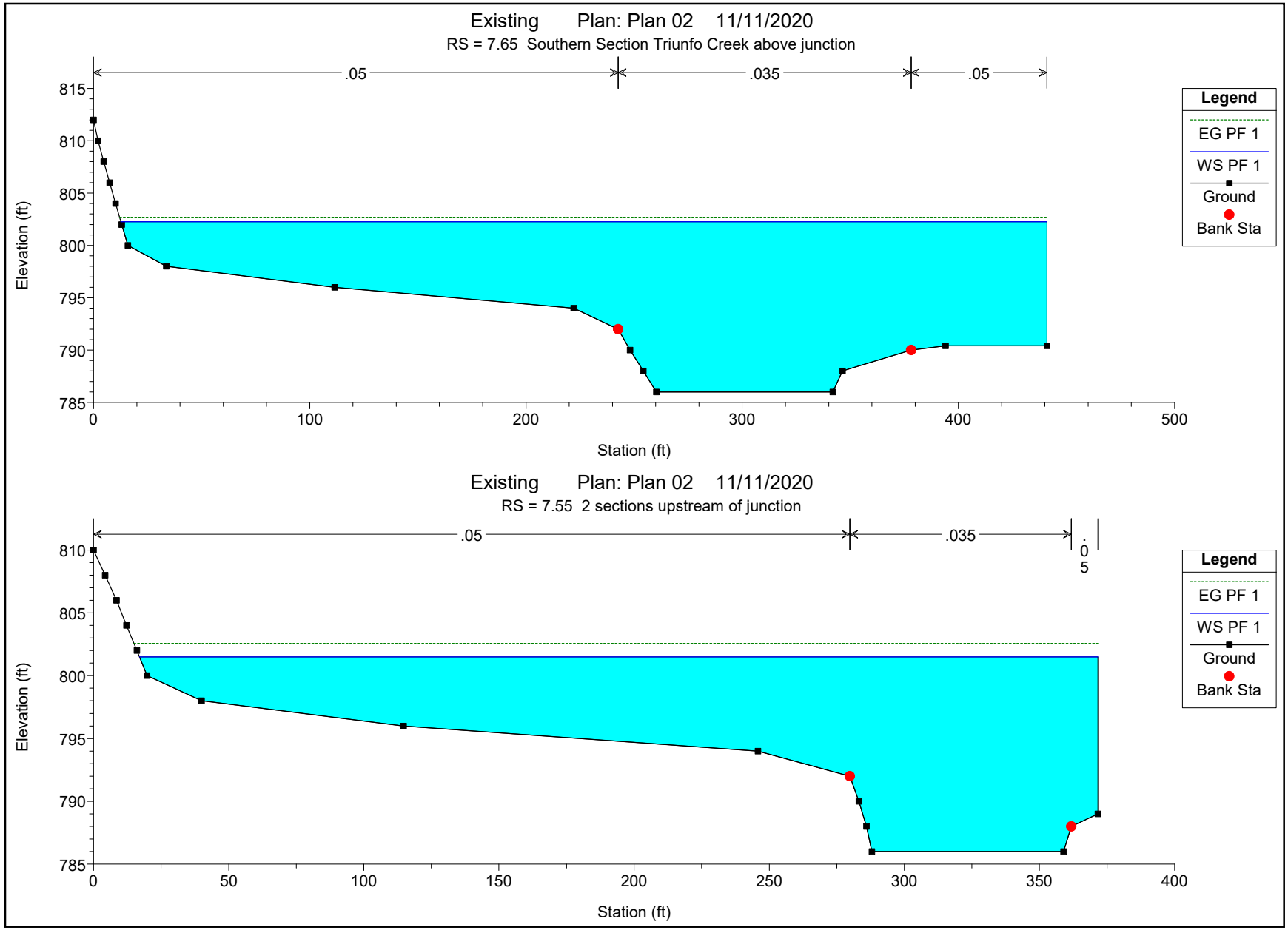
EXISTING CONDITION

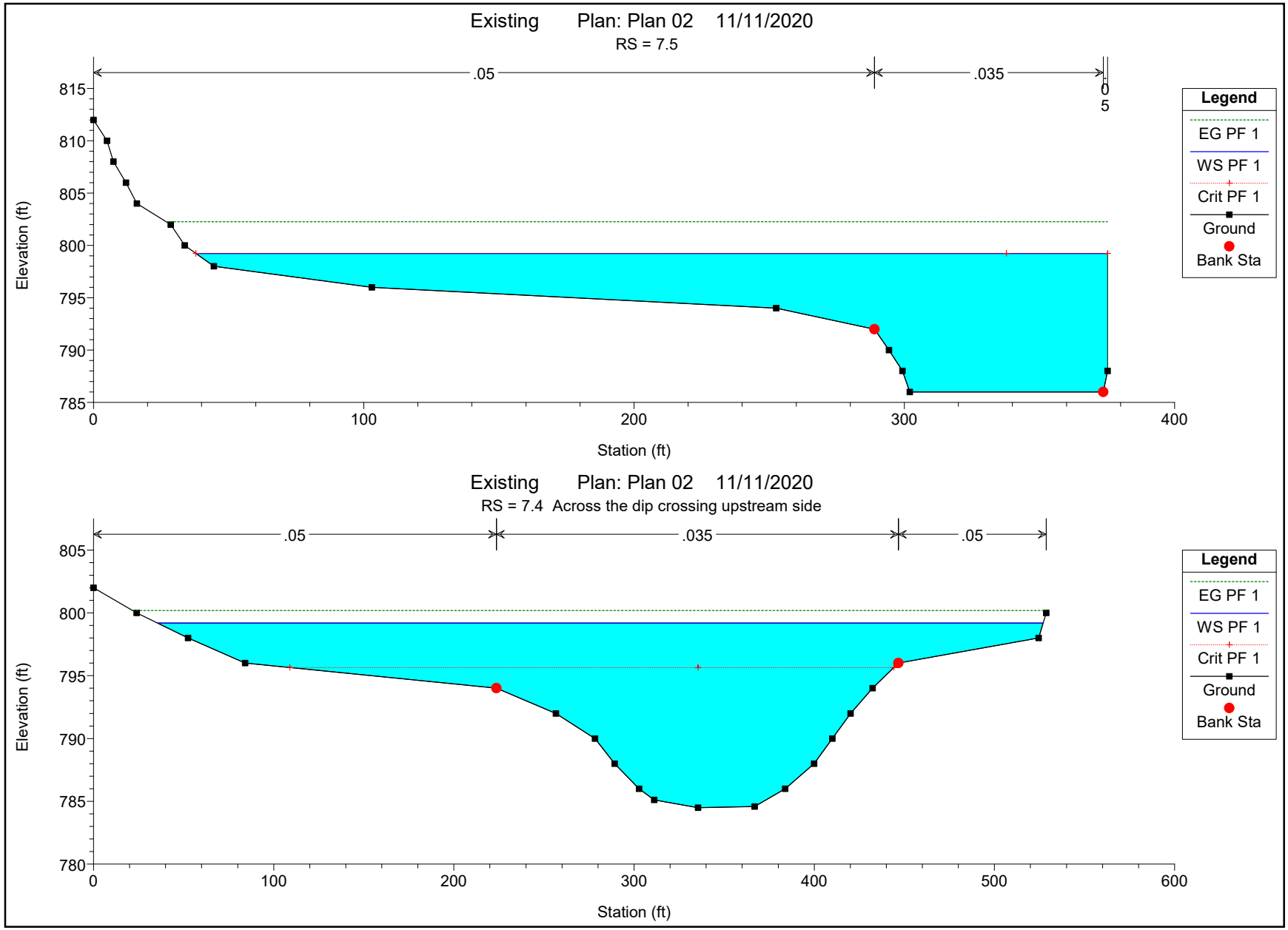
Existing Condition

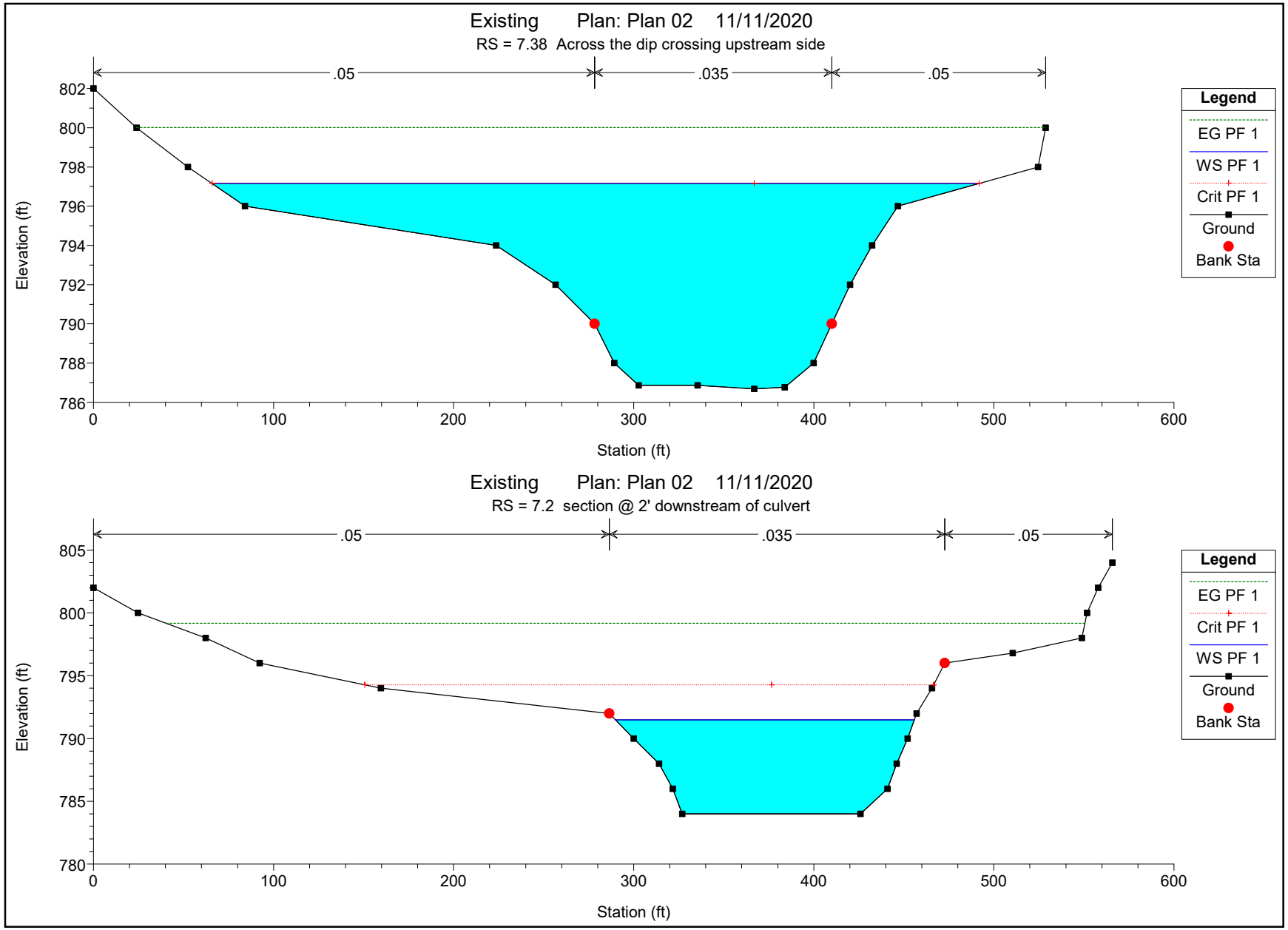
HEC-RAS Plan: Plan 02 Profile: PF 1

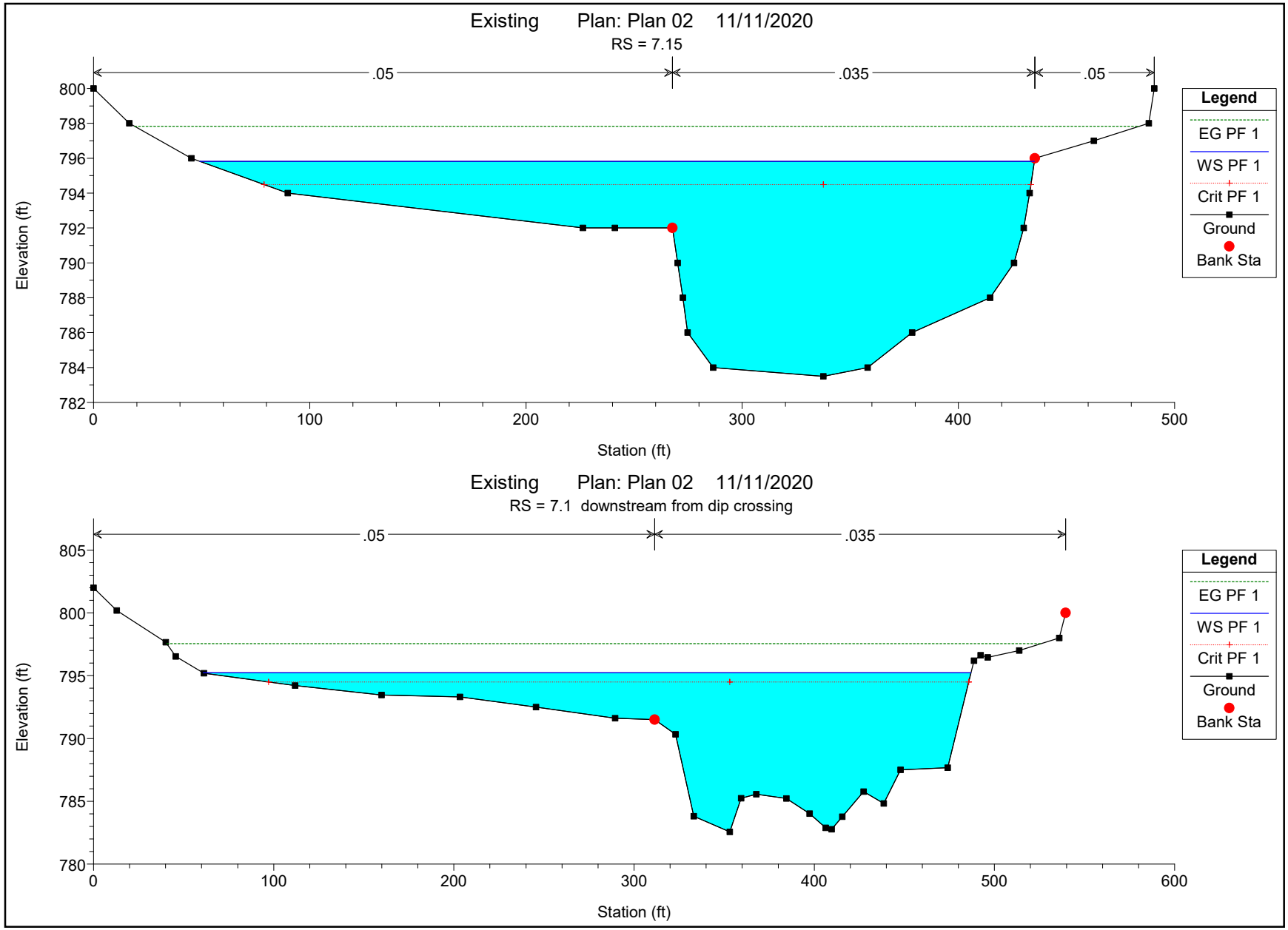
Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Upper End	11	18341.00	785.61	802.96	795.08	803.29	0.000638	4.60	3985.59	440.59	0.27
Upper End	10	18341.00	786.00	802.05		802.90	0.001085	7.93	3018.34	376.33	0.36
Upper End	7.65	18341.00	786.00	802.27		802.69	0.000549	6.05	4269.14	428.38	0.27
Upper End	7.55	18341.00	786.00	801.49		802.56	0.001498	9.84	2895.05	354.63	0.45
Lower	7.5	22005.00	786.00	799.24	799.24	802.26	0.004707	15.69	2090.43	337.37	0.78
Lower	7.4	22005.00	784.48	799.19	795.64	800.19	0.001744	8.45	3171.22	491.50	0.46
Lower	7.38	22005.00	786.69	797.16	797.16	800.01	0.005554	14.52	2052.23	425.96	0.81
Lower	7.2	22005.00	784.00	791.49	794.27	799.17	0.025760	22.23	989.69	165.92	1.60
Lower	7.15	22005.00	783.50	795.82	794.49	797.83	0.003718	11.86	2265.98	385.93	0.66
Lower	7.1	22005.00	782.57	795.24	794.50	797.55	0.004794	12.64	2107.44	426.12	0.74
Lower	6	22005.00	783.00	794.48	793.24	796.40	0.004002	11.88	2443.02	498.43	0.68

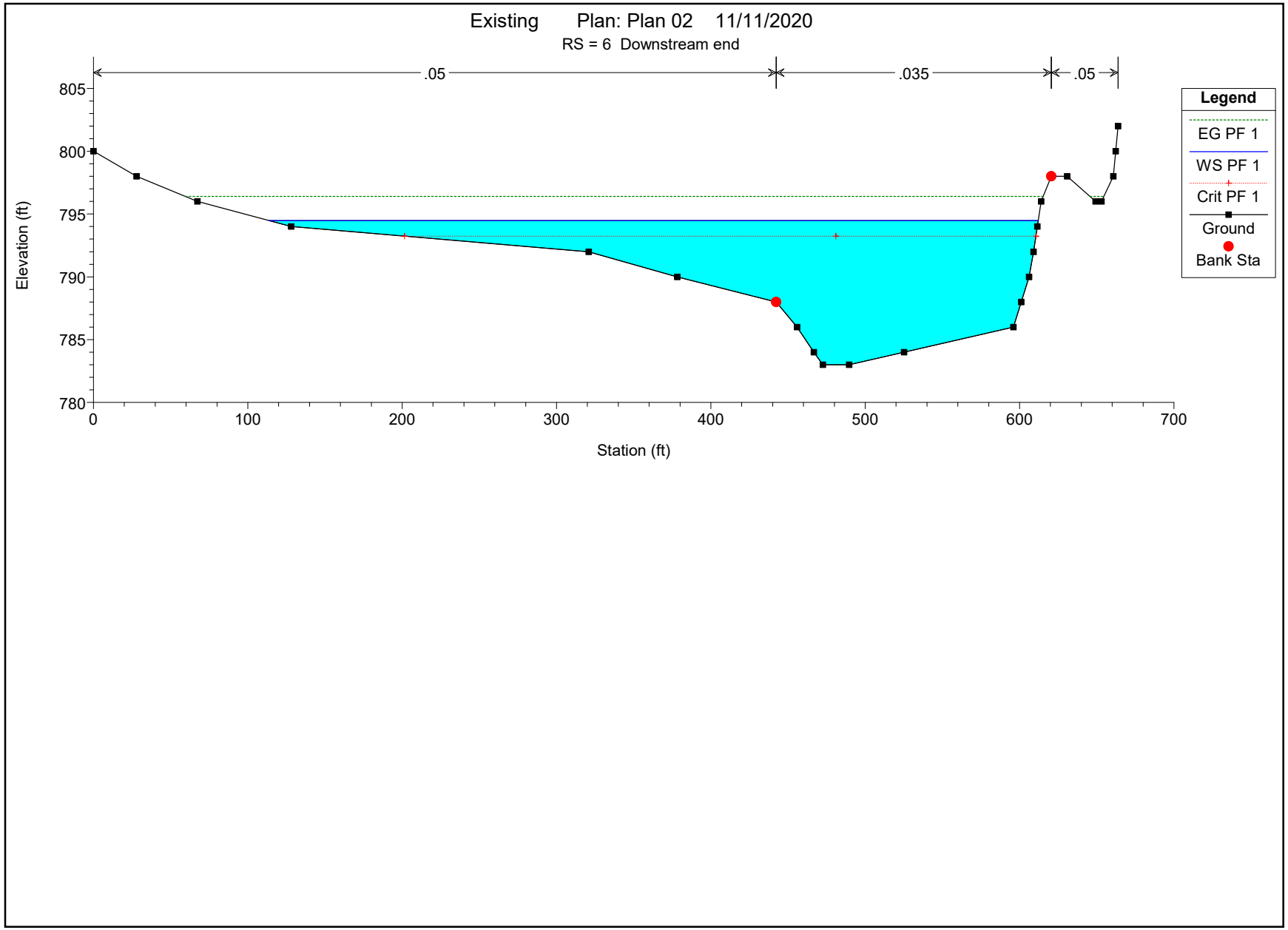

Existing Plan: Plan 02 11/11/2020
RS = 11 Northernmost Section Triunfo Creek
.035
Elevation (ft)
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Station (ft)
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WS PF 1
Crit PF 1
Ground
Bank Sta
Existing Plan: Plan 02 11/11/2020
RS = 10 Southern Section Triunfo Creek above junction
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Elevation (ft)
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Station (ft)
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WS PF 1
Ground
Bank Sta


Existing Plan: Plan 02 11/11/2020
RS = 7.65 Southern Section Triunfo Creek above junction
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Existing Plan: Plan 02 11/11/2020
RS = 7.55 2 sections upstream of junction
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta


Existing Plan: Plan 02 11/11/2020
RS = 7.5
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Existing Plan: Plan 02 11/11/2020
RS = 7.4 Across the dip crossing upstream side
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


Existing Plan: Plan 02 11/11/2020
RS = 7.38 Across the dip crossing upstream side
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Existing Plan: Plan 02 11/11/2020
RS = 7.2 section @ 2' downstream of culvert
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta


Existing Plan: Plan 02 11/11/2020
RS = 7.15
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Existing Plan: Plan 02 11/11/2020
RS = 7.1 downstream from dip crossing
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta

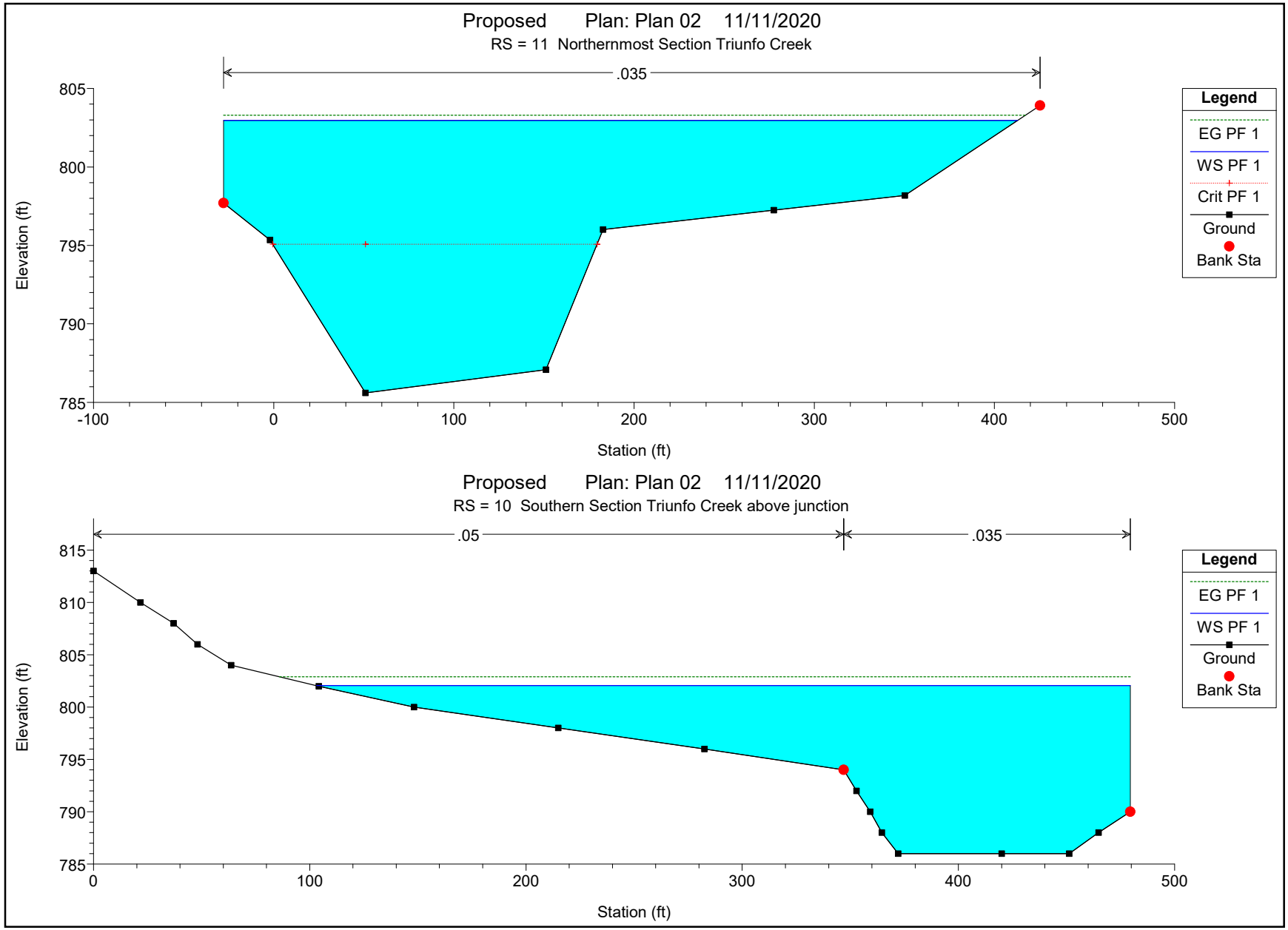

Existing Plan: Plan 02 11/11/2020
RS = 6 Downstream end
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Elevation (ft)
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Station (ft)
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EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta

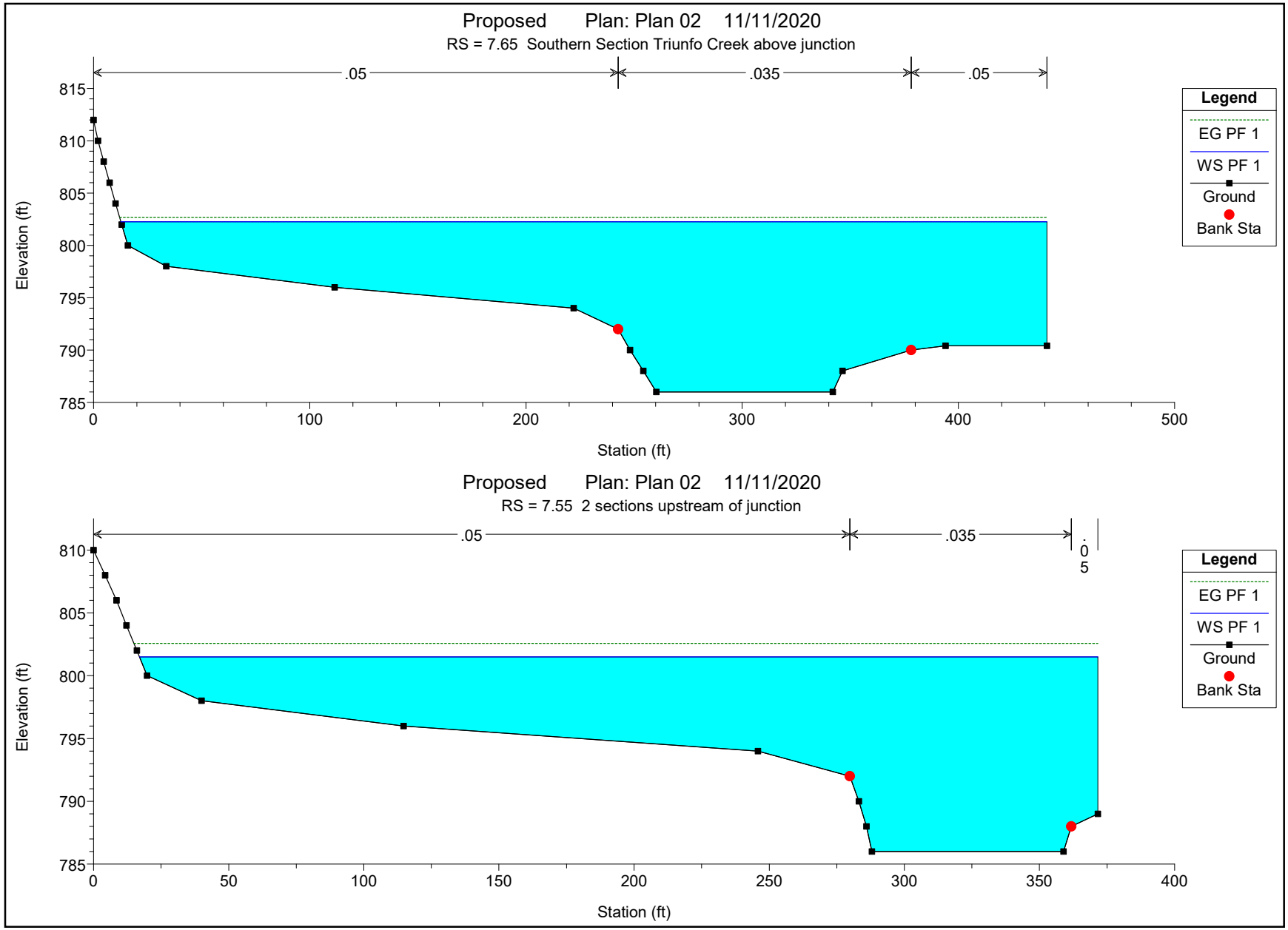
PROPOSED CONDITION

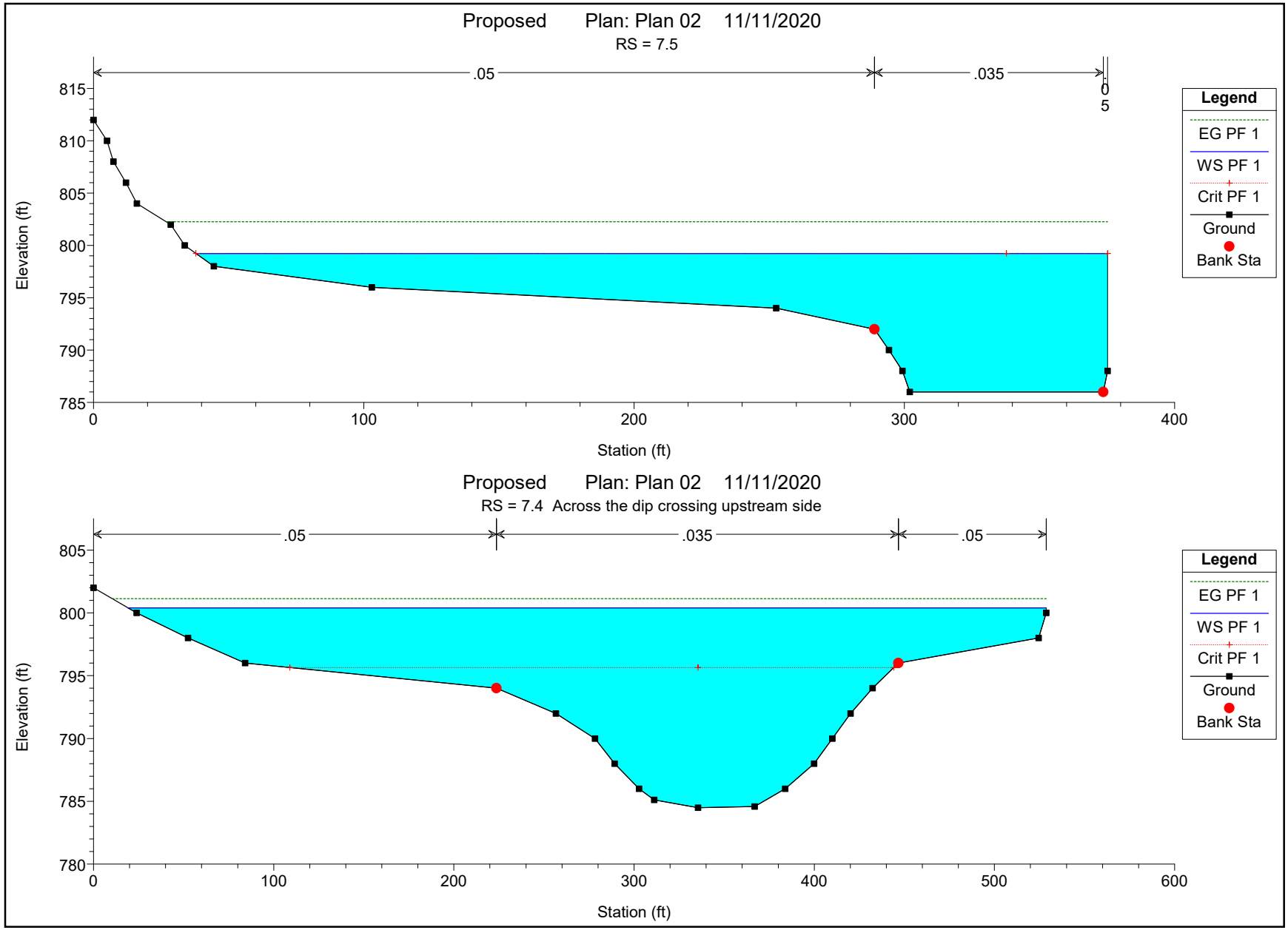
Proposed Condition

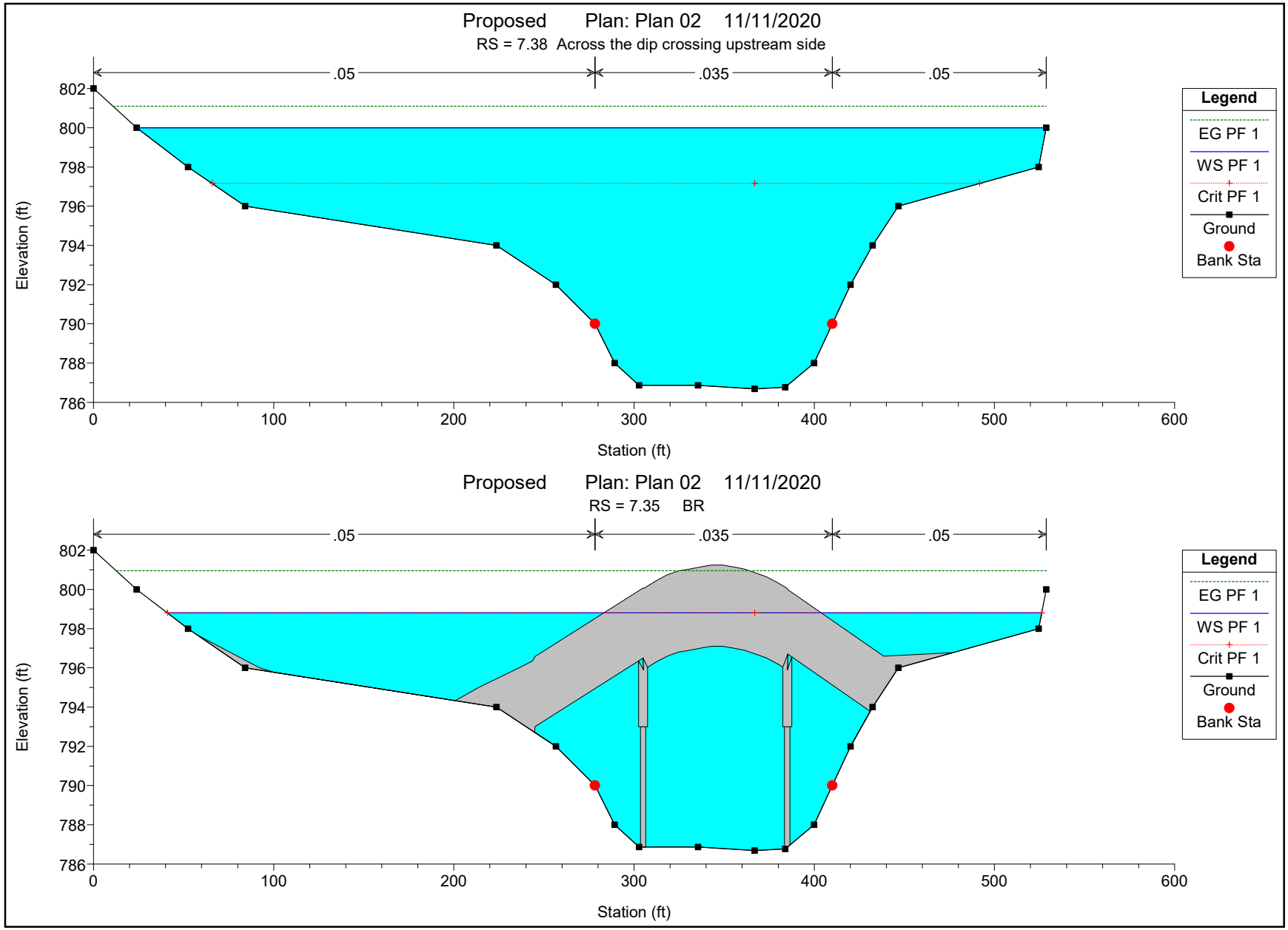
HEC-RAS Plan: Plan 02 Profile: PF 1

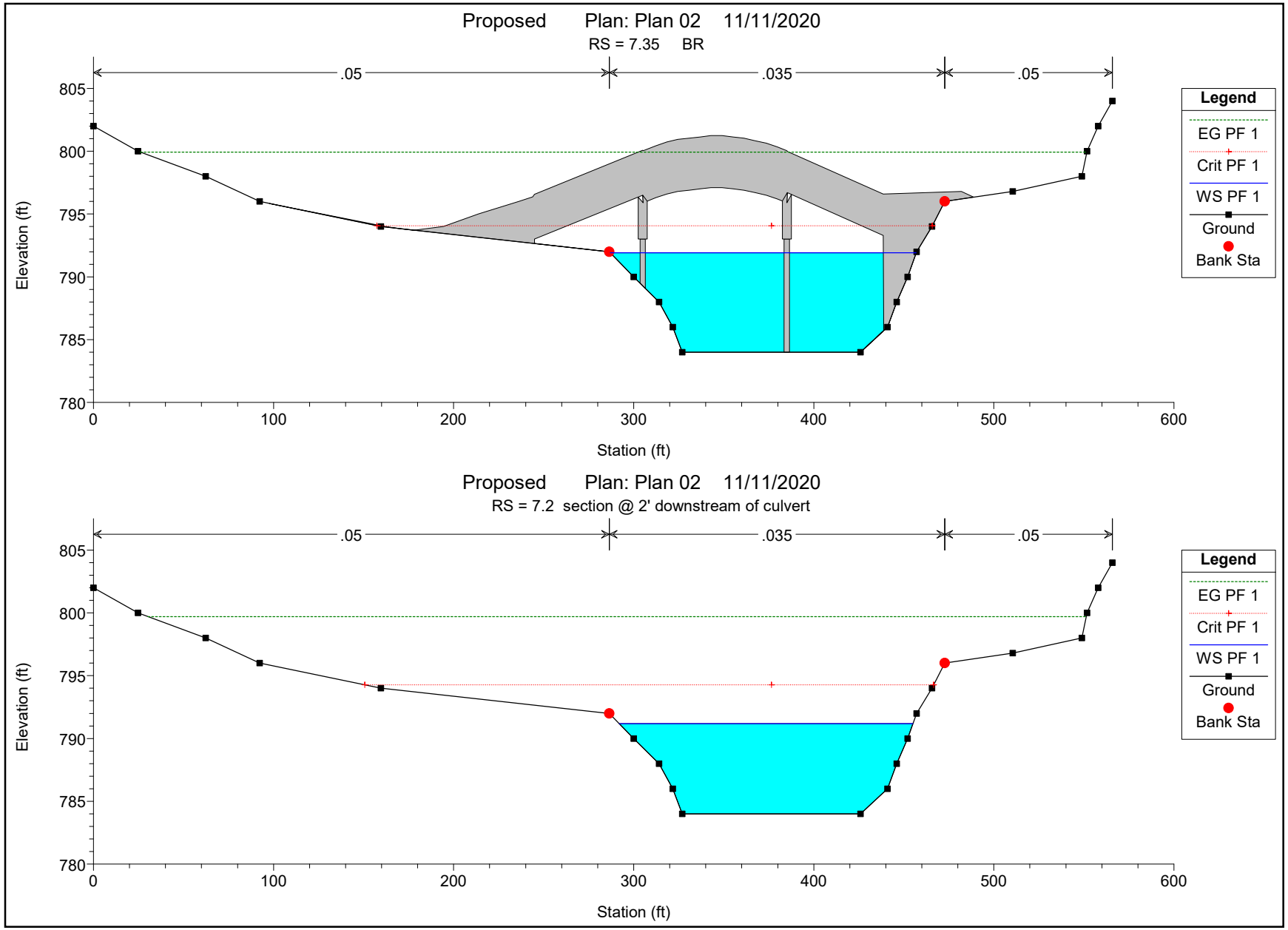
Reach	River Sta	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
		(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Upper End	11	18341.00	785.61	802.96	795.08	803.29	0.000638	4.60	3985.54	440.59	0.27
Upper End	10	18341.00	786.00	802.05		802.90	0.001085	7.93	3018.27	376.32	0.36
Upper End	7.65	18341.00	786.00	802.27		802.69	0.000549	6.05	4269.09	428.38	0.27
Upper End	7.55	18341.00	786.00	801.49		802.56	0.001498	9.84	2894.99	354.63	0.45
Lower	7.5	22005.00	786.00	799.24	799.24	802.26	0.004707	15.69	2090.43	337.37	0.78
Lower	7.4	22005.00	784.48	800.40	795.64	801.13	0.001119	7.28	3781.68	509.64	0.38
Lower	7.38	22005.00	786.69	800.00	797.16	801.09	0.001724	9.58	3408.61	504.83	0.47
Lower	7.35	Bridge									
Lower	7.2	22005.00	784.00	791.18	794.27	799.70	0.029921	23.42	939.62	163.09	1.72
Lower	7.15	22005.00	783.50	795.82	794.49	797.83	0.003718	11.86	2265.98	385.93	0.66
Lower	7.1	22005.00	782.57	795.24	794.50	797.55	0.004794	12.64	2107.44	426.12	0.74
Lower	6	22005.00	783.00	794.48	793.24	796.40	0.004002	11.88	2443.02	498.43	0.68

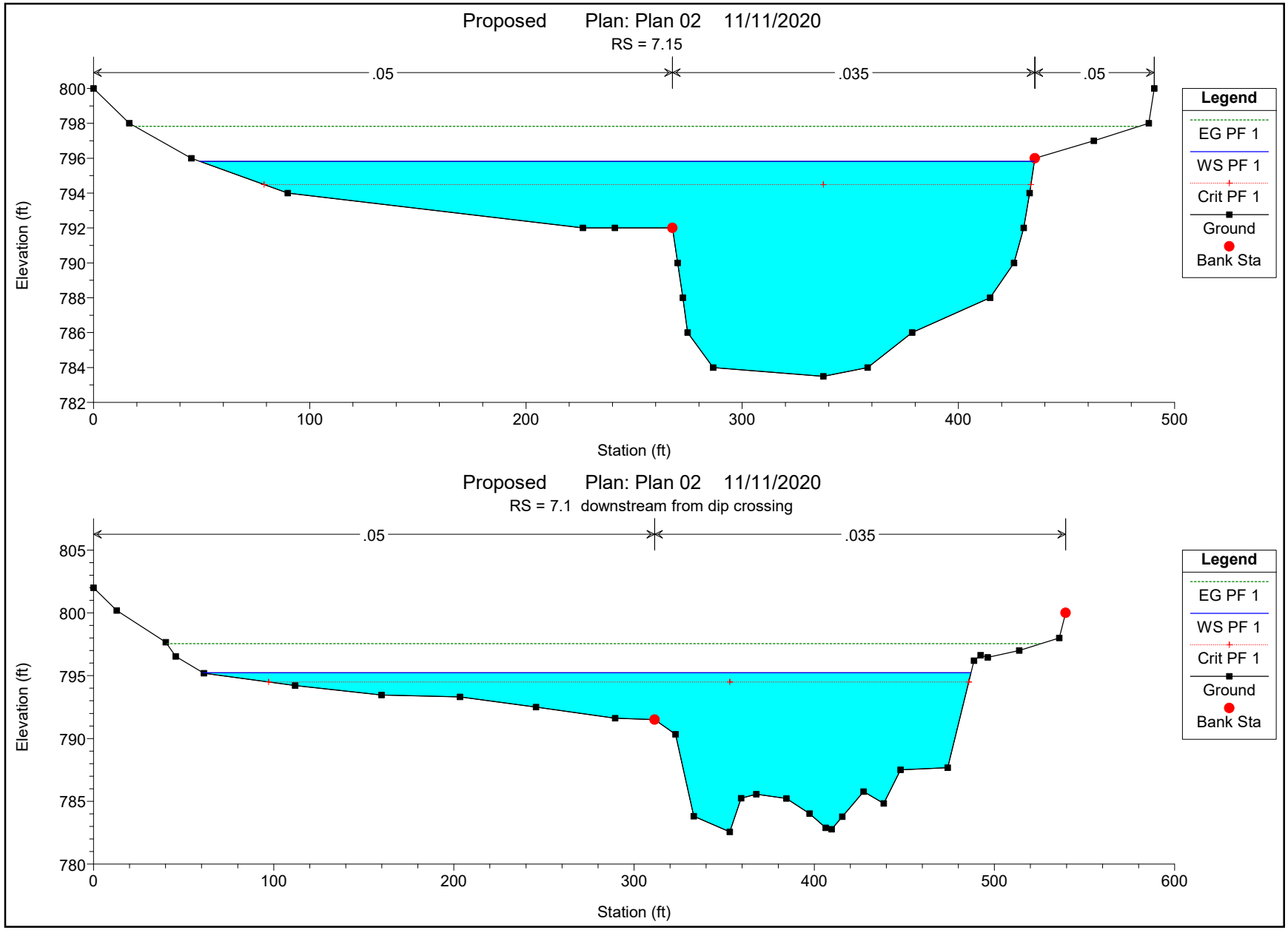

Proposed Plan: Plan 02 11/11/2020
RS = 11 Northernmost Section Triunfo Creek
.035
Elevation (ft)
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Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Proposed Plan: Plan 02 11/11/2020
RS = 10 Southern Section Triunfo Creek above junction
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta

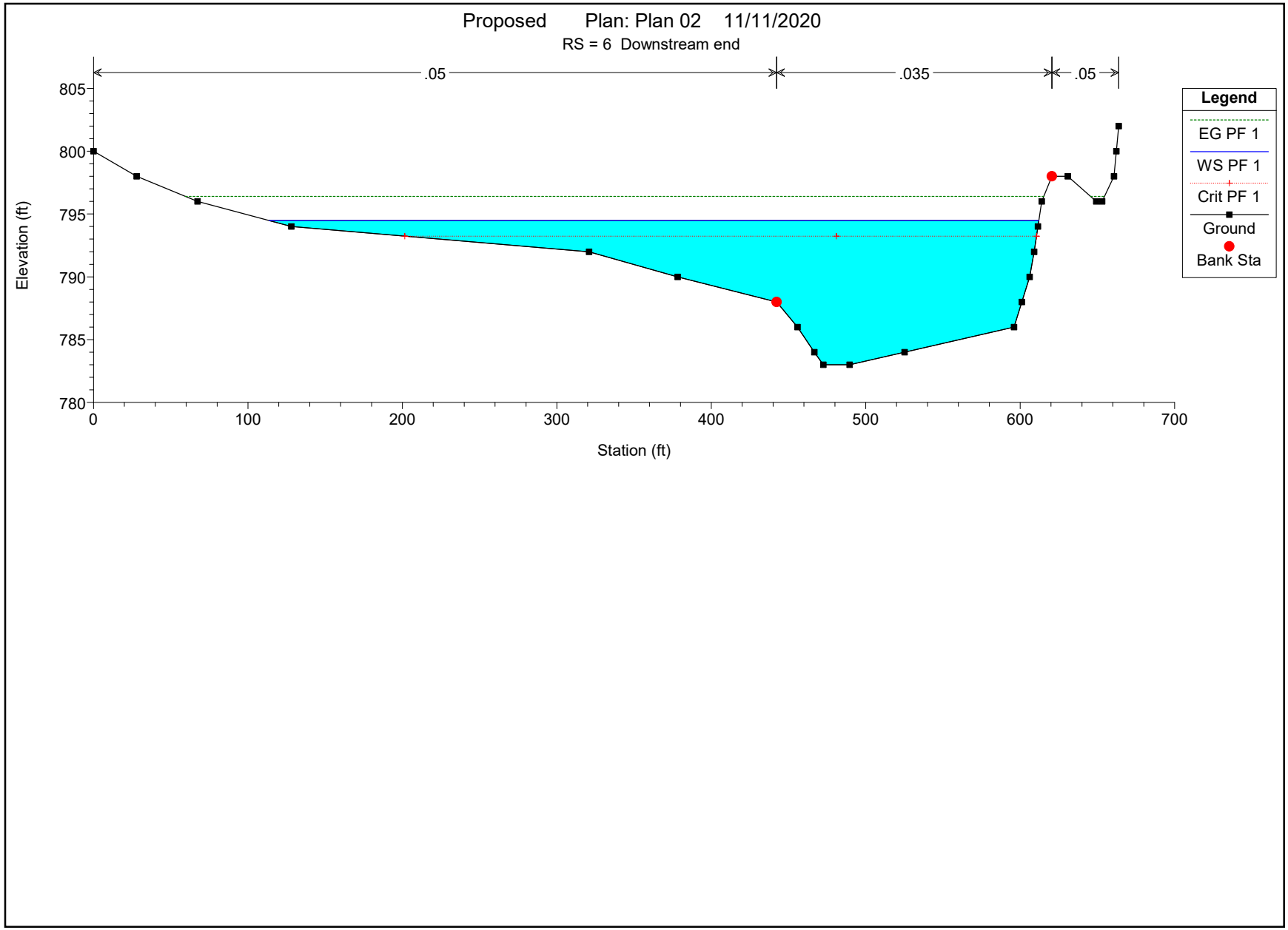

Proposed Plan: Plan 02 11/11/2020
RS = 7.65 Southern Section Triunfo Creek above junction
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
Proposed Plan: Plan 02 11/11/2020
RS = 7.55 2 sections upstream of junction
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta


Proposed Plan: Plan 02 11/11/2020
RS = 7.5
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Elevation (ft)
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Station (ft)
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Crit PF 1
Ground
Bank Sta
Proposed Plan: Plan 02 11/11/2020
RS = 7.4 Across the dip crossing upstream side
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Elevation (ft)
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Station (ft)
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Ground
Bank Sta

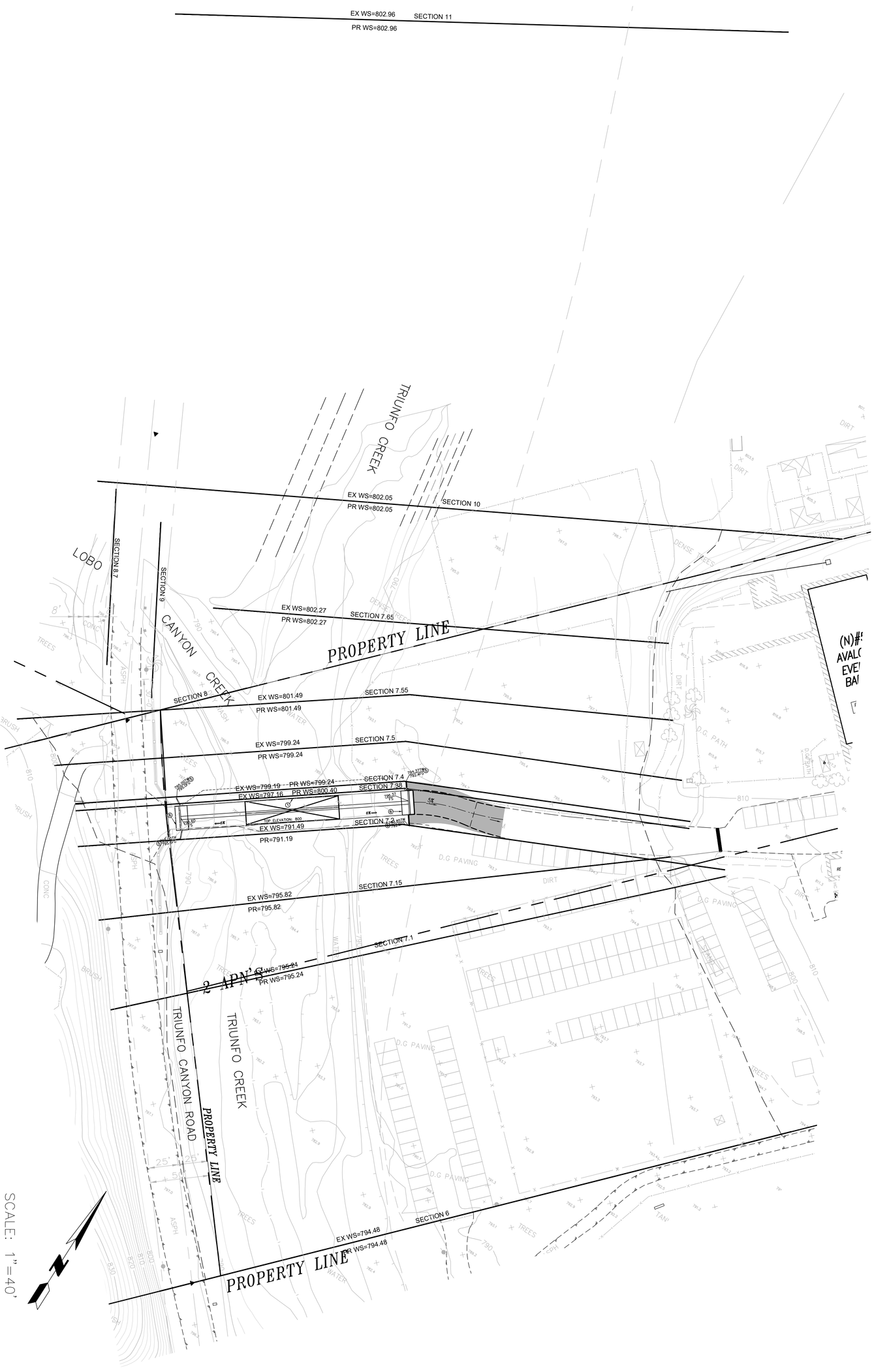

Proposed Plan: Plan 02 11/11/2020
RS = 7.38 Across the dip crossing upstream side
.05
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Elevation (ft)
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Crit PF 1
Ground
Bank Sta
Proposed Plan: Plan 02 11/11/2020
RS = 7.35 BR
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


Proposed Plan: Plan 02 11/11/2020
RS = 7.35 BR
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta
Proposed Plan: Plan 02 11/11/2020
RS = 7.2 section @ 2' downstream of culvert
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta


Proposed Plan: Plan 02 11/11/2020
RS = 7.15
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Elevation (ft)
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Station (ft)
Legend
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WS PF 1
Crit PF 1
Ground
Bank Sta
Proposed Plan: Plan 02 11/11/2020
RS = 7.1 downstream from dip crossing
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Elevation (ft)
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Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta


Proposed Plan: Plan 02 11/11/2020
RS = 6 Downstream end
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Elevation (ft)
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700
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta

HEC-RAS CROSS SECTION MAP



COUNTY OF LOS ANGELES

HEC-RAS MODEL MAP

FOR

2972 TRIUNFO CANYON RD.
AGOURA HILLS, CA 91301
APN. 2063-003-026, -028

BROOKVIEW RANCH

PREPARED FOR:

BROOKVIEW RANCH, LLC

DR. THOMAS & CHERYL KNAPP
2972 TRIUNFO CANYON RD.
AGOURA HILLS, CA 91301

NO.	REVISION	REVISED BY (Registered Engineer's Signature)	CITY APPROVAL	DATE

REGISTERED PROFESSIONAL ENGINEER
DOUG FARMER
No.49041
Exp. 09-30-2022
CIVIL
STATE OF CALIFORNIA

PROJECT ENGINEER DATE

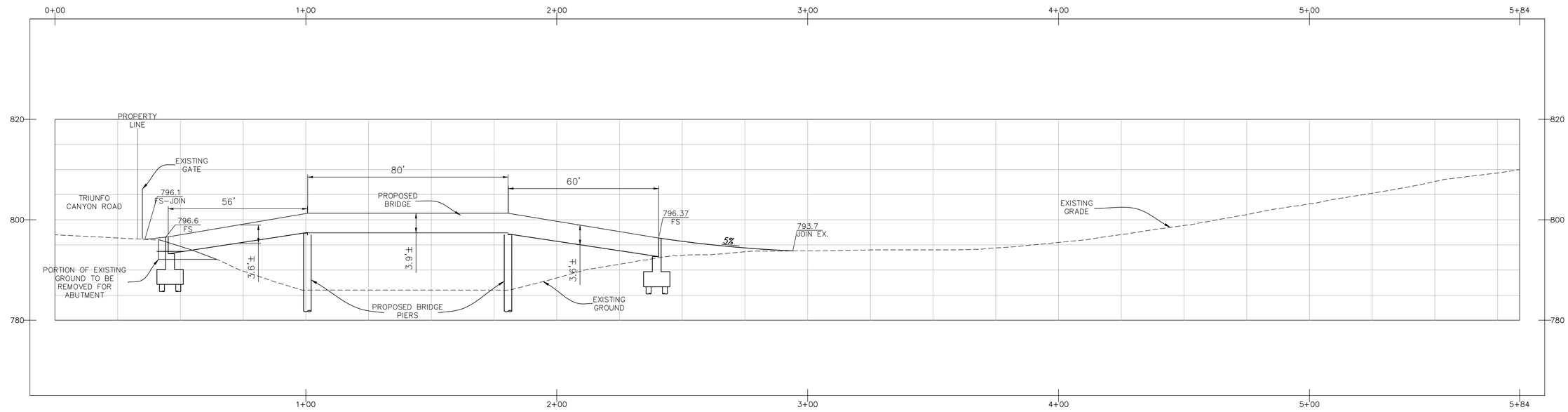
PREPARED BY:

SIKAND
Engineering | Planning | Surveying
15230 Burbank Blvd.
Van Nuys, CA 91411
Tel: (818) 787-8550
Fax: (818) 901-7451
info@sikand.com

SCALE: 1" = 40'
SHEET NUMBER: OF 1 SHEETS
DRAWING NO.: 5120-004-00
DATE: 07-12-2020

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PRELIMINARY BRIDGE
PLAN AND PROFILE



BRIDGE CROSS-SECTION

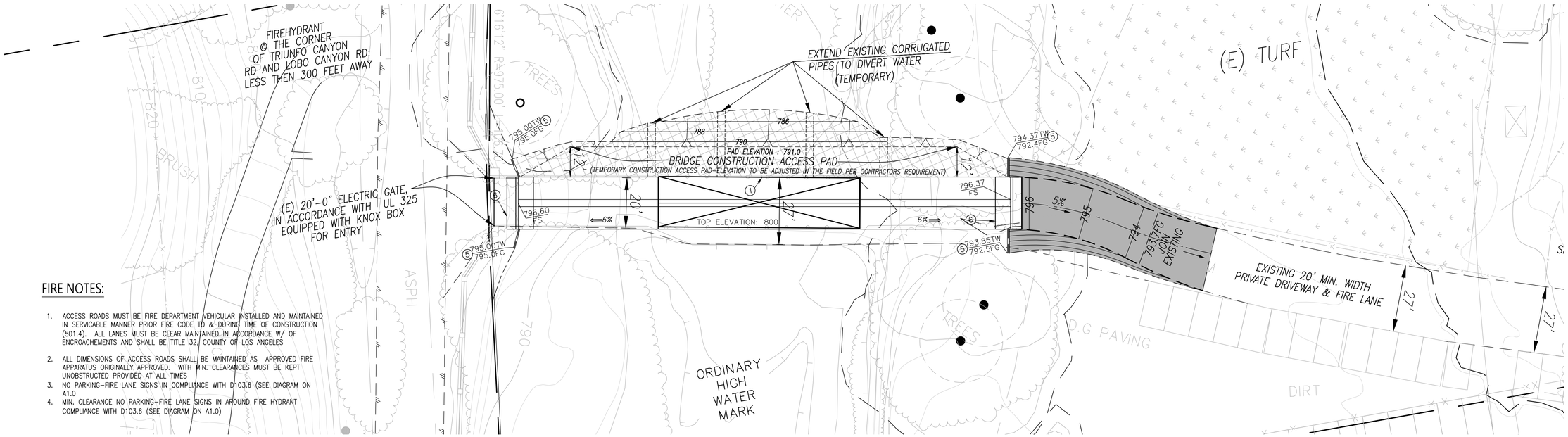
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'

CONSTRUCTION NOTES: ON–SITE

1. BRIDGE BY SEPARATE PERMIT
2. FORCE MAIN BY SEPARATE PERMIT
3. 6" SEWER LINE
4. SEWER CLEANOUTS
5. VARIABLE HEIGHT BRIDGE WING WALLS PER SEPARATE PERMIT
6. BRIDGE ABUTMENTS PER STRUCTURAL PLAN

LEGEND:

: *TEMPORARY ACCESS PAD AND GRADING FOR BRIDGE CONSTRUCTION. TEMPORARY EXTENSION OF EXISTING CORRUGATED PIPES TO DIVERT WATER DURING BRIDGE CONSTRUCTION*



FIRE NOTES:

1. ACCESS ROADS MUST BE FIRE DEPARTMENT VEHICULAR INSTALLED AND MAINTAINED IN SERVICABLE MANNER PRIOR FIRE CODE TO & DURING TIME OF CONSTRUCTION (501.4). ALL LANES MUST BE CLEAR MAINTAINED IN ACCORDANCE W/ OF ENCROACHEMENTS AND SHALL BE TITLE 32, COUNTY OF LOS ANGELES
2. ALL DIMENSIONS OF ACCESS ROADS SHALL BE MAINTAINED AS APPROVED FIRE APPARATUS ORIGINALLY APPROVED, WITH MIN. CLEARANCES MUST BE KEPT UNOBSTRUCTED PROVIDED AT ALL TIMES
3. NO PARKING–FIRE LANE SIGNS IN COMPLIANCE WITH D103.6 (SEE DIAGRAM ON A1.0
4. MIN. CLEARANCE NO PARKING–FIRE LANE SIGNS IN AROUND FIRE HYDRANT COMPLIANCE WITH D103.6 (SEE DIAGRAM ON A1.0)

PREPARED BY:
SIKAND
Engineering · Planning · Surveying
15230 Burbank Blvd.
Van Nuys, CA 91411
Tel: (818) 787-8550
Fax: (818) 901-7451
info@sikand.com

REGISTERED PROFESSIONAL ENGINEER
STEVE FARMER
No. 49041
Exp. 09-30-2020
CIVIL
STATE OF CALIFORNIA

PROJECT ENGINEER | DATE

NO.	REVISION	REVISED BY (Registered Engineer's Signature)	CITY APPROVAL	DATE

PREPARED FOR:
BROOKVIEW RANCH, LLC
DR. THOMAS & CHERYL KNAPP
2972 TRIUNFO CANYON RD.
AGOURA HILLS, CA 91301

COUNTY OF LOS ANGELES
ROUGH GRADING PLAN
FOR
2972 TRIUNFO CANYON RD.
AGOURA HILLS, CA 91301
APN. 2063-003-026, -028
BROOKVIEW RANCH

DATE: 07–13–2020
DRAWING NO.: 5120–004–00
SHEET NUMBER: 7
7 OF 7 SHEETS
SCALE: 1" = 30'

C:\Users\Sikand\Desktop\Work Files\Brookview Ranch\Grading\RG – Sheet5.dwg

Appendix G

Las Virgenes Municipal Water District
Conditional Statement of Sewer Connection and Financial Agreement for Wastewater Service

LAS VIRGENES MUNICIPAL WATER DISTRICT
EST. 1958

Dedicated to Providing High-Quality Water Service in a Cost-Effective and Environmentally Sensitive Manner

OFFICERS

President
Jay Lewitt
Director, Division 5

Vice President
Leonard E. Polan
Director, Division 4

Secretary
Charles P. Caspary
Director, Division 1

Treasurer
Lynda Lo-Hill
Director, Division 2

Lee Renger
Director, Division 3

David W. Pedersen, P. E.
General Manager

W. Keith Lemieux
Counsel

HEADQUARTERS
4232 Las Virgenes Road
Calabasas, CA 91302
(818) 251-2100
Fax (818) 251-2109

WESTLAKE
FILTRATION PLANT
(818) 251-2370
Fax (818) 251-2379

TAPIA WATER
RECLAMATION FACILITY
(818) 251-2300
Fax (818) 251-2309

RANCHO LAS VIRGENES
COMPOSTING FACILITY
(818) 251-2340
Fax (818) 251-2349

www.LVMWD.com

MEMBER AGENCY OF THE
METROPOLITAN WATER
DISTRICT
OF SOUTHERN CALIFORNIA

Glen D. Peterson
MWD Representative

August 21, 2019

Johanna Falzarano
Envicom Corporation
4165 East Thousand Oaks Blvd., Suite 290
Westlake Village, CA 91362

RE: RESPONSE TO UTILITY NOTICE VIA EMAIL DATED AUGUST 20, 2019: 2972 TRIUNFO CANYON RD, AGOURA HILLS, APN: 2063-003-026/-028

Dear Ms. Falzarano,

Please find the following enclosed:

Qty.	Date	Document
1	Aug 21, 2019	Disk containing: • Exhibit map showing our utilities • Record drawings for sanitary sewer main • Your original utility request
1	Aug 21, 2019	Print-outs of: • Exhibit map (same as digital file on disk noted above) • Your original utility request

For any comments or questions, please contact me via email at AKajganic@LVMWD.com or by telephone at (818) 251-2162.

Thank you.

Andrea Kajganic
Technical Services Support Specialist

Enclosures:
As noted in the table above

cc: (paper enclosures w/o disk):
Utility Request File

envicom
CORPORATION

MEMORANDUM

Date: August 20, 2019

To: Utility Coordinator, Las Virgenes Municipal Water District

From: Johanna Falzarano, Envicom Corporation

CC: Dr. Thomas Knapp, Brookview Ranch, LLC

Subject: Utility Information Request for Brookview Ranch – Substructure Maps

---

Envicom Corporation is currently providing environmental consulting services to Brookview Ranch, LLC. The property includes a special event facility, equestrian facility, and caretaker's residence, which are served by the property's existing private septic system. On behalf of Brookview Ranch, LLC, we are investigating the option to connect to the sanitary sewer infrastructure that is located in Triunfo Canyon Road at some time in the future. We understand that this infrastructure is operated by the Joint Powers Authority of the Las Virgenes Municipal Water District (LVMWD) and Triunfo Sanitation District. The property is already provided with potable water by the LVMWD.

The property is shown on the attached figure, and is identified as:

Property Address: 2972 Triunfo Canyon Road, Agoura Hills, California 91301
County of Los Angeles Assessor's Parcel Numbers: 2063-003-026 and 2063-003-028

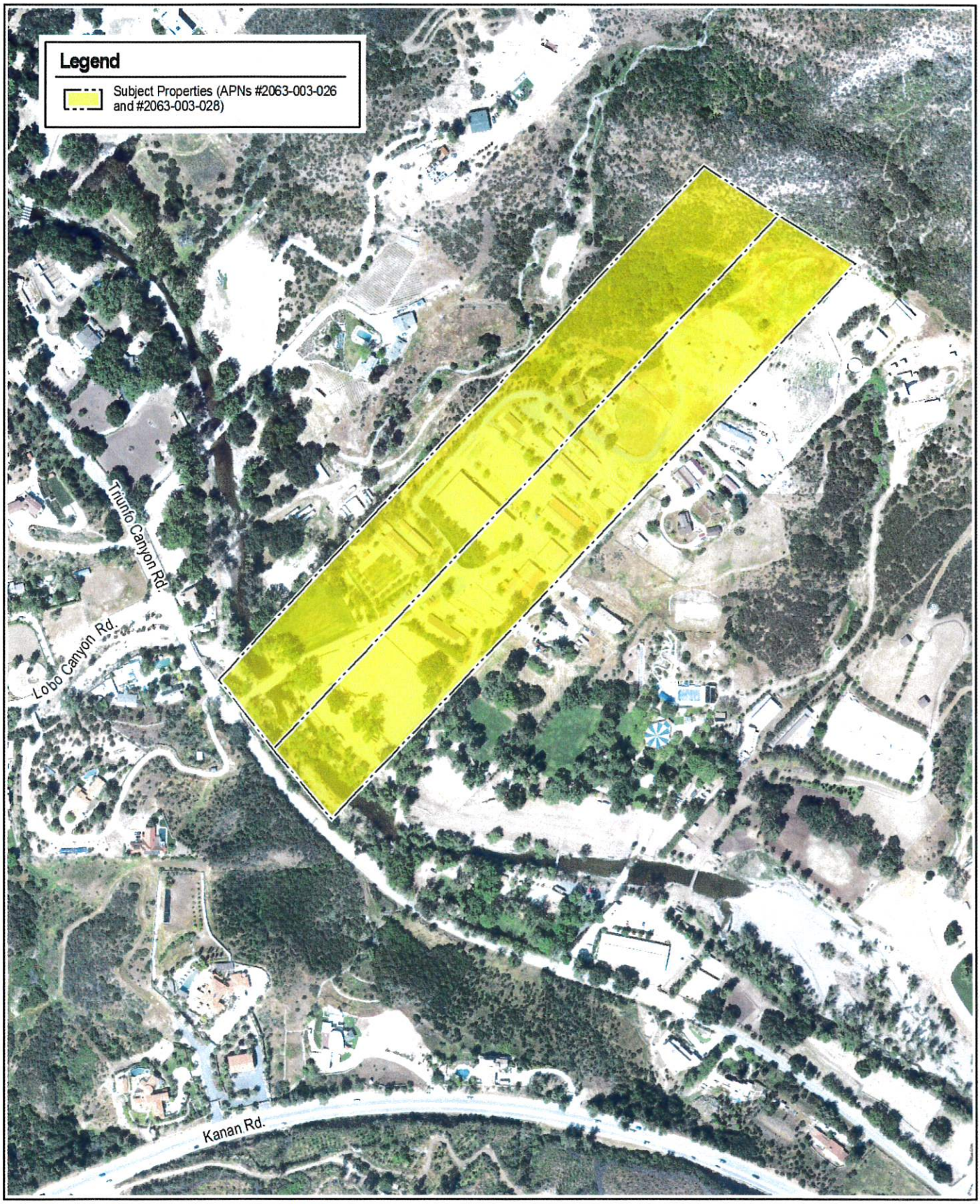
We request the utility substructure map for the following location so that we may identify the appropriate point of connection for the property:

Substructure Location: Triunfo Canyon Road at the property frontage (between Kanan Road and Lobo Canyon Road)

We also seek 1) confirmation by the LVMWD that it would be the purveyor of this service for the indicated property; 2) a determination by the LVMWD that it has the wastewater collection and treatment capacity to serve the property; and 3) a list of the fees associated with such a sewer connection.

Thank you for your assistance.

Johanna Falzarano, Senior Project Manager
Envicom Corporation
4165 East Thousand Oaks Boulevard, Suite 290
Westlake Village, California 91362
818-879-4700
jfalzarano@envicomcorporation.com



Source: Valtus Imagery Services: Hexagon Imagery Program (HxIP), 2017.

BROOKVIEW RANCH

envicom

Property Location

0 175 350 Feet

FIGURE 1

LAS VIRGENES MUNICIPAL WATER DISTRICT
EST. 1958

Dedicated to Providing High-Quality Water Service in a Cost-Effective and Environmentally Sensitive Manner

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MEMBER AGENCY OF THE
METROPOLITAN WATER
DISTRICT
OF SOUTHERN CALIFORNIA

Glen D. Peterson
MWD Representative

August 22, 2019

CONDITIONAL STATEMENT OF SEWER CONNECTION

TO WHOM IT MAY CONCERN:

SUBJECT: 2972 Triunfo Canyon Rd, Agoura Hills
APN # 2063-003-026/-028

This is to advise you that after connection fees are paid for sewer service for the above property to Las Virgenes Municipal Water District, a Financial Arrangements letter will be produced and the customer can connect to sewer.

This project will be assured of connection to the sewer system only if the proponent satisfies all terms and conditions for service as set forth in the district's Code.

Sincerely,

Andrea Kajganic
Technical Services Support Specialist

Fee Schedule: July 2019

LAS VIRGENES MUNICIPAL WATER DISTRICT

POTABLE WATER CAPACITY FEES - SUBDIVISION RATES								
Size	GPM	Const	Cons	Admin	Meter	Install (4)	W/O Reg	W/Reg
3/4"	30	$ 13,733	$ 1,358	$ 276	$ 98	$ 345	$ 15,809	$ 15,943
1"	50	$ 22,827	$ 2,258	$ 276	$ 154	$ 326	$ 25,841	$ 26,087
1 1'2"	100	$ 45,563	$ 4,506	$ 276	$ 303	$ 150	$ 50,798	$ 51,898
2"	160	$ 72,843	$ 7,204	$ 276	$ 414	$ 200	$ 80,937	$ 82,037
3"	320	$ 159,124	$ 15,738	$ 276	2" DC thru 10"		$ 175,138	
4"	500	$ 286,418	$ 28,327	$ 276	Meter: Developer to		$ 315,021	
6"	1000	$ 727,398	$ 71,940	$ 276	purchase & install		$ 799,614	
8"	1600	$ 1,272,939	$ 125,895	$ 276	meter		$ 1,399,110	
10"	2500	$ 1,909,403	$ 188,842	$ 276			$ 2,098,521	

POTABLE WATER CAPACITY FEES - REGULAR RATES								
Size	GPM	Const	Cons	Admin	Meter	Install (4)	W/O Reg	W/Reg
3/4"	30	$ 13,733	$ 1,358	$ 276	$ 98	$ 2,780	$ 18,244	$ 18,378
1"	50	$ 22,827	$ 2,258	$ 276	$ 154	$ 2,780	$ 28,294	$ 28,540
1 1'2"	100	$ 45,563	$ 4,506	$ 276	$ 303	$ 2,780	$ 53,428	$ 54,528
2"	160	$ 72,843	$ 7,204	$ 276	$ 414	$ 2,780	$ 83,516	$ 84,616
3"	320	$ 159,124	$ 15,738	$ 276	2" DC thru 10"		$ 175,138	
4"	500	$ 286,418	$ 28,327	$ 276	Meter: Developer to		$ 315,021	
6"	1000	$ 727,398	$ 71,940	$ 276	purchase & install		$ 799,614	
8"	1600	$ 1,272,939	$ 125,895	$ 276	meter		$ 1,399,110	
10"	2500	$ 1,909,403	$ 188,842	$ 276			$ 2,098,521	

General Notes:

1 The installation charge for 3/4" & 1" meters (subdivision rate) allows for the credit as specified per Section 3-2.215 of the Water Ordinance.
2 An applicant shall pay Capacity Fees existent when service commences regardless of when the Capacity Fees are deposited/paid.
3 Cost for regulated services greater than 2" to be determined before installation.
4 Installation costs for meters greater than 1" are only deposits toward actual cost to be paid.

SEWER CAPACITY FEES	
Sewer District	Fee per ERU or Residence
U-1	$ 12,645
U-2	$ 12,645
U-3	$ 3,900
B	$ 3,900
D	$ 12,645

Sewer Capacity Fees for commercial properties are based on 25 fixture units (from Los Angeles County Uniform Plumbing Code) per 1 ERU (Equivalent Residential Unit).

Capacity Fees are effective July 1, 2019

Parcels 2018

Potable Water Meter
- Domestic
- Potable Water Hydrant

Potable Water Control Valve
- AirRelease/VacuumRelease
- Blowoff

Potable Water System Valve
- Gate
- Plug

Potable Water Main Line
- Air Release
- Blowoff
- Distribution Main

ss Manhole
- Drop
- Standard
- ss Lateral Line

ss Gravity Main
- Trunk

3061
3030
3014
30925
F-2-8
Lobo Canyon Rd
2938
2972
2936
2940
3009
F-2-7
Triunfo Canyon Rd
30958
30954
30940
2977
F-2-6
2351
Tranquil Ln
2401
2445
F-2-5

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

0 200 400
Feet

N
W E
S

2972 Triunfo Canyon Rd

Las Virgenes Municipal Water District is not responsible for the accuracy of this presentation. This presentation is for illustrative purposes only. Verify the physical location of all property lines, water lines and ancillary information prior to use.

LAS VIRGENES MUNICIPAL WATER DISTRICT
EST. 1958

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MEMBER AGENCY OF THE
METROPOLITAN WATER
DISTRICT
OF SOUTHERN CALIFORNIA

Glen D. Peterson
MWD Representative

January 21, 2020

TOM KNAPP
2972 TRIUNFO CANYON RD
AGOURA HILLS, CA 91301

Account:
Service Location: 2972 TRIUNFO CANYON RD

TO WHOM IT MAY CONCERN

The district has reviewed the plans submitted for the above referenced account on 1/21/2020. The purpose of this plan review is to determine the number and type of plumbing fixtures that will be discharging into the district's sewer system. Each type of plumbing fixture is assigned a "design flow factor' by the Los Angeles County - Uniform Plumbing Code. A plumbing fixture count of 25 equates to 1 sanitation billing unit, or Equivalent Residential Units (ERU).

The district requires two forms of revenue from all sanitation customers, both of which are based on ERU. The first is capacity fees charged for each ERU connecting into the district wide sewer system. These fees are used to fund capital improvements such as the tertiary water reclamation facility. The second is a monthly service charge assessed on each ERU to cover the cost of maintaining and operating the reclamation system.

Before a Financial Arrangement Letter can be generated for this account, the district requires a payment of $63,225.00 for 111.25 fixture units or 5 ERU due by 2/21/2020.

For any questions, please call (818) 251-2240.

Sincerely,

for

Joanne Bodenhamer
Planning & New Development Technician

LAS VIRGENES MUNICIPAL WATER DISTRICT
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MEMBER AGENCY OF THE
METROPOLITAN WATER
DISTRICT
OF SOUTHERN CALIFORNIA

Glen D. Peterson
MWD Representative

January 21, 2020

Subject Property:

2972 TRIUNFO CANYON RD

To Whom It May Concern:

Financial arrangements for the above subject facility have been made with this District for sewer capacity fees. A deposit toward the capacity fees for sewer service has been paid to this District by the developer of the subject property in conjunction with tract approvals. At the time of the initial payment, no interior improvement plans were available from which this District could determine the appropriate sewer capacity fee deposit. A building plan/building interior completion plan has now been presented for the subject property, which includes sufficient information to calculate an updated deposit amount, and that amount has been paid to the District.

Financial arrangements are in accordance with current District ordinances and Resolutions and other terms and conditions of service but are subject to change by Ordinance/Resolution from time to time. Current regulations require a customer to pay sewer capacity fees existent not more that 30 days prior to the commencement of service. Service "commences" when the improvements to be serviced by the sewer system are physically connected to the sewer collection system and the improvements may be lawfully occupied.

This District has no objection to the issuance of a building permit for the construction as proposed at this time. Amounts currently paid will be held as a deposit. The total amount of sewer capacity fees are determined by regulations in effect when the facility is ready for occupancy.

Sincerely,

Joanne Bodenhamer
Planning & New Development Technician

LAS VIRGENES MUNICIPAL WATER DISTRICT
PREPAID DEPOSITS

RECEIPT NO: 104348

4232 LAS VIRGENES RD
CALABASAS CA 91302
(818) 251-2100

DATE: 01/21/2020
ACCOUNT NO: C0297250
SEWER DISTRICT: 01

NAME: BROOKVIEW RANCH LLC
ADDRESS: 2972 TRUNFO CANYON RD
AGOURA HILLS, CA 91301

CASH:
CHECK NO: 2422
MONEY ORDER NO:

QUANTITY	DESCRIPTION	DEPOSIT	G/L #
	WATER SYSTEM DESIGN REPORT	$	2315.01
	3/4" WATER METER	$	2310.09
	1" WATER METER	$	2310.09
	1 1/2" WATER METER	$	2310.09
	2" WATER METER	$	2310.09
	2" FIRE METER	$	2310.09
	DETECTOR CHECK ADMIN FEE	$	2310.09
	WATER PLAN CHECK	$	2315.02
	WATER INSPECTION	$	2315.04
	RIGHT-OF-WAY	$	2315.03
	MASTER METER	$	2315.08
5	SEWER CONNECTION ERU 12,645	$ 63,225	2310.10
	SEWER PLAN CHECK	$	2315.05
	SEWER INSPECTION	$	2315.06
	ANNEXATION FEE	$	2435.53
	SURETY DEPOSIT	$	2315.20
	NON-REFUNDABLE PER LOT DEPOSIT	$	2315.21
	REFUNDABLE VALVE DEPOSIT	$	2315.22
	BID PACKAGE	$	
	STANDARD SPEC BOOK	$	
	OTHER	$	
	OTHER	$	

PROPERTY ADDRESS: 2972 TRUNFO CANYON RD, AGOURA HILLS
CUSTOMER ACCOUNT NO:
APN:

METER INSTALLS: REGULAR ☐ SUBDIVISION ☑

RECEIVED BY: [signature]

TOTAL: $ 63,225

White stays in book | Blue to customer | Yellow to accounting

LAS VIRGENES MUNICIPAL WATER DISTRICT
EST. 1958

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MEMBER AGENCY OF THE
METROPOLITAN WATER
DISTRICT
OF SOUTHERN CALIFORNIA

Glen D. Peterson
MWD Representative

October 20, 2020

Subject Property: 0000752400
2972 TRIUNFO CANYON RD

To Whom It May Concern:

Financial arrangements for the above subject facility have been made with this District for sewer capacity fees. A deposit toward the capacity fees for sewer service has been paid to this District by the developer of the subject property in conjunction with tract approvals. At the time of the initial payment, no interior improvement plans were available from which this District could determine the appropriate sewer capacity fee deposit. A building plan/building interior completion plan has now been presented for the subject property, which includes sufficient information to calculate an updated deposit amount, and that amount has been paid to the District.

Financial arrangements are in accordance with current District ordinances and Resolutions and other terms and conditions of service but are subject to change by Ordinance/Resolution from time to time. Current regulations require a customer to pay sewer capacity fees existent not more than 30 days prior to the commencement of service. Service "commences" when the improvements to be serviced by the sewer system are physically connected to the sewer collection system and the improvements may be lawfully occupied.

This District has no objection to the issuance of a building permit for the construction as proposed at this time. Amounts currently paid will be held as a deposit. The total amount of sewer capacity fees are determined by regulations in effect when the facility is ready for occupancy.

Property served by ¾" meter providing 30 gallons per minute.

Sincerely,

Joanne Bodenhamer
Planning & New Development Technician