Laguna Road Pipeline Project

Public Review Draft Initial Study – Mitigated Negative Declaration

prepared by

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prepared with the assistance of

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Initial Study

1. Project Title

PTP Recycled Water Connection, Laguna Road Pipeline Project

2. Lead Agency/Project Sponsor and Contact

Lead Agency/Project Sponsor

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Oxnard, California 93030

Contact Person

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3. Project Location

The project site is located in unincorporated Ventura County, south of Camarillo and east of Oxnard (see Figure 1). The proposed project alignment extends along or directly north of Laguna Road, which is approximately 1.7 miles east of State Route (SR) 1 and 1.4 miles south of SR 34. The North Alignment Alternative would run through privately owned agricultural land north of Laguna Road. The Roadway Alignment Alternative would run along Laguna Road within the public right-of-way (ROW). The proposed pipeline would extend from Wood Road on the east to approximately one mile east of East Pleasant Valley Road on the west.

The project site also partially encompasses Revolon Slough, a 55-foot wide, 16-foot deep concrete box channel that generally runs north-south and flows into Calleguas Creek. A portion of the project would also be located northwest of the intersection of Laguna Road and Wood Road, within Assessor's Parcel Number 218-002-062 (see Figure 2).

Figure 1 shows the regional location of the project site, and Figure 2 shows the project alignment at a local scale. Figure 3 shows photographs of the project site.

4. Surrounding Land Uses

The North Alignment Alternative and Roadway Alignment Alternative are generally surrounded by agricultural fields and agro-industrial development. Laguna Road is a paved public road running east-west between agricultural lands. Revolon Slough crosses the pipeline alignment, running north-south under Laguna Road.

Figure 1 Regional Project Location

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Project Location

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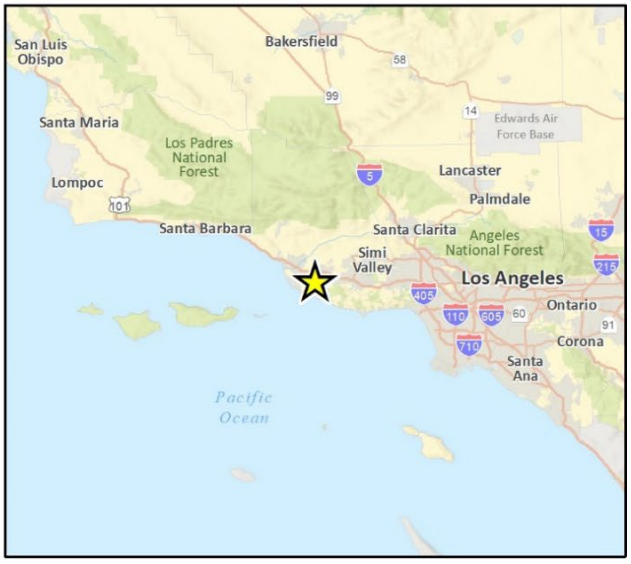


Figure 2 Project Site Location

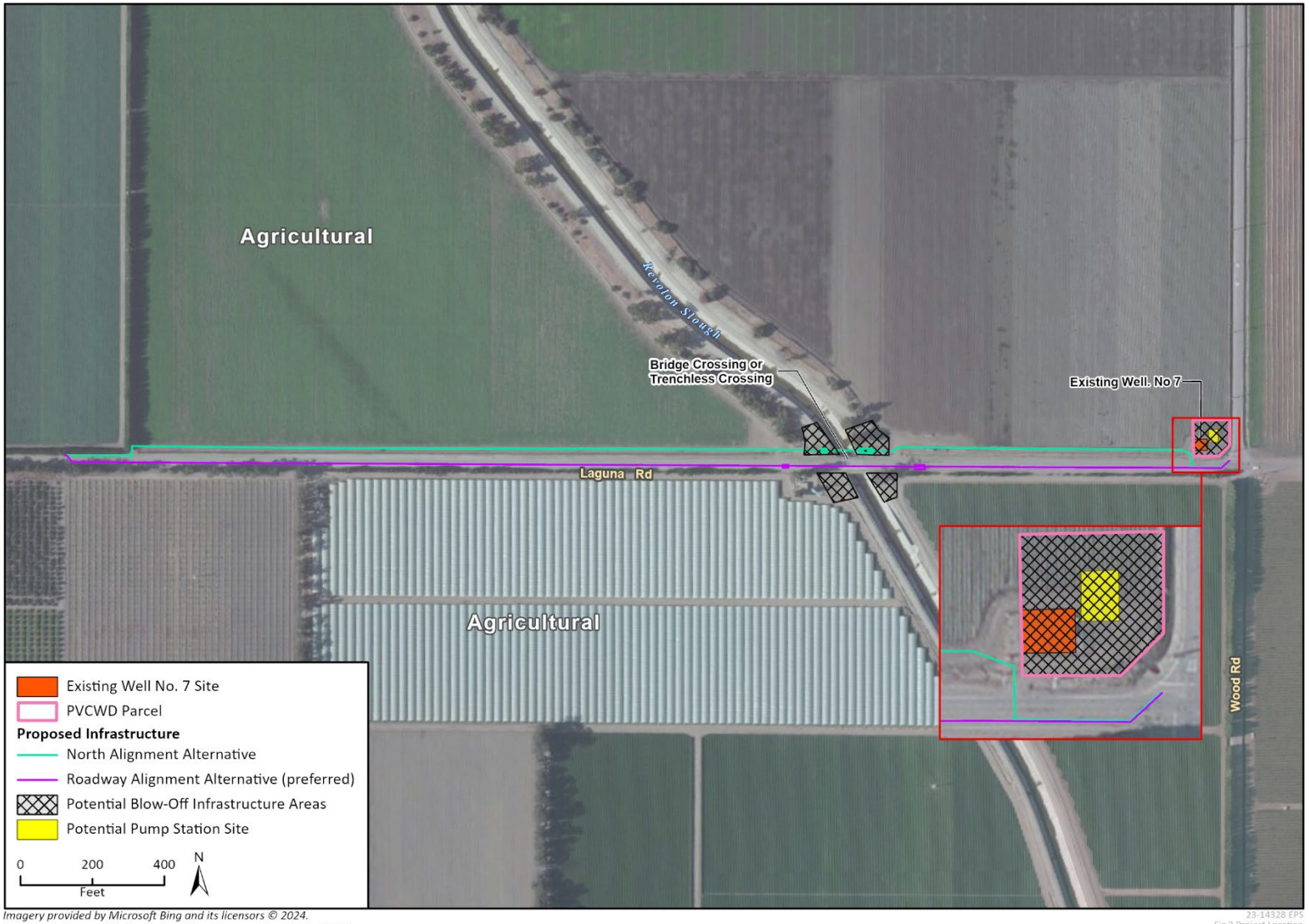


Figure 3 Site Photographs

Photograph 1. View of agricultural land within the central portion of the North Alignment Alternative, facing west.

Photograph 2. View of eastern portion of Roadway Alignment Alternative in Laguna Road, facing southwest.

Photograph 3. View of Laguna Road bridge crossing over Revolon Slough, facing northeast.

Photograph 4. View of the existing PVCWD-operated Well No. 7 at the proposed pump station site, facing northeast.

5. General Plan Designation

The North Alignment Alternative would be located on private agricultural lands, designated Agricultural. The Roadway Alignment Alternative would be located within existing public roadway rights-of-way, which do not have a Ventura County 2040 General Plan designation. The proposed pump station site is also designated Agricultural (Ventura County Resource Management Agency 2020a).

6. Zoning

The North Alignment Alternative would be located on private agricultural lands, zoned Agricultural Exclusive (AE-40). The Roadway Alignment Alternative would be located within existing public roadway right-of-way, which does not have a County of Ventura zoning designation. The proposed pump station site is zoned Agricultural Exclusive (AE-40 ac) (County of Ventura Resource Management Agency 2020a).

7. Description of Project

Project Background

United Water Conservation District (United) operates the Pumping Trough Pipeline (PTP) System, an agricultural irrigation pipeline completed in 1986 to deliver surface water diverted from the Santa Clara River and groundwater pumped from five deep wells screened in the Lower Aquifer System (LAS) to agricultural growers in the Oxnard Plain.[1] The PTP System is used for irrigation of agricultural crops and is not subject to drinking water standards and regulations.

Recycled water is currently produced by the City of Oxnard's Advanced Water Purification Facility (AWPF) and other agencies surrounding the Oxnard Plain. To support efforts to reduce groundwater pumping in the Oxnard Plain, United has been coordinating with neighboring agencies regarding potential pipeline connections to the PTP System for the delivery of recycled water mainly from the AWPF. The following recycled water supply sources have been under consideration:

- City of Oxnard's AWPF
- Camrosa Water District's Conejo Creek Diversion[2]
- Camrosa Water District's Water Reclamation Facility (WRF)
- City of Camarillo's WRF

United's PTP System is located within approximately 3,500 feet west of the Pleasant Valley County Water District (PVCWD) system on Laguna Road in unincorporated Ventura County. Connecting the two systems would enable the transfer of recycled water supplies from the City of Oxnard's AWPF or other potential sources through the PVCWD system to United's PTP System.

In January 2023, PVCWD adopted a Final Initial Study – Mitigated Negative Declaration (IS-MND) for the Groundwater Sustainability Improvement Program. The purpose of the project is to facilitate

[1] United Water Conservation District. 2023. "Pumping Trough Pipeline." https://www.unitedwater.org/pumping-trough-pipeline/ (accessed May 24, 2023)

[2] Surface water diversion which is mostly comprised of City of Thousand Oaks Hill Canyon Wastewater Treatment Plant disinfected tertiary recycled water during dry weather periods

transfer of existing water supplies to United's PTP System. The project includes construction of approximately 8,000 linear feet (LF) of new 18-inch recycled water pipeline on Laguna Road to interconnect two existing transmission laterals located along Wood Road and Las Posas Road.

The purpose of the proposed project is to enable the transfer of recycled water supplies from the City of Oxnard's AWPF and the PVCWD system to United's PTP System for agricultural irrigation use. The project would not modify the permits/agreements managed by Camrosa Water District for the Conejo Creek diversion or WRF, the City of Oxnard for its AWPF, or the City of Camarillo for its WRF. United is coordinating with PVCWD to develop a water delivery agreement which would facilitate the transfer of advanced treated recycled water from the PVCWD system to United's PTP System, the quality of which would be equal to water PVCWD would receive from the Oxnard AWPF.

In addition to the recycled water proposed to be delivered to the PTP System, the PTP System currently conveys water from surface and groundwater sources. For the purposes of this document, the blend of advanced treated recycled water, surface water, and groundwater that would be conveyed via the PTP System will be referred to as "pipeline water." The advanced treated water being transferred from the PVWCD system to United's PTP System will be referred to as "recycled water."

Project Description

The Laguna Road Pipeline Project (project) would involve the construction of approximately 3,000 LF of new 24-inch inside diameter pipeline within or immediately north of Laguna Road as well as a pump station with associated piping. Construction would occur in two phases, with pipeline construction occurring in Phase 1 and pump station construction occurring in Phase 2.

The proposed pipeline would extend from Wood Road on the east to approximately one mile east of East Pleasant Valley Road on the west. The pipeline alignment would cross Revolon Slough via a pipe bridge parallel to the Laguna Road Bridge, or via trenchless pipeline installation such as auger boring or horizontal directional drilling underneath the slough. The new pipeline would connect to the recently-approved PVCWD Groundwater Sustainability Improvement Program pipeline at the intersection of Wood Road and Laguna Road (Phase 1). The project would also involve construction of a new pump station at the northwest corner of the intersection of Laguna Road and Wood Road to convey flows into the PTP System (Phase 2) to enable delivery of recycled water under all operational scenarios.

The project would include construction of two distribution blow-offs, which would allow for discharge of pipeline water from the proposed pipeline and pump station into Revolon Slough during emergency or maintenance operations where dewatering of the pipeline and/or pump station is required. In Phase 1, a distribution blow-off would be constructed near the intersection of Laguna Road and Revolon Slough. In Phase 2, an additional blow-off would be constructed as part of the proposed pump station.

Construction Activities

Pipeline construction (Phase 1) is anticipated to occur from October 2024 to March 2025. Pump station construction (Phase 2) would follow completion of Phase 1 and is anticipated to take approximately six months. Construction activities would occur from 7:00 a.m. to 5:00 p.m., Monday through Friday. Construction equipment staging and worker parking areas would be located on roadway shoulders along Laguna Road and on the pump station site. Tree removal would not be required for construction.

Construction activities associated with the Roadway Alignment Alternative (described below) may require at least a temporary single-lane closure along Laguna Road and could require a double lane closure with detours. Traffic control measures would be implemented during the lane closure, including flaggers at both ends for a single-lane closure and a marked detour for a double-lane closure.

Trenching and trenchless construction activities would require groundwater dewatering. Dewatered groundwater would be tested and potentially treated prior to discharge into Revolon Slough and would be disposed of in accordance with regulatory discharge requirements.

Pipeline Installation and Slough Crossing Alternatives

United is considering several design alternatives for the pipeline alignment and Revolon Slough crossing. These design alternatives and United's current design preferences are summarized here and described in further detail below.

- Pipeline Alignment Alternatives
  - North Alignment Alternative
  - Roadway Alignment Alternative (preferred)
- Revolon Slough Crossing Alternatives
  - Bridge Crossing Alternative
  - Trenchless Crossing Alternative (preferred)

United will ultimately proceed with one alignment alternative and one Revolon Slough crossing alternative. To provide a conservative analysis, all potential design alternatives are considered in this Initial Study.

PIPELINE ALIGNMENT ALTERNATIVES

Two pipeline alignment alternatives are evaluated: the North Alignment Alternative and the Roadway Alignment Alternative (preferred).

The **North Alignment Alternative** runs approximately 10 feet north of, and parallel to, Laguna Road, as shown in Figure 2. This alignment would run through privately owned agricultural land and would require an approximately 15-foot wide easement. Under this alternative, construction staging would occur on the agricultural property and on the northern roadway shoulder of Laguna Road. Agricultural topsoil would be stockpiled adjacent to the trench and would be restored upon completion of pipeline installation. Any damage to Laguna Road as a result of construction staging activities would be repaired upon completion of construction in accordance with Ventura County encroachment permit requirements.

The **Roadway Alignment Alternative (preferred)** runs along Laguna Road within the public ROW, as shown in Figure 2. Under this alternative, the pipeline would be installed under the paved roadway. Construction activities would require at least a temporary single-lane closure along Laguna Road, and could require a double lane closure with detours. Traffic control measures would be implemented. Upon completion of pipeline installation, the roadway would be repaired and repaved in accordance with Ventura County encroachment permit requirements.

Open cut trenching would be used to install the majority of the pipeline under either alternative. The trench under either alternative would be approximately four feet wide. Open cut trenching would disturb a total surface area of approximately 1.2 acres along the proposed alignment and

would reach an excavation depth of 7 to 13 feet. Approximately 4,200 cubic yards of soil would be excavated during pipeline installation, which would be reused for backfill after construction. Excavated soil would be stockpiled adjacent to the alignment, either within the easement on agricultural property or the Laguna Road shoulder.

REVOLON SLOUGH CROSSING ALTERNATIVES

At Revolon Slough, two alternative crossing methods are considered: the Bridge Crossing Alternative and the Trenchless Crossing Alternative (preferred).

Under the **Bridge Crossing Alternative**, a 26-inch diameter steel pipe would be constructed to cross the 55-foot wide length of Revolon Slough on the northern side of the existing Laguna Road bridge, with pipe saddles on each side of the bridge to support the pipe. No modifications would occur to the existing pier wall within the channel, and no additional supports would be constructed in the channel. Operation of construction equipment within the channel would not be required. An air and vacuum valve would be installed on the pipe because it would be a local high point that could trap air.

Under the **Trenchless Crossing Alternative (preferred)**, a 24-inch inside diameter pipe would be installed underneath Revolon Slough via trenchless auger boring or horizontal directional drilling methods. Auger boring involves jacking steel casing segments forward while removing the spoils within the casing with a rotating auger. Entry and exit pits would be dug on either side of Revolon Slough to accommodate the jacking and receiving shafts. Horizontal directional drilling involves drilling a pilot hole with drilling fluids, which carry drilled soil back to the entry pit. The pilot hole is then enlarged and stabilized, and may be lined with temporary or permanent casing. The pipeline would then be installed in the pilot hole. The entry and exit pits would be located along the North Alignment Alternative or the Roadway Alignment Alternative, straddling Revolon Slough. The entry and exit pits would be up to 20 feet by 20 feet in area, with a maximum excavation depth of approximately 30 feet. Under the Roadway Alignment Alternative, the entry and exit pits would require temporary road closures and detours.

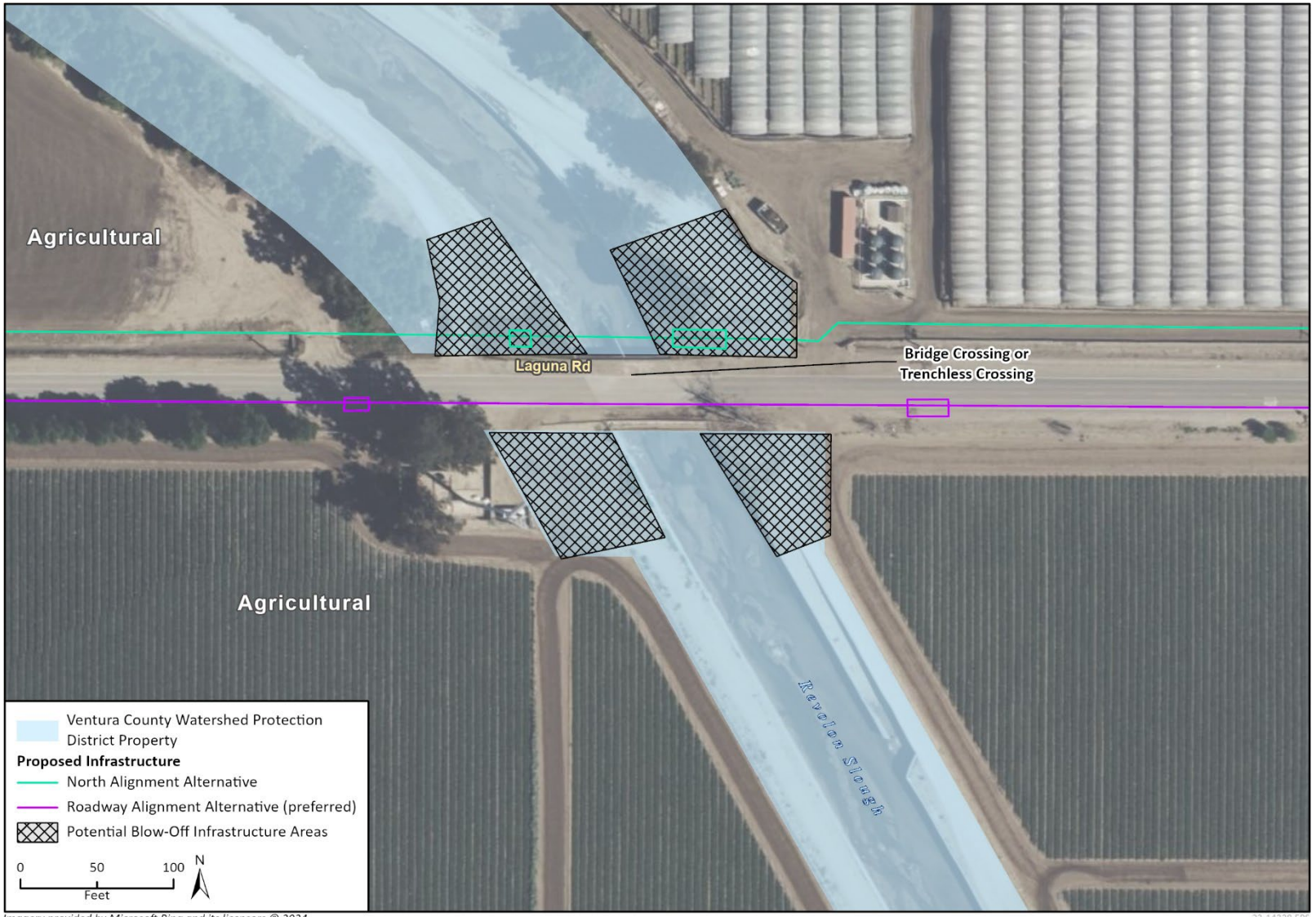
Blow-Off Infrastructure

The project would include a new distribution blow-off as part of the pipeline construction (Phase 1), located near the intersection of Laguna Road and Revolon Slough. Additional blow-off infrastructure would be included as part of the pump station construction on PVCWD owned land (Phase 2), located near the intersection of Laguna Road and Wood Road.

The blow-off infrastructure and temporary infrastructure would be located within the Laguna Road ROW, within VCWPD areas adjacent to Revolon Slough, and/or within a parcel owned by PVCWD which would contain the proposed pump station (Figure 4).

The blow-offs would require construction of new underground blow-off vaults and manholes, the areas of which are shown in Figure 2 and Figure 4. The new blow-off vaults would be connected to the new water main in Laguna Road and/or the pump station via underground PVC pipe, constructed using open cut trenching. The permanent infrastructure for the blow-offs would be entirely underground, and would not involve modifications to Revolon Slough. The proposed distribution blow-offs would discharge pipeline water (conveyed through the PVCWD and PTP Systems for the purposes of irrigation) into Revolon Slough to dewater pipeline sections during construction, repair, or maintenance activities. Discharge activities are detailed below, under Operation and Maintenance.

Figure 4 Potential Blow-Off Activity Areas within VCWPD and PVCWD Parcels



Pump Station

The proposed project also includes construction and operation of a new aboveground booster pump station at the northwestern corner of the intersection of Laguna Road and Wood Road. This property is owned by PVCWD and currently contains the existing Well No. 7. The purpose of the proposed booster pump station is to increase pressure and enable flow from the PVCWD system to United's PTP System to facilitate delivery of recycled water under all operational scenarios.

Construction General Best Management Practices

The project would incorporate the following general best management practices (BMPs) to reduce potential impacts to Revolon Slough and biological resources within the project site:

- Project-related vehicles would observe a five-mile-per-hour speed limit within the unpaved limits of construction.
- All open trenches would be fenced and sloped to prevent entrapment of wildlife species.
- All hollow posts and pipes would be capped, and metal fence stakes would be plugged with bolts or other plugging materials to prevent wildlife entrapment and mortality.
- If construction lighting is required during construction hours, lighting would be shielded and downcast to avoid potential impacts to wildlife migration.
- No deliberate feeding of wildlife would be allowed.
- No pets would be allowed on the project site.
- All areas of temporary ground disturbance would be backfilled and re-contoured to pre-existing grade.
- Before starting or moving construction vehicles at the beginning of each day, operators would inspect under all vehicles to avoid impacts to any wildlife that may have sought refuge on or under equipment. All large building materials and pieces with crevices where wildlife could potentially hide would also be inspected before moving. If wildlife is detected, a qualified biologist would temporarily stop activities until the animal leaves the area. If the animal does not leave the area on its own, a qualified biologist would move the animal out of harm's way. In the case of federal or state-listed species, relocation should be carried out in accordance with regulatory authorizations issued under the Endangered Species Act and/or California Endangered Species Act, Fish and Game Code §§ 1002, 1002.5, 1003, and/or Cal. Code Regs., tit. 14, § 650.

Operation and Maintenance

The proposed pipeline infrastructure would require periodic maintenance related to operational and emergency discharges via blow-off infrastructure. When pipeline dewatering is required, United staff would connect temporary aboveground piping from the blow-off vaults to Revolon Slough. Using a portable generator and pump, pipeline water would be pumped from the risers within the blow-off vaults and discharged into Revolon Slough.

Aboveground temporary piping would extend from the blow-off infrastructure at the PVCWD parcel eastward to Revolon Slough, either along the northern roadway shoulder of Laguna Road or along the North Alignment Alternative route within agricultural land. This extended aboveground temporary piping would terminate at the eastern side of Revolon Slough within one of the blow-off

infrastructure areas shown in Figure 2 and Figure 4, located within Ventura County Watershed Protection District (VCWPD) property. Permitting would be coordinated with VCWPD to cover the aboveground temporary piping access of discharges to Revolon Slough.

If temporary aboveground piping and staging of portable equipment would encroach into Laguna Road, United would obtain an encroachment permit from the County of Ventura and submit the required Traffic Control Plan and application materials. Traffic control measures would be implemented to minimize temporary traffic impacts on Laguna Road.

Each discharge event is anticipated to last up to approximately one day. Discharge operations would occur on an as-needed basis throughout the lifetime of the project.

The existing PTP System is covered by a General National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements (NPDES No. CAG994004, CI-10356) for discharges of irrigation waters up to 3.2 million gallons per day from the PTP System into Revolon Slough and Beardsley Channel, both of which are tributaries to Calleguas Creek. The existing NPDES Permit currently covers 25 Discharge Points to Revolon Slough. Discharged water would comply with volumetric and water quality requirements pursuant to the NPDES Permit and Waste Discharge Requirements.

Besides periodic discharge operations, the proposed project would not require new operations and maintenance activities beyond existing United operations. The anticipated minimum lifetime of the proposed pipeline and booster pump station is 50 years.

8. Other Public Agencies Whose Approval is Required

United is the lead agency for this project. Depending on the design alternatives selected, an encroachment or easement would be required from VCWPD. United would coordinate with and obtain permits as necessary from VCWPD for the use of temporary piping within their jurisdiction, and United would coordinate with PVCWD regarding the location of the proposed pump station.

The project may also require approval from the California State Water Resources Control Board, Division of Drinking Water, County of Ventura, United States Department of Agriculture (USDA) Natural Resources Conservation Service, and Fox Canyon Groundwater Management Agency.

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Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

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

Determination

Based on 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 to 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 "less than significant with mitigation incorporated" 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 potential 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.

Signature	Date
Printed Name	Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant 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?	☐	☐	☐	■
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	■
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	■
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	■

a. Would the project have a substantial adverse effect on a scenic vista?

The Ventura County General Plan Conservation and Open Space Element (County of Ventura 2020a) establishes Goal COS-3, which seeks to preserve, protect, and enhance the unique scenic resources in Ventura County, and ensure access to scenic resources within Ventura County for present and future generations. Ventura County offers a variety of scenic resources including panoramic views of the Santa Monica Mountains in the south, northern vistas of the Topatopa mountain range in the Los Padres National Forest, and scenic views of coastal beaches and cliffs in the west (County of Ventura 2020a). Scenic vistas visible from the project site include distant views of the Santa Susana and Santa Monica Mountains. After construction, the pipeline and permanent blow-off infrastructure would be located entirely underground, either in an agricultural easement north of Laguna Road or within the ROW of Laguna Road. The aboveground pump station would be visually consistent with the existing PVCWD-operated Well No. 7 on the same parcel (Figure 3, Photograph 4).

Temporary aboveground blow-off piping and equipment would only be present periodically on an as-needed basis, anticipated to require up to approximately one day per discharge event.

Therefore, the project would have no potential to adversely affect views of scenic vistas in the local area under any of the design alternatives. No impact would occur.

NO IMPACT

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

SR 33, also known as Maricopa Highway, is the closest state-designated scenic highway to the project site (California Department of Transportation [Caltrans] 2019). SR 33 is located approximately 25 miles northwest of the project site, and the project site is not visible from this highway due to distance and intervening topography. Given the distance from SR 33, the project would not substantially damage scenic resources within a state scenic highway. Therefore, no impact would occur.

NO IMPACT

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

According to Public Resources Code Section 21071(b), an unincorporated area is considered "urbanized" if 1) the area is completely surrounded by one or more incorporated cities, the total population of the unincorporated area and the surrounding cities is at least 100,000 persons, and the population density of the unincorporated area is at least equal to the population density of the surrounding cities; or 2) the area is located within an urban growth boundary and has an existing residential population of at least 5,000 persons per square mile. The general unincorporated area in which the project site is located is bordered by the city of Oxnard to the west and the city of Camarillo to the north. No incorporated cities are located to the south or east of the area. In addition, the project site is located outside the Camarillo Urban Restriction Boundary (City of Camarillo 2016). Therefore, the project site is located in a non-urbanized area.

The project would include installation of an underground pipeline, either in an agricultural easement north of Laguna Road or within the ROW of Laguna Road. Because the pipeline would be located entirely underground, the pump station would be consistent with the existing visual character of the Well No. 7 site, and the manhole would be level with the ground surface, public views of the project site and its surroundings would not change as compared to existing conditions upon the completion of construction. Therefore, the project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. No impact would occur.

NO IMPACT

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

No construction lighting would be required outside of construction hours (7:00 am to 5:00 pm). As stated in the Construction General Best Management Practices in the *Project Description,* if

construction lighting is required during construction hours, lighting would be shielded and downcast. Operation of the project would not permanently add reflective surfaces, such as windows or car windshields, or lighting to the project site or its surroundings. Therefore, the project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area, and no impact would occur.

NO IMPACT

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2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant 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 maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	■	☐
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	■	☐
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	■
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	■	☐

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

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

The Roadway Alignment Alternative would be located within the Laguna Road ROW, which does not have a Ventura County 2040 General Plan land use designation and is not zoned for a particular land use. The Northern Alignment Alternative would be located within private agricultural land designated as Farmland of Statewide Importance (California Department of Conservation 2016). The private agricultural land has a Ventura County 2040 General Plan designation of Agricultural and is

zoned as Agricultural Exclusive (AE-40). The private agricultural land is also enrolled in a Williamson Act contract (Ventura County Resource Management Agency 2018). The area in which the proposed pump station would be located also has a General Plan land use designation of Agricultural and is zoned Agricultural Exclusive. The blow-off infrastructure would be located either within the Laguna Road ROW, which has no land use designation or zoning; or within areas adjacent to Revolon Slough or PVCWD parcel containing proposed pump station, which have a land use designation of Agricultural and are zoned as Agricultural Exclusive.

Under the Roadway Alignment Alternative, the proposed pipeline would be constructed within the paved roadway and the ROW of Laguna Road, respectively, and would not require construction activities within active agricultural fields located adjacent to the alignment. Construction equipment would be staged in the shoulders of Laguna Road and in previously disturbed areas adjacent to Revolon Slough. There would be no impact to mapped Farmland and the project would not conflict with existing zoning for agricultural use or a Williamson Act Contract.

Under the Northern Alignment Alternative, the proposed pipeline would be constructed within private agricultural land north of Laguna Road. This agricultural land is designated as Farmland of Statewide Importance, is designated and zoned for agricultural use, and is enrolled in a Williamson Act contract. Assuming the average width of trenching for pipeline installation is four feet, the project would temporarily disturb approximately 0.28 acre[3] of agricultural land under the Northern Alignment Alternative. The construction work area would be unavailable for agricultural use during the nine-month construction period. During project construction, topsoil (the top 12 to 18 inches of soil) excavated for trenching would be stockpiled and stored separately from other excavated soils and backfill materials. Excavated topsoil would be restored to the ground surface upon completion of pipeline installation. Following construction, the pipeline would be located entirely underground and agricultural use would continue at its pre-project condition. Therefore, the project would not permanently convert Farmland to non-agricultural use, and would not conflict with the site's agricultural designation, zoning, and Williamson Act contract.

The proposed pump station would be constructed within the PVCWD parcel as shown in Figure 2. This area is designated as Farmland of Statewide Importance and designated and zoned for agricultural use. However, the parcel is owned by PVCWD and currently contains the Well No. 7 water facility. Pursuant to Ventura County Code (VCC) Section 8105-4, small water transmission structures are allowed uses within Agricultural Exclusive zones. The proposed pump station may inhibit the use of agricultural lands within its footprint on the PVCWD parcel. According to the County of Ventura's Initial Study Assessment Guidelines, a direct or indirect loss of less than five acres of Farmland of Statewide Importance is considered less than significant (County of Ventura 2011). The proposed PVCWD parcel is approximately 0.25-acre in size. As such, even a conversion of the entire parcel would not exceed five acres of agricultural conversion. In addition, the purpose of the project is to facilitate the transfer of recycled water supplies through the PVWCD system to United's PTP System for agricultural irrigation use. As such, the project would support agricultural land uses in the Oxnard Plain.

Overall, the project would not significantly convert Farmland to non-agricultural use, and would not conflict with the site's agricultural designation, zoning, and Williamson Act contract. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

[3] The length of the proposed pipeline, 3,000 linear feet, multiplied by an average width of four feet, is approximately 0.28 acres.

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

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

The project site does not contain forest land or timberland. Therefore, the project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland and would not result in loss of forest land or conversion of forest land to non-forest uses. No impact would occur.

NO IMPACT

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

As discussed under thresholds (a) and (b), the Northern Alignment Alternative would be located on land designated as Farmland of Statewide Importance. However, during project construction, topsoil (the top 12 to 18 inches of soil) within the private agricultural area would be stockpiled and stored separately from other excavated soils and backfill and would be restored once construction is complete. The blow-off infrastructure could also be located within Farmland of Statewide Importance. The potential blow-off infrastructure areas are located within Laguna Road ROW or VCWPD easement areas and are not currently used for agricultural production.

The project would not involve additional modifications to other agricultural lands and would not permanently convert Farmland to non-agricultural use. The project site does not contain forest land, so the project would not result in the conversion of forest land to a non-forest use. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	■
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	■	☐	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	■	☐

The project site is located in the South Central Coast Air Basin (Basin), which covers San Luis Obispo, Santa Barbara, and Ventura counties. The Ventura County Air Pollution Control District (VCAPCD) monitors and regulates the local air quality in Ventura County and manages the Air Quality Management Plan (AQMP). The analysis presented in this section is based upon information found in the Ventura County Air Quality Assessment Guidelines (Guidelines), adopted by the VCAPCD in 2003.

Air quality is affected by stationary sources (e.g., industrial uses and oil and gas operations) and mobile sources (e.g., motor vehicles). Air quality at a given location is a function of several factors, including the quantity and type of pollutants emitted locally and regionally as well as the dispersion rates of pollutants in the region. Primary factors affecting pollutant dispersion are wind speed and direction, atmospheric stability, temperature, the presence or absence of inversions, and topography. The project site is in the southeastern portion of the Basin, which has moderate variability in temperatures, tempered by coastal processes. The air quality in the Basin is influenced by a wide range of emission sources, such as dense population centers, heavy vehicular traffic, industry, and weather.

Air Quality Standards and Attainment

The VCAPCD is required to monitor air pollutant levels to ensure National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are met. If the standards are met, the Basin is classified as being in "attainment." If the standards are not met, the Basin is classified as being in "nonattainment," and the VCAPCD is required to develop strategies to meet the standards. According to the California Air Resources Board (CARB) Area Designation Maps, Ventura County is designated nonattainment for the ozone NAAQS and CAAQS and nonattainment for the CAAQS for particulate matter measuring 10 microns or less in diameter (PM_{10}) (VCAPCD

2023). To address the region's nonattainment of federal ozone standards, the VCAPCD adopted the 2022 Ventura County AQMP, which provides a strategy for achieving attainment (VCAPCD 2022).

San Joaquin Valley Fever (formally known as Coccidioidomycosis) is an infectious disease caused by the fungus *Coccidioides immitis*. San Joaquin Valley Fever (Valley Fever) is a disease of concern in the Basin. Infection is caused by inhalation of *Coccidioides immitis* spores that have become airborne when dry, dusty soil or dirt is disturbed by natural processes, such as wind or earthquakes, or by human-induced ground-disturbing activities, such as construction, farming, or other activities (VCAPCD 2003). From 2015 to 2019, the number of cases of Valley Fever reported in California averaged 6,614 per year, with an average of 192 cases per year reported in Ventura County (California Department of Public Health 2022). Between January 1 and August 31 of 2023, 139 Ventura County residents have been identified with suspect, probable, or confirmed cases of Valley Fever (California Department of Public Health 2023).

Air Pollutant Emission Thresholds

The VCAPCD's Guidelines recommend specific air pollutant emission threshold levels for determining whether a project may have a significant adverse impact on air quality within the Basin. The project would have a significant impact if operational emissions exceed 25 pounds per day of reactive organic compounds (also referred to as reactive organic gases) or 25 pounds per day of nitrogen oxides. As noted in the Guidelines, the 25 pounds per day threshold for reactive organic compounds and nitrogen oxides is not intended to be applied to construction emissions because such emissions are temporary. Nevertheless, VCAPCD's Guidelines state that construction-related emissions should be mitigated if estimates of reactive organic compounds or nitrogen oxides emissions from heavy-duty construction equipment exceed this threshold (VCAPCD 2003).

The VCAPCD has not established quantitative thresholds for particulate matter for either construction or operation. However, the VCAPCD indicates a project that may generate fugitive dust emissions in such quantities as to cause injury, detriment, nuisance, or annoyance to any considerable number of persons, or which may endanger the comfort, repose, health, or safety of any such person, or which may cause or have a natural tendency to cause injury or damage to business or property, would have a significant air quality impact. This threshold is applicable to the generation of fugitive dust during construction activities. The VCAPCD Guidelines recommend application of fugitive dust mitigation measures to all dust-generating activities. Such measures include minimizing the project disturbance area, watering the site prior to commencement of ground-disturbing activities, covering all truck loads, and limiting on-site vehicle speeds to 15 miles per hour or less.

Applicable VCAPCD Rules and Regulations

The VCAPCD implements rules and regulations for emissions that may be generated by various uses and activities. The rules and regulations detail pollution reduction measures that must be implemented during construction and operation of projects. Relevant rules and regulations to the project include the following:

Rule 50 (Opacity). This rule sets opacity standards on the discharge from sources of air contaminants. This rule would apply during construction of the project.

Rule 51 (Nuisance). This rule prohibits any person from discharging air contaminants or any other material from a source that would cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public or which endangers the comfort, health, safety, or

repose to any considerable number of persons or the public. The rule would apply during construction of the project.

Rule 55 (Fugitive Dust). This rule requires fugitive dust generators, including construction and demolition projects, to implement control measures limiting the amount of dust from vehicle track-out, earth moving, bulk material handling, and truck hauling activities. The rule would apply during construction of the project.

Rule 55.1 (Paved Roads and Public Unpaved Roads). This rule requires fugitive dust generators to begin the removal of visible roadway accumulation within 72 hours of any written notification from the VCAPCD. The use of blowers is expressly prohibited under any circumstances. This rule also requires controls to limit the amount of dust from any construction activity or any earthmoving activity on a public unpaved road. This rule would apply during construction activities.

Rule 55.2 (Street Sweeping Equipment). This rule requires the use of PM_{10}-efficient street sweepers for routine street sweeping and for removing vehicle track-out pursuant to Rule 55. This rule would apply during construction activities.

Methodology

Air pollutant emissions generated by project construction were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1.1.19. CalEEMod uses project-specific information, including the project's land uses, construction equipment parameters, and location, to model a project's construction emissions. The project would not include any operational sources of air pollution; therefore, only construction emissions were modeled. The analysis reflects construction of the project as described under *Project Description*. CalEEMod modeling outputs are included in Appendix A.

Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker and vendor trips. To provide conservative modeling results, the following analysis assumes the Roadway Alignment Alternative would be selected, which would involve partial demolition and repaving of Laguna Road and would require additional construction equipment. It was also assumed that the pump station and pipeline would be constructed concurrently to conservatively model a maximum emissions scenario. This analysis assumes the project would comply with all applicable regulatory standards. In particular, the project would comply with VCAPCD standards listed above under *Applicable VCAPCD Rules and Regulations*.

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

According to the VCAPCD's Guidelines (2003), a project may be inconsistent with the applicable air quality plan if it would cause the existing population to exceed forecasts contained in the most recently adopted AQMP. The VCAPCD adopted the 2022 Ventura County AQMP to demonstrate a strategy for, and reasonable progress toward, attainment of the federal 8-hour ozone standard. The 2022 Ventura County AQMP relies on the Southern California Association of Governments' (SCAG) 2020 Regional Transportation Plan/Sustainable Communities Strategy, titled Connect SoCal, forecasts of regional population growth in its AQMP population projections (SCAG 2020).

The proposed project involves construction of a pipeline and pump station that would not directly generate population growth through the construction of housing. Given the small-scale nature of project construction activities, it is likely construction workers would be drawn from the existing, regional workforce and would not indirectly result in the relocation of people to Ventura County. In

addition, no new United employees would be required to operate and maintain the project. Furthermore, the purpose of the project is to facilitate recycled water transfers from PVCWD's system to United's system for agricultural irrigation purposes and would not result in expanded water supply availability such that population growth would be induced. Therefore, the project would not result in population growth and would not have the potential to conflict with or obstruct implementation of the AQMP. No impact would occur.

NO IMPACT

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

The Ventura County portion of the Basin is designated nonattainment for the NAAQs and CAAQS for ozone and the CAAQs for PM_{10} (VCAPCD 2023). The following subsections discuss emissions associated with construction and operation of the proposed project.

Construction

Project construction would generate temporary air pollutant emissions primarily associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction equipment and construction vehicles. Estimated construction emissions are summarized in Table 1. The VCAPCD's 25 pounds per day thresholds for reactive organic compounds and nitrogen oxides do not apply to construction emissions because such emissions are temporary; however, the VCAPCD recommends mitigation be required if reactive organic compounds and nitrogen oxides emissions exceed 25 pounds per day.

Table 1 Estimated Maximum Daily Air Criteria Pollutant Emissions – Construction, Unmitigated

	Estimated Maximum Daily Emissions (pounds per day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Emissions	5	47	48	<0.1	2	1.75
VCAPCD Thresholds	**25**	**25**	**N/A**	**N/A**	**N/A**	**N/A**
Threshold Exceeded?	No	**Yes**	N/A	N/A	N/A	N/A

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

See Appendix A for air quality modeling results

As shown in Table 1, construction-related emissions would exceed the 25 pounds per day threshold for nitrogen oxides. Although the VCAPCD's emissions thresholds do not apply to construction emissions, it is recommended that mitigation be included if construction emissions exceed the threshold of 25 pounds of reactive organic compounds or nitrogen oxide per day. In line with VCAPCD recommendations, the project would implement Mitigation Measure AQ-1, provided below under *Mitigation Measures,* which would require the construction contractor to use construction equipment greater than 75 horsepower equipped with Tier 4 or better diesel engines. Use of Tier 4 engines would reduce nitrogen oxides emissions to below the VCAPCD threshold, as shown in Table 2. Detailed emissions calculations are provided in Appendix A.

Table 2 Estimated Maximum Daily Air Criteria Pollutant Emissions – Construction, Mitigated

	Estimated Maximum Daily Emissions (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction Emissions	<1	9.2	23.1	<0.1	1	<1
VCAPCD Thresholds	**25**	**25**	**N/A**	**N/A**	**N/A**	**N/A**
Threshold Exceeded?	No	No	N/A	N/A	N/A	N/A

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

See Appendix A for air quality modeling results

The project would also be required to comply with VCAPCD Rule 55, which requires construction BMPs to control dust emissions during ground disturbing activities. BMPs include but are not limited to watering soil stockpiles two times per day, securing soil stockpiles with tarps, and prevention of soil track-out from unpaved project sites. Compliance with Rule 55 would reduce potential $PM_{2.5}$ and PM_{10} emissions such that the project would not cause injury, detriment, nuisance, or annoyance to any considerable number of persons. With implementation of Mitigation Measure AQ-1 and compliance with VCAPCD Rule 55, construction emissions would not violate air quality standards or result in a cumulatively considerable net increase of criteria pollutants in excess of quantitative thresholds recommended by VCAPCD. Construction air quality impacts would be less than significant with mitigation.

Operation

The pipeline and pump station would not require additional operations and maintenance activities within the United service area upon completion of construction activities. Dewatering activities would require infrequent vehicle trips to the project site. Therefore, no new substantial operational emissions would be generated, and project operation would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard. No operational air quality impact would occur.

Mitigation Measures

AQ-1 Construction Equipment Emissions

All off-road diesel-powered construction equipment greater than 75 horsepower shall meet the Tier 4 emission standards during demolition and grading phases of construction. In addition, all construction equipment shall be outfitted with best available control technologies (BACT) devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 4 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. A copy of each unit's certified tier specification, BACT documentation, and CARB or VCAPCD operating permit shall be provided to United at the time of mobilization of each applicable unit of equipment.

Significance After Mitigation

Implementation of Mitigation Measure AQ-1 would reduce NO_x emissions below the VCAPCD threshold of 25 pounds per day, and impacts would be less than significant.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The VCAPCD defines sensitive receptors as facilities or land uses that include members of the population particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of sensitive receptors listed in the VCAPCD Guidelines (2003) include schools, hospitals, and daycare centers; sensitive receptors also typically include residences. The closest sensitive receptor is a single-family residence located approximately 600 feet east of the eastern terminus of the project alignment. The potential for project construction to expose sensitive receptors to substantial pollutant concentrations is discussed in the following subsections. The project does not include any stationary sources of air pollutant emissions, and once construction is complete, the proposed project would not require additional operation and maintenance activities beyond those already occurring to operate and maintain the United system. Therefore, project operation would not expose sensitive receptors to substantial pollutant concentrations and is not discussed further.

Criteria Pollutant and Fugitive Dust Emissions

As discussed under threshold (b), project construction would result in emissions of criteria pollutants, including fugitive dust, reactive organic compounds, and nitrogen oxides. However, such emissions would be temporary in nature and would be reduced through compliance with existing regulations, such as VCAPCD Rule 55. Furthermore, emissions at a given sensitive receptor would occur for only a limited portion of the overall construction period because project construction would progress across the pipeline alignment, thereby limiting the exposure of any proximate individual sensitive receptor to substantial pollutant concentrations from active construction. Therefore, the project would not expose sensitive receptors to substantial concentrations of criteria pollutant and fugitive dust emissions, and impacts would be less than significant.

Carbon Monoxide Hotspots

Traffic-congested roadways and intersections have the potential to generate elevated localized carbon monoxide levels (i.e., carbon monoxide hotspots). In general, carbon monoxide hotspots occur in areas with poor circulation or areas with heavy traffic. Existing carbon monoxide levels in Ventura County have been historically low enough that VCAPCD monitoring stations throughout the county ceased monitoring ambient carbon monoxide concentrations in March and July of 2004 (VCAPCD 2022). The proposed project would result in a minor and temporary increase in vehicle traffic along the project alignment as a result of worker vehicle trips, delivery of heavy-duty equipment and materials, and haul trips during construction. Because the project site is not located in an area with poor circulation or heavy traffic, project-related traffic would not cause or contribute to potential temporary carbon monoxide hotspots. Therefore, the project would not expose sensitive receptors to substantial concentrations of carbon monoxide, and impacts would be less than significant.

Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs generally consist of four types: organic chemicals, such as benzene, dioxins, toluene, and perchloroethylene; inorganic chemicals such as chlorine and arsenic; fibers such as asbestos; and metals such as mercury, cadmium, chromium, and nickel. The primary TAC emitted by project implementation would be diesel particulate matter (DPM) generated by heavy-duty equipment and diesel-fueled delivery and haul trucks during construction activities. DPM was identified as a TAC by the CARB in 1998 and is primarily composed of PM_{10} and $PM_{2.5}$ exhaust emissions (CARB 2022).

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed project would occur in phases over approximately nine months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning a longer exposure period would result in a higher exposure level for the maximally exposed individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of proposed construction activities (i.e., six months) is approximately 0.7 percent of the total exposure period used for health risk calculation. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of nine, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk.

Maximum DPM emissions would occur during site preparation and grading construction activities. DPM emissions would be lower during other construction phases such as paving and site restoration because these phases would require less construction equipment. While the maximum DPM emissions associated with site preparation and grading would only occur for approximately one month these activities represent the worst-case condition for the total construction period. This would represent less than 0.3 percent of the total exposure period for health risk calculation. Therefore, project construction activities would not represent the type of long-term TAC emission sources typically subject to health risk assessments. Construction activities would also be subject to and would comply with California regulations limiting the idling of heavy-duty construction equipment to no more than five minutes, which would further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions. Compliance with the standard construction measures required by the VCAPCD would also further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions. As such, project construction would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

San Joaquin Valley Fever

Construction activities, including site preparation and grading, would have the potential to release *Coccidioides immitis* spores. Nonetheless, the population of Ventura County has been and will continue to be exposed to Valley Fever from agricultural and construction activities occurring throughout the region. In addition, substantial increases in the number of reported cases of Valley Fever tend to occur only after major ground-disturbing events such as the 1994 Northridge

earthquake (VCAPCD 2003). Construction of the proposed project would not result in a comparable major ground disturbance, and because of compliance with VCAPCD Rule 55 (Fugitive Dust), the project would not release a large number of spores. The VCAPCD does not have a recommended threshold for Valley Fever impacts but instead recommends consideration of the following factors that may indicate a project's potential to result in significant impacts related to Valley Fever:

Disturbance of the topsoil of undeveloped land (to a depth of about 12 inches)

Dry, alkaline, sandy soils

Virgin, undisturbed, non-urban areas

Windy areas

Archaeological resources probable or known to exist in the area (Native American midden sites)

Special events (fairs, concerts) and motorized activities (motocross track, All Terrain Vehicle activities) on unvegetated soil (non-grass)

Non-native population (i.e., out-of-area construction workers)

The project would require disturbance of the topsoil of undeveloped land in a non-urban area with soils composed of Camarillo sandy loam, Camarillo loam, Pacheco silty clay loam, and riverwash (Natural Resources Conservation Service 2023). Due to the relatively small size of the proposed project, it is anticipated construction workers would be from the local or regional area and would therefore have previous exposure to and immunity from Valley Fever. In addition, the project alignment is located in an area that has been previously disturbed and continues to be disturbed in conjunction with construction and maintenance of the roadway, drainage ditches, and other nearby agro-industrial development. The project site is also located in a rural area with very few sensitive receptors nearby. Furthermore, due to the nature of the project, ground disturbance would be relatively minimal and limited to the trench area and drill pits in which the pipeline is installed. Therefore, construction of the proposed project would not result in a substantial increase in entrained fungal spores that cause Valley Fever above existing background levels, and impacts related to Valley Fever would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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

Project construction could generate odors associated with heavy-duty equipment operation and earth-moving activities. Such odors would be temporary in nature and limited to the duration of construction in the vicinity of the project site. The project contractor(s) would also be required to adhere to VCPACD Rule 51 (Nuisance), which prohibits discharge of air contaminants or any other material from a source that would cause nuisance to any considerable number of persons or the public, including odor. Project operation would involve conveyance of water via an underground pipeline and would not result in the generation of odors. Therefore, the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

4 Biological Resources

	Potentially Significant Impact	Less than Significant 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 or U.S. Fish and Wildlife Service?	☐	■	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	■
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	■	☐	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	■
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	■	☐	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

The following analysis is based on the Biological Resources Assessment (BRA) prepared for the project by Rincon Consultants, Inc. in October 2023. The BRA is included as Appendix B.

The project site partially encompasses Revolon Slough, a 55-foot wide, 16-foot-deep concrete box channel that generally runs north-south and flows into Calleguas Creek. For biological studies completed for this analysis, the Study Area is defined as the project site plus a 100-foot buffer surrounding the project site. This portion of the project site is shown in Photograph 3 of Figure 3 in the *Project Description.* The bed of the Revolon Slough contains some sandy sediment accumulation and herbaceous vegetation growing on the soil substrate.

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Based on queries of biological resource databases performed for the BRA, 62 special-status plant species and 47 wildlife species are known to occur or have potential to occur within five miles of the project site.

The bed of the Revolon Slough may provide potentially suitable habitat for southwestern spiny rush, Sonoran maiden fern, and white rabbit-tobacco. However, these are conspicuous perennial plant species that would have been identifiable during the field survey and were not observed. Therefore, these species have a low potential to occur in the project area. The project area does not provide suitable habitat for the remaining 59 special-status plant species. No impact to special-status plant species would occur.

Low- to moderate-quality aquatic habitat for the arroyo chub occurs within the bed of the Revolon Slough, generally within the open water land cover type. Two project alternatives are proposed to install the pipeline across the Revolon Slough: 1) Bridge Crossing Alternative; and 2) Trenchless Crossing Alternative. Under the Bridge Crossing Alternative, a 26-inch diameter steel pipe would be constructed to cross above the Revolon Slough on the northern side of the Laguna Road bridge. No modifications would occur to the Revolon Slough channel, and no construction equipment would operate within the channel. Under the Trenchless Crossing Alternative, a 24-inch diameter pipe would be installed under the Revolon Slough via trenchless auger boring or horizontal directional drilling methods. Under this alternative, no impacts to the Revolon Slough would occur. Under either alternative, impacts to the Revolon Slough are not proposed. Therefore, direct impacts to potentially suitable arroyo chub habitat would not occur. Under both project alternatives, the project would include distribution blow-offs to discharge pipeline water from the pipeline into the Revolon Slough to dewater pipeline sections during construction, repair, or maintenance activities. As the Revolon Slough is an entirely concrete-lined, perennial drainage system that currently receives many inputs from urban and agricultural runoff, the addition of intermittent water via the blow-offs is not expected to have an effect on the arroyo chub. Discharges are covered by an existing NPDES Permit and Waste Discharge Requirements (NPDES NO. CAG994004, CI-10356) that allows for discharges of irrigation waters from the PTP System into the Revolon Slough.

Direct impacts to arroyo chub could occur due to leaks from equipment being used adjacent to the channel, which could contaminate water within the Revolon Slough and result in mortality of individuals. Additionally, indirect impacts could result from equipment noise and vibrations, which could cause individual fish to flush out of cover and become exposed to predators and to expend high levels of energy leading to stress and reduced fecundity. Therefore, Mitigation Measure BIO-1 requires implementation of aquatic resources BMPs, which aim to avoid impacts to arroyo chub in

Revolon Slough. Further, Mitigation Measure BIO-2 requires pre-activity surveys before blow-off valve operations to avoid impacts to special-status species. With implementation of Measures BIO-1 and BIO-2, potential direct and indirect impacts to special-status wildlife species would be reduced to a less-than-significant level. Impacts to Revolon Slough would be further reduced by the general BMPs included in the *Project Description.*

Migratory or other common nesting birds, while not designated as special-status species, are protected by California Fish and Game Code (CFGC) and Migratory Bird Treaty Act (MBTA) and have the potential to nest within the project area. Particularly, the eucalyptus groves vegetation community to the south of the proposed alignments, the pepper tree groves to the north of the proposed alignments near the jacking and receiving pits, as well as the ornamental landscaping land cover type to the south of the proposed alignments have the potential to support nesting birds (see vegetation map in Figure 5 of Appendix B, Attachment 1). Direct impacts are not proposed to these areas. Therefore, direct impacts to nesting birds are not anticipated to occur. However, the project could adversely affect nesting birds protected under the CFGC and MBTA through construction noise, dust, and other human disturbances that may cause a nest to fail. Mitigation Measure BIO-3 requires a pre-construction nesting bird survey be conducted if construction occurs during the nesting bird season (February 1 to August 31). If active nests are identified, buffers would be established to avoid impacts to nesting birds. With implementation of Mitigation Measure BIO-3, impacts to nesting birds would be less than significant.

Mitigation Measure

BIO-1 Aquatic Resources General Best Management Practices

Construction personnel should adhere to the following general BMP requirements in Revolon Slough:

- Fueling of equipment shall not occur within 50 feet of the Revolon Slough channel, and equipment shall be thoroughly inspected before use near the channel to ensure equipment is leak-free and in good working condition. In addition, the contractor shall have a spill prevention and cleanup plan, which would include spill prevention materials and equipment readily available on site and prompt notification to United if a spill occurs.
- Truck loads and spoil stockpiles shall be covered to minimize potential stormwater pollution and air-borne dust.
- All food-related trash items, such as wrappers, cans, bottles, and food scraps generated during project construction shall be disposed of in closed containers only and removed daily from the project site.
- Materials shall be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage and shall be at least 50 feet from drainage features.
- Construction materials and spoils shall be protected from stormwater runoff using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.
- While encounters with special-status species are not likely or anticipated, any worker who inadvertently injures or kills a special-status species or finds one dead, injured, or entrapped shall immediately report the incident to the on-site construction foreman, who shall then promptly notify United's Environmental Services Department. The Environmental Services Department shall notify the relevant resource agency (i.e., ., California Department of Fish and

Wildlife, United States Fish and Wildlife Service, or National Marine Fisheries Service) depending on the state or federal-listing status of the species encountered.

BIO-2 Pre-activity Biological Survey

Before any activities involving the operation of the blow-offs, United's Environmental Services Department staff or a qualified third-party consultant shall conduct a pre-activity survey to determine if any special-status species are established within Revolon Slough where they might be susceptible to impacts from scour. If discharged pipeline water from the blow-offs might cause scouring of the channel and impact special-status species, blow-off operations shall be postponed until such species are no longer present. If blow-off operations cannot be postponed, qualified biologists shall relocate any special-status species away from areas that are subject to scour. In the case of federal or state-listed species, relocation shall be carried out in accordance with regulatory authorizations issued under the ESA and/or CESA, Fish and Game Code §§ 1002, 1002.5, 1003, and/or Cal. Code Regs., tit. 14, § 650.

BIO-3 Nesting Birds

To avoid impacts to nesting birds, project-related activities shall occur outside of the bird breeding season (February 1 to August 31) to the extent practicable. If construction must occur within the bird breeding season, then no more than 14 days prior to initiation of ground disturbance and/or vegetation removal in areas with potential to support nesting birds (i.e., near the eucalyptus groves or pepper tree groves vegetation communities, or the ornamental landscaping land cover type), a nesting bird pre-construction survey shall be conducted by a qualified biologist within the disturbance footprint plus a 100-foot buffer (300-feet for raptors if suitable raptor habitat is present), where feasible. As the proposed project is anticipated to occur in a linear fashion along the alignment, multiple pre-construction nesting bird surveys may be necessary to ensure nest avoidance. Pre-construction nesting bird surveys shall be conducted during the time of day when birds are active and shall factor in sufficient time to perform this survey adequately and completely. A report or email of the nesting bird survey results, if applicable, shall be submitted to the United project manager for review and approval prior to ground and/or vegetation disturbance activities.

If nests are found, their locations shall be flagged. An appropriate avoidance buffer ranging in size from 25 to 50 feet for passerines, and up to 300 feet for raptors depending upon the species and the proposed work activity, shall be determined and demarcated by a qualified biologist with bright orange construction fencing or other suitable flagging. Active nests shall be monitored at a minimum of once per week until it has been determined that the nest is no longer being used by either the young or adults. No ground disturbance shall occur within this buffer until the qualified biologist confirms that the breeding/nesting is completed, and all the young have fledged. If project activities must occur within the buffer, they shall be conducted at the discretion of the qualified biologist. If no nesting birds are observed during pre-construction surveys, no further actions would be necessary.

Significance After Mitigation

Mitigation Measure BIO-1 would achieve compliance with federal and state laws through the implementation of a pre-construction nesting bird survey if construction occurs during the nesting bird season. If active nests are identified, avoidance buffers would be established to minimize impacts to nesting birds until nests are no longer active. Therefore, implementation of Mitigation Measure BIO-1 would reduce impacts to nesting birds to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No sensitive plant communities occur within the project area. The Revolon Slough contains open, flowing water, and some establishment of herbaceous vegetation characterized as the smartweed patches vegetation community (Appendix B). However, these communities would not be directly impacted by the proposed project. As described above under checklist question (a), the proposed project would not involve alteration or modification to Revolon Slough. The proposed pipeline would cross Revolon Slough either via a pipe bridge with no additional supports within the channel (Bridge Crossing Alternative), or via trenchless pipeline installation below the channel of Revolon Slough (Trenchless Crossing Alternative).

The project includes the installation of distribution blow-offs to discharge water from the pipeline into the Revolon Slough to dewater pipeline sections during construction, repair, or maintenance activities. As the Revolon Slough is an entirely concrete-lined, perennial drainage system that currently receives many inputs from urban and agricultural runoff, the addition of intermittent water is not anticipated to have an effect on riparian vegetation occurring within the low-flow channel of the drainage. Vegetation with the Revolon Slough is highly dynamic in nature, as it occurs within the low-flow channel of the drainage feature. The low-flow channel of the Revolon Slough is subject to scouring during storm events, which cause high velocity flows to transport sediment downstream and expose the concrete lining of the drainage and leave the drainage unvegetated. In addition, a review of aerial imagery indicates that the Revolon Slough within the Study Area occasionally becomes devoid of sediment and vegetation following storm events. Discharges associated with the distribution blow-offs would be covered by an existing NPDES Permit and Waste Discharge Requirements (NPDES NO. CAG994004, CI-10356) that allows for discharges of irrigation waters from the PTP System into the Revolon Slough.

Therefore, the project would not have an adverse effect on any riparian habitat or other sensitive natural community, and no impact would occur.

NO IMPACT

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

Three potentially jurisdictional features occur in the project area: Revolon Slough and two agricultural ditches along Laguna Road (Ditch 1 and Ditch 2). Direct modifications to the Revolon Slough are not proposed, as both project alternatives (Bridge Crossing Alternative and Trenchless Crossing Alternative) would avoid any modification to the concrete-lined channel and banks of the drainage. Under both project alternatives, the project would include a distribution blow-off point to discharge water from the pipeline into the Revolon Slough to dewater pipeline sections during construction, repair, or maintenance activities. As the Revolon Slough is an entirely concrete-lined, perennial drainage system that currently receives many inputs from urban and agricultural runoff, the addition of intermittent pipeline water would not affect this drainage system. Although wetlands were documented in the Revolon Slough during field surveys, these wetland are highly dynamic in nature, as they occur within the ordinary high water mark (OHWM) of the concrete-lined drainage feature. The OHWM of the Revolon Slough is subject to scouring following storm events,

which cause high velocity flows to transport sediment downstream and leave the concrete lining exposed, thereby removing any wetlands in the drainage feature. In addition, a review of aerial imagery indicates that the Revolon Slough within the Study Area occasionally becomes devoid of sediment and vegetation following storm events. Discharges from the distribution blow-off point would be covered by an existing NPDES Permit and Waste Discharge Requirements (NPDES NO. CAG994004, CI-10356) that allows for discharges of irrigation waters from the PTP System into the Revolon Slough. Therefore, direct impacts to the Revolon Slough would not occur.

Impacts to Regional Water Quality Control Board (RWQCB) jurisdiction associated with Ditch 1 and Ditch 2 would not occur, as the proposed pipeline alignment alternatives (North Alignment and Center Alignment) do not intersect with these features. Ditch 1 and Ditch 2 are anticipated to be exempt from the State Water Resources Control Board (SWRCB) procedures, as they are ephemeral agricultural ditches that are not relocated waters of the state and are not excavated in waters of the state. This exclusion does not affect the SWRCB's authority to issue or waive waste discharge requirements or take other actions to the extent authorized by the Water Code. The project does not propose impacts to Ditch 1 or Ditch 2; as such, no jurisdictional waters permitting is anticipated to be required.

While direct impacts to the Revolon Slough are not anticipated, indirect impacts could result from equipment leaks and sediment runoff, which could reduce water quality within the drainage. Therefore, Mitigation Measure BIO-1 requires adherence to aquatic resources BMPs, including covering spoils and refueling equipment at least 50 feet away from the Revolon Slough. With implementation of Mitigation Measure BIO-1, and the general construction BMPs included in the *Project Description,* potential indirect impacts to jurisdictional waters and wetlands would be reduced to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Wildlife corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as between foraging and denning areas, or they may be regional in nature, allowing movement across the landscape. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

No regional wildlife linkages or corridors are mapped within the project area. Within the project site, there are significant barriers to wildlife movement including the surrounding agricultural fields and a network of paved and dirt agricultural roads fragmenting the landscape. Revolon Slough may provide passage for wildlife movement in the surrounding region; however, the project would not modify the slough. Therefore, the project would not 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. No impact would occur.

NO IMPACT

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

The project has been evaluated for consistency with Ventura County's tree protection ordinance. Multiple heritage blue gum eucalyptus trees protected by the Ventura County Tree Protection Ordinance occur in the southwestern portion of the Study Area in the eucalyptus groves vegetation community. These trees occur as ornamentally planted wind breaks between Laguna Road and agricultural crops to the south. However, these trees occur on the south side of Laguna Road. The Roadway Alignment Alternative would occur in the ROW of Laguna Road, and the North Alignment Alternative would occur to the north of Laguna Road. Therefore, impacts to these protected trees are not anticipated to occur as a result of the project. Additionally, no trees are proposed for removal as part of the project.

The Ventura County General Plan includes measures to protect sensitive biological resources (i.e., special-status species and jurisdictional waters and wetlands) and wildlife movement. Mitigation Measures BIO-1, BIO-2, and BIO-3 and the general BMPs included in the *Project Description* would reduce potential impacts to special-status species and jurisdictional resources to a less-than-significant level. Therefore, the project would not conflict with applicable local policies and ordinances, and impacts would be less than significant with mitigation.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The project site is not located in the planning area for any adopted local, regional, or state Natural Community Conservation Plans or Habitat Conservation Plans. Therefore, the project would not conflict with the provisions of any such plan, and no impact would occur.

NO IMPACT

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5 Cultural Resources

	Potentially Significant Impact	Less than Significant 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 §15064.5?	☐	☐	☐	■
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	■	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

The following analysis is based on the Cultural Resources Assessment prepared for the project by Rincon Consultants, Inc. in October 2023. The Cultural Resources Assessment is included as Appendix C.

This section provides an analysis of the project's impacts on cultural resources, including historical and archaeological resources as well as human remains. The California Environmental Quality Act (CEQA) requires a lead agency to determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC] Section 21084.1). A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript a lead agency determines to be historically significant (CEQA Guidelines Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a-b]). PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

The impact analysis included here is organized based on the cultural resources thresholds included in CEQA Guidelines Appendix G: Environmental Checklist Form. Threshold A broadly refers to historical resources. To more clearly differentiate between archaeological and built environment resources, the analysis under item (a) is limited to built environment resources. Archaeological resources, including those that may be considered historical resources pursuant to Section 15064.5 and those that may be considered unique archaeological resources pursuant to Section 21083.2, are considered under item (b).

Methodology and Results of Cultural Resources Assessment

On June 19, 2023, Rincon conducted an in-person California Historical Resources Information System (CHRIS) records search at the South Central Coast Information Center (SCCIC) housed at California State University, Fullerton. The SCCIC is the official state repository for cultural resources records and reports for Ventura County. The purpose of the records search was to identify previous cultural resources studies and previously recorded cultural resources within the project site and a 0.5-mile radius. Rincon also reviewed the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Historical Landmarks list, and the Built Environment Resources Directory, as well as its predecessor the California State Historic Property Data File. Additionally, Rincon reviewed the Archaeological Determination of Eligibility list. The results of the analysis are presented in the Cultural Resources Assessment, which is included as Appendix C.

The CHRIS records search identified four cultural resources studies that have been previously conducted within the 0.5-mile records search radius, two of which overlap the project site. The CHRIS records search did not identify any previously recorded cultural resources within the project site or the 0.5-mile records search radius. Although not on file at the SCCIC, a review of the Caltrans local bridge inventory identified the Laguna Road Bridge over Revolon Slough (Bridge No. 52C0146). The bridge was constructed in 1977 and was previously determined not eligible for listing in the NRHP but has not been evaluated for inclusion in the CRHR. The channel of Revolon Slough also has not been previously evaluated for inclusion on a historical register (Appendix C).

Rincon contacted the Native American Heritage Commission (NAHC) on June 21, 2023, to request a search of the Sacred Lands File (SLF) as well as an Assembly Bill 52 (AB 52) specific contact list of Native Americans culturally affiliated with the project site vicinity. On July 7, 2023, the NAHC responded to Rincon's AB 52 contacts and SLF request, stating that the results of the SLF search were negative. Potential project impacts to tribal cultural resources are discussed in Section 18, *Tribal Cultural Resources.*

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

The project would include construction of a pump station and the installation of a proposed pipeline either within the Laguna Road ROW (Roadway Alignment Alternative) or immediately north of

Laguna Road within existing agricultural fields (Northern Alignment Alternative). The proposed pipeline crossing at Revolon Slough channel would be accomplished by either directional boring underneath the channel or the construction of a proposed pipe bridge across the channel. Construction of the proposed pipe bridge would not directly alter either the Laguna Road Bridge (Bridge No. 52C0146) or the Revlon Slough channel. Moreover, given the ubiquitous nature of these two types of structures, they do not possess a special or particular quality or significance. Therefore, the project would not cause a substantial adverse change in the significance of a historical resource. No impact would occur.

NO IMPACT

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

The Cultural Resources Assessment did not identify archaeological resources as a result of the records search, SLF search, or pedestrian survey. The background and archival research suggests the project has a low potential to encounter intact subsurface archaeological deposits during construction, given the degree of previous disturbance and that no subsurface soil horizons were identified as a result of the geotechnical testing (Appendix C). Although there is low potential for encountering subsurface archaeological deposits, it is always possible that unknown archaeological materials are encountered during project construction. Disturbance of these resources would result in substantial adverse change in the significance of an archaeological resource, and impacts would be potentially significant. Mitigation Measure CUL-1 would be required.

Mitigation Measure

CUL-1 Unanticipated Discovery of Cultural Resources

In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 50 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology shall be contacted immediately to evaluate the resource. If the resource is determined by the qualified archaeologist to be prehistoric, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for CRHR eligibility shall be completed. If the resource proves to be eligible for the CRHR and significant impacts to the resource cannot be avoided via project redesign, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, per the requirements of the California Code of Regulations (CCR) Guidelines Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance. United shall review and approve the treatment plan and archaeological testing as appropriate, and the resulting documentation shall be submitted to the regional repository of the California Historical Resources Information System, per CCR Guidelines Section 15126.4(b)(3)(C).

Significance After Mitigation

Mitigation Measure CUL-1 would minimize potential impacts to unanticipated cultural resources by establishing appropriate procedures for evaluation and treatment of any discoveries made during construction. Therefore, implementation of Mitigation Measures CUL-1 would reduce impacts to archaeological resources to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

No human remains are known to be present within the project site (Appendix C). However, the discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, California Health and Safety Code Section 7050.5 states no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately by United. If the human remains are determined to be of Native American origin, the Coroner will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance. With adherence to existing regulations, impacts to human remains would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

6 Energy

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

As a state, California is one of the lowest per capita energy users in the United States, ranked 48th in the nation, due to its energy efficiency programs and mild climate (United States Energy Information Administration 2022). Electricity and natural gas are primarily consumed by the built environment for lighting, appliances, heating and cooling systems, fireplaces, and other uses such as industrial processes in addition to being consumed by alternative fuel vehicles. The project would not require new natural gas connections; therefore, natural gas consumption is not discussed further in this analysis.

Petroleum fuels are primarily consumed by on-road and off-road equipment in addition to some industrial processes, with California being one of the top petroleum-producing states in the nation (California Energy Commission [CEC] 2021). Gasoline, which is used by light-duty cars, pickup trucks, and sport utility vehicles, is the most used transportation fuel in California with 13.8 billion gallons sold in 2021 (CEC 2022). Diesel, which is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles, is the second most used fuel in California with 1.9 billion gallons sold in 2021 (CEC 2022).

Energy consumption is directly related to environmental quality in that the consumption of nonrenewable energy resources releases criteria air pollutant and greenhouse gas (GHG) emissions into the atmosphere. The environmental impacts of air pollutants and GHG emissions associated with the project's energy consumption are discussed in detail in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, respectively.

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

Construction Energy Demand

During project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, and construction worker travel to and from the project site. Total consumption of gasoline and diesel fuel during project construction was estimated using the assumptions and factors from CalEEMod used to estimate

construction air emissions for Section 3, *Air Quality,* and Section 8, *Greenhouse Gas Emissions* (Appendix A). Table 3 presents estimated energy consumption during project construction. As shown therein, construction equipment, water truck trips, and haul trips would consume approximately 21,828 gallons of diesel fuel, and construction worker trips would consume approximately 3,134 gallons of gasoline.

Table 3 Project Construction Energy Usage

Source	Fuel Consumption (gallons)
Construction Equipment Trips, Diesel	21,828
Construction Worker Vehicle Trips, Gasoline	3,134

See Appendix D for energy consumption calculations.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which prohibit off-road diesel vehicles and diesel-fueled commercial motor vehicles, respectively, from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the United States Environmental Protection Agency Construction Equipment Fuel Efficiency Standard, and water and haul trucks would be subject to the CARB Advanced Clean Trucks regulation, both of which would also minimize inefficient, wasteful, or unnecessary fuel consumption. These regulations would result in the efficient use of energy necessary to construct the project. Furthermore, in the interest of cost-efficiency, construction contractors would not utilize fuel in a manner that is wasteful or unnecessary. Therefore, project construction would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and no impact would occur.

Operational Energy Demand

As discussed in Section 3, *Air Quality*, the pipeline would not require new operations and maintenance activities within the United service area upon completion of construction activities. The proposed pump station would require an electricity connection to tie into the existing Southern California Edison electricity line along Laguna Road. The pump station would be adequately served by existing power infrastructure, and the energy demand would be consistent with other water pump station facilities in the region. Dewatering activities would require infrequent vehicle trips to and from the project site and temporary pumping. These discharge events would be conducted on an as-needed basis and would not consume electricity in a manner that is wasteful or unnecessary. Therefore, project operation would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy. No impact could occur.

NO IMPACT

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

United does not have any specific renewable energy or energy efficiency plans with which the project could comply. In addition, no state plans for renewable energy or energy efficiency would apply to the project. Therefore, no impact would occur.

NO IMPACT

7 Geology and Soils

	Potentially Significant Impact	Less than Significant 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:				
1. 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 fault?	☐	☐	■	☐
2. Strong seismic ground shaking?	☐	☐	■	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
4. Landslides?	☐	☐	☐	■
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	■
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	■
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	■	☐	☐

Analysis in this section is based on the Preliminary Geotechnical Report prepared for the project by Yeh and Associates, Inc. in October 2022. The Geotechnical Report is included as Appendix E.

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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 fault?

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Like all of Southern California, the project site is subject to strong ground shaking associated with active and/or potentially active faults in the region. The project site is not located along a currently active mapped fault or within an Alquist-Priolo Fault Zone (California Department of Conservation 2022a). While the project may be subject to strong ground shaking in the event of an earthquake, it would not be subject to unusual levels of ground shaking as compared to the rest of the region. Although the project site is located in a seismically active area, the project would not expose people to seismically-induced risk. The proposed project involves installation of an underground pipeline and aboveground pump station and would not involve any habitable structures.

Design and construction of the proposed project would consider the seismic environment and would comply with applicable seismic design standards. A large seismic event, such as a fault rupture, seismic shaking, or ground failure, could result in breakage of the proposed pipeline, failure of joints, and/or underground leakage from the pipeline. In the event an earthquake compromises the pipeline during operation, United would temporarily cease operations and conduct emergency repairs as soon as practicable.

Therefore, while the project is located within a seismically active area and would place new infrastructure in an area that could be affected by seismic activity, the project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault or strong seismic ground shaking. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction occurs when strong, cyclic motions during an earthquake cause water-saturated soils to lose their cohesion and take on a liquid state. Liquefied soils are unstable and can subject overlying structures to substantial damage. The project site is located in a liquefaction zone (DOC 2022b). The Geotechnical Investigation estimates that settlement of up to 1.5 inches could occur in the loose, sandy soils encountered at the project site (Appendix E). Soils therefore have the potential to liquefy during a seismic event, and seismically-induced liquefaction could potentially damage the proposed pipeline in the event of an earthquake, resulting in joint failure or leakage from the pipeline.

As discussed under thresholds (a.1) and (a.2), the project would comply with all applicable seismic design standards. In the event seismically-induced liquefaction compromises the pipeline during operation, United would temporarily shut-off water conveyance processes and conduct emergency repairs as soon as practicable. In addition, the project involves construction of water infrastructure and would not involve placement of habitable structures within a liquefaction-prone area, thereby minimizing the potential to result in loss, injury, or death involving seismic-related ground failure

due to liquefaction. As a result, the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site is located in a relatively flat area that is not within or near an earthquake-induced landslide hazard zone (DOC 2022a). Therefore, the project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. No impact would occur.

NO IMPACT

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

Soil erosion or the loss of topsoil may occur when soils are disturbed but not secured or restored, such that wind or rain events may mobilize disturbed soils, resulting in their transport off the project site. The project site is relatively flat; however, construction of the proposed pipeline would require grading and trenching on land that is currently undeveloped, which would involve exposing soil such that erosion and topsoil loss could occur.

Because the project disturbance area would be greater than one acre in size, the project would be required to comply with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (typically called the Construction General Permit). The Construction General Permit requires development and implementation of a project-specific Stormwater Pollution Prevention Plan (SWPPP). Implementation of the SWPPP would minimize the amount of sediment and other pollutants associated with construction sites that are discharged in stormwater runoff by requiring BMPs to control erosion and sedimentation. Such BMPs typically include the use of stabilized construction entrances and exits, construction vehicle maintenance in staging areas to avoid leaks, and installation of silt fences and erosion control blankets. BMPs required by the SWPPP would be included in the design of the project and do not serve as mitigation measures.

With adherence to the requirements of the Construction General Permit, the project would not result in substantial soil erosion or loss of topsoil, and impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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

Unstable soils are those soils which are physically unsuitable to support buildings, roads, utilities, or other development-related improvements, or which have the potential for slope failure, erosion, or subsidence.

Although the proposed project would be located in a seismically active area, the project is not anticipated to adversely affect soil stability or increase the potential for local or regional landslides or liquefaction. During construction, trench spoils would be temporarily stockpiled within the construction staging and storage area, then used to backfill the trench after pipeline placement;

backfilling would be conducted to meet proper compaction requirements. Depending on applicable requirements at the time of construction, slurry backfill may be used. The project would not include habitable structures and would therefore not create substantial direct or indirect risks to life or property beyond existing conditions.

The project would not compromise soil stability and there would be no impact involving unstable soils.

NO IMPACT

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

Expansive soils are those soils which can undergo substantial changes in volume (i.e., shrink-or-swell potential), due to variations in moisture content. The soils underlying the project site consist of Camarillo sandy loam, Camarillo loam, Pacheco silty clay loam, and riverwash (Natural Resources Conservation Service 2023). Due to the lack of clay content of the on-site soils, the potential for expansive soils to occur is low. In addition, the project does not include construction of habitable structures and would be unmanned during operation. Therefore, the proposed project would not expose people to risks related to expansive soils. As a result, the project would not create substantial direct or indirect risks to life or property as a result of expansive soils. No impact would occur.

NO IMPACT

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

The project would not involve the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

NO IMPACT

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Paleontological resources, or fossils, are the evidence of once-living organisms preserved in the rock record. They include both the fossilized remains of ancient plants and animals and the traces thereof (e.g., trackways, imprints, burrows, etc.). Paleontological resources are not found in "soil" but are contained within the geologic deposits or bedrock that underlie the soil layer. Generally, fossils are greater than 5,000 years old (i.e., older than middle Holocene in age) and are typically preserved in sedimentary rocks. Although rare, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions (Society of Vertebrate Paleontology [SVP] 2010). Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on several factors.

Rincon evaluated the paleontological sensitivity of the geologic units that underlie the project site to assess the project's potential to significantly impact scientifically important paleontological resources. The analysis was based on the results of a paleontological locality search from the Natural History Museum of Los Angeles County (NHMLA) and a review of existing information in the scientific literature regarding known fossils within geologic units mapped at the project site.

According to the SVP (2010) classification system, geologic units can be assigned a high, low, undetermined, or no potential for containing scientifically significant paleontological resources. Following the literature review, a paleontological sensitivity classification was assigned to each geologic unit mapped within the project site. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units.

The project site is situated in the Transverse Ranges geomorphic province, one of the eleven geomorphic provinces in California (California Geological Survey 2002). The Transverse Ranges extend approximately 275 miles west-east from Point Arguello in Santa Barbara County, east to the San Bernardino Mountains, and south to the Anacapa-Santa Monica-Hollywood-Raymond-Cucamonga fault zone (Yerkes and Campbell 2005). Locally, the project site is located on the Oxnard Plain, a broad coastal plain formed primarily from alluvial sediments deposited by the Santa Clara River and Ventura River. The geology of the region is mapped at a scale of 1:24,000 by Tan et al. (2004), who identified one geologic unit underlying the project site, Quaternary wash deposits (Unit 2). Quaternary wash deposits (Unit 2) consist of unconsolidated silt, sand, and gravel and are Holocene in age (Tan et al. 2004). Quaternary wash deposits (Unit 2) are likely too young (i.e., less than 5,000 years old) to preserve paleontological resources (SVP 2010) and, therefore, have low paleontological sensitivity.

A paleontological records search of the NHMLA recovered no known fossil localities within the project site (Bell 2023). The nearest fossil localities in the NHMLA records all come from older, named geologic units, such as the Saugus Formation and Topanga Formation, rather than unnamed Quaternary sediments.

Borings for the geotechnical investigation encountered between 3 and 8.5 feet of artificial fill beneath the project site, below which lay mostly clayey, and some sandy, alluvium (Appendix E), consistent with the geologic map (Tan et al. 2004).

Holocene-aged sediments, such as Quaternary wash deposits (Unit 2), may be underlain by older, potentially higher-sensitivity geologic units beneath the surface. However, the lack of known fossil localities in areas mapped as Holocene sediments within the Oxnard Plain, despite the extensive development of the region, suggests that the depth at which sediments become old enough (i.e., 5,000 years old) is deeper than normal agricultural and urban construction activities reach. Open cut trenching for the new pipeline would require excavations up to 13 feet below the surface, so it is unlikely, though possible, that this activity will impact sediments that are old enough to have high paleontological sensitivity. If the trenchless crossing alternative is chosen for the crossing of Revolon Slough, then excavations of up to 30 feet would be required, which will likely impact sediments that are old enough to have high paleontological sensitivity.

Ground-disturbing activities within previously undisturbed sediments with high paleontological sensitivity could result in significant impacts to paleontological resources. Impacts would be significant if construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data. Ground-disturbing activities for this project (particularly if the trenchless crossing alternative is chosen) have the potential to unexpectedly encounter paleontological resources during ground-disturbing activities. As a result, in the event of an unanticipated discovery, project impacts to paleontological resources would be potentially significant, and implementation of Mitigation Measure GEO-1 would be required to reduce impacts to a less-than-significant level.

Mitigation Measure

GEO-1 Unanticipated Discovery of Paleontological Resources

In the event a fossil is discovered during construction of the project, ground disturbance within 50 feet of the find shall be temporarily halted or delayed until the discovery is examined by a Qualified Professional Paleontologist. United shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. If the find is determined to be significant, United shall retain a Qualified Professional Paleontologist to direct all mitigation measures related to paleontological resources. The Qualified Professional Paleontologist shall design and carry out a data recovery plan consistent with the SVP (2010) standards.

Significance After Mitigation

Mitigation Measure GEO-1 requires appropriate treatment procedures in the event of an unanticipated discovery of paleontological resources during ground-disturbing activities. Implementation of Mitigation Measure GEO-1 would reduce potential impacts to paleontological resources to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	■	☐
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	■

Overview of Climate Change and Greenhouse Gas Emissions

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. Climate change is the result of numerous, cumulative sources of greenhouse gas (GHG) emissions contributing to the "greenhouse effect," a natural occurrence which takes place in Earth's atmosphere and helps regulate the temperature of the planet. Most radiation from the sun hits Earth's surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions. GHG emissions occur both naturally and as a result of human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Methodology and Significance Thresholds

GHG emissions associated with project construction and operation were estimated using CalEEMod, with the assumptions described under Section 3, *Air Quality.* CalEEMod modeling outputs are included in Appendix A. For the purposes of this GHG analysis, it was assumed the project would have a 50-year lifetime. Construction emissions were amortized over the project's estimated 50-year lifetime because construction emissions are confined to a relatively short period of time in relation to the overall life of the proposed project.

According to the *CEQA Guidelines*, projects can tier from a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of a project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. Neither United, the County of Ventura, the VCAPCD, California Office of Planning and Research, CARB, California Air Pollution Control Officers Association, nor any other state or applicable regional agency has adopted a numerical significance threshold for assessing GHG emissions that is applicable to the proposed project.

In the absence of any adopted numeric threshold, the significance of the proposed project's GHG emissions is evaluated consistent with *CEQA Guidelines* Section 15064.4(b) by considering whether the proposed project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Therefore, the significance of the proposed project's potential impacts regarding GHG emissions and climate change is evaluated based on consistency with plans and polices adopted for the purposes of reducing GHG emissions and mitigating the effects of climate change. The most directly applicable adopted regulatory plans to reduce GHG emissions are CARB's 2022 Scoping Plan, Connect SoCal, and the County of Ventura 2040 General Plan. GHG emissions from the construction and operation of the proposed project are provided for informational purposes.

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor and haul trucks, and worker vehicles. As previously stated, construction emissions would be amortized over 50 years. Table 4 shows the estimated annual GHG construction emissions associated with the proposed project, as well as the amortized construction emissions over a 50-year project life.

Table 4 Estimated Construction GHG Emissions

Construction Year	Emissions (MT of CO_2e)
2024	183
2025	69
Total Emissions	**252**
Total Annual Emissions Amortized over 50 Years	**5**

MT = metric tons; CO_2e = carbon dioxide equivalents

See Appendix A for CalEEMod outputs.

As shown in Table 4, project construction would generate approximately 252 MT of CO_2e over the construction period. Amortized over the project's lifetime, the project would generate approximately 5 MT of CO_2e per year. GHG emissions generated during construction of the proposed project would be short-term in nature, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions.

Operational Emissions

Operation of the project would result in negligible GHG emissions associated with occasional maintenance vehicle trips to the project site, including trips for dewatering activities, and power required for the pump station and temporary discharge events. As demonstrated below under threshold (b), the project would not conflict with an applicable plan, policy, or regulation pertaining to the reduction of GHG emissions. Therefore, in the absence of a numerical threshold, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases or otherwise conflict with state goals for reducing GHG emissions in California?

The project's consistency with the 2022 Scoping Plan and Connect SoCal are discussed in the subsections below.

2022 Scoping Plan

There are numerous state plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal state plan and policy is AB 32, the California Global Warming Solutions Act of 2006, as well as Senate Bill (SB) 32. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020 and the goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. The 2022 Scoping Plan identifies plans, regulations and strategies that are to be implemented at the state and project level that will reduce GHG emissions consistent with state policies with a target of 85 percent below 1990 levels by 2045, which is the equivalent of carbon neutrality by 2045.

Many of the measures and programs included in the 2022 Scoping Plan would result in the reduction of project-related GHG emissions with no action required at the project-level, including GHG emission reductions through increased energy efficiency and renewable energy production (SB 350), reduction in carbon intensity of transportation fuels (Low Carbon Fuel Standard), and the accelerated efficiency and electrification of the statewide vehicle fleet (Mobile Source Strategy). Additionally, because the project would involve construction of a water pipeline and construction of a pump station and would be relatively small, the net increase in GHG emissions associated with the project would be negligible. Given that the proposed project is also not anticipated to result in a substantial increase in mobile trips, the project would also not conflict with the 2022 Scoping Plan's goal of reducing GHG emissions through reductions in vehicle miles travelled (VMT) statewide. Therefore, the project would be consistent with the 2022 Scoping Plan.

Southern California Association of Governments Connect SoCal

On September 3, 2020, the Southern California Association of Governments (SCAG) Regional Council unanimously voted to approve and fully adopt Connect SoCal and the addendum to the Connect SoCal Program Environmental Impact Report. SCAG's Connect SoCal is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region. The SCS will integrate land use and transportation strategies that will achieve GHG emissions reduction targets that are forecasted to achieve reduction in GHG emissions to achieve the state's 2045 GHG reduction goals. Connect SoCal incorporates local land use projections and circulation networks in city and county general plans. Typically, a project would be consistent with Connect SoCal if the project does not exceed the underlying growth assumptions within the Connect SoCal. As discussed in Section 3, *Air Quality,* the project would not require additional operational employees and would therefore not account for a part of projected employment growth in Ventura County. Therefore, the project would support the VMT and GHG reducing goals of Connect SoCal. The proposed project would not conflict with implementation of the strategies identified in Connect SoCal that would reduce GHG emissions.

NO IMPACT

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9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant 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, use, or disposal of hazardous materials?	☐	☐	■	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	☐	■
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	■
e. For a project located in 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?	☐	☐	☐	■
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	■

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

Construction of the proposed project would temporarily increase the transport and use of hazardous materials along the project alignment through the operation of vehicles and equipment, consistent with other pipeline construction projects in the region. Such substances include diesel fuel, oil, solvents, and other similar materials brought onto the construction site for use and storage during the construction period. These materials would be contained within vessels specifically engineered for safe storage and would not be transported, stored, or used in quantities which would pose a significant hazard to the public or construction workers. Furthermore, project construction would require the excavation and transport of paving materials and soils which could possibly be contaminated by vehicle-related pollution (e.g., oil, gasoline, diesel, and other automotive chemicals). All such paving and soils removed during construction would be transported and disposed of in accordance with applicable codes and regulations to minimize potential hazards to construction workers and the surrounding community.

Operation of the project would not include the use of hazardous materials. The project would involve the conveyance and infrequent discharge of treated pipeline water, consisting of a blend of advanced treated recycled water, surface water, and groundwater. Therefore, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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

The use, transport, and storage of hazardous materials during construction of the proposed project (e.g., diesel fuel, oil, solvents, and other similar materials) could introduce the potential for an accidental spill or release to occur. As discussed under item (a), operation and maintenance of the project would not involve the routine transport, use, or disposal of hazardous materials. Therefore, potential impacts are limited to the construction period.

The presence of hazardous materials during project construction activities could result in an accidental upset or release of hazardous materials if they are not properly stored and secured. However, hazardous materials used during project construction would be disposed of off-site in accordance with all applicable laws and regulations. Additionally, the proposed project would adhere to BMPs required by the SWPPP, which include hazardous material management measures. Therefore, construction impacts would be less than significant. Additional BMPs required under Mitigation Measure BIO-1 would further reduce impacts.

LESS-THAN-SIGNIFICANT IMPACT

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The nearest school to the project site is Lemonwood Elementary School, located approximately 2.7 miles to the west. Therefore, the project would not be within 0.25 mile of an existing or proposed school. No impact would occur.

NO IMPACT

d. Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

A search of the California Department of Toxic Substances Control EnviroStor database and the SWRCB GeoTracker database was conducted in October 2023. There are no hazardous materials sites within one mile of the project site (California Department of Toxic Substances Control 2023; SWRCB 2023). Therefore, the project site would not be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5. No impact would occur.

NO IMPACT

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?

The project site is approximately 2.2 miles south of the Camarillo Airport and is within the Camarillo Airport's land use study area. However, the project site is not within the Airport's Traffic Pattern Zone (TPZ), Runway Protection Zones, Outer Safety Zone, or Height Restriction Zone. The project site is also not located within the noise level contours for the airport (Ventura County Airport Land Use Commission 2000). Therefore, the project would not result in a safety hazard or excessive noise for people working at the project site due to proximity to an airport. No impact would occur.

NO IMPACT

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

The project site is within the planning area of the County of Ventura's Emergency Operations Plan (County of Ventura 2021). As discussed in Section 17, *Transportation*, while implementation of the proposed project would increase traffic to and from the project site during construction, the project site is surrounded by roadways such as Pleasant Valley Road and Wood Road, which connect to major highways such as SR 34 and SR 1. These roadways have sufficient capacity to provide access to and from the project site and through the area.

Construction of the Roadway Alignment Alternative would require at least a temporary single-lane closure along Laguna Road and could require a double lane closure with detours. Traffic control measures would be implemented during the lane closure, including flaggers at both ends for a single-lane closure or a marked detour for a double-lane closure. Open-cut trenching activities and paving and ground restoration activities would be mobile and constantly moving in a linear path along the pipeline alignment. Thus, lane closures would only affect one specific area of the project's alignment for a short period of time. If a double-lane closure would be necessary, detour routes would be established on adjacent roadways such as but not limited to East Pleasant Valley Road, Wood Road, and Etting Road. Adjacent roadways provide access to Laguna Road east and west of the project area; accordingly, temporary closure of Laguna Road would not inhibit vehicular access to areas east or west of the project area.

In addition, United would be required to obtain encroachment permits from applicable jurisdictions for any construction activities in the public ROW. United would be responsible for preparing and submitting Traffic Control Plans to accompany encroachment permit applications. The proposed project would also be subject to encroachment permit conditions, which may include requirements

such as construction signage, peak traffic hour avoidance, and post-construction pavement restoration. As such, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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

As discussed in detail in Section 20, *Wildfire*, the project site is near state responsibility areas (SRAs) and lands classified as Very High Fire Hazard Severity Zones (VHFHSZ) (California Department of Forestry and Fire Protection [CAL FIRE] 2020). According to CAL FIRE, the project site is approximately 2.5 miles west of the nearest SRA and the nearest VHFHSZ (CAL FIRE 2020). However, the project site is surrounded by existing irrigated agricultural fields and agro-industrial development and is not located near any undeveloped wildland areas. In addition, the project consists of water conveyance infrastructure and would not include habitable structures. Therefore, the project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. No impact would occur.

NO IMPACT

10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant 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 ground water quality?	☐	☐	■	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	■
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course 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;	☐	☐	■	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	■	☐
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	■	☐
(iv) Impede or redirect flood flows?	☐	☐	■	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	■
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	■	☐

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

The project site is located in the South Coast hydrological region. The project site partially encompasses Revolon Slough, a 55-foot wide, 16-foot deep concrete box channel that generally runs north-south and flows into Calleguas Creek. The pipeline would either be installed over Revolon Slough on Laguna Road Bridge (Bridge Crossing Alternative) or under Revolon Slough via trenchless auger boring (Trenchless Crossing Alternative).

Construction

Excavation, grading, and construction activities associated with project construction would result in soil disturbance. As stormwater flows over a construction site, it can pick up sediment, debris, and chemicals, and transport them to receiving water bodies.

The proposed project would require coverage under the Construction General Permit and development and implementation of a SWPPP. The SWPPP would minimize the amount of sediment and other pollutants associated with the construction site discharged in stormwater runoff. As such, the proposed project would be consistent with water quality standards and waste discharge requirements. As discussed in the impact analyses for Section 7, *Geology and Soils*, and Section 9, *Hazards and Hazardous Materials,* implementation of SWPPP BMPs would minimize or avoid potentially adverse impacts, including those associated with earthwork activities that could lead to water quality degradation. Therefore, project construction activities would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or ground water quality.

The construction BMPs included in the *Project Description* would also further reduce the potential for sediment erosion to impact Revolon Slough through implementation of additional BMPs.

Operation

The proposed project consists of water conveyance infrastructure to support efforts to reduce groundwater pumping in the Oxnard Plain. The PTP System is used for irrigation of agricultural crops and is not subject to drinking water standards and regulations.

Project operation would not adversely affect surface or ground water quality. The proposed blow-off would periodically discharge treated water into Revolon Slough to dewater pipeline sections during construction, repair, or maintenance activities. The discharges would occur intermittently throughout operation of the project. Discharged pipeline water would comply with volumetric and water quality requirements pursuant to the NPDES Permit and Waste Discharge Requirements. As such, project operation would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. No impact would occur.

LESS-THAN-SIGNIFICANT IMPACT

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

The project site overlies the Santa Clara River Valley Groundwater Basin, which is designated as a high-priority groundwater basin under the Sustainable Groundwater Management Act. In 2015, the

Fox Canyon Groundwater Management Agency adopted its Draft Groundwater Sustainability Plan (GSP) for the basin, which was approved by California's Department of Water Resources in 2021 (Fox Canyon Groundwater Management Agency 2022).

United operates the PTP System, an agricultural irrigation pipeline completed in 1986 to deliver surface water diverted from the Santa Clara River and groundwater pumped from five deep wells screened in the LAS to agricultural growers in the Oxnard Plain. To support efforts to reduce groundwater pumping in the Oxnard Plain, United has been coordinating with neighboring agencies regarding potential pipeline connections to the PTP System for the delivery of recycled water. The purpose of the proposed project is to facilitate transfer of recycled water supplies from PVCWD to United's PTP System. The project would have a beneficial impact on groundwater supplies, as it would provide alternative water supplies for agricultural irrigation, reducing reliance on pumped groundwater. No adverse impact would occur.

NO IMPACT

c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would 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?

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

The proposed project would not alter the course of a stream or river and would not introduce new impervious surfaces that could result in substantial erosion, siltation, or flooding on or off the site. The pipeline would either be installed over Revolon Slough on Laguna Road Bridge (Bridge Crossing Alternative) or under Revolon Slough via trenchless auger boring (Trenchless Crossing Alternative).

The pipeline alignment would be restored to pre-project conditions following completion of construction activities, and thus would not add impervious surfaces. Therefore, pipeline construction would not alter the existing drainage pattern along the project alignment as compared to existing conditions. Construction of the proposed pump station may introduce new impervious surfaces at the existing Well No. 7 site, but the majority of the site and surroundings would remain unpaved.

The proposed project would not exceed the capacity of existing or planned stormwater drainage systems and would not provide substantial additional sources of polluted runoff. The proposed project would not substantially alter existing drainage patterns along the project alignment or in the surrounding area. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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

According to the Federal Emergency Management Agency Flood Insurance Rate Maps, the project alignment is within a one percent annual chance flood hazard zone (Federal Emergency Management Agency 2015). The project site is not located near any large bodies of water subject to seiche. The Pacific Ocean is located approximately six miles to the east of the project site; therefore, the project site is not located in a tsunami zone. The project would involve conveyance of treated pipeline water (consisting of a blend of advanced treated recycled water, surface water, and groundwater) and would not risk release of pollutants due to project inundation. No impact would occur.

NO IMPACT

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

The project is subject to the requirements of Fox Canyon Groundwater Management Agency's Santa Clara River Valley Basin GSP. As described above in threshold (b), the project would result in beneficial impacts to the groundwater basin. Therefore, the project would not conflict with or obstruct the GSP.

The project is subject to the requirements of the Los Angeles RWQCB's Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. As described under threshold (a), the project would be required to comply with the NPDES Construction General Permit to protect water quality. The NPDES Construction General Permit requires preparation and implementation of a project specific SWPPP, which requires operators to implement pollution prevention controls to minimize the discharge of pollutants from stormwater and spilled or leaked materials. Compliance with applicable regulatory requirements would minimize potential surface water quality impacts associated with sediment erosion during project construction. In addition, Mitigation Measure BIO-1, as outlined in Section 4, *Biological Resources*, would further reduce the potential for sediment erosion to impact Revolon Slough through implementation of additional BMPs. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	■
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	■

a. Would the project physically divide an established community?

The proposed project would include installation of an underground pipeline and aboveground pump station. Construction would be temporary in nature and would preserve one lane of access on Laguna Road during construction activities. The proposed pump station would not inhibit access to Laguna Road, and remaining portions of the project site would be restored to existing conditions after construction is complete. Therefore, the project would not have the potential to physically divide an established community. No impact would occur.

NO IMPACT

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

The project site is located in unincorporated Ventura County. The project alignment would either be located in private agricultural land (Northern Alignment Alternative) or within the ROW of Laguna Road (Roadway Alignment Alternative). Pursuant to California Government Code 53091, the building and zoning ordinances of a county or city do not apply to the location or construction of facilities for the production, storage, or transmission of water, wastewater, or electrical energy by a local agency. Therefore, the project is only evaluated for consistency with the Ventura County 2040 General Plan.

The proposed project would be consistent with Policy PFS-7.4 of the Ventura County General Plan, which requires placement of new utility service lines underground when feasible (County of Ventura 2020). In addition, as indicated in Section 4, *Biological Resources*, no biological resources protected by local policies and ordinances would be impacted by the project. Furthermore, the project would result in minimal changes to existing conditions upon completion of construction activities given that the proposed pipeline would be installed underground and no changes to United operations and maintenance would occur. As such, the project has minimal potential to conflict with other land use plans, policies, or regulations related to environmental resources during operation. As a result, the proposed project would not cause a significant environmental impact due to a conflict with any

land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. No impact would occur.

NO IMPACT

12 Mineral Resources

	Potentially Significant Impact	Less than Significant 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?	☐	☐	☐	■
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?	☐	☐	☐	■

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

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

The project site is located in an area designated Mineral Resource Zone (MRZ)-1 (County of Ventura 2020). MRZ-1 is defined as an area where adequate geologic information indicates no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. As such, the proposed project would not reduce or eliminate access to known mineral resources. In addition, the proposed project does not involve mining or oil extraction activities. Therefore, the project would not 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 or 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 would occur.

NO IMPACT

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13 Noise

	Potentially Significant Impact	Less than Significant 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 local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	■	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

Overview of Noise and Vibration

Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013).

HUMAN PERCEPTION OF SOUND

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Caltrans 2013).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not "sound twice as loud" as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (10.5 times the sound energy) (Caltrans 2013).

SOUND PROPAGATION AND SHIELDING

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in the noise level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions.

Sound levels are described as either a "sound power level" or a "sound pressure level," which are two distinct characteristics of sound. Both share the same unit of measurement, the dB. However, sound power (expressed as L_{pw}) is the energy converted into sound by the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers, such as an eardrum or microphone, which is the sound pressure level. Sound measurement instruments only measure sound pressure, and noise level limits are typically expressed as sound pressure levels.

Noise levels from a point source (e.g., construction, industrial machinery, air conditioning units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011).

DESCRIPTORS

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. The noise descriptors used for this study are the equivalent noise level (L_{eq}), and the community noise equivalent level (CNEL; may also be symbolized as L_{den}).

L_{eq} is one of the most frequently used noise metrics; it considers both duration and sound power level. The L_{eq} is defined as the single steady-state A-weighted sound level equal to the average sound energy over a time period. When no time period is specified, a 1-hour period is assumed. The L_{max} is the highest noise level within the sampling period, and the L_{min} is the lowest noise level within the measuring period. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Groundborne Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent buildings or structures and vibration energy may propagate through the buildings or structures. The primary concern from vibration is that it can be intrusive and annoying to building occupants at vibration-sensitive land uses and may cause structural damage. Typically, ground-borne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used as it corresponds to the stresses that are experienced by buildings (Caltrans 2020).

High levels of groundborne vibration may cause damage to nearby building or structures; at lower levels, groundborne vibration may cause minor cosmetic (i.e., non-structural damage) such as cracks. These vibration levels are nearly exclusively associated with high impact activities such as blasting, pile-driving, vibratory compaction, demolition, drilling, or excavation. The American Association of State Highway and Transportation Officials has determined vibration levels with potential to damage nearby buildings and structures; these levels are identified in Table 5.

Table 5 Maximum Vibration Levels for Preventing Damage

Type of Situation	Limiting Velocity (in/sec PPV)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2–0.3
Residential buildings in good repair with gypsum board walls	0.4–0.5
Engineered structures, without plaster	1.0–1.5

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

Source: Caltrans 2020

Numerous studies have been conducted to characterize the human response to vibration. The vibration annoyance potential criteria recommended for use by Caltrans, which are based on the general human response to different levels of groundborne vibration velocity levels, are described in Table 6.

Table 6 Vibration Annoyance Potential Criteria

	Vibration Level (in/sec PPV)	
Human Response	Transient Sources	Continuous/Frequent Intermittent Sources[1]
Severe	2.0	0.4
Strongly perceptible	0.9	0.10
Distinctly perceptible	0.25	0.04
Barely perceptible	0.04	0.01

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

[1] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: Caltrans 2020

Project Noise Setting

The primary existing noise sources in the vicinity of the project site include vehicular traffic on Laguna Road in addition to agro-industrial development immediately north of the project alignment. Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The Ventura County Construction Noise Threshold Criteria and Control Plan defines noise-sensitive receivers as hospitals, nursing homes, single-family and multi-family dwellings, hotels, motels, schools, churches, and libraries (Advanced Engineering Acoustics 2005). The nearest noise-sensitive receiver is a single-family residence located approximately 600 feet east of the project alignment across Laguna Road.

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

Construction

Project construction activities would generate temporary noise along the project alignment, exposing sensitive receivers to increased noise levels. Project construction noise would be generated by heavy-duty diesel construction equipment used for site preparation, trenching, infrastructure installation, and paving/site restoration activities. Each phase of construction has a specific equipment mix and associated noise characteristics, depending on the equipment used during that phase. Construction noise would be short-term and temporary at any given location given construction activities would move along the alignment over the course of the six-month construction schedule.

United has not adopted thresholds for construction noise. The construction noise thresholds outlined in the County's Construction Noise Threshold Criteria and Control Plan are utilized to evaluate project construction noise impacts (Advanced Engineering Acoustics 2005). The noise threshold criteria (NTC) set forth by the County of Ventura are based on the duration of construction affecting noise-sensitive receivers. Although project construction would occur over the course of six months, such a duration would not be characteristic of the duration in which individual sensitive receivers are exposed to construction noise due to the linear nature of the project. Exposure to any one single receptor would not typically exceed four to seven days, and the average distance from construction equipment over this time period is assumed to be 600 feet. According to the County's Construction Noise Threshold Criteria and Control Plan (2005), the NTC for an exposure duration of four to seven days is 70 dBA L_{eq}, or the ambient L_{eq} plus 3 dBA, whichever is greater, as measured at the nearest sensitive receiver or 10 feet from the nearest noise-sensitive building. In lieu of conducting ambient noise level measurements at the project site, the NTC of 70 dBA L_{eq} is conservatively utilized for the purpose of this analysis. In addition, consistent with the County's Construction Noise Threshold Criteria and Control Plan (2005), the threshold for maximum construction noise levels is the NTC plus 20 dBA, which cannot be exceeded more than eight times per daytime hour.

Construction noise was estimated using the FHWA Roadway Construction Noise Model (RCNM) (FHWA 2006). RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. Using RCNM, construction noise levels were estimated at noise-sensitive receivers near the project site. RCNM provides reference noise levels for standard construction equipment, with an attenuation rate of 6 dBA per doubling of distance for stationary equipment.

The closest sensitive receiver is a single-family residence located approximately 600 feet east of the eastern terminus of the project alignment. Over the course of a typical construction day, construction equipment would be located as close as 600 feet to this property but would typically be further away due to the linear nature of the project.

Construction noise is typically loudest during activities that involve ground disturbance and movement of soil, such as grading/trenching. A potential, maximum noise construction scenario for the project would include simultaneous operation of a dozer and a grader working during grading/trenching. At a distance of 600 feet, a dozer and a grader would generate a noise level of 63.4 dBA L_{eq}, which would not exceed the threshold of 70 dBA L_{eq} set forth in the County of Ventura Construction Noise Threshold Criteria and Control Plan (Advanced Engineering Acoustics 2005; RCNM calculations are included in Appendix F). Therefore, project construction would not generate a substantial temporary increase in ambient noise levels in the vicinity of the project, and impacts would be less than significant.

Operation

Operation of the pipeline would not result in noise. Operation of the pump station would generate noise; however, noise generated by the pump station would attenuate over the distance to the nearest sensitive receptor (600 feet) and would not result in a perceptible noise increase at this receptor. Operation of equipment during dewatering activities would generate temporary sources of noise; however, the potential locations for blow-off vaults or connections are located over 600 feet from the nearest sensitive receptor and would not result in a perceptible noise increase. As such, project operation would not generate a substantial temporary increase in ambient noise levels in the vicinity of the project, and impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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

Construction

Project construction may require operation of vibratory equipment such as loaded trucks and bulldozers, and this equipment would be used at a distance of 600 feet or more from the nearest sensitive receptor. Construction vibration levels would attenuate over this distance and would not be perceptible at this receptor, and vibration levels would not exceed 0.20 in/sec PPV at the nearest residence, the threshold at which damage can occur to residential buildings. Construction vibration could potentially cause structural damage to existing nearby structures. The closest existing structure is the existing well located at the eastern terminus of the project alignment. Even if vibratory equipment was used within three feet of this existing structure, vibration levels would not exceed 1.0 in/sec PPV, the threshold at which damage can occur to engineered structures. Because the use of construction equipment would not exceed the threshold for structural damage, project construction would not generate excessive groundborne vibration or groundborne noise levels. Impacts would be less than significant.

Operation

The proposed project consists of an underground pipeline and pump station, and operation would not include activities with the potential to generate significant vibration, such as manufacturing or heavy equipment. Dewatering activities would not require the use of vibratory equipment.

Therefore, project operation would not result in generation of excessive groundborne vibration or groundborne noise levels. No impact would occur.

LESS-THAN-SIGNIFICANT IMPACT

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?

The nearest airport to the project site is Camarillo Airport, located approximately 2.2 miles to the north. The project site is not located within Camarillo Airport's noise level contours (Ventura County Airport Land Use Commission 2000). Given the distance of the project site from the airport, the project would not expose people residing or working in the project area to excessive noise levels associated with airport operations. No impact would occur.

NO IMPACT

14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	■
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

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

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

The purpose of the project is to enable the transfer of recycled water supplies from the City of Oxnard's AWPF or other potential sources through the PVCWD system to United's PTP System for agricultural irrigation use. The project does not include housing or other infrastructure that would directly lead to population growth. Given the small-scale nature of project construction activities, it is likely that construction workers would be drawn from the existing, regional workforce and would not indirectly result in the relocation of people to Ventura County. In addition, no new United employees would be required to operate and maintain the project. Furthermore, the project would not indirectly induce population growth because it does not include new water supply sources for the United service area. Therefore, the project would not directly or indirectly induce substantial unplanned population growth. No existing people or housing are located on project site; as such, the project would also not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Accordingly, no impacts related to population/housing would occur.

NO IMPACT

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15 Public Services

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a.	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	1 Fire protection?	☐	☐	☐	■
	2 Police protection?	☐	☐	☐	■
	3 Schools?	☐	☐	☐	■
	4 Parks?	☐	☐	☐	■
	5 Other public facilities?	☐	☐	☐	■

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

As described in Section 14, *Population and Housing*, the project does not include development of structures or infrastructure that would directly or indirectly increase the population in Ventura County. In addition, as an underground pipeline, the project would not include components that would place additional demands on fire or police protection services. Therefore, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services, fire protection, police protection, schools, parks, or other public facilities. No impact would occur.

NO IMPACT

16 Recreation

	Potentially Significant Impact	Less than Significant 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?	☐	☐	☐	■
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	■

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?

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

As described in Section 14, *Population and Housing*, the project does not include development of structures or infrastructure that would directly or indirectly increase the population in Ventura County. Therefore, the project would not increase the population served by local recreation facilities or otherwise result in increased demand for or degradation of those facilities. As such, the project would not 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. The project also does not include recreational facilities or require the construction or expansion of recreational facilities. No impact related to recreation would occur.

NO IMPACT

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17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Conflict with a 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)?	☐	☐	☐	■
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	■	☐
d. Result in inadequate emergency access?	☐	☐	■	☐

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

Regional and local plans and policies addressing the circulation system include the Ventura County General Plan Circulation, Transportation and Mobility Element; the SCAG 2020-2045 RTP/SCS; and Ventura County Transportation Commission Congestion Management Plan (County of Ventura 2009, 2020; SCAG 2020). Access to the project site during construction would be provided by Laguna Road, which is a two-lane road. No transit stops, sidewalks, or bicycle lanes are located along the segment of Laguna Road adjacent to the project site. Construction traffic would be temporary and limited to the duration of the construction schedule (approximately nine months).

Construction activities under the Roadway Alignment Alternative would require a temporary one-lane closure along Laguna Road, and could require a double lane closure with detours. Traffic control measures would be implemented during the lane closure, including flaggers at both ends for a single-lane closure or a marked detour for a double-lane closure. Open-cut trenching activities and paving and ground restoration activities would be mobile and constantly moving in a linear path along the pipeline alignment. Thus, lane closures would only affect one specific area of the project's alignment for a short period of time. If a double-lane closure would be necessary, detour routes would be established on adjacent roadways such as but not limited to East Pleasant Valley Road, Wood Road, and Etting Road. Adjacent roadways provide access to Laguna Road east and west of the project area; accordingly, temporary closure of Laguna Road would not inhibit vehicular access to areas east or west of the project area.

In addition, United would be required to obtain encroachment permits from applicable jurisdictions for any construction activities in the public ROW. United would be responsible for preparing and submitting Traffic Control Plans to accompany encroachment permit applications. The proposed

project would also be subject to encroachment permit conditions, which may include requirements such as construction signage, peak traffic hour avoidance, and post-construction pavement restoration.

If temporary aboveground blow-off piping and staging of portable equipment would encroach into Laguna Road, United would obtain an encroachment permit from the County of Ventura and submit the required Traffic Control Plan and application materials. Traffic control measures would be implemented to minimize temporary traffic impacts on Laguna Road.

The minimal level of traffic generated by the project would not have the potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Specifically, the guidelines state VMT exceeding an applicable threshold of significance may indicate a significant impact. According to Section 15064.3(b)(3) of the CEQA Guidelines, a lead agency may include a qualitative analysis of operational and construction traffic if existing models or methods are not available to estimate the VMT for the project being considered. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. United has not adopted VMT thresholds. In 2020, the County of Ventura released its draft VMT thresholds of significance but has not yet adopted these thresholds. In addition, the Ventura County General Plan includes Policy CTM 4.1, which encourages a reduction in the number of VMT (County of Ventura 2020).

A VMT calculation is typically conducted on a daily or annual basis, for long-range planning purposes. As discussed under item (a) above, traffic on local roadways would temporarily increase during project construction due to worker trips and the necessary transport of construction vehicles, equipment, and soil material to and from the project site. Increases in VMT from construction would be short-term, minimal, and temporary. In addition, the project would require a minimal net increase in operations and maintenance activities for dewatering activities. However, dewatering would occur infrequently over the life of the project. Therefore, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b). No impact related to VMT would occur.

NO IMPACT

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

The project would not involve the construction of new roads or reconfiguration of any roadways or intersections that could result in a substantial increase in traffic hazards. During project construction, construction staging and worker parking may occur along the project alignment on roadway shoulders along Laguna Road. Construction activities associated with the Roadway Alignment Alternative would require a temporary one-lane closure along Laguna Road, and could require a double lane closure with detours. As discussed under checklist item (a) of this section, traffic control measures would be implemented and partial or full closure of Laguna Road would not inhibit vehicular access to areas east or west of the project area.

Upon the completion of construction, the pipeline would be located underground and thus would not substantially increase traffic hazards. Therefore, the project would not substantially increase hazards due to a geometric design feature or incompatible use. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

d. Would the project result in inadequate emergency access?

As discussed in Section 9, *Hazards and Hazardous Materials*, while implementation of the proposed project would increase traffic to and from the project site during construction, the project site is surrounded by roadways such as Pleasant Valley Road and Wood Road, which connect to major highways such as SR 34 and SR 1. These roadways have sufficient capacity to provide access to and from the project site and through the area.

Construction of the Roadway Alignment Alternative would require a temporary single-lane closure along Laguna Road and could require a double-lane closure. As previously discussed, lane closures would only affect one specific area of the project's alignment, as construction moves in a linear fashion along the project alignment. Traffic control measures would be implemented, and United would be responsible for preparing and submitting Traffic Control Plans to accompany encroachment permit applications. As such, project construction would not result in inadequate emergency access. Impacts would be less than significant.

Operation of the pipeline would not introduce new vehicle trips or include aboveground features that would impede emergency access. During operation, United would similarly be responsible for preparation of traffic control plans if dewatering activities require partial road closures. Therefore, project operation would not result in inadequate emergency access, and no impact would occur.

LESS-THAN-SIGNIFICANT IMPACT

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18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☐	☐	☐	■
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	■

On July 1, 2015, Assembly Bill 52 (AB 52) was enacted, expanding CEQA by defining a new resource category, "tribal cultural resources." AB 52 states, "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states the lead agency shall establish measures to avoid impacts altering the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Sections 21074 (a)(1)(A-B) define tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and are:

1. Listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC Section 5020.1(k); or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified or adopted. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those having requested notice of projects proposed in the jurisdiction of the lead agency.

On September 8, 2023, United distributed AB 52 consultation letters for the proposed project, including project information, a map, and United contact information to nine Native American tribes. The AB 52 consultation letters were sent, via certified mail, to the following tribal governments:

Barbareño/Ventureño Band of Mission Indians

Chumash Council of Bakersfield

Coastal Band of the Chumash Nation

Gabrieleño/Tongva San Gabriel Band of Mission Indians

Gabrieliño/Tongva Nation

Gabrieliño-Tongva Tribe

Northern Chumash Tribal Council

San Luis Obispo County Chumash Council

Santa Ynez Band of Chumash Indians

Under AB 52, Native American tribes have 30 days to respond and request further project information and formal consultation. Of the nine tribes contacted, two responded: the Coastal Band of the Chumash Nation and the Santa Ynez Band of Chumash Indians. In a letter dated September 20, 2023, Crystal Mendoza, Administrative Assistant for the Santa Ynez Band of Chumash Indians Elders' Council, stated the Elders' council does not request to consult on the project. In an email dated October 2, 2023, Gabriel Frausto, Chairman Coastal Band of the Chumash Nation, stated he has no comments on the project but requested he be contacted should cultural resources be discovered during project construction. None of the other seven contacted tribes responded within 30 days of mailing of the letters.

Accordingly, AB 52 consultation is complete for the project.

a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?*

b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?*

No tribal cultural resources listed or eligible for listing in the CRHR or in a local register of historical resources were identified within the project site. In addition, no tribal cultural resources were identified within or near the project site that have been determined by United (the lead agency) to be significant. Therefore, the project would not cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074 that is listed or eligible for

listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k) or that is a resource determined by United (the lead agency), in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). No impact would occur.

NO IMPACT

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19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant 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 or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	■
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	■	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	■
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	■	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	■	☐

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Water

The project itself consists of water conveyance infrastructure to facilitate recycled water transfers from the PVCWD system to United's PTP System. The environmental impacts of this infrastructure have been evaluated throughout this document, and no additional environmental impacts would occur. In addition, water conveyed through the proposed pipeline would be supplied from existing

water sources. Therefore, the project would not result in the construction or relocation of additional new or expanded water facilities. No impact would occur.

Wastewater

The project would not require permanent on-site personnel and does not include the installation of restroom facilities. Therefore, no wastewater would be generated, and the project would not result in the construction or relocation of additional new or expanded wastewater facilities. No impact would occur.

Stormwater Drainage

The proposed pipeline would be located underground and would not introduce any new impervious surfaces. The pump station would introduce a negligible amount of impervious surface to the project site. Therefore, no new or expanded stormwater drainage facilities would be required, and no impact would occur.

Electric Power

The proposed pump station would require a connection to the electrical grid; however, the pump station would connect to existing Southern California Edison infrastructure and would not require additional electrical power facilities. Therefore, no new or expanded electrical power facilities would be required, and no impact would occur.

Natural Gas

The project would not require connections to natural gas facilities and would not result in a net increase in natural gas use within the United service area. Therefore, no new or expanded natural gas facilities would be required, and no impact would occur.

Telecommunications

The project would not require any connection to telecommunication facilities. Therefore, no new or expanded telecommunication facilities would be required, and no impact would occur.

NO IMPACT

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

The project itself consists of installation of a water pipeline to facilitate recycled water transfers from the PVCWD system to United's PTP System. Small quantities of water would be required during construction for dust suppression, which would be potable or non-potable water provided by United. Water consumption associated with dust suppression would be temporary and minimal because only disturbed areas would need to be watered. Water conveyed through the proposed pipeline would be supplied from existing water sources. The project would not increase water supply availability or result in increased water consumption. Therefore, impacts related to water supply would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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

The project would not generate wastewater. Therefore, the project would not result in a determination by the wastewater treatment that it has inadequate capacity to serve the project's projected demand. No impact would occur.

NO IMPACT

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

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

During construction of the proposed project, solid waste would be limited to trench spoils that cannot be used for backfilling and other pavement/demolition material that cannot be reused. Following the completion of project construction, operation and maintenance activities are not anticipated to generate solid waste.

It is anticipated solid waste disposal would likely be serviced by the Simi Valley Landfill. This landfill had a remaining capacity of 82,954,873 cubic yards as of 2019 (California Department of Resources Recycling and Recovery 2019). Due to the temporary nature of construction and minimal amount of construction waste anticipated to require disposal, the project would not generate quantities of solid waste that would account for a substantial percentage of the total daily regional permitted capacity available at Simi Valley Landfill. Therefore, waste generated by demolition and construction activities would not exceed the available capacity at the landfill serving the project area that would accept debris generated by the project, and impacts would be less than significant.

The project would be required to comply with all applicable laws and regulations related to solid waste generation, collection, and disposal. The project would result in a short-term and temporary increase in solid waste generation during construction but would not substantially affect standard solid waste operations of any landfill accepting waste. Recycling and reuse activities during construction would comply with the California Integrated Waste Management Act of 1989 (AB 939). Once operational, the proposed pipeline would not generate solid waste. Therefore, the project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. Impacts related to solid waste would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

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20 Wildfire

	Potentially Significant Impact	Less than Significant 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?	☐	☐	■	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	■	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	■
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	■

According to CAL FIRE, the project site is approximately 2.5 miles west of the nearest SRA and the nearest VHFHSZ (CAL FIRE 2020). Therefore, the project site is considered to be near an SRA and lands classified as a VHFHSZ for the purposes of this analysis.

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

The proposed project would not add residents or employees to the project site and does not include structures that would increase wildfire exposure or hazards. As discussed in Section 9, *Hazards and Hazardous Materials*, while implementation of the proposed project would increase traffic to and from the project site during construction, the project site is surrounded by roadways such as Pleasant Valley Road and Wood Road, which connect to major highways such as SR 34 and SR 1. These roadways have sufficient capacity to provide access to and from the project site and through the area.

Construction of the Roadway Alignment Alternative would require a temporary single-lane closure along Laguna Road and could require a double lane closure with detours. Traffic control measures would be implemented during the lane closure, including flaggers at both ends for a single-lane closure or a marked detour for a double-lane closure. Open-cut trenching activities and paving and ground restoration activities would be mobile and constantly moving in a linear path along the pipeline alignment. Thus, lane closures would only affect one specific area of the project's alignment for a short period of time. If a double-lane closure would be necessary, detour routes would be established on adjacent roadways such as but not limited to East Pleasant Valley Road, Wood Road, and Etting Road. Adjacent roadways provide access to Laguna Road east and west of the project area; accordingly, temporary closure of Laguna Road would not inhibit vehicular access to areas east or west of the project area.

In addition, United would be required to obtain encroachment permits from applicable jurisdictions for any construction activities in the public ROW. United would be responsible for preparing and submitting Traffic Control Plans to accompany encroachment permit applications. The proposed project would also be subject to encroachment permit conditions, which may include requirements such as construction signage, peak traffic hour avoidance, and post-construction pavement restoration. As such, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The project site is surrounded by existing irrigated agricultural lands, and there is no wildland vegetation in the vicinity.

Construction of the proposed project would include the use of heavy-duty equipment; in accordance with PRC Section 4442, equipment including earth-moving and portable construction equipment with internal combustion engines would be equipped with spark arrestors to prevent the emission of flammable debris from exhaust, when operating on any forest-covered, brush-covered, or grass-covered land. In addition, PRC Sections 4427 and 4431 specify standards for conducting construction activities on days when a burning permit is required, and PRC Section 4428 requires construction contractors to maintain fire suppression equipment during the highest fire danger period (April 1 to December 1) when operating on or near any forest-covered, brush-covered, or grass-covered land. The project area contains limited grass-covered land, which would reduce the potential for spark-induced wildfire. Additionally, through compliance with the above PRC provisions, project construction would not exacerbate wildfire risk.

In operation, the project would not introduce habitable structures or expose individuals to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The proposed project would not exacerbate fire risks and potential impacts would be less than significant.

LESS-THAN-SIGNIFICANT IMPACT

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The proposed project would not require the installation or maintenance of any new infrastructure, such as roads or fuel breaks, that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. No impact would occur.

NO IMPACT

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The proposed project involves installation of an underground pipeline in a relatively flat area that would not have the potential to exacerbate fire risk. The proposed project does not include construction of habitable structures. Additionally, as discussed in Section 10, *Hydrology and Water Quality*, the proposed project would not alter existing drainage patterns or stormwater runoff rates or patterns, and would include the use of stormwater BMPs to avoid causing or contributing to increased runoff or drainage changes. Therefore, the project would not expose people or structures to flooding or landslides as a result of post-fire runoff, slope instability, or drainage changes. No impact would occur.

NO IMPACT

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21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	■
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	■	☐	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	■	☐	☐

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?

As discussed in Section 4, *Biological Resources*, the project would not 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, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. In addition, as discussed in Section 5, *Cultural Resources*, the project would not eliminate important examples of the major periods of California history or prehistory. No impact would occur.

NO IMPACT

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)?

Cumulative impacts are defined as two or more individual (and potentially less than significant) project effects which, when considered together or in concert with other projects, combine to result in a significant impact within an identified geographic area. Cumulative development in the vicinity of the project site includes a pending conditional use permit for farmers to trade materials at an existing agricultural service and storage yard approximately 2 miles southwest of the project site, and a pending development permit for a new pool at a single-family residence approximately 2 miles south of the project site (County of Ventura 2023). Construction of the PVCWD pipeline east of the project site is also anticipated to begin in 2024.

Project impacts are primarily temporary, localized effects that would occur during construction activities. Therefore, the potential for the project to contribute to cumulative impacts would be limited to the infrequent periods of project activities and the following issue areas, for which the project is anticipated to have less than significant impacts (with or without mitigation):

Agriculture and Forestry Resources: Local zoning ordinances and the County's City Urban Restriction Boundary (CURB) protects against the conversion of Ventura County agricultural lands to non-agricultural uses. The proposed project would not permanently convert agricultural land to non-agricultural use, and would not result in other changes to the area that would result in conversions of agricultural lands to non-agricultural use off-site. In addition, the purpose of the project is to facilitate the transfer of recycled water supplies through the PVWCD system to United's PTP System for agricultural irrigation use. As such, the project would support agricultural land uses in the Oxnard Plain. Cumulative impacts related to agriculture and forestry resources would be less than significant.

Air Quality: Because the Basin is designated as being in nonattainment for the ozone NAAQS and CAAQS and nonattainment for the PM_{10} CAAQS, significant cumulative air quality impacts currently exist for these pollutants. As discussed in Section 3, *Air Quality,* with implementation of Mitigation Measure AQ-1, the proposed project would not generate emissions of these air pollutants which exceed the VCAPCD significance thresholds, which are intended to assess whether a project's contribution to existing cumulative air quality impacts is considerable. Therefore, the project's contribution to significant cumulative air quality impacts would not be cumulatively considerable.

Cultural Resources: Cumulative development in the region would continue to disturb areas with the potential to contain cultural and tribal cultural resources. As mentioned above, the cumulative development projects have undergone or would be required to undergo CEQA review, which would determine the extent of potential cultural resources impacts and mitigate those impacts appropriately. If these cumulative projects would result in impacts to known or unknown cultural resources, impacts to such resources would be addressed on a case-by-case basis. Given the uncertainty in the extent of impacts associated with these projects, this analysis conservatively assumes a significant cumulative impact to cultural resources would occur. Nevertheless, the proposed project would be required to implement Mitigation Measures CR-1 to reduce its impacts to cultural resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact.

Greenhouse Gas Emissions: GHG emissions and climate change are, by definition, cumulative impacts. As discussed in Section 8, *Greenhouse Gas Emissions*, the adverse environmental impacts of cumulative GHG emissions, including sea level rise, increased average temperatures, more drought years, and more frequent large wildfires, are already occurring. As a result, cumulative impacts related to GHG emissions are significant. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed in Section 8, *Greenhouse Gas Emissions*, project emissions would be consistent with adopted plans and would therefore not be cumulatively considerable.

Hazards and Hazardous Materials: Similar to the proposed project, cumulative projects would be required to comply with regulations applicable to the use, disposal, and transportation of hazardous materials during construction activities, and compliance with applicable regulations would reduce potential cumulative impacts to less-than-significant levels. With respect to the use and accidental release of hazardous materials in the environment during construction, effects are generally limited to site-specific conditions. Therefore, cumulative impacts related to accidental release of hazardous materials would not be significant.

Hydrology and Water Quality: Revolon Slough has been listed on the SWRCB's 303(d) list of impaired waterbodies since 1996. Pollutants include agricultural byproducts (e.g., pesticides), urban runoff (e.g., trash), and other contaminants associated with both point and nonpoint sources (SWRCB 2011). As such, significant cumulative water quality impacts do currently exist in the project area. As discussed in Section 10, *Hydrology and Water Quality*, the project's construction-related water quality impacts would be less than significant with SWPPP implementation and regulatory compliance. Discharged water would comply with volumetric and water quality requirements pursuant to the NPDES Permit and Waste Discharge Requirements. Implementation of the BMPs identified in the construction BMPs in the *Project Description* and Mitigation Measure BIO-1 would further reduce potential impacts to the Laguna Road agricultural ditches and Revolon Slough. Therefore, the project's contribution to significant cumulative hydrology and water quality impacts would not be cumulatively considerable.

Utilities and Service Systems: The project involves improvements to utility infrastructure, and would therefore not result in cumulatively considerable adverse impacts to utilities and service systems.

Wildfire: As described in Section 20, *Wildfire*, potential wildfire impacts associated with the project would be limited to heavy-duty construction equipment possibly producing sparks to ignite vegetation, which would be less than significant with compliance with applicable law. Project operation would not involve potentially flammable activities. In addition, the proposed project would not introduce habitable structures, and therefore, would not expose new residents to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Since there would be no long-term operational wildfire impacts and any construction-related wildfire impacts would be short-term, the project's contribution to any cumulative impact, significant or otherwise, would not be considerable.

Given the above discussion, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact with mitigation incorporated.

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

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, noise, and wildfire impacts. The project would not conflict with or obstruct implementation of the VCAPCD's AQMP and would not expose human beings to substantial air pollutant emissions in excess of VCAPCD regional and localized significance thresholds, with implementation of Mitigation Measure AQ-1. As discussed in Section 9, *Hazards and Hazardous Materials*, compliance with federal, state, and local laws regulating the transportation of hazardous materials would prevent the accidental release of hazardous materials during construction, and the project would not involve the use of hazardous materials during operation. Traffic controls would be implemented in accordance with encroachment permit requirements and would minimize potential impacts related to emergency access and evacuation. As discussed in Section 13, *Noise*, the project would not generate noise in exceedance of local noise standards. As discussed in Section 20, *Wildfire*, the project site is near a Very High Fire Hazard Severity Zone but is surrounded by irrigated agricultural lands. Construction equipment would comply with regulatory standards to reduce the risk that construction activities could exacerbate wildfire risks.

Therefore, the project would not substantially adversely affect human beings, directly or indirectly, and impacts would be less than significant with mitigation.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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Appendix A

Air Quality and Greenhouse Gas Emissions Modeling

United Laguna Road Pipeline Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	United Laguna Road Pipeline
Construction Start Date	10/1/2024
Operational Year	2025
Lead Agency	United Water Conservation District
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	20.6
Location	34.1764766479201, -119.10170440048404
County	Ventura
City	Unincorporated
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3439
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.20

1.2. Land Use Types

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

User Defined Linear	0.60	Mile	1.20	0.00	—	—	—	pipeline
User Defined Industrial	0.20	User Defined Unit	0.00	20.0	0.00	0.00	—	pump station

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.13	5.12	46.8	48.3	0.08	1.90	3.35	5.25	1.75	1.40	3.16	—	9,387	9,387	0.35	0.34	5.81	9,502
Mit.	6.13	5.12	46.8	48.3	0.08	1.90	3.35	5.25	1.75	1.40	3.16	—	9,387	9,387	0.35	0.34	5.81	9,502
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.91	3.26	28.1	30.1	0.05	1.13	0.33	1.46	1.04	0.08	1.12	—	4,990	4,990	0.21	0.05	0.04	5,011
Mit.	3.91	3.26	28.1	30.1	0.05	1.13	0.33	1.46	1.04	0.08	1.12	—	4,990	4,990	0.21	0.05	0.04	5,011
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	1.23	1.02	9.01	9.50	0.02	0.36	0.29	0.65	0.34	0.11	0.44	—	1,658	1,658	0.07	0.03	0.31	1,669
Mit.	1.23	1.02	9.01	9.50	0.02	0.36	0.29	0.65	0.34	0.11	0.44	—	1,658	1,658	0.07	0.03	0.31	1,669
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.22	0.19	1.65	1.73	< 0.005	0.07	0.05	0.12	0.06	0.02	0.08	—	274	274	0.01	0.01	0.05	276
Mit.	0.22	0.19	1.65	1.73	< 0.005	0.07	0.05	0.12	0.06	0.02	0.08	—	274	274	0.01	0.01	0.05	276
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	25.0	25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	Yes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mit.	—	No	Yes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	25.0	25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mit.	—	No	No	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

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

2024	6.13	5.12	46.8	48.3	0.08	1.90	3.35	5.25	1.75	1.40	3.16	—	9,387	9,387	0.35	0.34	5.81	9,502
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.91	3.26	28.1	30.1	0.05	1.13	0.33	1.46	1.04	0.08	1.12	—	4,990	4,990	0.21	0.05	0.04	5,011
2025	3.63	3.04	26.0	28.9	0.05	0.99	0.33	1.31	0.91	0.08	0.98	—	4,985	4,985	0.21	0.05	0.04	5,005
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.23	1.02	9.01	9.50	0.02	0.36	0.29	0.65	0.34	0.11	0.44	—	1,658	1,658	0.07	0.03	0.31	1,669
2025	0.46	0.38	3.28	3.69	0.01	0.12	0.04	0.17	0.11	0.01	0.13	—	635	635	0.03	0.01	0.08	637
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.22	0.19	1.65	1.73	< 0.005	0.07	0.05	0.12	0.06	0.02	0.08	—	274	274	0.01	0.01	0.05	276
2025	0.08	0.07	0.60	0.67	< 0.005	0.02	0.01	0.03	0.02	< 0.005	0.02	—	105	105	< 0.005	< 0.005	0.01	106

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	6.13	5.12	46.8	48.3	0.08	1.90	3.35	5.25	1.75	1.40	3.16	—	9,387	9,387	0.35	0.34	5.81	9,502
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.91	3.26	28.1	30.1	0.05	1.13	0.33	1.46	1.04	0.08	1.12	—	4,990	4,990	0.21	0.05	0.04	5,011
2025	3.63	3.04	26.0	28.9	0.05	0.99	0.33	1.31	0.91	0.08	0.98	—	4,985	4,985	0.21	0.05	0.04	5,005
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.23	1.02	9.01	9.50	0.02	0.36	0.29	0.65	0.34	0.11	0.44	—	1,658	1,658	0.07	0.03	0.31	1,669
2025	0.46	0.38	3.28	3.69	0.01	0.12	0.04	0.17	0.11	0.01	0.13	—	635	635	0.03	0.01	0.08	637

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.22	0.19	1.65	1.73	< 0.005	0.07	0.05	0.12	0.06	0.02	0.08	—	274	274	0.01	0.01	0.05	276
2025	0.08	0.07	0.60	0.67	< 0.005	0.02	0.01	0.03	0.02	< 0.005	0.02	—	105	105	< 0.005	< 0.005	0.01	106

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.80	0.80	< 0.005	< 0.005	< 0.005	0.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.56	0.56	< 0.005	< 0.005	< 0.005	0.56
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	25.0	25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshold	—	25.0	25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	No	No	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.81
Area	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.80	0.80	< 0.005	< 0.005	< 0.005	0.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Area	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.55	0.55	< 0.005	< 0.005	< 0.005	0.56
Area	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005

Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.56	0.56	< 0.005	< 0.005	< 0.005	0.56
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Area	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.81
Area	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.80	0.80	< 0.005	< 0.005	< 0.005	0.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Area	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.55	0.55	< 0.005	< 0.005	< 0.005	0.56
Area	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.56	0.56	< 0.005	< 0.005	< 0.005	0.56
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Area	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2024) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	0.32	2.79	3.78	0.01	0.10	—	0.10	0.09	—	0.09	—	535	535	0.02	< 0.005	—	537
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.18	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	33.7	33.7	< 0.005	< 0.005	—	33.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.58	5.58	< 0.005	< 0.005	—	5.60
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	68.2	68.2	< 0.005	< 0.005	0.29	69.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	0.04	2.19	0.51	0.01	0.02	0.41	0.43	0.02	0.12	0.14	—	1,613	1,613	0.04	0.26	3.60	1,694
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	0.01	4.20
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.14	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	102	102	< 0.005	0.02	0.10	107
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.68	0.68	< 0.005	< 0.005	< 0.005	0.69
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	16.8	16.8	< 0.005	< 0.005	0.02	17.7

3.2. Linear, Grubbing & Land Clearing (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	0.32	2.79	3.78	0.01	0.10	—	0.10	0.09	—	0.09	—	535	535	0.02	< 0.005	—	537

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.18	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	33.7	33.7	< 0.005	< 0.005	—	33.8
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.58	5.58	< 0.005	< 0.005	—	5.60
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	68.2	68.2	< 0.005	< 0.005	0.29	69.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	0.04	2.19	0.51	0.01	0.02	0.41	0.43	0.02	0.12	0.14	—	1,613	1,613	0.04	0.26	3.60	1,694

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	0.01	4.20
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.14	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	102	102	< 0.005	0.02	0.10	107
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.68	0.68	< 0.005	< 0.005	< 0.005	0.69
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	16.8	16.8	< 0.005	< 0.005	0.02	17.7

3.3. Road Repaving (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.28	2.39	3.10	< 0.005	0.10	—	0.10	0.09	—	0.09	—	471	471	0.02	< 0.005	—	473
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.16	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	24.5	24.5	< 0.005	< 0.005	—	24.6

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.06	4.06	< 0.005	< 0.005	—	4.08
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.43	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.8	95.8	< 0.005	< 0.005	0.01	97.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.02	5.02	< 0.005	< 0.005	0.01	5.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Road Repaving (2025) - Mitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.28	2.39	3.10	< 0.005	0.10	—	0.10	0.09	—	0.09	—	471	471	0.02	< 0.005	—	473
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.16	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	24.5	24.5	< 0.005	< 0.005	—	24.6
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.06	4.06	< 0.005	< 0.005	—	4.08
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.43	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.8	95.8	< 0.005	< 0.005	0.01	97.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.02	5.02	< 0.005	< 0.005	0.01	5.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Pipeline Installation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.42	2.02	18.5	18.4	0.03	0.76	—	0.76	0.70	—	0.70	—	2,863	2,863	0.12	0.02	—	2,873
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.42	2.02	18.5	18.4	0.03	0.76	—	0.76	0.70	—	0.70	—	2,863	2,863	0.12	0.02	—	2,873
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.72	0.60	5.55	5.52	0.01	0.23	—	0.23	0.21	—	0.21	—	857	857	0.03	0.01	—	860
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.01	1.01	< 0.005	0.04	—	0.04	0.04	—	0.04	—	142	142	0.01	< 0.005	—	142
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.12	1.69	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	341	341	0.02	0.01	1.47	347
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	0.14	1.53	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	326	326	0.02	0.01	0.04	330
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.46	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	98.3	98.3	< 0.005	< 0.005	0.19	99.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.03	16.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Pipeline Installation (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.42	2.02	18.5	18.4	0.03	0.76	—	0.76	0.70	—	0.70	—	2,863	2,863	0.12	0.02	—	2,873
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.42	2.02	18.5	18.4	0.03	0.76	—	0.76	0.70	—	0.70	—	2,863	2,863	0.12	0.02	—	2,873
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.60	5.55	5.52	0.01	0.23	—	0.23	0.21	—	0.21	—	857	857	0.03	0.01	—	860
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.01	1.01	< 0.005	0.04	—	0.04	0.04	—	0.04	—	142	142	0.01	< 0.005	—	142
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.12	1.69	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	341	341	0.02	0.01	1.47	347
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	0.14	1.53	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	326	326	0.02	0.01	0.04	330
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.46	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	98.3	98.3	< 0.005	< 0.005	0.19	99.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.03	16.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Pipeline Installation (2025) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.23	1.87	16.9	17.5	0.03	0.66	—	0.66	0.60	—	0.60	—	2,864	2,864	0.12	0.02	—	2,874
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.23	2.05	2.12	< 0.005	0.08	—	0.08	0.07	—	0.07	—	347	347	0.01	< 0.005	—	349
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.5	57.5	< 0.005	< 0.005	—	57.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.13	1.43	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	319	319	0.02	0.01	0.03	324
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.17	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.0	39.0	< 0.005	< 0.005	0.07	39.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.46	6.46	< 0.005	< 0.005	0.01	6.56
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Pipeline Installation (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.23	1.87	16.9	17.5	0.03	0.66	—	0.66	0.60	—	0.60	—	2,864	2,864	0.12	0.02	—	2,874
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.23	2.05	2.12	< 0.005	0.08	—	0.08	0.07	—	0.07	—	347	347	0.01	< 0.005	—	349
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.37	0.39	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.5	57.5	< 0.005	< 0.005	—	57.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.13	1.43	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	319	319	0.02	0.01	0.03	324
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.17	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.0	39.0	< 0.005	< 0.005	0.07	39.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.46	6.46	< 0.005	< 0.005	0.01	6.56
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.43	13.7	12.9	0.02	0.65	—	0.65	0.59	—	0.59	—	2,064	2,064	0.08	0.02	—	2,071

Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.86	0.81	< 0.005	0.04	—	0.04	0.04	—	0.04	—	130	130	0.01	< 0.005	—	130
Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.51	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.44	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.21	6.21	< 0.005	< 0.005	0.01	6.29
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.03	1.03	< 0.005	< 0.005	< 0.005	1.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Site Preparation (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.70	1.43	13.7	12.9	0.02	0.65	—	0.65	0.59	—	0.59	—	2,064	2,064	0.08	0.02	—	2,071
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.86	0.81	< 0.005	0.04	—	0.04	0.04	—	0.04	—	130	130	0.01	< 0.005	—	130
Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.5	21.5	< 0.005	< 0.005	—	21.6
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.51	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.44	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.21	6.21	< 0.005	< 0.005	0.01	6.29
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.03	1.03	< 0.005	< 0.005	< 0.005	1.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Pump Station Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.36	1.13	9.44	10.1	0.02	0.37	—	0.37	0.34	—	0.34	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.36	1.13	9.44	10.1	0.02	0.37	—	0.37	0.34	—	0.34	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.24	2.39	< 0.005	0.09	—	0.09	0.08	—	0.08	—	426	426	0.02	< 0.005	—	428
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.05	0.41	0.44	< 0.005	0.02	—	0.02	0.01	—	0.01	—	70.6	70.6	< 0.005	< 0.005	—	70.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.12
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.11
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Pump Station Construction (2024) - Mitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.36	1.13	9.44	10.1	0.02	0.37	—	0.37	0.34	—	0.34	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.36	1.13	9.44	10.1	0.02	0.37	—	0.37	0.34	—	0.34	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.24	2.39	< 0.005	0.09	—	0.09	0.08	—	0.08	—	426	426	0.02	< 0.005	—	428
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.41	0.44	< 0.005	0.02	—	0.02	0.01	—	0.01	—	70.6	70.6	< 0.005	< 0.005	—	70.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.12
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.11
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Pump Station Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.09	1.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	219	219	0.01	< 0.005	—	219
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.20	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	36.2	36.2	< 0.005	< 0.005	—	36.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.11
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Pump Station Construction (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.09	1.22	< 0.005	0.04	—	0.04	0.04	—	0.04	—	219	219	0.01	< 0.005	—	219
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.20	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	36.2	36.2	< 0.005	< 0.005	—	36.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.11
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.81
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.81

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09

4.1.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.81
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.81
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

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

4.2.2. Electricity Emissions By Land Use - Mitigated

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

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

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

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

Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

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

User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005

4.3.2. Mitigated

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

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

Consumer	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.4.2. Mitigated

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

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

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

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

4.5.2. Mitigated

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

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

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

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

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

4.6.2. Mitigated

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

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

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

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

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

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

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	8/1/2024	9/2/2024	5.00	23.0	—
Road Repaving	Linear, Paving	3/4/2025	3/28/2025	5.00	19.0	—
Pipeline Installation	Linear, Trenching	8/1/2024	3/3/2025	5.00	153	—
Site Preparation	Site Preparation	8/1/2024	9/2/2024	5.00	23.0	—
Pump Station Construction	Building Construction	9/2/2024	3/3/2025	5.00	131	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Linear, Grubbing & Land Clearing	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Road Repaving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Road Repaving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Road Repaving	Signal Boards	Diesel	Average	1.00	8.00	6.00	0.82
Pipeline Installation	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50
Pipeline Installation	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Pipeline Installation	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Pipeline Installation	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Pipeline Installation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Pipeline Installation	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Pipeline Installation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Pipeline Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Pipeline Installation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Pipeline Installation	Signal Boards	Diesel	Average	1.00	8.00	6.00	0.82
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Pump Station Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
Pump Station Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20

Pump Station Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Pump Station Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Pump Station Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Linear, Grubbing & Land Clearing	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Road Repaving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Road Repaving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Road Repaving	Signal Boards	Diesel	Average	1.00	8.00	6.00	0.82
Pipeline Installation	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50
Pipeline Installation	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Pipeline Installation	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Pipeline Installation	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Pipeline Installation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Pipeline Installation	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Pipeline Installation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Pipeline Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Pipeline Installation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Pipeline Installation	Signal Boards	Diesel	Average	1.00	8.00	6.00	0.82
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40

Site Preparation	Tractors/Loaders/Backh	Diesel	Average	1.00	8.00	84.0	0.37
Pump Station Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
Pump Station Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Pump Station Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Pump Station Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Pump Station Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	5.00	18.5	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	10.2	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	22.8	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Pipeline Installation	—	—	—	—
Pipeline Installation	Worker	25.0	18.5	LDA,LDT1,LDT2
Pipeline Installation	Vendor	—	10.2	HHDT,MHDT
Pipeline Installation	Hauling	0.00	20.0	HHDT
Pipeline Installation	Onsite truck	—	—	HHDT
Pump Station Construction	—	—	—	—
Pump Station Construction	Worker	0.01	18.5	LDA,LDT1,LDT2
Pump Station Construction	Vendor	< 0.005	10.2	HHDT,MHDT

Pump Station Construction	Hauling	0.00	20.0	HHDT
Pump Station Construction	Onsite truck	—	—	HHDT
Road Repaving	—	—	—	—
Road Repaving	Worker	7.50	18.5	LDA,LDT1,LDT2
Road Repaving	Vendor	0.00	10.2	HHDT,MHDT
Road Repaving	Hauling	0.00	20.0	HHDT
Road Repaving	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	5.00	18.5	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	10.2	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	22.8	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Pipeline Installation	—	—	—	—
Pipeline Installation	Worker	25.0	18.5	LDA,LDT1,LDT2
Pipeline Installation	Vendor	—	10.2	HHDT,MHDT
Pipeline Installation	Hauling	0.00	20.0	HHDT
Pipeline Installation	Onsite truck	—	—	HHDT
Pump Station Construction	—	—	—	—
Pump Station Construction	Worker	0.01	18.5	LDA,LDT1,LDT2

Pump Station Construction	Vendor	< 0.005	10.2	HHDT,MHDT
Pump Station Construction	Hauling	0.00	20.0	HHDT
Pump Station Construction	Onsite truck	—	—	HHDT
Road Repaving	—	—	—	—
Road Repaving	Worker	7.50	18.5	LDA,LDT1,LDT2
Road Repaving	Vendor	0.00	10.2	HHDT,MHDT
Road Repaving	Hauling	0.00	20.0	HHDT
Road Repaving	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	0.00	4,200	0.00	0.00	—

Site Preparation	0.00	0.00	11.5	0.00	—

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Linear	1.20	100%
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Industrial	0.05	0.00	0.00	13.0	1.03	0.00	0.00	268

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year

User Defined Industrial	0.05	0.00	0.00	13.0	1.03	0.00	0.00	268

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	30.0	10.0	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	0.00	532	0.0330	0.0040	0.00

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	0.00	—

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.15.2. Mitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	applicant provided construction schedule assumes road demo and repaving needed
Construction: Off-Road Equipment	default equipment for pipeline installation
Operations: Vehicle Data	estimating 1 maintenance trip per month
Construction: Dust From Material Movement	applicant provided material exported watering 2x a day
Land Use	adding total disturbance area of project

Appendix B

Biological Resources Assessment

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003
805-644-4455

April 9, 2024
Project No: 23-14328

Zachary Hanson, Ph.D., P.E., Water Resources Engineer
United Water Conservation District
1701 North Lombard Street, Suite 200
Oxnard, California 93030
Via email: zhanson@unitedwater.org

Subject: Biological Resources Assessment for the Pumping Trough Pipeline Recycled Water Connection – Laguna Road Pipeline Project, Unincorporated Ventura County, California

Dear Dr. Hanson:

This Biological Resources Assessment (BRA) documents the findings of a biological survey and jurisdictional delineation conducted by Rincon Consultants, Inc. (Rincon), for the United Water Conservation District (United) Pumping Trough Pipeline Recycled Water Connection – Laguna Road Pipeline Project (project). The project site is located within unincorporated Ventura County, California. The assessment was completed to document existing site conditions via desktop analysis and field survey, and to evaluate potential impacts to special status biological resources based upon current project plans. This BRA is prepared in accordance with CEQA Guidelines, Appendix G - Environmental Checklist thresholds, for biological resources. It assesses the potential for special-status biological resources to occur on the project site, evaluates anticipated project impacts to these resources, if present, and recommends, as appropriate, avoidance and minimization measures to reduce potential impacts to a less-than-significant level. All other materials reviewed for this report are identified in the References section.

Project Location

The project site is located in unincorporated Ventura County, south of Camarillo and east of Oxnard (Attachment 1, Figure 1). The proposed project alignment extends along or directly north of Laguna Road, which is approximately 1.7 miles east of State Route (SR) 1 and 1.4 miles south of SR 34. The North Alignment Alternative would run through privately owned agricultural land north of Laguna Road. The Roadway Alignment Alternative would run along Laguna Road within the public right-of-way. The proposed pipeline would extend from Wood Road on the east to approximately one mile east of East Pleasant Valley Road on the west.

The project site also partially encompasses Revolon Slough, a 55-foot wide, 16-foot deep concrete box channel that generally runs north to south and flows into Calleguas Creek. A portion of the project would also be located northwest of the intersection of Laguna Road and Wood Road, within Assessor's Parcel Number 218-002-062 (Attachment 1, Figure 2).

Project Description

The project would involve the construction of approximately 3,000 linear feet of new 24-inch diameter recycled water pipeline within or immediately north of Laguna Road as well as a pump station with associated piping. The pipeline alignment would cross Revolon Slough via a pipe bridge parallel to the

Laguna Road Bridge, or via trenchless pipeline installation such as auger boring or horizontal directional drilling underneath the slough. The project would also involve construction of a new pump station at the northwest corner of the intersection of Laguna Road and Wood Road to convey flows into the Pumping Trough Pipeline (PTP) System. The new pipeline would connect to the recently-approved PVCWD Groundwater Sustainability Improvement Program pipeline at the intersection of Wood Road and Laguna Road (Phase 1 of construction). The project would also involve construction of a new pump station at the northwest corner of the intersection of Laguna Road and Wood Road. This property is owned by PVCWD and currently contains the existing Well No. 7. The pump station would convey flows into the PTP System (Phase 2 of construction) to enable delivery of recycled water under all operational scenarios.

The project would include construction of two distribution blow-offs, which would allow for discharge of pipeline water from the proposed pipeline and pump station into Revolon Slough during emergency or maintenance operations where dewatering of the pipeline and/or pump station is required. In Phase 1, a distribution blow-off would be constructed near the intersection of Laguna Road and Revolon Slough. In Phase 2, an additional blow-off would be constructed as part of the proposed pump station.

The purpose of the project is to enable the transfer of recycled water supplies from the City of Oxnard's Advanced Water Purification Facility (AWPF) or other potential sources through the PVCWD system to United's PTP System. The project would not modify the permits/agreements managed by Camrosa Water District for the Conejo Creek diversion or Water Reclamation Facility (WRF), the City of Oxnard for its AWPF, or the City of Camarillo for its WRF.

Pipeline and blow-off point construction (Phase 1) is anticipated to occur from October 2024 to March 2025. Pump station construction (Phase 2) would follow completion of Phase 1, and is anticipated to take approximately six months. Construction activities would occur from 7:00 a.m. to 5:00 p.m., Monday through Friday. Construction equipment staging and worker parking areas would be located on roadway shoulders along Laguna Road and on the pump station site. Tree removal would not be required for construction.

Trenching and trenchless construction activities would require groundwater dewatering. Dewatered groundwater would be tested and potentially treated prior to discharge into Revolon Slough, and would be disposed of in accordance with regulatory discharge requirements.

Pipeline Installation and Slough Crossing Alternatives

United is considering several design alternatives for the pipeline alignment and Revolon Slough crossing. These design alternatives and United's current design preferences are summarized here and described in further detail below.

- Pipeline Alignment Alternatives
  - North Alignment Alternative
  - Roadway Alignment Alternative (preferred)
- Revolon Slough Crossing Alternatives
  - Bridge Crossing Alternative
  - Trenchless Crossing Alternative (preferred)

United will ultimately proceed with one alignment alternative and one Revolon Slough crossing alternative. All four possible design alternatives were considered in this BRA to provide a conservative analysis.

Pipeline Alignment Alternatives

Two pipeline alignment alternatives were evaluated: the North Alignment Alternative and the Roadway Alignment Alternative (preferred).

- The **North Alignment Alternative** runs approximately 10 feet north of, and parallel to, Laguna Road, as shown in Figure 2. This alignment would run through privately owned agricultural land and would require an approximately 15-foot wide easement. Under this alternative, construction staging would occur on the agricultural property and on the northern roadway shoulder of Laguna Road. Agricultural topsoil would be stockpiled adjacent to the trench and would be restored upon completion of pipeline installation. Any damage to Laguna Road as a result of construction staging activities would be repaired upon completion of construction and in accordance with Ventura County encroachment permit requirements.
- The **Roadway Alignment Alternative** runs along Laguna Road within the public right-of-way, as shown in Figure 2. Under this alternative, the pipeline would be installed under the paved roadway. Construction activities would require at least a temporary single-lane closure along Laguna Road, and could require a double lane closure with detours. Traffic control measures would be implemented. Upon completion of pipeline installation, the roadway would be repaired and repaved in accordance with Ventura County encroachment permit requirements.

Open cut trenching would be used to install the majority of the pipeline under either alternative. The trench under either alternative would be approximately four feet wide. Open cut trenching would disturb a total surface area of approximately 1.2 acres along the proposed alignment, and would reach an excavation depth of 7 to 13 feet. Approximately 4,200 cubic yards of soil would be excavated during pipeline installation, which would be reused for backfill after construction. Excavated soil would be stockpiled adjacent to the alignment, either within the easement on agricultural property or the Laguna Road shoulder.

Revolon Slough Crossing Alternatives

At Revolon Slough, two alternative crossing methods are considered: the Bridge Crossing Alternative and the Trenchless Crossing Alternative (preferred).

- Under the **Bridge Crossing Alternative**, a 26-inch diameter steel pipe would be constructed to cross the 55-foot wide length of Revolon Slough on the northern side of the existing Laguna Road bridge, with pipe saddles on each side of the bridge to support the pipe. No modifications would occur to the existing pier wall within the channel, and no additional supports would be constructed in the channel. Operation of construction equipment within the channel would not be required. An air and vacuum valve would be installed on the pipe because it would be a local high point that could trap air.
- Under the **Trenchless Crossing Alternative (preferred)**, a 24-inch inside diameter pipe would be installed underneath Revolon Slough via trenchless auger boring or horizontal directional drilling methods. Auger boring involves jacking steel casing segments forward while removing the spoils within the casing with a rotating auger. entry and exit pits would be dug on either side of Revolon Slough to accommodate the jacking and receiving shafts. Horizontal directional drilling involves drilling a pilot hole with drilling fluids, which carry drilled soil back to the entry pit. The pilot hole is then enlarged and stabilized, and may be lined with temporary or permanent casing. The pipeline would then be installed in the pilot hole. The entry and exit pits would be located along the North Alignment Alternative or the Roadway Alignment Alternative, straddling Revolon Slough. The entry and exit pits would be up to 20 feet by 20 feet in area, with a maximum excavation depth of

approximately 30 feet. Under the Roadway Alignment Alternative, the entry and exit pits would require temporary road closures and detours.

Blow-Off Infrastructure

The project would include a new distribution blow-off as part of the pipeline construction (Phase 1), located near the intersection of Laguna Road and Revolon Slough. Additional blow-off infrastructure would be included as part of the pump station construction on PVCWD owned land (Phase 2), located near the intersection of Laguna Road and Wood Road.

The blow-off infrastructure and temporary infrastructure would be located within the Laguna Road right-of-way, within VCWPD areas adjacent to Revolon Slough, and/or within a parcel owned by PVCWD which would contain the proposed pump station.

The blow-offs would require construction of new underground blow-off vaults and manholes. The new blow-off vaults would be connected to the new water main in Laguna Road and/or the pump station via underground PVC pipe, constructed using open cut trenching. The permanent infrastructure for the blow-offs would be entirely underground, and would not involve modifications to Revolon Slough. The proposed distribution blow-offs would discharge pipeline water (conveyed through the PVCWD and PTP Systems for the purposes of irrigation) into Revolon Slough to dewater pipeline sections during construction, repair, or maintenance activities. Discharge activities are detailed below, under Operation and Maintenance.

Construction General Best Management Practices

The project would incorporate the following general best management practices (BMPs) to reduce potential impacts to Revolon Slough and biological resources within the project site:

- Project-related vehicles would observe a five-mile-per-hour speed limit within the unpaved limits of construction.
- All open trenches would be fenced and sloped to prevent entrapment of wildlife species.
- All hollow posts and pipes would be capped, and metal fence stakes would be plugged with bolts or other plugging materials to prevent wildlife entrapment and mortality.
- If construction lighting is required during construction hours, lighting would be shielded and downcast to avoid potential impacts to wildlife migration.
- No deliberate feeding of wildlife would be allowed.
- No pets would be allowed on the project site.
- All areas of temporary ground disturbance would be backfilled and re-contoured to pre-existing grade.
- Before starting or moving construction vehicles at the beginning of each day, operators would inspect under all vehicles to avoid impacts to any wildlife that may have sought refuge on or under equipment. All large building materials and pieces with crevices where wildlife could potentially hide would also be inspected before moving. If wildlife is detected, a qualified biologist would temporarily stop activities until the animal leaves the area. If the animal does not leave the area on its own, a qualified biologist would move the animal out of harm's way. For federal or state-listed species, relocations will be undertaken in accordance with regulatory authorizations issued under the Endangered Species Act and/or California Endangered Species Act and Fish and Game Code §§ 1002, 1002.5, 1003 and/or Cal. Code Regs., tit. 14, § 650.

Operation and Maintenance

The proposed pipeline infrastructure would require periodic maintenance related to operational and emergency discharges via blow-off infrastructure. When pipeline dewatering is required, United staff would connect temporary aboveground piping from the blow-off vaults to Revolon Slough. Using a portable generator and pump, pipeline water would be pumped from the risers within the blow-off vaults and discharged into Revolon Slough.

Aboveground temporary piping would extend from the blow-off infrastructure at the PVCWD parcel eastward to Revolon Slough, either along the northern roadway shoulder of Laguna Road or along the North Alignment Alternative route within agricultural land. This extended aboveground temporary piping would terminate at the eastern side of Revolon Slough within one of the blow-off infrastructure areas shown in Figure 2, located within Ventura County Watershed Protection District (VCWPD) property. Permitting would be coordinated with VCWPD to cover the aboveground temporary piping access of discharges to Revolon Slough.

If temporary aboveground piping and staging of portable equipment would encroach into Laguna Road, United would obtain an encroachment permit from the County of Ventura and submit the required Traffic Control Plan and application materials. Traffic control measures would be implemented to minimize temporary traffic impacts on Laguna Road.

Each discharge event is anticipated to last up to approximately one day. Discharge operations would occur on an as-needed basis throughout the lifetime of the project.

The existing PTP System is covered by a General National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements (NPDES No. CAG994004, CI-10356) for discharges of irrigation waters up to 3.2 million gallons per day from the PTP System into Revolon Slough and Beardsley Channel, both of which are tributaries to Calleguas Creek. The existing NPDES Permit currently covers 25 Discharge Points to Revolon Slough. Discharged water would comply with volumetric and water quality requirements pursuant to the NPDES Permit and Waste Discharge Requirements.

Besides periodic discharge operations, the proposed project would not require new operations and maintenance activities beyond existing United operations. The anticipated minimum lifetime of the proposed pipeline and booster pump station is 50 years.

Methodology

Regulatory Overview

Regulated or sensitive resources studied and analyzed herein include special-status plant and wildlife species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and locally protected resources, such as protected trees.

Environmental Statutes

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes:

- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (ESA)
- California Endangered Species Act (CESA)

- Federal Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- Ventura County 2040 General Plan (County of Ventura 2020)

Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the CEQA Guidelines Appendix G - Environmental Checklist, were used to evaluate potential environmental effects. Based on these criteria, the proposed project would have a significant effect on biological resources if it would:

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

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

d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.*

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*

f) *Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional or state habitat conservation plan.*

Literature Review

Rincon conducted a literature review to establish the environmental and regulatory setting of the proposed project. Specific literature reviewed for the subject analysis is provided in the references section. The reviewed literature also included the United States Department of Agriculture, Natural Resources Conservation Service (USDA, NRCS) Soil Survey (USDA, NRCS 2023a), and literature detailing the habitat requirements of subject species. Aerial photographs, topographic maps, and soil survey maps were also examined.

Queries of the United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS): Information, Planning and Conservation System (IPaC) Official Species List (USFWS 2023a), USFWS Critical Habitat Portal (USFWS 2023b), USFWS National Wetland Inventory (NWI) (USFWS 2023c), United States Geological Survey (USGS) National Hydrography Dataset (NHD) (USGS 2023), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2023a), CDFW Biogeographic Information and Observation System (BIOS) (CDFW 2023b), and California Native Plant Society (CNPS) Online Inventory of Rare, Threatened and Endangered Plants of California (CNPS 2023), and Ventura County Locally Important Species List (County of Ventura 2023a) were assessed. The queries were assessed to obtain comprehensive

information regarding state and federally listed species, sensitive communities and federally designated Critical Habitat known to or considered to have potential to occur within an eight-quadrangle search area (i.e., the *Camarillo, Oxnard, Saticoy, Newbury Park, Santa Paula, Point Mugu, Moorpark, and Triunfo Pass* USGS 7.5-minute quadrangles) of the project site. A nine-quadrangle search area is typically used, but one of the quadrangles would be located entirely in the Pacific Ocean.

Field Reconnaissance Survey

The field reconnaissance survey was limited to providing an overview of site biological conditions and the potential presence of sensitive biological resources, including special-status plant and wildlife species, sensitive plant communities, jurisdictional waters and wetlands, protected trees, wildlife movement, and habitat for nesting birds. The Study Area for the field survey and this analysis consists of the potential project alignments and booster pump station and a 100-foot buffer.

Rincon Biologist/Botanist Kyle Gern conducted the field reconnaissance survey on September 13, 2023, from 0900 to 1400. The survey was performed by walking the Study Area to characterize the existing biological resources present (e.g., vegetation communities, potential presence of special-status species and/or habitats, and presence of potentially jurisdictional waters). Weather conditions during the survey included an average temperature of 70 degrees Fahrenheit, with winds between one and three miles per hour and partly cloudy skies (20 to 50 percent cloud cover). Representative photographs of the site were also taken.

Vegetation mapping and classification followed Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018) and was based on the classification system provided in A Manual of California Vegetation, Second Edition (Sawyer et al. 2009). Alternatively, vegetation communities or land cover types that are not described in A Manual of California Vegetation were classified using conventional naming practices (i.e., Developed/Disturbed).

Jurisdictional Delineation

Information in the report related to jurisdictional waters is based on a formal jurisdictional delineation conducted by Rincon on September 13, 2023. The delineation mapped and recorded the extent of potential waters of the U.S., CDFW jurisdictional streambeds, and/or waters of the state. Data collection in the Study Area focused on areas containing a potential waterway, and Sample Points (SPs) were chosen at locations that were the best representation of conditions within the Study Area. Ordinary High Water Mark (OHWM) and Wetland Determination Data Forms were completed. Current federal and state policies, methods and guidelines were used to identify and delineate potential jurisdictional areas and are described in detail below.

Non-Wetland Waters of the United States

The lateral limits of United States Army Corps of Engineers (USACE) jurisdiction (i.e., width) for non-wetland waters were determined by the presence of physical characteristics indicative of the OHWM. The OHWM was identified in accordance with the applicable Code of Federal Regulations (CFR) sections (33 CFR 328.3 and 33 CFR 328.4) and Regulatory Guidance Letter 05-05 (USACE 2005), as well as in reference to various relevant technical publications, including, but not limited to: *Review of Ordinary High Water Mark Indicators for Delineating Arid Streams in the Southwestern United States* (USACE 2004), *Distribution of Ordinary High Water Mark (OHWM) Indicators and Their Reliability in Identifying the Limits of "Waters of the United States" in Arid Southwestern Channels* (USACE 2006), and *A Field Guide to Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States* (USACE 2008b), *Updated Datasheet for the Identification of the Ordinary High*

Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2010), and *Joint Memorandum to the Field Between the U.S. Department of the Army, Corps of Engineers and the U.S. Environmental Protection Agency Concerning Exempt Construction or Maintenance of Irrigation Ditches and Exempt Maintenance of Drainage Ditches Under Section 404 of the Clean Water Act* (USACE and USEPA 2020).

Rincon evaluated sources of water, potential connections and distances to Traditional Navigable Waters (TNWs), stream flow duration and other factors that affect whether waters qualify as "waters of the U.S." under current USACE regulations (33 CFR 328.3), including, but not limited to, the recent *Sackett v. USEPA* court ruling and the conforming *Revised Definition of Waters of the United States* (United States Environmental Protection Agency [USEPA] 2023).

Wetland Waters of the United States

Potential wetland features were evaluated for presence of wetland indicators; specifically, hydrophytic vegetation, hydric soils, and wetland hydrology, according to routine delineation procedures within the *Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a). The 2020 USACE *Arid West Regional Wetland Plant List* was used to determine the wetland status of the examined vegetation by the following indicator status categories: Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), and Obligate Wetland (OBL) (USACE 2020). Representative sample points were sited in areas most likely to exhibit wetland characteristics, specifically a prevalence of hydrophytic vegetation and suitable landform, and examined in the field for potential wetland indicators. Sample points were not conducted in areas with an obvious prevalence of upland vegetation or in areas where the landform would not support wetland features, such as concrete channels or sloped areas.

Waters of the State

The limits of "waters of the state," as defined under the Porter-Cologne Water Quality Control Act, are any surface water or groundwater, including saline waters, within the boundaries of the state. In those areas where an OHWM was present, the OHWM was determined to represent the limits of waters of the state based on current interpretation of jurisdiction by the Los Angeles RWQCB.

Potential state wetland features were evaluated pursuant to the State Water Resources Control Board's (SWRCB) *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2019). Potential state wetlands were evaluated following the SWRCB's definition, which relies on the same three parameters as the USACE definition (hydrophytic vegetation, wetland hydrology, and hydric soils) but allows for naturally unvegetated areas meeting the other two parameters to be considered wetlands.

CDFW Streambeds

The extent of potential streambeds, streambanks, lakes and riparian habitat subject to CDFW jurisdiction under Sections 1600 *et seq*. of the CFGC was delineated by reviewing the topography and morphology of potentially jurisdictional features to determine the outer limit of riparian vegetation, where present, or the tops of banks for stream features.

Ventura County

Potential Ventura County Watershed Protection District (VCWPD) redline channels were evaluated, specifically those channels that Ventura County has determined to convey about 500 cubic feet per second or more in a 100-year runoff event. A list of redline channels that were adopted in 1994 by the

VCWPD were reviewed (County of Ventura 2023b). For the purpose of this report, the jurisdictional limits of redline channels were determined to be coterminous with USACE jurisdiction since Ventura County does not have guidance on extent of jurisdiction.

Existing Conditions

Physical Characteristics

The majority of the Study Area is located within existing paved surfaces associated with Laguna Road and unpaved dirt surfaces associated with agricultural land surrounding the project site. These paved and unpaved surfaces are frequently disturbed by agricultural operations, and are generally unvegetated or sparsely vegetated with non-native plant species. Where paved and unpaved surfaces associated with Laguna Road and agricultural land do not occur, the Study Area consists of ornamental windrows of trees that separate rows of agricultural crops. Additionally, a small portion of the Study Area contains the Revolon Slough, a fully concrete-lined box channel. The bed of the Revolon Slough contains some sandy sediment accumulation and herbaceous vegetation growing on the soil substrate.

Elevations within the Study Area are generally flat, and range from approximately 10 to 40 feet above mean sea level (amsl). Soils underlying the Study Area consist of the following:

- Camarillo sandy loam, 0 to 2 percent slopes
- Camarillo loam, 0 to 2 percent slopes
- Pacheco silty clay loam
- Riverwash

Of these soil types, Pacheco silty clay loam and riverwash are considered hydric by the USDA, NRCS (2023b). Pacheco silty clay loam underlies a majority of the eastern portion of the Study Area within agricultural land, and riverwash occurs within the bed of Revolon Slough (Attachment 1, Figure 3).

The USFWS NWI maps the Revolon Slough in the eastern portion of the Study Area (USFWS 2023c). The Revolon Slough is mapped as a riverine, intermittent, seasonally flooded, excavated streambed (R4SBCx) and as a palustrine, emergent, persistent, temporarily flooded excavated wetland (PEM1Ax) in the Study Area (Attachment 1, Figure 4) (USFWS 2023c). The USGS NHD maps Revolon Slough as a canal/ditch in the Study Area (USGS 2023). The Revolon Slough flows in a southerly direction for approximately four river miles before discharging into Calleguas Creek. After joining with Calleguas Creek, surface flows travel approximately 2.3 more miles before draining into the Pacific Ocean, a Traditional Navigable Water (TNW). No other USFWS NWI wetland (USFWS 2023c) or USGS NHD resources (USGS 2023) are mapped within the Study Area.

Two agricultural ditches occur within the Study Area (herein referred to as “Ditch 1” and “Ditch 2”), and are not mapped by the USFWS NWI (USFWS 2023c) or USGS NHD (USGS 2023). Both Ditch 1 and Ditch 2 are man-made ditches excavated in uplands for the purposes of cropland irrigation and collection of runoff from impervious surfaces. Ditch 1 is located in the eastern portion of the Study Area along the north side of Laguna Road, and travels in a westerly direction for approximately 0.22 mile. Ditch 1 travels underneath Laguna Road via a culvert in the eastern portion of the Study Area where it connects to other agricultural ditches to the south of the Study Area. Ditch 1 does not appear to be hydrologically connected to the Revolon Slough within the Study Area, but may be connected to the Revolon Slough further south and outside the Study Area where Wood Road intersects with the slough. Ditch 2 is located in the central and western portions of the Study Area on the north side of Laguna Road, and travels in an easterly direction for approximately 0.35 mile in the Study Area. Ditch

2 is culverted underneath an unpaved agricultural road into the Revolon Slough near the Laguna Road overcrossing (Attachment 1, Figure 6a).

Vegetation Communities and Land Cover Types

Vegetation communities documented within the Study Area during the reconnaissance survey include eucalyptus groves, pepper tree groves, and smartweed patches. Land cover types documented within the Study Area include agriculture, developed/disturbed, open water, and ornamental landscaping (Attachment 1, Figure 5). Brief descriptions of the vegetation communities and land cover types present in the Study Area are provided below. Photographs of vegetation communities collected during the September 13, 2023, survey are presented in Attachment 2, and a list of plant species observed is included in Attachment 4.

Vegetation Communities

Eucalyptus Groves

Eucalyptus groves (*Eucalyptus globulus* Woodland Semi-Natural Alliance) alliance is typically found planted as trees, groves, and windbreaks, as well as in settings where it has become naturalized on uplands or bottomlands and adjacent to stream courses, lakes, or levees from zero to 6,234 feet amsl. Eucalyptus species (*Eucalyptus* spp.) consist of over 80 percent cover within the tree layer (Sawyer et al. 2009). This vegetation community is not provided a rarity ranking by the CDFW due to the predominance of non-native species, and is not considered sensitive (CDFW 2023c).

Eucalyptus groves occur in the central and western portions of the Study Area as windrows adjacent to active agriculture (Attachment 1, Figure 5) and serve as windbreaks and buffers between rows of crops (Attachment 2, Photograph 18). This vegetation community is dominated by blue gum eucalyptus (*Eucalyptus globulus*) in the tree layer, and by tree tobacco (*Nicotiana glauca*) in the shrub layer. The herbaceous layer includes scattered smilo grass (*Stipa miliacea*).

Pepper Tree Groves

Pepper tree groves (*Schinus molle* Forest and Woodland Semi-Natural Alliance) are typically found in coastal canyons, washes, slopes, riparian areas, and roadsides between 600 and 980 feet amsl. Peruvian pepper tree (*Schinus molle*) contributes more than 80 percent relative cover in the tree layer (Sawyer et al. 2009). This vegetation community is not provided a rarity ranking by the CDFW due to the predominance of non-native species, and is not considered sensitive (CDFW 2023c).

A single pepper tree grove occurs in the eastern portion of the Study Area immediately west of the Revolon Slough and acts as a windrow between the slough and agricultural land to the west (Attachment 1, Figure 5). The community is dominated by Peruvian pepper tree in the tree layer and prickly lettuce (*Lactuca serriola*) in the herbaceous layer (Attachment 2, Photograph 14). The shrub layer is absent.

Smartweed Patches

Smartweed patches (*Persicaria* [*Polygonum*] *lapathifolium* Herbaceous Alliance) are typically found in marshes, regularly disturbed vernally wet ponds, lakeshores, reservoirs, fields, stream terraces, floodplains, and mudflats between zero and 4,920 feet amsl. Soils are typically clay-rich or silty. This community is characterized by an open to continuous herbaceous layer dominated by common knotweed (*Persicaria* [*Polygonum*] *lapathifolium*). Common knotweed contributes at least 30 percent relative cover in the herbaceous layer (Sawyer et al. 2009). This vegetation community is ranked G5S4 and is not considered sensitive (CDFW 2023c).

Smartweed patches occur in the easterly portion of the Study Area in the bed of the Revolon Slough (Attachment 1, Figure 5). This vegetation community is dominated by common knotweed in the herbaceous layer, with barnyard grass (*Echinochloa crus-galli*) and common purslane (*Portulaca oleracea*) present as subdominant (Attachment 2, Photographs 2-3). The shrub layer includes sparsely scattered tree tobacco, and the tree layer is absent.

Land Cover Types

Agriculture

Agricultural uses include active agricultural lands that are used for food production. The agriculture land cover type includes areas where food crops are grown as well as access roads and infrastructure (e.g., buildings) associated with the agricultural operations. Common food plants observed in these areas include bell pepper (*Capsicum annuum*) and orange trees (*Citrus × sinensis*). This land cover type occurs throughout the Study Area to the north and south of Laguna Road (Attachment 1, Figure 5). It is heavily utilized and influenced by human activities.

Developed/Disturbed

The developed/disturbed land cover type includes buildings, other infrastructure, paved areas with little to no vegetation (e.g., fenced project site and paved roads), unpaved access roads, and disturbed road shoulders. Developed/disturbed areas include the paved portion of Laguna Road, the unpaved road shoulder, access roads that parallel the Revolon Slough to the east and west, and the existing PVCWD-operated Well No. 7. At the Laguna Road bridge over the Revolon Slough, developed/disturbed areas occur in the bridge support that extends from the bridge into the creek (Attachment 1, Figure 5).

Open Water

The open water land cover type consists of areas with standing water that lack a natural or artificial canopy. Open water is present in the bed of the Revolon Slough in the eastern portion of the Study Area, and generally occurs within the low-flow channel of the slough.

Ornamental Landscaping

Ornamental landscaping occurs in the eastern and central portions of the Study Area, and includes rows of planted black cottonwood (*Populus nigra*) trees (Attachment 2, Photograph 6). These areas serve as wind breaks for active agricultural operations in the Study Area.

General Wildlife

A total of 12 wildlife species were observed during the field reconnaissance survey, and include common species such as house finch (*Haemorhous mexicanus*), common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), and great egret (*Ardea alba*), among others (Attachment 4). These species would be expected to use the Study Area for foraging, nesting, and/or shelter.

Special-Status Biological Resources

Based on the literature review, review of aerial photographs, and the field reconnaissance survey, Rincon evaluated the potential presence of special-status biological resources on and adjacent to the Study Area.

Special-Status Species

Special-status species are those plants and animals listed, proposed for listing, or candidates for listing as Threatened or Endangered by the USFWS under the ESA; those considered "Species of Concern" by the USFWS; those listed or candidates for listing as Rare, Threatened, or Endangered by the CDFW under the CESA; animals designated as "Fully Protected" by the CFGC; animals listed as "Species of Special Concern" (SSC) by the CDFW; and CDFW Special Plants, specifically those with California Rare Plant Ranks (CRPRs) of 1B, 2B, 3, and 4 in the CNPS's Inventory of Rare and Endangered Vascular Plants of California (CNPS 2023).

Local, state, and federal agencies regulate special-status species and may require an assessment of their presence or potential presence to be conducted on a project site prior to the approval of proposed development. A list of special-status plant and wildlife species with potential to occur on site was developed based on a review of an eight-quadrangle search of the CNDDB (CDFW 2023b) and the CNPS online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2023), as well as an unofficial species list from the USFWS IPaC (USFWS 2023a). The unofficial list from the USFWS IPaC is provided in Attachment 6. The Ventura County Locally Important Species list was also reviewed (County of Ventura 2023a). Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, species occurrence records from other sites in the vicinity of the Study Area. The potential for each special-status species to occur in the Study Area was evaluated according to the following criteria:

- **Not Expected.** Habitat on and adjacent to the Study Area is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the Study Area is unsuitable or of very poor quality. The species is not likely to be found in the Study Area.
- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the Study Area is unsuitable. The species has a moderate probability of being found in the Study Area.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the Study Area is highly suitable. The species has a high probability of being found in the Study Area.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) in the Study Area recently (within the last 5 years).

Queries of the CNDBB and the CNPS and USFWS IPaC contained records for 62 special-status plant species and 47 special-status wildlife species (Attachment 5).

Special-Status Plant Species

Within the Study Area, the bed of the Revolon Slough may provide marginally suitable habitat for southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*; CRPR 4.2), Sonoran maiden fern (*Pelazoneuron puberulum* var. *sonorense*; CRPR 2B.2), and white rabbit-tobacco (*Pseudognaphalium leucocephalum*; CRPR 2B.2). However, these three species are conspicuous perennial plant species that would have been identifiable during the field survey, and they were not observed. Therefore, these species have a low potential to occur in the Study Area.

The remaining 59 special-status plant species are not expected to occur in the Study Area based on incompatible habitat conditions (e.g., vegetation assemblage, soils, topography, hydrology, and prior

disturbances), or the absence of readily identifiable species (e.g., perennial herbs, shrubs, and/or trees) based upon the field reconnaissance survey results.

Special-Status Wildlife Species

Of the 47 species evaluated, one species, arroyo chub (*Gila orcuttii*; CDFW SSC), has a moderate potential to occur within the Study Area. The bed of the Revolon Slough (generally defined to the extent of the open water land cover type) provides low- to moderate-quality aquatic habitat to support arroyo chub, including some sandy substrate and slow to moderate flows. However, the Revolon Slough is concrete-lined in the Study Area, and aquatic vegetation (e.g., watercress [*Nasturtium officinale*]) is absent from the Study Area. Therefore, the aquatic habitat in the Study Area is considered low- to moderate-quality for the arroyo chub. The arroyo chub is documented in the CNDDB in the Revolon Slough approximately 1.75 miles south of the Study Area (CNDDB Occurrence No. 39). Therefore, this species has a moderate potential to occur in the Study Area.

The remaining 46 species have a low potential to occur or are not expected to occur within the Study Area. These species are omitted from further discussion because there are limited habitat components meeting the species requirements and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality, the species were not observed during field surveys, and therefore the species are not likely to be found in the Study Area. Additionally, the Ventura County Locally Important Species List was reviewed, and Rincon's biologist confirmed that no species on the list, nor suitable habitat for these species, were observed during the field survey (County of Ventura 2023a).

Nesting Birds

While common birds are not designated as special-status species, destruction of their eggs, nests, and nestlings is prohibited by federal and state law. Section 3503.5 of the CFGC specifically protects birds of prey, and their nests and eggs against taking, possession, or destruction. Section 3503 of the CFGC also incorporates restrictions imposed by the federal MBTA with respect to migratory birds (which consists of most native bird species).

The eucalyptus groves vegetation community to the south of the proposed alignments, the pepper tree groves to the north of the proposed alignments near the entry and exit pits, as well as the ornamental landscaping land cover type to the south of the proposed alignments, provide suitable nesting habitat for common avian species (including raptors).

Sensitive Plant Communities

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in CNDDB. CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2023) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive, though there are some exceptions. No sensitive natural communities were observed within the Study Area during the field survey.

Jurisdictional Waters and Wetlands

The results of the literature review and field survey determined the Revolon Slough is potentially subject to USACE, RWQCB, CDFW, and VCWPD jurisdictions (Table 1). Additionally, two agricultural ditches (Ditch 1 and Ditch 2) are potentially subject to RWQCB jurisdiction. Maps illustrating potentially jurisdictional aquatic resources within the Study Area are presented in Figure 6a-c (Attachment 1). A

description of each jurisdictional feature occurring within the Study Area is provided below. Site photographs are provided in Attachment 2.

Table 1 USACE, RWQCB, and CDFW Jurisdiction within the Study Area

	USACE Waters of the U.S.		RWQCB Waters of the State		CDFW Jurisdiction	VCWPD Jurisdiction
Feature	Non-wetland Waters of the U.S.[1] (acres [linear feet])	Wetland Waters of the U.S. (acres)	Non-wetland Waters of the State[1] (acres [linear feet])	Wetland Waters of the State (acres)	CDFW Streambed[2] Jurisdiction (acres [linear feet])	Redline Channel (acres [linear feet])
Revolon Slough	0.16 (312)	0.19	0.16 (312)	0.19	0.35 (312)	0.35 (312)
Ditch 1	–	–	0.19 (1,110)	–	–	–
Ditch 2	–	–	0.62 (1,918)	–	–	–
Total	**0.16 (312)**	**0.19**	**0.97 (3,340)**	**0.19**	**0.35 (312)**	**0.35 (312)**

USACE = United States Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife; VCWPD = Ventura County Watershed Protection District

Revolon Slough

The Revolon Slough flows from north to south in the eastern portion of the Study Area (Attachment 1, Figure 6a). This feature is a perennial drainage; it contains flowing water throughout the year, with flows fluctuating seasonally (i.e., higher flows during the winter and spring months, lower flows during the summer and fall months). Within the Study Area, the Revolon Slough is characterized by a single active channel, with vertical concrete banks above the active channel. The Revolon Slough is a concrete-lined drainage within the Study Area, with some sandy and silty sediment accumulation in the bed of the drainage that has allowed for herbaceous vegetative growth such as common knotweed. Flowing water was observed in the active channel at the time of the field survey, and was mapped to the extent of the open water land cover type (Attachment 2, Photographs 1-3, 21-23).

Within the Study Area, the top of bank and OHWM of the Revolon Slough are coterminous, as they are both bound by vertical concrete banks. The concrete banks of the Revolon Slough are approximately 55 feet wide between banks, and 20 feet deep. The OHWM of the Revolon Slough is also approximately 55 feet wide, and is approximately three feet deep. The OHWM of the Revolon Slough is defined by a sharp 90-degree break in bank slope associated with the concrete banks, as well as drift deposits that have accumulated along ladder steps leading into the drainage (Attachment 2, Photograph 22). Due to the perennial flow regime of the Revolon Slough, the large size of the watershed, flowing water present during the field survey, and direct connectivity to a TNW (Pacific Ocean), this feature is assumed to be a Relatively Permanent Water (RPW) that flows for at least three months of the year. Sample Point (SP) 01 was taken in sandy sediment within the OHWM of the Revolon Slough in the smartweed patches vegetation community (Attachment 1, Figure 6a). Indicators of hydrophytic vegetation, hydric soils, and wetland hydrology were observed (Attachment 3). Therefore, it was determined that a wetland was present at SP01. SP02 was collected within open water associated with the Revolon Slough to the east of SP01. Wetland hydrology was observed at SP02, but hydrophytic vegetation and hydric soils were not observed. Therefore, it was determined that a wetland was not present at SP02, and the boundaries of wetlands in the Revolon Slough were defined to the extent of the smartweed patches vegetation community. It is important to note that wetland waters associated with the Revolon Slough are highly dynamic in nature, as they occur within the OHWM of the drainage feature. The OHWM of the Revolon Slough is subject to scouring following storm events, which would cause high velocity flows to transport sediment downstream and leave the concrete lining exposed. In

addition, a review of aerial imagery indicates that the Revolon Slough within the Study Area occasionally becomes void of sediment and vegetation following storm events.

Based on the field survey, the Revolon Slough is likely subject to USACE, RWQCB, CDFW, and VCWPD jurisdiction. The Revolon Slough contains wetland waters subject to the jurisdiction of the USACE and Los Angeles RWQCB per Sections 404 and 401 of the CWA, respectively, and was delineated to the extent of the smartweed patches vegetation community. The Revolon Slough also contains non-wetland waters subject to the jurisdiction of the USACE and Los Angeles RWQCB per Sections 404 and 401 of the CWA, respectively, and was delineated to the width of the OHWM of the drainage. The Revolon Slough constitutes a CDFW streambed under the jurisdiction of the CDFW per Section 1600 et seq. of the CFGC. The limits of CDFW jurisdiction extend to the top of the concrete banks of the Revolon Slough. The Revolon Slough is also subject to VCWPD jurisdiction as a redline channel. The limits of VCWPD jurisdiction were determined to be coterminous with USACE and CDFW jurisdiction.

Agricultural Ditches

Two agricultural ditches (Ditch 1 and Ditch 2) occur in the eastern and western portions of the Study Area. Both Ditch 1 and Ditch 2 are man-made agricultural ditches that were excavated in uplands, and are used for the purposes of irrigating croplands and collecting runoff from impervious surfaces within and surrounding the Study Area (Attachment 2, Photographs 5, 8-9, 15-18).

Ditch 1 and Ditch 2 both parallel the north side of Laguna Road. Ditch 1 occurs in the eastern portion of the Study Area, and extends from the Laguna Road and Wood Road intersection to the Laguna Road bridge over the Revolon Slough (Attachment 1, Figure 6a-c). Ditch 1 is an ephemeral feature that transports agricultural water and urban runoff in a westerly direction. Ditch 1 is approximately five to seven feet wide and two to three feet deep, and is mostly unvegetated. However, scattered vegetation includes barnyard grass, sprangletop (*Leptochloa fusca*), and matted sandmat (*Euphorbia serpens*). Some standing water was observed in the western portion of Ditch 2, the source of which is likely agricultural runoff (Attachment 2, Photograph 8). One sample point (SP03) was collected within the bed of Ditch 1. Wetland hydrology was observed, but hydrophytic vegetation and hydric soils were not observed (Attachment 3). Therefore, it was determined that a wetland was not present at SP03. Ditch 1 does not appear to have any direct connection point to the Revolon Slough, but is culverted underneath Laguna Road in the eastern portion of the Study Area where it connects to other agricultural ditches to the south.

Ditch 2 occurs in the western portion of the Study Area, and extends from the western boundary of the Study Area to the Revolon Slough (Attachment 1, Figure 6a-c). Ditch 2 is an ephemeral feature that transports agricultural water and urban runoff in an easterly direction. Ditch 2 is approximately five to seven feet wide and four to five feet deep, and is sparsely vegetated with herbaceous species such as barnyard grass, flax-leaved horseweed (*Erigeron bonariensis*), and matted sandmat. Scattered black cottonwood (*Populus nigra*) saplings also occur in Ditch 2, and appear to be seeded from ornamentally planted black cottonwood trees on the south side of Laguna Road (Attachment 2, Photographs 15-16). Standing or flowing water was not observed in Ditch 2 during the field survey. One sample point (SP04) was collected within the bed of Ditch 2. Hydric soils were observed, but hydrophytic vegetation and wetland hydrology were not observed (Attachment 3). Therefore, it was determined that a wetland was not present at SP04. Ditch 2 is culverted into the Revolon Slough underneath an unpaved agricultural road immediately west of the slough.

Based on the field survey, Ditch 1 and Ditch 2 are ephemeral, are not RPWs, and do not flow for at least three months of the year. Therefore, these features would not qualify as waters of the U.S. under jurisdiction of the USACE per the *Revised Definition of Waters of the United States*. Ditch 1 and Ditch 2 are not under jurisdiction of the CDFW per Section 1600 *et seq*. of the CFGC, as these features are

artificial waterways that do not have any characteristics of natural waterways, and CDFW does not take jurisdiction over such features (CDFG 1988). Ditch 1 and Ditch 2 are not mapped as redline channels by the VCWPD, and are therefore not under VCWPD jurisdiction. Ditch 1 and Ditch 2 may be considered jurisdictional by the RWQCB under the Porter-Cologne Water Quality Control Act. These features are ephemeral agricultural ditches that are not relocated waters of the state and are not excavated in waters of the state. Therefore, these features would typically be excluded from the SWRCB procedures, which guide the regulation of discharges of dredged or fill material to waters of the State (SWRCB 2019). However, the SWRCB has the final authority to issue or waive waste discharge requirements (WDRs) or take other actions to the extent authorized by the Water Code.

Wildlife Movement

Wildlife corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as between foraging and denning areas, or they may be regional in nature, allowing movement across the landscape. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network (Spencer et al. 2010).

The habitats in the linkage do not necessarily need to be the same as the habitats that are being linked. Rather, the linkage merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically, habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (e.g., rock outcroppings, vernal pools, or oak trees) may need to be in the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

No Essential Connectivity Areas are located within the Study Area (CDFW 2023a). The Revolon Slough channel in the eastern portion of the Study Area provides a source of water during the winter and spring months, and likely acts as a north-south movement corridor for large animals such as deer and coyote. Additionally, smaller, more mobile species (e.g., birds) may use the Revolon Slough to mobilize between habitats surrounding the Study Area.

Resources Protected by Local Policies and Ordinances

The Study Area is located within the Ventura County General Plan area (County of Ventura 2020). Section 6.1 (Biological Resources) of the Ventura County General Plan includes measures to protect sensitive biological resources (including special-status species and jurisdictional waters and wetlands) and wildlife movement.

In addition, within unincorporated areas of the county, the Ventura County Tree Protection Ordinance affords protection to oak trees with a minimum circumference of 9.5 inches for single-trunk trees (or 6.25 inches for multiple-trunk trees), sycamore trees with a minimum circumference of 9.5 inches, heritage trees (any tree with a minimum circumference of 90 inches for single-trunk trees and 72 inches for multiple-trunk trees), and historical trees (any tree designated as historical by the County of Ventura). Multiple heritage blue gum eucalyptus trees occur in the southwestern portion of the Study Area within the eucalyptus groves vegetation community. Although United is not subject to Ventura County permit requirements, the project is evaluated for consistency with the tree protection

ordinance. No other local policies or ordinances apply to the proposed project with respect to biological resources.

Habitat Conservation Plans

The Study Area is not subject to any Habitat Conservation Plans, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Impact Analysis and Recommended Actions

This section discusses the possible adverse impacts to special-status biological resources that may occur from implementation of the project and recommends appropriate actions to avoid or minimize potential impacts. The criteria used to evaluate potential project-related impacts to special-status biological resources are presented in the Regulatory Overview section.

Special-Status Species

As discussed above, 62 special-status plant species and 47 special-status wildlife species are known to occur or have potential to occur within five miles of the Study Area.

Special-Status Plant Species

The bed of the Revolon Slough may provide potentially suitable habitat for southwestern spiny rush (CRPR 4.2), Sonoran maiden fern (CRPR 2B.2), and white rabbit-tobacco (CRPR 2B.2). However, these are conspicuous perennial plant species that would have been identifiable during the field survey, and were not observed. Therefore, these species have a low potential to occur in the Study Area. The Study Area does not provide potentially suitable habitat for the remaining 59 special-status plant species included in Attachment 5. Therefore, no impacts to special-status plant species are expected, and no avoidance or minimization measures are recommended.

Special-Status Wildlife Species

Low- to moderate-quality aquatic habitat for the arroyo chub occurs within the bed of the Revolon Slough, generally within the open water land cover type (Attachment 1, Figure 5). Two project alternatives are proposed to install the pipeline across the Revolon Slough: 1) Bridge Crossing Alternative; and 2) Trenchless Crossing Alternative. Under the Bridge Crossing Alternative, a 26-inch diameter steel pipe would be constructed to cross above the Revolon Slough on the northern side of the Laguna Road bridge. No modifications would occur to the Revolon Slough channel, and no construction equipment would operate within the channel. Under the Trenchless Crossing Alternative, a 24-inch diameter pipe would be installed in a 36-inch casing under the Revolon Slough via trenchless auger boring or horizontal directional drilling methods. Under this alternative, no impacts to the Revolon Slough would occur. Under either alternative, impacts to the Revolon Slough are not proposed.

Under both project alternatives, the project would include a distribution blow-off point to discharge pipeline water (i.e., blend of advanced treated recycled water, surface water, and groundwater that would be conveyed via the PTP System) into the Revolon Slough to dewater pipeline sections during construction, repair, or maintenance activities. As the Revolon Slough is an entirely concrete-lined, perennial drainage system that currently receives many inputs from urban and agricultural runoff, the addition of intermittent pipeline water via the blow-off point is not expected to have an effect on the arroyo chub. In addition, discharges are covered by an existing NPDES Permit and Waste Discharge Requirements (NPDES NO. CAG994004, CI-10356) that allows for discharges of irrigation waters from the PTP System into the Revolon Slough.

Direct impacts to potentially suitable arroyo chub habitat would not occur. However, direct impacts to arroyo chub could occur due to leaks from equipment being used adjacent to the channel, which could contaminate water within the Revolon Slough and result in mortality of individuals. Additionally, indirect impacts could result from equipment noise and vibrations, which could cause individual fish to flush out of cover and become exposed to predators, and to expend high levels of energy leading to stress and reduced fecundity. Therefore, implementation of Measure BIO-1 is recommended to ensure adherence to general BMPs, such as having a spill prevention and cleanup plan to avoid impacts to the arroyo chub. Implementation of Measure BIO-2 is recommended to avoid impacts to special-status species during blow-off operations. With implementation of Measures BIO-1 and BIO-2, potential direct and indirect impacts to special-status wildlife species would be reduced to a less-than-significant level.

BIO-1 Aquatic Resources General Best Management Practices

Construction personnel should adhere to the following general BMP requirements in Revolon Slough:

- Fueling of equipment should not occur within 50 feet of the Revolon Slough channel, and equipment should be thoroughly inspected before use near the channel to ensure equipment is leak-free and in good working condition. In addition, the contractor should have a spill prevention and cleanup plan, which would include spill prevention materials and equipment readily available on site and prompt notification to United, if a spill occurs.
- Truck loads and spoil stockpiles should be covered to minimize potential stormwater pollution and air-borne dust.
- All food-related trash items, such as wrappers, cans, bottles, and food scraps generated during project construction should be disposed of in closed containers only and removed daily from the project site.
- Materials should be stored on impervious surfaces or plastic ground covers to prevent any spills or leakage and should be at least 50 feet from drainage features.
- Construction materials and spoils should be protected from stormwater runoff using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.
- While encounters with special-status species are not likely or anticipated, any worker who inadvertently injures or kills a special-status species or finds one dead, injured, or entrapped should immediately report the incident to the on-site construction foreman, who should then promptly notify United's Environmental Service Department. The Environmental Service Department should notify the relevant resource agency (i.e., CDFW, USFWS, or NMFS) depending on the State or federal-listing status of the species encountered.

BIO-2 Pre-activity Biological Survey

Before any activities involving the operation of the blow-off valve, United's Environmental Services Department staff or a qualified third-party consultant should conduct a pre-activity survey to determine if any special-status species are established within Revolon Slough where they might be susceptible to impacts from scour. If discharged water from the blow-off valve might cause scouring of the channel and impact special-status species, blow-off operations should be postponed until such species are no longer present. If blow-off operations cannot be postponed, qualified biologists should relocate any special-status species away from areas that are subject to scour. In the case of federal or state-listed species, relocation should be carried out in accordance with regulatory authorizations issued under the ESA and/or CESA, Fish and Game Code §§ 1002, 1002.5, 1003, and/or Cal. Code Regs., tit. 14, § 650.

Nesting Birds

Migratory or other common nesting birds, while not designated as special-status species, are protected by the CFGC and MBTA and have the potential to nest within the Study Area. Particularly, the eucalyptus groves vegetation community to the south of the proposed alignments, the pepper tree groves to the north of the proposed alignments near the entry and exit pits, as well as the ornamental landscaping land cover type to the south of the proposed alignments have the potential to support nesting birds (Attachment 1, Figure 5). Direct impacts are not proposed to these areas. Therefore, direct impacts to nesting birds are not anticipated to occur. However, the project could adversely affect nesting birds protected under the CFGC and MBTA through construction noise, dust, and other human disturbances that may cause a nest to fail. Implementation of BIO-3 should include a pre-construction nesting bird survey if construction occurs during the nesting bird season (typically February 1 to August 31). If active nests are identified, buffers should be established to avoid impacts to nesting birds. Implementation of BIO-3 should maintain compliance with CFGC 3503 and the MBTA; thereby assuring avoidance or minimization of potential impacts to nesting birds.

BIO-3 Nesting Birds

To avoid impacts to nesting birds, project-related activities should occur outside of the bird breeding season (typically February 1 to August 31) to the extent practicable. If construction must occur within the bird breeding season, then no more than 14 days prior to initiation of ground disturbance and/or vegetation removal in areas with potential to support nesting birds (i.e., near the eucalyptus groves or pepper tree groves vegetation communities, or the ornamental landscaping land cover type), a nesting bird pre-construction survey should be conducted by a qualified biologist within the disturbance footprint plus a 100-foot buffer (300-feet for raptors), where feasible. As the proposed project is anticipated to occur in a linear fashion along the alignment, multiple pre-construction nesting bird surveys may be necessary to ensure nest avoidance.

Pre-construction nesting bird surveys should be conducted during the time of day when birds are active and should factor in sufficient time to perform this survey adequately and completely. A report or email of the nesting bird survey results, if applicable, should be submitted to the United project manager for review and approval prior to ground and/or vegetation disturbance activities.

If nests are found, their locations should be flagged. An appropriate avoidance buffer ranging in size from 25 to 50 feet for passerines and up to 300 feet for raptors, depending upon the species and the proposed work activity, should be determined and demarcated by a qualified biologist with bright orange construction fencing or other suitable flagging. Active nests should be monitored at a minimum of once per week until it has been determined that the nest is no longer being used by either the young or adults. No ground disturbance should occur within this buffer until the qualified biologist confirms that the breeding/nesting is completed, and all the young have fledged. If project activities must occur within the buffer, they should be conducted at the discretion of the qualified biologist. No further actions would be necessary if no nesting birds are observed during pre-construction surveys.

Sensitive Plant Communities

No sensitive plant communities occur within the Study Area. Therefore, no direct or indirect impacts to sensitive plant communities should occur and no further actions are recommended.

Jurisdictional Waters and Wetlands

As discussed above, three potentially jurisdictional features occur in the Study Area: the Revolon Slough, Ditch 1, and Ditch 2. Direct impacts to the Revolon Slough are not proposed, as both project

alternatives (Bridge Crossing Alternative and Trenchless Crossing Alternative) would avoid any modification to the concrete-lined channel and banks of the drainage. Impacts to RWQCB jurisdiction associated with Ditch 1 and Ditch 2 are also not anticipated to occur, as the proposed pipeline alignment alternatives (North Alignment and Center Alignment) do not intersect with these features. Ditch 1 and Ditch 2 are anticipated to be exempt from the SWRCB procedures, as they are ephemeral agricultural ditches that are not relocated waters of the state and are not excavated in waters of the state (SWRCB 2019). Importantly, the SWRCB has the final authority to issue or waive waste discharge requirements (WDRs) or take other actions to the extent authorized by the Water Code. The project does not propose impacts to Ditch 1 or Ditch 2; as such, no waters permitting is anticipated to be required.

While direct impacts to the Revolon Slough are not anticipated, indirect impacts could result from equipment leaks and sediment runoff, which could reduce water quality within the drainage. Therefore, Measure BIO-1 is recommended to ensure adherence to aquatic resource BMPs, including covering spoils and refueling equipment at least 50 feet away from the Revolon Slough. With implementation of Measure BIO-1, potential indirect impacts to jurisdictional waters and wetlands would be reduced to a less-than-significant level.

Wildlife Movement

No regional wildlife linkages or corridors are mapped within the Study Area. The Revolon Slough channel in the eastern portion of the Study Area likely acts as a wildlife movement corridor within the vicinity of the Study Area. Construction would not occur within the bed of the Revolon Slough. Additionally, the Study Area is located in an overall fragmented landscape given the presence of agricultural operations and paved roadways surrounding the Study Area. Therefore, no impact would occur to wildlife movement, and no further actions are recommended.

Resources Protected by Local Policies and Ordinances

Although United is not subject to Ventura County permit requirements, the project is evaluated for consistency with the County's tree protection ordinance. Multiple heritage blue gum eucalyptus trees protected by the Ventura County Tree Protection Ordinance occur in the southwestern portion of the Study Area in the eucalyptus groves vegetation community (Attachment 1, Figure 5). These trees occur as ornamentally planted wind breaks between Laguna Road and agricultural crops to the south. However, these trees occur on the south side of Laguna Road. The Roadway Alignment Alternative would occur in the center of Laguna Road, and the North Alignment Alternative would occur to the north of Laguna Road. Therefore, impacts to these protected trees would not occur as a result of the project. Additionally, no trees are proposed for removal as part of the project.

The Ventura County General Plan includes measures to protect special-status biological resources (i.e., special-status species and jurisdictional waters and wetlands) and wildlife movement. As stated in the Special-Status Species and Jurisdictional Waters and Wetlands sections above, Measures BIO-1, BIO-2, and BIO-3 would reduce potential impacts to special-status species and jurisdictional resources to a less-than-significant level. Therefore, the project would not conflict with applicable local policies and ordinances, and no further actions are recommended.

Habitat Conservation Plans

The Study Area is not subject to any Habitat Conservation Plans, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the proposed project would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state conservation plan.

Limitations, Assumptions, and Use Reliance

This Biological Resources Assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Biological surveys for the presence or absence of certain taxa were not conducted as part of this assessment and were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

Thank you for the opportunity to provide this Biological Resources TM. Please contact the undersigned with any questions.

Sincerely,
Rincon Consultants, Inc.

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Biologist/Botanist

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Attachments

Attachment 1 Figures
Attachment 2 Site Photographs
Attachment 3 Ordinary High Water Mark and Wetland Determination Data Forms
Attachment 4 Species Detected During Field Reconnaissance Survey
Attachment 5 Special-Status Species Potential to Occur
Attachment 6 Unofficial Information for Planning and Consultation Species List

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Attachment 1

Figures

Figure 1 Regional Location

Figure 2 Study Area

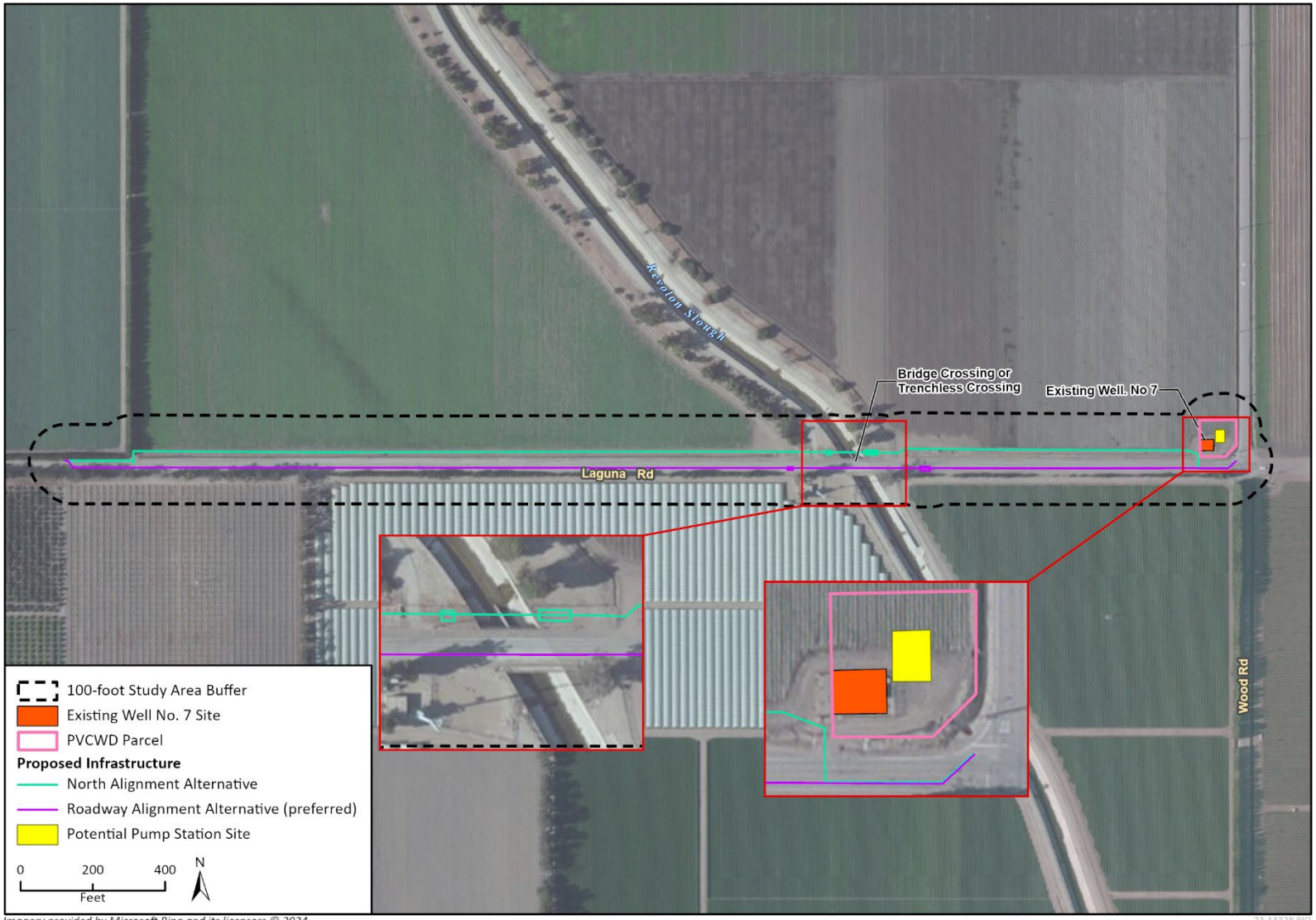
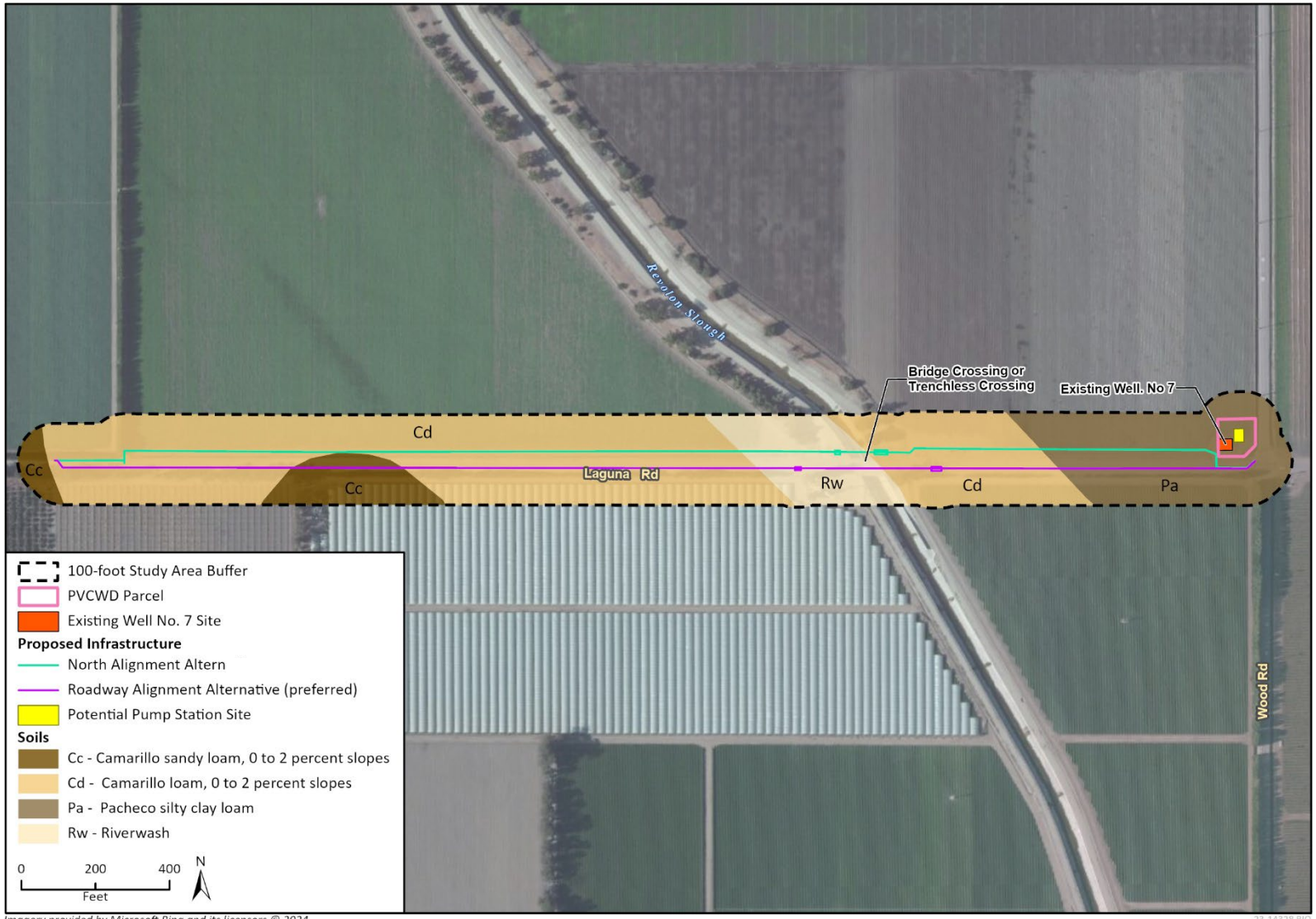


Figure 3 United States Geological Survey Mapped Soils Within the Study Area



Imagery provided by Microsoft Bing and its licensors © 2024.
Additional data provided by Natural Resource Conservation Service Soil Survey Geographic, 2024.

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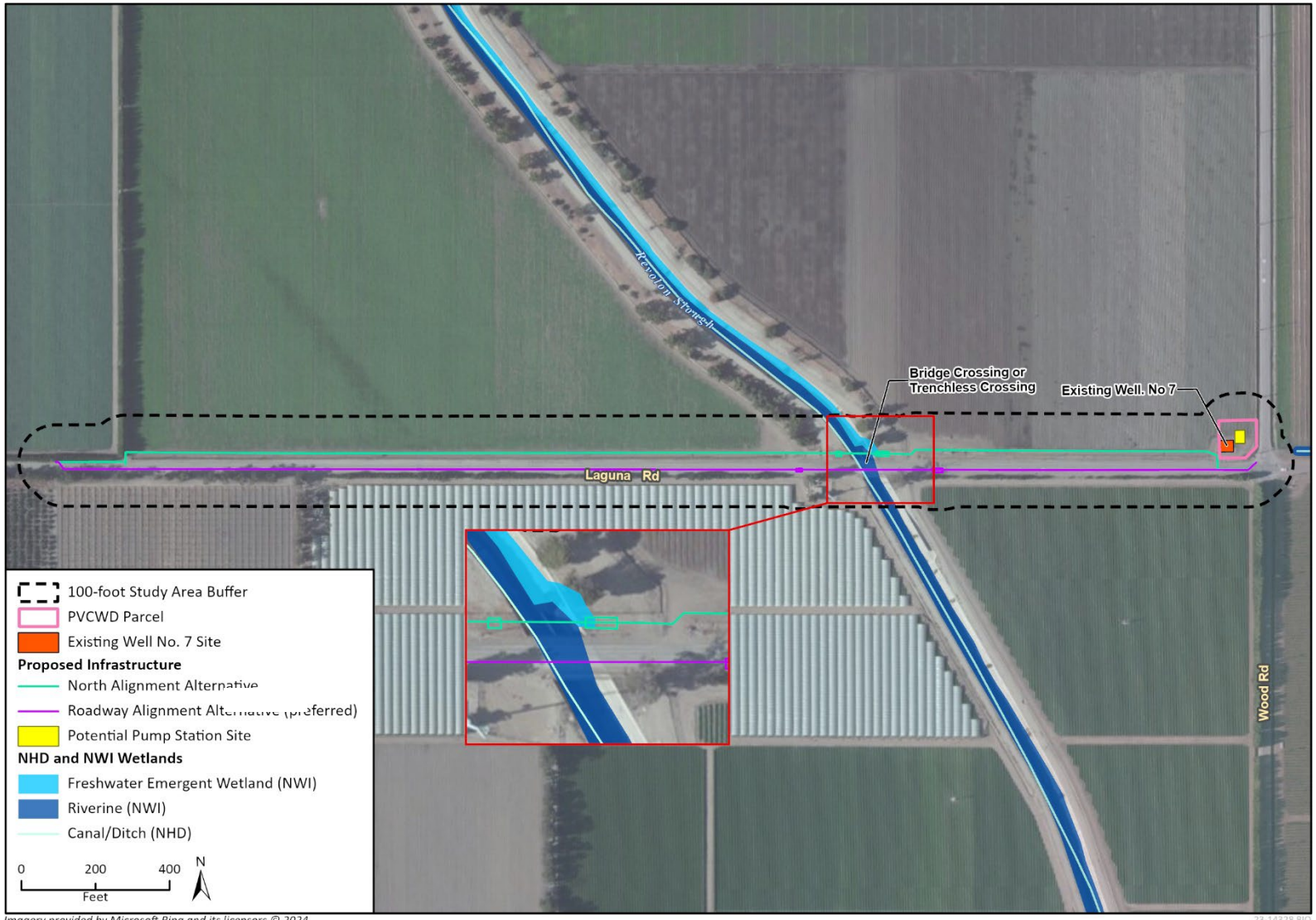
Fig 7 USGS Soils

Figure 4 National Wetlands Inventory / National Hydrography Dataset Resources



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Additional data provided by the U.S. Geological Survey National Hydrography Dataset and U.S. Fish & Wildlife Service National Wetlands Inventory, 2023.

Figure 5 Vegetation Communities and Land Cover Types

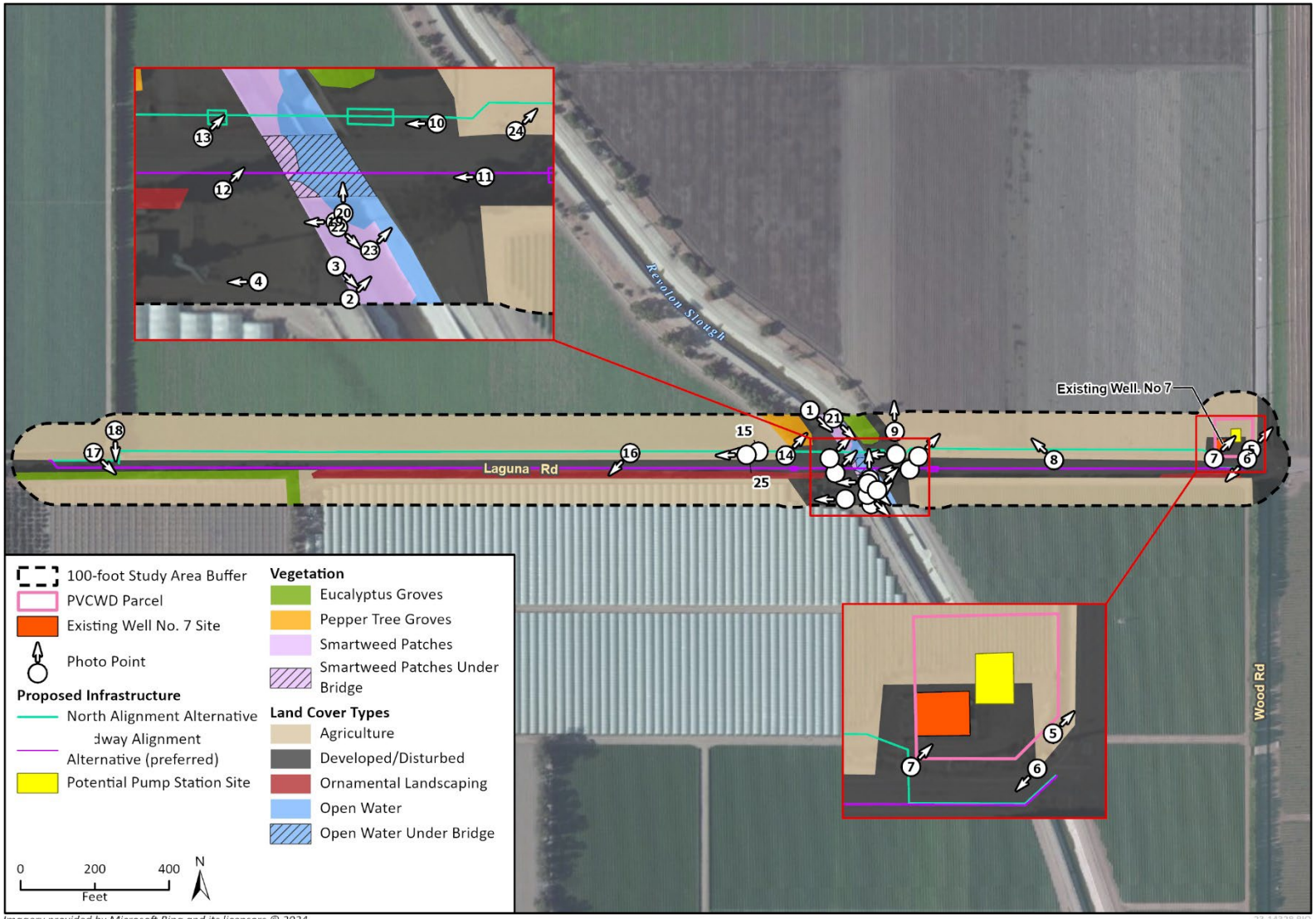


Figure 6a Jurisdictional Resources - East

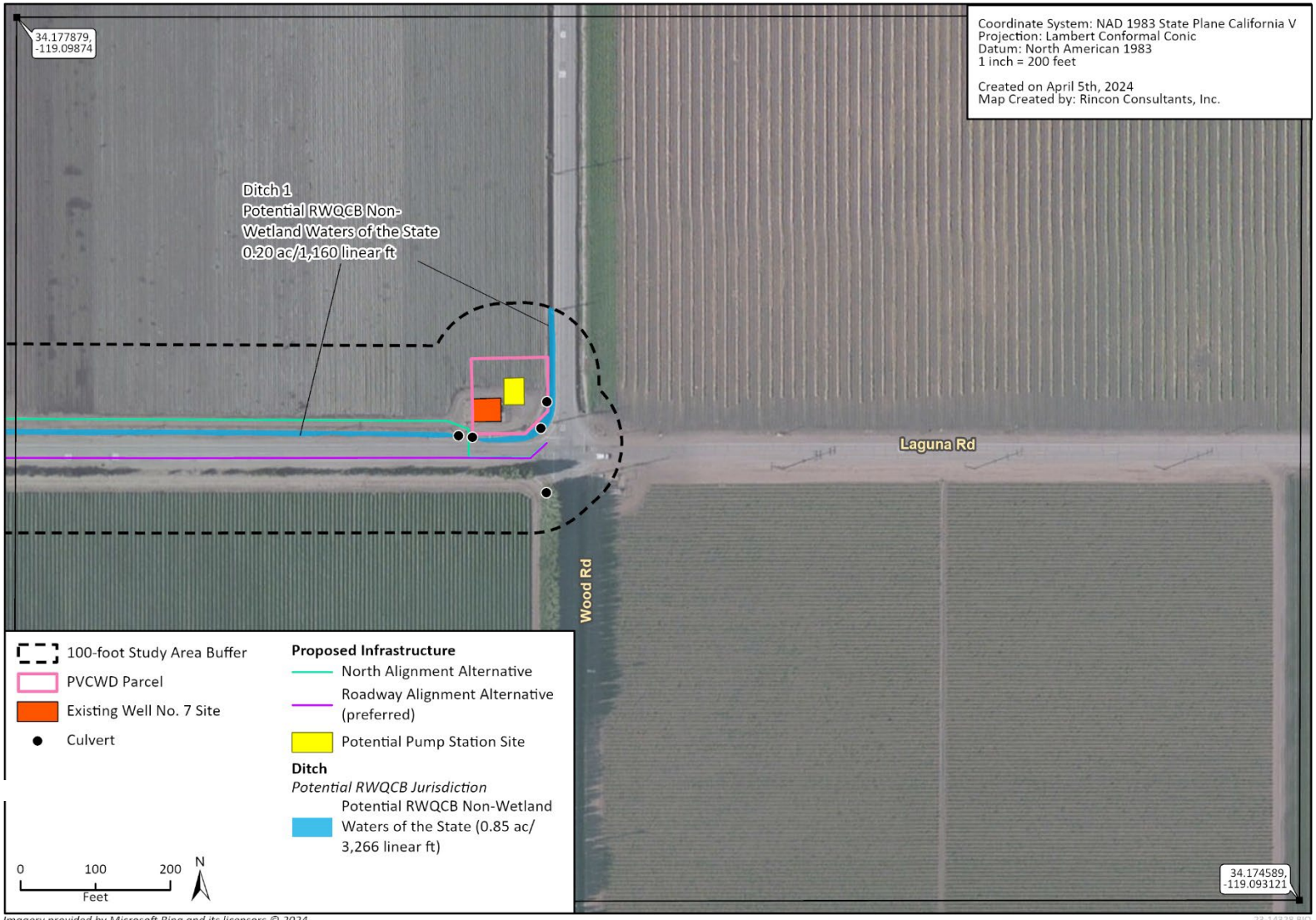


Figure 6b Jurisdictional Resources - Central

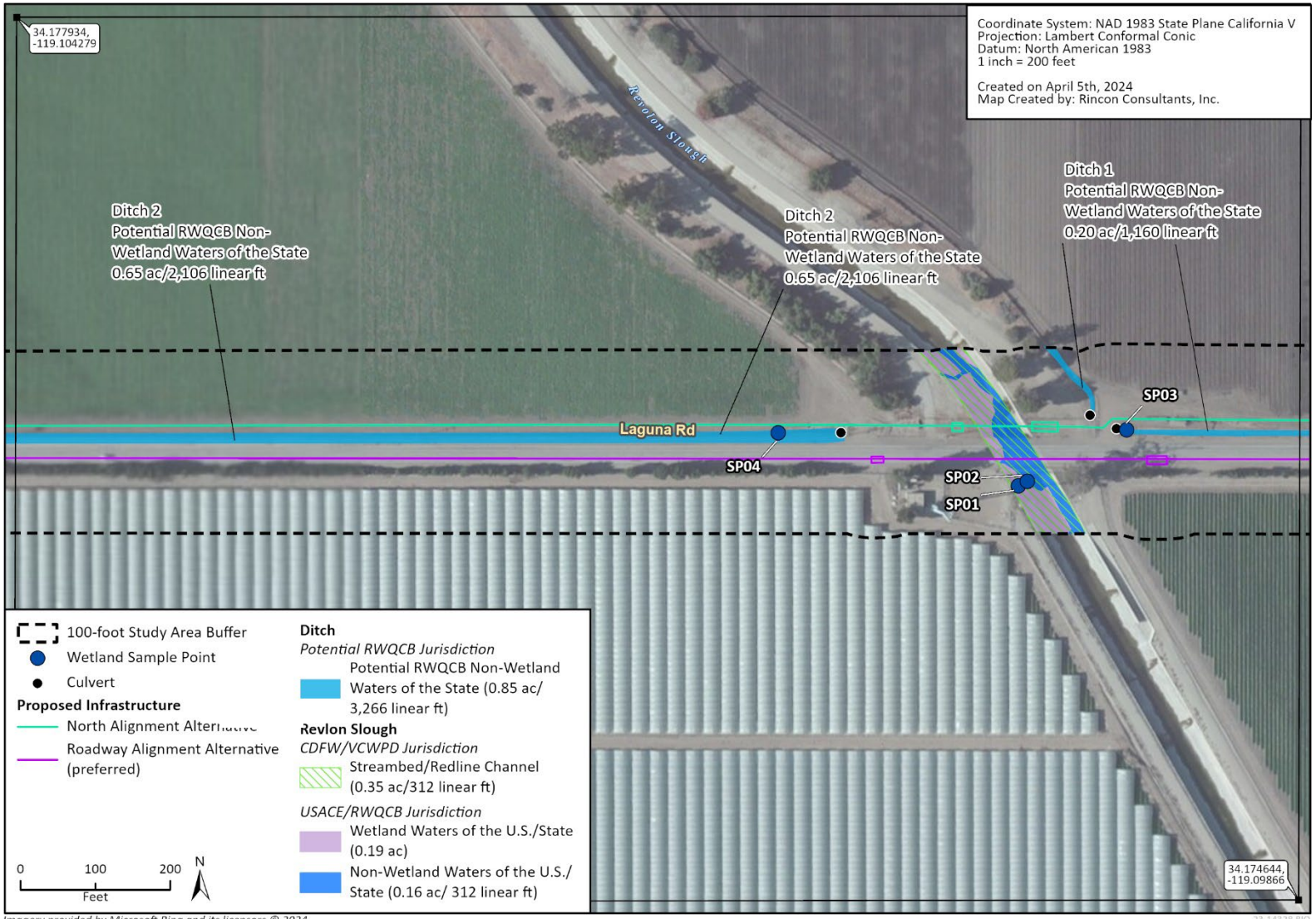
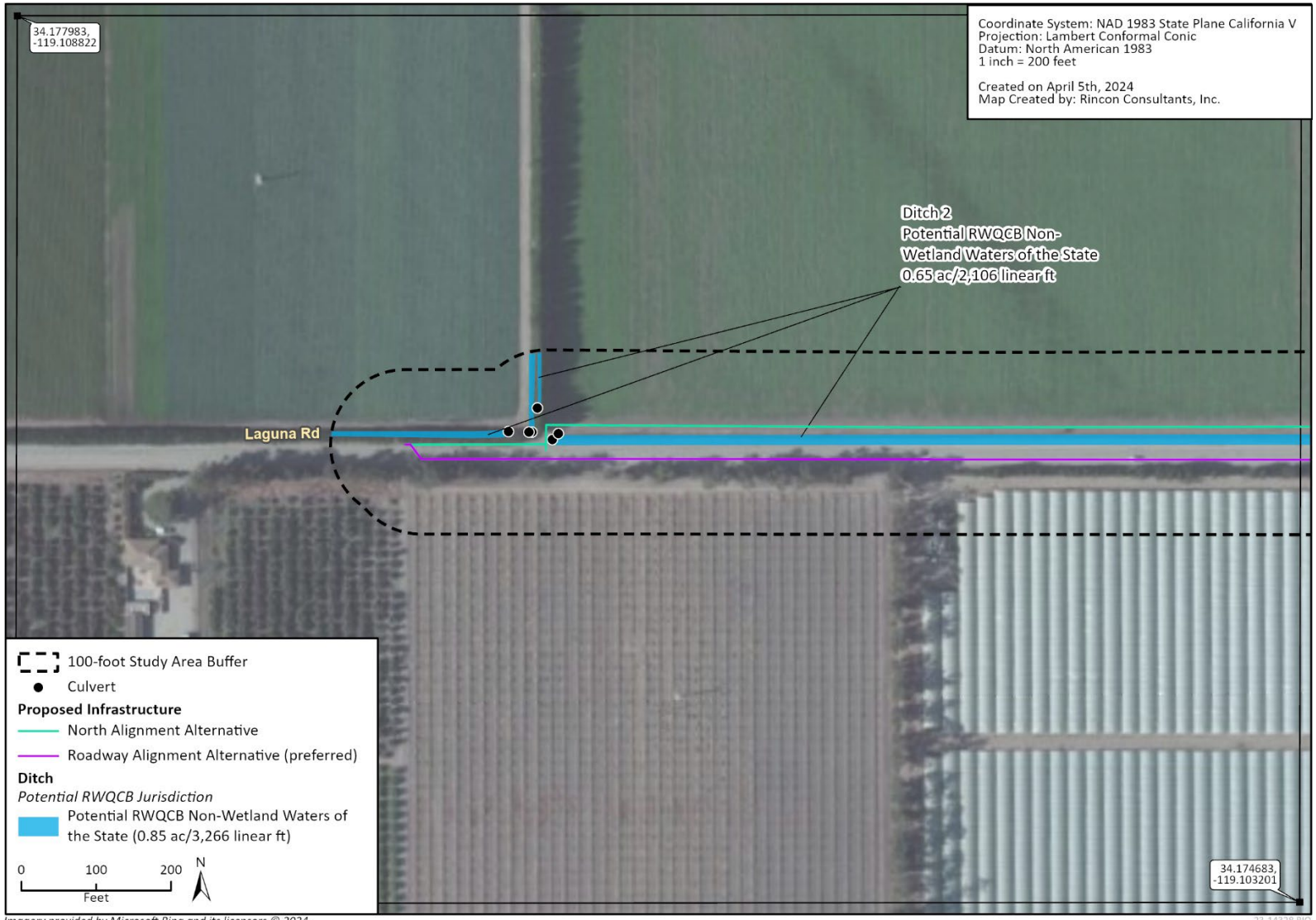


Figure 6c Jurisdictional Resources - West



Attachment 2

Site Photographs

Photograph 1. View of the Revolon Slough in the eastern portion of the Study Area. Note open water in the drainage, as well as patches of sediment accumulation adjacent to open water (Aspect: southeast; September 13, 2023).

Photograph 2. View of the Revolon Slough in the eastern portion of the Study Area. Note Laguna Road bridge where the Bridge Crossing Alternative would occur (Aspect: northeast; September 13, 2023).

Photograph 3. View of the downstream end of the Revolon Slough in the eastern portion of the Study Area. Note smartweed patches adjacent to open water (Aspect: southeast; September 13, 2023).

Photograph 4. View of agricultural land in the central portion of the Study Area (Aspect: west; September 13, 2023).

Photograph 5. View of Ditch 1 in the eastern portion of the Study Area adjacent to Wood Road (Aspect: northeast; September 13, 2023).

Photograph 6. View of ornamental landscaping in the eastern portion of the Study Area adjacent to Laguna Road (Aspect: southwest; September 13, 2023).

Photograph 7. View of the existing PVCWD-operated Well No. 7 in the eastern portion of the Study Area (Aspect: northeast; September 13, 2023).

Photograph 8. View of Ditch 1 in the eastern portion of the Study Area, as it parallels Laguna Road. Note presence of standing water and agriculture to the north (Aspect: northwest; September 13, 2023).

Photograph 9. View of Ditch 1 in the eastern portion of the Study Area as it extends north into agriculture. Note presence of agricultural equipment in the bed of Ditch 1 (Aspect: north; September 13, 2023).

Photograph 10. View of the potential work area above the right (east) bank of Revolon Slough under the North Alignment Alternative (Aspect: west; September 13, 2023).

Photograph 11. View of the potential work area above the right (east) bank of Revolon Slough under the Roadway Alignment Alternative (Aspect: west; September 13, 2023).

Photograph 12. View of the potential work area above the left (west) bank of Revolon Slough under the Roadway Alignment Alternative (Aspect: northeast; September 13, 2023).

Photograph 13. View of the potential work area above the left (west) bank of Revolon Slough under the North Alignment Alternative (Aspect: northeast; September 13, 2023).

Photograph 14. View of pepper tree groves to the west of Revolon Slough (Aspect: northeast; September 13, 2023).

Photograph 15. View of Ditch 2 in the central portion of the Study Area. Note black cottonwood saplings in the bed of Ditch 2 (Aspect: west; September 13, 2023).

Photograph 16. View of Ditch 2 in the central portion of the Study Area. Note ornamental landscaping on the left side of the photograph (Aspect: southwest; September 13, 2023).

Photograph 17. View of culverts associated with Ditch 2 in the western portion of the Study Area (Aspect: southeast; September 13, 2023).

Photograph 18. View of Ditch 2 as it extends north into agriculture in the western portion of the Study Area. Note Laguna Road to the south (Aspect: south; September 13, 2023).

Photograph 19. View of SP01 collected in the bed of the Revolon Slough, where wetlands were confirmed to be present (Aspect: northeast; September 13, 2023).

Photograph 20. View of SP02 collected in open water of the Revolon Slough (Aspect: north; September 13, 2023).

Photograph 21. View of Revolon Slough and the Laguna Road bridge. Note presence of culvert outlets scattered along the concrete side walls of the drainage (Aspect: southeast; September 13, 2023).

Photograph 22. View of Revolon Slough as it travels south and outside the Study Area. Note drift deposits along the left (west) bank (Aspect: southeast; September 13, 2023).

Photograph 23. View of Revolon Slough and the Laguna Road bridge (Aspect: northeast; September 13, 2023).

Photograph 24. View of SP03 collcted in Ditch 1 (Aspect: northeast; September 13, 2023).

Photograph 26. View of SP04 collected in Ditch 2 (Aspect: west; September 13, 2023).

Attachment 3

Ordinary High Water Mark and Wetland Determination Data Forms

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: PTP Water Connection – Laguna Road Pipeline Project
Project Number: 23-14328
Stream: Revolon Slough
Investigator(s): Kyle Gern

Date: 9/12/2023 **Time:** 1100
Town: Ventura Co. **State:** California
Photo begin file#: **Photo end file#:**

Y ■ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ■ Is the site significantly disturbed?

Location Details:
Immediately south of Laguna Road Bridge

Projection: Mercator **Datum:** NAD83
Coordinates: 34.176174°N, -119.099878°W

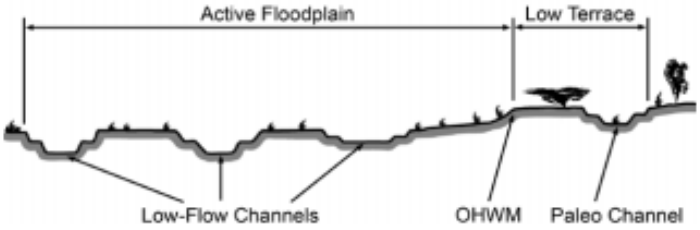
Potential anthropogenic influences on the channel system:
Development, pollution (e.g., agricultural runoff), bank protection (e.g., concrete banks)

Brief site description:
The Study Area is situated adjacent to and within the Ordinary High Water Mark (OHWM) of the Revolon Slough. The Revolon Slough is a fully concrete-lined drainage feature with 90° angle sidewalls. The bed of the drainage feature contains some sandy/silt sediment that has accumulated along the left bank. This sediment accumulation above the concrete bottom has allowed for the establishment of some herbaceous riparian plant species, such as common knotweed (Persicaria lapathifolia). The right bank is unvegetated where actively flowing water occurs.

Checklist of resources (if available):

- ■ Aerial photography
  Dates: 07/2023
- ■ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ■ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

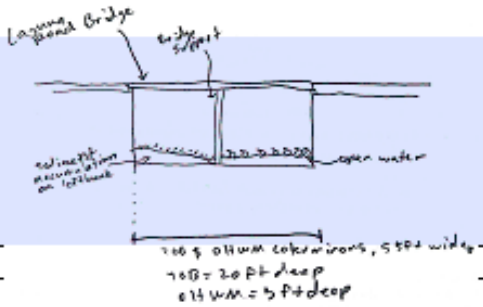


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ■ GPS
   - ☐ Other:

Project ID: 23-14328 **Cross section ID:** OH-1 **Date:** 9/12/2023 **Time:** 1100

Cross section drawing:



OHWM

GPS point: 34.176174°N, -119.099878°W

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

The OHWM of the Revolon Slough is defined by a break in bank slope, which is delineated to the extent of the concrete side-walls of the drainage feature.

Floodplain unit: ■ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: 34.176174°N, -119.099878°W

Characteristics of the floodplain unit:

Average sediment texture: Sand

Total veg cover: 20 % Tree: 0 % Shrub: 0 % Herb: 20 %

Community successional stage:

- ☐ NA
- ■ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ■ Drift and/or debris
- ■ Presence of bed and bank
- ☐ Benches
- ■ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Drift/debris deposits included woody and herbaceous plant material. A bed and bank were evident. Soil development occurred along the left bank where sandy material has deposited from upstream inputs.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PTP Water Connection – Laguna Road Pipeline | City/County: Unincorporated Ventura Co. | Sampling Date: 9/12/2023
Applicant/Owner: United Water Conservation District | State: CA | Sampling Point: SP01
Investigator(s): Kyle Gern | Section, Township, Range: S17, T01N, R21W
Landform (hillslope, terrace, etc.): Within Revolon Slough | Local relief (concave, convex, none): Concave | Slope (%): 2
Subregion (LRR): C - Mediterranean | Lat: 34.176174 | Long: -119.099878 | Datum: NAD83
Soil Map Unit Name: Riverwash | NWI classification: R4SBCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____ Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____
Are Vegetation ____ Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No ____	**Is the Sampled Area within a Wetland?**	**Yes ✔ No ____**
Hydric Soil Present?	Yes ✔	No ____		
Wetland Hydrology Present?	Yes ✔	No ____		

Remarks:
Sample Point 01 (SP01) is located within the bed of the Revolon Slough, within the Ordinary High Water Mark (OHWM). SP01 is located in a concave area on sandy sediment that has been deposited in the concrete-lined channel. SP01 is located in the smartweed patches vegetation community, dominated by common knotweed (Persicaria lapathifolia).

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft. x 30 ft.)			
1. None			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft. x 15 ft.)			
1. None			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft. x 5 ft.)			
1. Persicaria lapathifolia	20	Y	FACW
2. Echinochloa crus-galli	15	Y	FACW
3. Portulaca oleracea	1	N	FAC
4.			
5.			
6.			
7.			
8.			
	36 = Total Cover		
Woody Vine Stratum (Plot size: 15 ft x 15 ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 40 | % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
✔ Dominance Test is >50%
☐ Prevalence Index is ≤3.0[1]
☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks:
SP01 is located in the Revolon Slough on top of sandy/silty sediment accumulation in the bed of the drainage. The herbaceous layer includes dominant common knotweed and barnyard grass (Echinochloa crus-galli). The shrub and tree layers are absent.

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SOIL

Sampling Point: SP01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	10YR 5/4	100					Sand	
5-20	GLEY 1 4/10Y	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☑ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (Inches): N/A

Hydric Soil Present? Yes ☑ No ☐

Remarks:

Soils within SP01 are entirely sand, with a color of 10YR 5/4 for the first five inches of the soil surface, and GLEY 1 4/10Y between five and 20 inches below the soil surface. Sandy gleyed matrix (S4) was observed. Therefore, hydric soils are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☑ Drift Deposits (B3) **(Riverine)**
- ☑ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (Inches): N/A

Water Table Present? Yes ☑ No ☐ Depth (Inches): 8

Saturation Present? (Includes capillary fringe) Yes ☑ No ☐ Depth (Inches): 4

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Two primary indicators (high water table [A2] and saturation [A3]), and two secondary indicators (drift deposits [B3] and drainage patterns [B10]) are present at SP01. Drift deposits include woody/herbaceous debris, and drainage patterns are evidenced by the channelization of the Revolon Slough and by vegetation (common knotweed) pointed in the direction of water flows (south). Therefore, wetland hydrology is present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PTP Water Connection – Laguna Road Pipeline City/County: Unincorporated Ventura Co. Sampling Date: 9/12/2023
Applicant/Owner: United Water Conservation District State: CA Sampling Point: SP02
Investigator(s): Kyle Gern Section, Township, Range: S17, T01N, R21W
Landform (hillslope, terrace, etc.): Within Revolon Slough Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR): C - Mediterranean Lat: 34.176191 Long: -119.099837 Datum: NAD83
Soil Map Unit Name: Riverwash NWI classification: R4SBCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____
Are Vegetation ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes		No	✔
Hydric Soil Present?	Yes		No	✔
Wetland Hydrology Present?	Yes	✔	No	
Is the Sampled Area within a Wetland?	**Yes**		**No**	✔

Remarks:
Sample Point 02 (SP02) is located within the bed of the Revolon Slough, within the Ordinary High Water Mark (OHWM). SP02 is located in open water of the drainage, with some sandy sediment below the open water.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. x 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft. x 15 ft.)			
1. None			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft. x 5 ft.)			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 15 ft x 15 ft)			
1. None			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 0 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
☐ Prevalence Index is ≤3.0[1]
☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:
SP02 is located within open water of the Revolon Slough. Vegetation is absent from this area, as there are no herbaceous plant species in a five foot radius of SP02, and there are no woody species within 30 feet of SP02. Therefore, all vegetative layers are absent.

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SOIL

Sampling Point: SP02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 5/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☑ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Concrete lining of drainage

Depth (inches): 8

Hydric Soil Present? Yes ☐ No ☑

Remarks:

Soils within SP02 are entirely sand, with a color of 10YR 4/3 for the first eight inches of the soil surface, at which point a restrictive layer (concrete lining of drainage) is met. No evidence of hydric soils were observed at SP02.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☑ Drift Deposits (B3) **(Riverine)**
- ☑ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☑	No ☐	Depth (inches):	0
Water Table Present?	Yes ☑	No ☐	Depth (inches):	0
Saturation Present? (Includes capillary fringe)	Yes ☑	No ☐	Depth (inches):	0

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Three primary indicators (surface water [A1], high water table [A2] and saturation [A3]), and two secondary indicators (drift deposits [B3] and drainage patterns [B10]) are present at SP02. Drift deposits include woody/herbaceous debris, and drainage patterns are evidenced by the channelization of the Revolon Slough and by vegetation (common knotweed) pointed in the direction of water flows (south). Therefore, wetland hydrology is present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PTP Water Connection – Laguna Road Pipeline | City/County: Unincorporated Ventura Co. | Sampling Date: 9/12/2023
Applicant/Owner: United Water Conservation District | State: CA | Sampling Point: SP03
Investigator(s): Kyle Gern | Section, Township, Range: S17, T01N, R21W
Landform (hillslope, terrace, etc.): Within Ditch 1 | Local relief (concave, convex, none): Concave | Slope (%): 2
Subregion (LRR): C - Mediterranean | Lat: 34.176376 | Long: -119.099397 | Datum: NAD83
Soil Map Unit Name: Camarillo loam, 0 to 2 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____
Are Vegetation ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✔	Is the Sampled Area within a Wetland?	Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔		
Wetland Hydrology Present?	Yes ____	No ✔		

Remarks:
Sample Point 03 (SP03) is located within the bed of Ditch 1, and ephemeral agricultural ditch to the east of the Revolon Slough. SP03 is located in an area vegetated with barnyard grass (Echinochloa crus-galli), sprangletop (Leptochloa fusca), and matted sandmat (Euphorbia serpens). Some standing water is present in the bed of Ditch 1.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. x 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. x 15 ft.)			
1. None			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft. x 5 ft.)			
1. Erigeron bonariensis	1	N	FACU
2. Leptochloa (Diplachne) fusca	30	Y	FACW
3. Euphorbia serpens	25	Y	FACU
4. Sonchus oleraceus	1	N	UPL
5.			
6.			
7.			
8.			
	57	= Total Cover	
Woody Vine Stratum (Plot size: 15 ft x 15 ft)			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 40 | % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
☐ Prevalence Index is ≤3.0[1]
☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:
SP03 is located within the bed of Ditch 1, a small ephemeral agricultural ditch. Vegetation within SP03 includes barnyard grass, sprangletop, and matted sandmat. The shrub and tree layers are absent. Hydrophytic vegetation is absent, as SP03 does not meet the dominance test.

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SOIL

Sampling Point: SP03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-20	10YR 3/2	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☑ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (Inches): N/A

Hydric Soil Present? Yes ☐ No ☑

Remarks:

Soils within SP03 are sandy clay loam from zero to 20 inches with a color of 10YR 3/2. No evidence of hydric soils were observed at SP03.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☑	No ☐	Depth (Inches):	0
Water Table Present?	Yes ☑	No ☐	Depth (Inches):	0
Saturation Present? (Includes capillary fringe)	Yes ☑	No ☐	Depth (Inches):	0

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Three primary indicators (surface water [A1], high water table [A2], and saturation [A3]) are present at SP03. Therefore, wetland hydrology is present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PTP Water Connection – Laguna Road Pipeline City/County: Unincorporated Ventura Co. Sampling Date: 9/12/2023
Applicant/Owner: United Water Conservation District State: CA Sampling Point: SP04
Investigator(s): Kyle Gern Section, Township, Range: S17, T01N, R21W
Landform (hillslope, terrace, etc.): Within Ditch 2 Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR): C - Mediterranean Lat: 34.176379 Long: -119.100935 Datum: NAD83
Soil Map Unit Name: Camarillo loam, 0 to 2 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____ Soil ____ or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____
Are Vegetation ____ Soil ____ or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✔	**Is the Sampled Area within a Wetland?**	**Yes** ____ **No** ✔
Hydric Soil Present?	Yes ✔	No ____		
Wetland Hydrology Present?	Yes ____	No ✔		

Remarks:
Sample Point 04 (SP04) is located within the bed of Ditch 2, and ephemeral agricultural ditch to the west of the Revolon Slough. SP04 is located in an area vegetated with barnyard grass (Echinochloa crus-galli), matted sandmat (Euphorbia serpens), emergent black cottonwood (Populus nigra) saplings, and flax-leaved horseweed (Erigeron bonariensis).

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft. x 30 ft.)			
1. None			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft. x 15 ft.)			
1. Populus nigra	10	Y	UPL
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft. x 5 ft.)			
1. Echinochloa crus-galli	20	Y	FACW
2. Euphorbia serpens	5	N	FACU
3. Erigeron bonariensis	10	Y	FACU
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 15 ft x 15 ft)			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
☐ Prevalence Index is ≤3.0[1]
☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks:
SP04 is located within the bed of Ditch 2, a small ephemeral agricultural ditch. Vegetation within SP04 includes barnyard grass, matted sandmat, emergent black cottonwood saplings, and flax-leaved horseweed. Black cottonwood saplings appear to be naturally seeded in Ditch 2 as a result of seed dispersal from ornamentally planted black cottonwood trees on the south side of Laguna Road. Hydrophytic vegetation is absent, as SP04 does not meet the dominance test.

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SOIL

Sampling Point: SP04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	2.5Y 3/1	100					Loam	
7-20	5Y 3/1	92	5YR 4/4	8	C	M	Clay Loam	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (Inches): N/A

Hydric Soil Present? Yes ☑ No ☐

Remarks:

Soils within SP04 are loam from zero to seven inches with a color of 2.5Y 3/1, and clay loam from seven to 20 inches and a color of 5Y 3/1. Prominent redox concentrations occur in the second soil layer (7-20 inches). Therefore redox dark surface (F6) is present, and hydric soils occur at SP04.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☑ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (Inches): N/A

Water Table Present? Yes ☐ No ☑ Depth (Inches): N/A

Saturation Present? (Includes capillary fringe) Yes ☐ No ☑ Depth (Inches): N/A

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

One secondary hydrology indicator, drainage patterns (B10), occurs at SP04. Drainage patters are indicated by the channelization of Ditch 2. However, no other hydrology indicators are present at SP04. Therefore, wetland hydrology is present.

Attachment 4

Species Detected During Field Reconnaissance Survey

Plant and Wildlife Species Detected in the Study Area on September 13, 2023

Scientific Name	Common Name	Status	Native or Introduced
Plants			
Amaranthus albus	pigweed amaranth	–	Introduced
Apium graveolens	common celery	–	Introduced
Bromus diandrus	ripgut brome	Cal-IPC Moderate	Introduced
Bromus rubens	red brome	Cal-IPC High	Introduced
Conium maculatum	poison hemlock	Cal-IPC Moderate	Introduced
Cotula coronopifolia	brass buttons	Cal-IPC Limited	Introduced
Cyperus involucratus	umbrella plant	–	Introduced
Echinochloa crus-galli	barnyard grass	–	Introduced
Erigeron bonariensis	flax-leaved horseweed	–	Introduced
Eucalyptus globulus	blue gum eucalyptus	Cal-IPC Limited	Introduced
Euphorbia serpens	matted sandmat	–	Introduced
Hirschfeldia incana	summer mustard	Cal-IPC Moderate	Introduced
Hordeum murinum	foxtail barley	Cal-IPC Moderate	Introduced
Leptochloa fusca	sprangletop	–	Native
Malva parviflora	cheeseweed	–	Introduced
Nasturtium officinale	watercress	–	Native
Opuntia ficus-indica	tuna cactus	–	Introduced
Persicaria lapathifolia	common knotweed	–	Native
Populus nigra	black cottonwood	–	Native
Portulaca oleracea	common purslane	–	Introduced
Salsola tragus	Russian thistle	Cal-IPC Limited	Introduced
Schinus molle	Peruvian pepper tree	Cal-IPC Limited	Introduced
Solanum spp.	ornamental tomato	–	Introduced
Sonchus oleraceus	common sow thistle	–	Introduced
Tamarix aphylla	athel tamarisk	Cal-IPC Limited	Introduced
Tribulus terrestris	puncture vine	Cal-IPC Limited	Introduced
Wildlife			
Birds			
Anas platyrhynchos	mallard	–	Native
Ardea alba	great egret	–	Native
Calypte anna	Anna's hummingbird	–	Native
Corvus brachyrhynchos	American crow	–	Native
Corvus corax	common raven	–	Native
Haemorhous mexicanus	house finch	–	Native
Junco hyemalis	dark-eyed junco	–	Native
Zenaida macroura	mourning dove	–	Native
Mammals			
Canis latrans	coyote (tracks/scat)	–	Native
Reptiles			
Sceloporus occidentalis	western fence lizard	–	Native

Source: Rincon Consultants biological resources reconnaissance field survey on September 13, 2023; Calflora 2023; California Invasive Plant Council (Cal-IPC) 2023, which rates introduced species according to their level of invasiveness.

Attachment 5

Special-Status Species Potential to Occur

Special-Status Species Potential to Occur

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Plants and Lichens				
Abronia maritima red sand-verbena	None/None G4/S3? 4.2	Perennial herb. Coastal dunes. Dune plant. Elevations: 0-330ft. (0-100m.) Blooms Feb-Nov.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Arenaria paludicola marsh sandwort	FE/SCE G1/S1 1B.1	Perennial stoloniferous herb. Marshes and swamps. Openings, sandy. Elevations: 10-560 ft. (3-170 m.) Blooms May-Aug.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Asplenium vespertinum western spleenwort	None/None G3?/S4 4.2	Perennial rhizomatous herb. Chaparral, cismontane woodland, coastal scrub. Rocky. Elevations: 590-3,280ft. (180-1,000m.) Blooms Feb-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Astragalus brauntonii Braunton's milk-vetch	FE/None G2/S2 1B.1	Perennial herb. Chaparral, coastal scrub, valley and foothill grassland. Recent burns or disturbed areas; usually on sandstone with carbonate layers. Soil specialist; requires shallow soils to defeat pocket gophers and open areas, preferably on hilltops, saddles or bowls between hills. Elevations: 15-2,100ft. (4-640m.) Blooms Jan-Aug.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Astragalus pycnostachyus var. *lanosissimus* Ventura Marsh milk-vetch	FE/SE G2T1/S1 1B.1	Perennial herb. Coastal dunes, coastal scrub, marshes and swamps. Within reach of high tide or protected by barrier beaches, more rarely near seeps on sandy bluffs. Elevations: 5-115ft. (1-35m.) Blooms (Jun)Aug-Oct.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Atriplex serenana var. *davidsonii* Davidson's saltscale	None/None G5T1/S1 1B.2	Annual herb. Coastal bluff scrub, coastal scrub. Alkaline. Elevations: 35-655ft. (10-200m.) Blooms Apr-Oct.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Baccharis plummerae ssp. *plummerae* Plummer's baccharis	None/None G3T3/S3 4.3	Perennial deciduous shrub. Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub. Rocky. Elevations: 15-1,395ft. (5-425m.) Blooms May-Oct.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Calochortus catalinae Catalina mariposa-lily	None/None G3G4/S3S4 4.2	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. In heavy soils, open slopes, openings in brush. Elevations: 50-2,295ft. (15-700m.) Blooms (Feb)Mar-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Calochortus clavatus var. *clavatus* club-haired mariposa-lily	None/None G4T3/S3 4.3	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Clay, Rocky, serpentinite (usually). Elevations: 100-4,265ft. (30-1,300m.) Blooms (Mar)May-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Calochortus clavatus var. *gracilis* slender mariposa-lily	None/None G4T2T3/S2S3 1B.2	Perennial bulbiferous herb. Chaparral, coastal scrub, valley and foothill grassland. Shaded foothill canyons; often on grassy slopes within other habitat. Elevations: 1,050-3280ft. (320-1,000m.) Blooms Mar-Jun(Nov).	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Calochortus plummerae Plummer's mariposa-lily	None/None G4/S4 4.2	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland. Granitic, rocky. Elevations: 330-5,580ft. (100-1,700m.) Blooms May-Jul.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Calystegia peirsonii Peirson's morning-glory	None/None G4/S4 4.2	Perennial rhizomatous herb. Chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland. Often in disturbed areas or along roadsides or in grassy, open areas. Elevations: 100-4,920ft. (30-1,500m.) Blooms Apr-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Centromadia parryi ssp. *australis* southern tarplant	None/None G3T2/S2 1B.1	Annual herb. Marshes and swamps, valley and foothill grassland, vernal pools. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Sometimes on vernal pool margins. Elevations: 0-1,575ft. (0-480m.) Blooms May-Nov.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Cercocarpus betuloides var. *blancheae* island mountain-mahogany	None/None G5T4/S4 4.3	Perennial evergreen shrub. Chaparral, closed-cone coniferous forest. Elevations: 100-1,970ft. (30-600m.) Blooms Feb-May.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Chaenactis glabriuscula var. *orcuttiana* Orcutt's pincushion	None/None G5T1T2/S1 1B.1	Annual herb. Coastal bluff scrub, coastal dunes. Sandy sites. Elevations: 0-330ft. (0-100m.) Blooms Jan-Aug.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Chloropyron maritimum ssp. *maritimum* salt marsh bird's-beak	FE/SE G4?T1/S1 1B.2	Annual herb (hemiparasitic). Coastal dunes, marshes and swamps. Limited to the higher zones of salt marsh habitat. Elevations: 0-100ft. (0-30m.) Blooms May-Oct(Nov).	Not Expected	Potentially suitable habitat is absent from the Study Area.
Cistanthe maritima seaside cistanthe	None/None G3G4/S3 4.2	Annual herb. Coastal bluff scrub, coastal scrub, valley and foothill grassland. Sandy. Elevations: 15-985ft. (5-300m.) Blooms (Feb)Mar-Jun(Aug).	Not Expected	Potentially suitable habitat is absent from the Study Area.
Convolvulus simulans small-flowered morning-glory	None/None G4/S4 4.2	Annual herb. Chaparral, coastal scrub, valley and foothill grassland. Clay, seeps, serpentinite. Elevations: 100-2,430ft. (30-740m.) Blooms Mar-Jul.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Corethrogyne leucophylla branching beach aster	None/None G3Q/S3 3.2	Perennial herb. Closed-cone coniferous forest, coastal dunes. Elevations: 10-195ft. (3-60m.) Blooms May-Dec.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Deinandra minthornii Santa Susana tarplant	None/SR G2/S2 1B.2	Perennial deciduous shrub. Chaparral, coastal scrub. On sandstone outcrops and crevices, in shrubland. Elevations: 920-2,495ft. (280-760m.) Blooms Jul-Nov.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Delphinium parryi ssp. *purpureum* Mt. Pinos larkspur	None/None G4T4/S4 4.3	Perennial herb. Chaparral, mojavean desert scrub, pinyon and juniper woodland. Elevations: 3280-8530ft. (1,000-2,600m.) Blooms May-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Dichondra occidentalis western dichondra	None/None G3G4/S3S4 4.2	Perennial rhizomatous herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. On sandy loam, clay, and rocky soils. Elevations: 165-1,640ft. (50-500m.) Blooms (Jan)Mar-Jul.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Dudleya blochmaniae ssp. *blochmaniae* Blochman's dudleya	None/None G3T2/S2 1B.1	Perennial herb. Chaparral, coastal bluff scrub, coastal scrub, valley and foothill grassland. Open, rocky slopes; often in shallow clays over serpentine or in rocky areas with little soil. Elevations: 15-1,475ft. (5-450m.) Blooms Apr-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Dudleya cymosa ssp. *agourensis* Agoura Hills dudleya	FT/None G5T1/S1 1B.2	Perennial herb. Chaparral, cismontane woodland. Rocky, volcanic breccia. Elevations: 655-1,640ft. (200-500m.) Blooms May-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Dudleya cymosa ssp. *marcescens* marcescent dudleya	FT/SR G5T2/S2 1B.2	Perennial herb. Chaparral. On sheer rock surfaces and rocky volcanic cliffs. Elevations: 490-1,705ft. (150-520m.) Blooms Apr-Jul.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Dudleya cymosa ssp. *ovatifolia* Santa Monica dudleya	FT/None G5T1/S1 1B.1	Perennial herb. Chaparral, coastal scrub. In canyons on volcanic or sedimentary substrates; primarily on north-facing slopes. Elevations: 490-5,495ft. (150-1,675m.) Blooms Mar-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Dudleya parva Conejo dudleya	FT/None G1/S1 1B.2	Perennial herb. Coastal scrub, valley and foothill grassland. In clay or volcanic soils on rocky slopes and grassy hillsides. Elevations: 195-1,475ft. (60-450m.) Blooms May-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Dudleya verityi Verity's dudleya	FT/None G1/S1 1B.1	Perennial herb. Chaparral, cismontane woodland, coastal scrub. On volcanic rock outcrops in the Santa Monica Mountains. Elevations: 195-395ft. (60-120m.) Blooms May-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Eleocharis parvula small spikerush	None/None G5/S3 4.3	Perennial herb. Marshes and swamps. In coastal salt marshes. 1-. Elevations: 5-9,910ft. (1-3,020m.) Blooms (Apr)Jun-Aug(Sep).	Not Expected	Potentially suitable habitat is absent from the Study Area.
Eriogonum crocatum conejo buckwheat	None/SR G1/S1 1B.2	Perennial herb. Chaparral, coastal scrub, valley and foothill grassland. Conejo volcanic outcrops; rocky sites. Elevations: 165-1905ft. (50-580m.) Blooms Apr-Jul.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Erysimum insulare island wallflower	None/None G3/S3 1B.3	Perennial herb. Coastal bluff scrub, coastal dunes. Mesas and cliffs. Elevations: 0-985ft. (0-300m.) Blooms Mar-Jul.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Erysimum suffrutescens suffrutescent wallflower	None/None G3/S3 4.2	Perennial herb. Chaparral, coastal bluff scrub, coastal dunes, coastal scrub. Coastal dunes and bluffs. Elevations: 0-490ft. (0-150m.) Blooms Jan-Jul(Aug).	Not Expected	Potentially suitable habitat is absent from the Study Area.
Galium cliftonsmithii Santa Barbara bedstraw	None/None G4/S4 4.3	Perennial herb. Cismontane woodland. Light shade, coastal canyons, dry banks. Elevations: 655-4,005ft. (200-1,220m.) Blooms May-Jul.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Hordeum intercedens vernal barley	None/None G3G4/S3S4 3.2	Annual herb. Coastal dunes, coastal scrub, valley and foothill grassland, vernal pools. Vernal pools, dry, saline streambeds, alkaline flats. 5-. Elevations: 15-3,280ft. (5-1,000m.) Blooms Mar-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Horkelia cuneata var. *puberula* mesa horkelia	None/None G4T1/S1 1B.1	Perennial herb. Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. Elevations: 230-2,660ft. (70-810m.) Blooms Feb-Jul(Sep).	Not Expected	Potentially suitable habitat is absent from the Study Area.
Juglans californica southern California black walnut	None/None G4/S4 4.2	Perennial deciduous tree. Chaparral, cismontane woodland, coastal scrub, riparian woodland. Slopes, canyons, alluvial habitats. Elevations: 165-2,955ft. (50-900m.) Blooms Mar-Aug.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Juncus acutus ssp. *leopoldii* southwestern spiny rush	None/None G5T5/S4 4.2	Perennial rhizomatous herb. Coastal dunes, marshes and swamps, meadows and seeps. Moist saline places. Elevations: 10-2,955ft. (3-900m.) Blooms (Mar)May-Jun.	Low Potential	Marginally suitable sandy, moist soils occurs in the bed of the Revolon Slough. However, This is a conspicuous perennial species that would have been identifiable during the field survey, and was not observed.
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	None/None G4T2/S2 1B.1	Annual herb. Marshes and swamps, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. Elevations: 5-4,005ft. (1-1,220m.) Blooms Feb-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Lepechinia fragrans fragrant pitcher sage	None/None G3/S3 4.2	Perennial shrub. Chaparral. Elevations: 65-4,300ft. (20-1,310m.) Blooms Mar-Oct.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Lepidium virginicum var. *robinsonii* Robinson's pepper-grass	None/None G5T3/S3 4.3	Annual herb. Chaparral, coastal scrub. Dry soils, shrubland. 4-. Elevations: 5-2,905ft. (1-885m.) Blooms Jan-Jul.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Lilium humboldtii ssp. *ocellatum* ocellated humboldt lily	None/None G4T4?/S4? 4.2	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland. Yellow-pine forest or openings, oak canyons. Elevations: 100-5,905ft. (30-1,800m.) Blooms Mar-Jul(Aug).	Not Expected	Potentially suitable habitat is absent from the Study Area.
Lupinus paynei Payne's bush lupine	None/None G1Q/S1 1B.1	Perennial shrub. Coastal scrub, riparian scrub, valley and foothill grassland. Sandy. Elevations: 720-1,380ft. (220-420m.) Blooms Mar-Apr(May-Jul).	Not Expected	The Study Area is outside the known elevation range for the species.
Malacothrix similis Mexican malacothrix	None/None G2G3/SH 2A	Annual herb. Coastal dunes. Elevations: 0-130ft. (0-40m.) Blooms Apr-May.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Monardella hypoleuca ssp. *hypoleuca* white-veined monardella	None/None G4T3/S3 1B.3	Perennial herb. Chaparral, cismontane woodland. Dry slopes. Elevations: 165-5,005ft. (50-1,525m.) Blooms (Apr)May-Aug(Sep-Dec).	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Monardella sinuata ssp. *gerryi* Gerry's curly-leaved monardella	None/None G3T1/S1 1B.1	Annual herb. Coastal scrub. Sandy openings. Elevations: 490-805ft. (150-245m.) Blooms Apr-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Nasturtium [Rorippa] gambelii Gambel's water cress	FE/SCE G1/S1 1B.1	Perennial rhizomatous herb. Marshes and swamps. Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. Elevations: 15-1,085 ft. (5-330 m.) Blooms Apr-Oct.	Not Expected	Marginally suitable aquatic habitat occurs in the bed of the Revolon Slough. However, this is a conspicuous perennial species that would have been identifiable during the field survey, and was not observed. Additionally, the species has not been documented within Ventura County.
Navarretia fossalis spreading navarretia	FE/SCE G1/S1 1B.1	Annual herb. Chenopod scrub, marshes and swamps, playas, vernal pools. San Diego hardpan and San Diego claypan vernal pools; in swales and vernal pools, often surrounded by other habitat types. Elevations: 100-2,150 ft. (30-655 m.) Blooms Apr-Jun.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Navarretia ojaiensis Ojai navarretia	None/None G2/S2 1B.1	Annual herb. Chaparral, coastal scrub, valley and foothill grassland. Openings in shrublands or grasslands. Elevations: 900-2035ft. (275-620m.) Blooms May-Jul.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Orcuttia californica California Orcutt grass	FE/SCE G1/S1 1B.1	Annual herb. Vernal pools. Elevations: 50-2165 ft. (15-660 m.) Blooms Apr-Aug.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Pelazoneuron puberulum var. *sonorense* Sonoran maiden fern	None/None G5T3/S2 2B.2	Perennial herb. Meadows and seeps. Along streams, seepage areas. 50-610m. Blooms Jan-Sep.	Low Potential	Marginally suitable aquatic habitat occurs in the bed of the Revolon Slough. However, this is a conspicuous perennial species that would have been identifiable during the field survey, and was not observed.
Pentachaeta lyonii Lyon's pentachaeta	FE/SE G1/S1 1B.1	Annual herb. Chaparral, coastal scrub, valley and foothill grassland. Edges of clearings in chaparral, usually at the ecotone between grassland and chaparral or edges of firebreaks. Elevations: 100-2,265ft. (30-690m.) Blooms (Feb)Mar-Aug.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Phacelia hubbyi Hubby's phacelia	None/None G4/S4 4.2	Annual herb. Chaparral, coastal scrub, valley and foothill grassland. Gravelly, rocky areas and talus slopes. Elevations: 0-3280ft. (0-1000m.) Blooms Apr-Jul.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Piperia michaelii Michael's rein orchid	None/None G3/S3 4.2	Perennial herb. Chaparral, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal scrub, lower montane coniferous forest. Mudstone and humus, generally dry sites. Elevations: 10-3000ft. (3-915m.) Blooms Apr-Aug.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Polygala cornuta var. *fishiae* Fish's milkwort	None/None G5T4/S4 4.3	Perennial deciduous shrub. Chaparral, cismontane woodland, riparian woodland. Scree slopes, brushy ridges, and along creeks; often with oaks. Elevations: 330-3,280ft. (100-1,000m.) Blooms May-Aug.	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Pseudognaphalium leucocephalum white rabbit-tobacco	None/None G4/S2 2B.2	Perennial herb. Chaparral, cismontane woodland, coastal scrub, riparian woodland. Sandy, gravelly sites. Elevations: 0-6,890ft. (0-2100m.) Blooms (Jul)Aug-Nov(Dec).	Low Potential	Marginally suitable sandy soils and riparian habitat occurs in the bed of the Revolon Slough. However, this is a conspicuous perennial species that would have been identifiable during the field survey, and was not observed.
Quercus dumosa Nuttall's scrub oak	None/None G3/S3 1B.1	Perennial evergreen shrub. Chaparral, closed-cone coniferous forest, coastal scrub. Generally on sandy soils near the coast; sometimes on clay loam. Elevations: 50-1310ft. (15-400m.) Blooms Feb-Apr(May-Aug).	Not Expected	Potentially suitable habitat is absent from the Study Area.
Senecio aphanactis chaparral ragwort	None/None G3/S2 2B.2	Annual herb. Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. Elevations: 50-2625ft. (15-800m.) Blooms Jan-Apr(May).	Not Expected	Potentially suitable habitat is absent from the Study Area.
Suaeda californica California seablite	FE/None G1/S1 1B.1	Perennial evergreen shrub. Marshes and swamps. Margins of coastal salt marshes. Elevations: 0-50ft. (0-15m.) Blooms Jul-Oct.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Suaeda esteroa estuary seablite	None/None G3/S2 1B.2	Perennial herb. Marshes and swamps. Coastal salt marshes in clay, silt, and sand substrates. Elevations: 0-15ft. (0-5m.) Blooms (Jan-May)Jul-Oct.	Not Expected	Potentially suitable habitat is absent from the Study Area.

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Suaeda taxifolia woolly seablite	None/None G4/S4 4.2	Perennial evergreen shrub. Coastal bluff scrub, coastal dunes, marshes and swamps. Margins of salt marshes. Elevations: 0-165ft. (0-50m.) Blooms Jan-Dec.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Texosporium sancti-jacobi woven-spored lichen	None/None G3/S2 3	Crustose lichen (terricolous). Chaparral. Open sites; in California with Adenostoma fasciculatum, Eriogonum, Selaginella. Found on soil, small mammal pellets, dead twigs, and on Selaginella. Elevations: 195-2,165ft. (60-660m.)	Not Expected	Potentially suitable habitat is absent from the Study Area. Additionally, the Study Area is outside the known elevation range for the species.
Tortula californica California screw moss	None/None G2G3/S2? 1B.2	Moss. Chenopod scrub, valley and foothill grassland. Moss growing on sandy soil. Elevations: 35-4,790ft. (10-1,460m.)	Not Expected	Potentially suitable habitat is absent from the Study Area.
Invertebrates				
Bombus crotchii Crotch bumble bee	None/SCE G2/S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Not Expected	Potentially suitable habitat is absent from the Study Area. The Study Area consists of paved and unpaved roadways, agriculture, ornamental landscaping, and the concrete-lined Revolon Slough, which do not provide potentially suitable habitat for the species.
Branchinecta lynchi vernal pool fairy shrimp	None/SCE G2/S2	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Not Expected	Potentially suitable aquatic habitat is absent from the Study Area.
Danaus plexippus plexippus pop. 1 monarch - California overwintering population	FC/None G4T1T2Q/S2	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Low Potential (transient)	The windrow of eucalyptus trees (i.e., the eucalyptus groves vegetation community) occurring in the western portion of the Study Area does not provide suitable roosting habitat for monarch butterflies, as these trees are in a single row and are not wind-protected. However, this species may occur as a transient during migration between patches of suitable habitat.
Streptocephalus woottoni Riverside fairy shrimp	FE/None G1G2/S1S2	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	Not Expected	Potentially suitable aquatic habitat is absent from the Study Area.
Fish				
Catostomus santaanae Santa Ana sucker	FT/None G1/S1	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	Low Potential	Low-quality aquatic habitat occurs in the bed of the Revolon Slough. The Revolon Slough is a concrete-lined stream with some sandy sediment accumulation in the bed of the stream. However, this drainage lacks rubble or boulders and algae. Additionally, there are no documented CNDDB occurrences of this species in the Revolon Slough.
Eucyclogobius newberryi tidewater goby	FE/None G3/S3	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Not Expected	Brackish water habitats are absent from the Study Area.
Gasterosteus aculeatus williamsoni unarmored threespine stickleback	FE/SE G5T1/S1 FP	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small Southern California streams. Cool (<24 C), clear water with abundant vegetation.	Not Expected	Potentially suitable aquatic habitat is absent from the Study Area. The Revolon Slough is sparsely vegetated with herbaceous plant species, and is fully concrete-lined.
Gila orcuttii arroyo chub	None/None G2/S2 SSC	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	Moderate Potential	Low- to moderate- quality habitat aquatic habitat occurs in the bed of the Revolon Slough. The Revolon Slough in the Study Area is concrete-lined and has little aquatic vegetation. Suitable habitat occurs downstream where the Revolon Slough is not concrete-lined. This species is documented in the CNDDB in the Revolon Slough approximately 1.75 miles south of the Study Area (CNDDB Occurrence No. 39).
Oncorhynchus mykiss irideus pop. 10 steelhead - southern California DPS	FE/SCE G5T1Q/S1	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	Not Expected	The Revolon Slough within the Study Area does not provide suitable habitat for this species, as the creek is entirely concrete-lined with some sand accumulation and limited riparian vegetation. Additionally, steelhead are not known to occur in the Revolon Slough, and the Revolon Slough is not considered critical habitat for the species.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Amphibians				
Anaxyrus californicus arroyo toad	FE/None G2G3/S2 SSC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	Low Potential	Low-quality aquatic habitat occurs in the bed of the Revolon Slough. The Revolon Slough is a concrete-lined stream with some sandy sediment accumulation in the bed of the stream. However, this drainage lacks rubble or boulders and algae. Additionally, there are no documented CNDDB occurrences of this species in the Revolon Slough.
Rana boylii pop. 6 foothill yellow-legged frog - south coast DPS	Proposed Endangered SE G3T1/S1	Southern Coast Ranges from Monterey Bay south through San Gabriel Mountains; west of the Salinas River in Monterey Co, south through Transverse Ranges, and east through San Gabriel Mountains. Historically may have ranged to Baja California. Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.	Not Expected	Potentially suitable aquatic habitat is absent from the Study Area. The Revolon Slough consists of a concrete-lined drainage feature with some sandy sediment accumulation in the Study Area. Rocky substrate does not occur within the Revolon Slough in the Study Area. Additionally, the only CNDDB occurrence for this species is more than 15 miles northwest of the Study Area, and this occurrence is likely extirpated (CNDDB Occurrence No. 60).
Rana draytonii California red-legged frog	FT/None G2G3/S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Not Expected	Potentially suitable aquatic habitat is absent from the Study Area. The Revolon Slough is sparsely vegetated with herbaceous plant species, is fully concrete-lined, and only provides shallow (less than one foot in depth) water sources.
Spea hammondii western spadefoot	None/None G2G3/S3S4 SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Not Expected	Grasslands, valley-foothill hardwood woodlands, and vernal pools are absent from the Study Area.
Taricha torosa Coast Range newt	None/None G4/S4 SSC	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over 1 km to breed in ponds, reservoirs and slow moving streams.	Not Expected	Ponds and reservoirs are absent from the Study Area. The Revolon Slough is a fully concrete-lined drainage with little vegetation. The remainder of the Study Area is highly anthropomorphized and does not contain suitable habitat.
Reptiles				
Anniella spp. California legless lizard	None/None G3G4/S3S4 SSC	Contra Costa County south to San Diego, within a variety of open habitats.This element represents California records of Anniella not yet assigned to new species within the Anniella pulchra complex. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Not Expected	Potentially suitable habitat is absent from the Study Area. The majority of the Study Area is consists of active agriculture and paved and unpaved roadways. The only portion of the Study Area containing moist, loose soils occurs in patches of sandy sediment that has accumulated in the entirely concrete-lined Revolon Slough. However, these areas are patchy in distribution and are subject to frequent change depending on flow velocities in the Revolon Slough. Additionally, the CNDDB does not document any occurrences of this species in the Revolon Slough. The closest CNDDB occurrence is more than five miles northwest in Calleguas Creek (CNDDB Occurrence No. 7).
Anniella stebbinsi Southern California legless lizard	None/None G3/S3 SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Not Expected	Potentially suitable habitat is absent from the Study Area. The majority of the Study Area is consists of active agriculture and paved and unpaved roadways. The only portion of the Study Area containing moist, loose soils occurs in patches of sandy sediment that has accumulated in the entirely concrete-lined Revolon Slough. However, these areas are patchy in distribution and are subject to frequent change depending on flow velocities in the Revolon Slough. Additionally, the CNDDB does not document any occurrences of this species in the Revolon Slough. The closest CNDDB occurrence is more than 3.5 miles southeast in the Santa Monica Mountains (CNDDB Occurrence No. 95).
Arizona elegans occidentalis California glossy snake	None/None G5T2/S2 SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	Not Expected	Scrub and grassland habitats are absent from the Study Area.
Aspidoscelis tigris stejnegeri coastal whiptail	None/None G5T5/S3 SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	Not Expected	Potentially suitable habitat is absent from the Study Area. The Revolon Slough is a fully concrete-lined drainage with some sandy sediment accumulation. The closest CNDDB occurrence is documented approximately seven miles southeast of the study area near La Jolla Canyon. This species has not been documented in the Revolon Slough.
Emys marmorata western pond turtle	None/None G3G4/S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Low Potential	Low-quality aquatic habitat occurs in the bed of the Revolon Slough in the Study Area. While the Revolon Slough provides permanent sources of fresh water, the slough is a fully concrete-lined drainage with some sandy sediment accumulation, and is bound by the vertical concrete banks. The closest CNDDB occurrence is documented approximately 2.4 miles north of the Study Area in the Revolon Slough (CNDDB Occurrence No. 1248).
Phrynosoma blainvillii coast horned lizard	None/None G4/S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Low Potential	Potentially suitable open areas with loose soils occur in the bed of the Revolon Slough. However, the portion of the Revolon Slough in the Study Area is fully concrete-lined and generally lacks vegetation for cover. The closest CNDDB occurrence is more than six miles northeast (CNDDB Occurrence No. 733).

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Salvadora hexalepis virgultea coast patch-nosed snake	None/None G5T4/S3 SSC	Brushy or shrubby vegetation in coastal Southern California. Require small mammal burrows for refuge and overwintering sites.	Not Expected	Brushy or shrubby vegetation is absent from the Study Area.
Thamnophis hammondii two-striped gartersnake	None/None G4/S3S4 SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Low Potential	Although the Revolon Slough provides permanent sources of fresh water, the drainage is fully concrete-lined with little riparian growth and no rocky substrate. This species has not been previously documented by the CNDDB in the Revolon Slough.
Thamnophis sirtalis pop. 1 south coast gartersnake	None/None G5T1T2/S1S2 SSC	Southern California coastal plain from Ventura County to San Diego County, and from sea level to about 850 m. Marsh and upland habitats near permanent water with good strips of riparian vegetation.	Low Potential	Although the Revolon Slough provides permanent sources of fresh water, the drainage is fully concrete-lined with little riparian growth and no rocky substrate. This species has not been previously documented by the CNDDB in the Revolon Slough.
Birds				
Agelaius tricolor tricolored blackbird	None/ST G1G2/S2 SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Not Expected	Suitable nesting (i.e., expansive bulrush [*Schoenoplectus* spp.] and/or cattail [*Typha* spp.] marshes) and foraging (open water with insect prey) habitat for this colonial species does not occur in the Study Area.
Aquila chrysaetos golden eagle	None/None G5/S3 FP WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Not Expected	Suitable nesting and foraging habitat are absent from the Study Area.
Athene cunicularia burrowing owl	None/None G4/S2 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Not Expected	Open grassland, scrubland, and desert habitats are absent from the Study Area. Additionally, potential burrowing owl burrows were not observed within the Study Area during the field survey.
Brachyramphus marmoratus marbled murrelet	FT/SE G3/S2	Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	Not Expected	Potentially suitable habitat is absent from the Study Area.
Buteo regalis ferruginous hawk	None/None G4/S3S4 WL	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	Not Expected	Suitable grassland, sagebrush flats, desert scrub, and pinyon and juniper woodland habitat are absent from the study area.
Charadrius nivosus nivosus western snowy plover	FT/None G3T3/S3 SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Not Expected	Suitable coastal habitat is absent from the Study Area.
Coccyzus americanus occidentalis western yellow-billed cuckoo	FT/SE G5T2T3/S1	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Not Expected	Suitable riparian habitat is absent from the Study Area. The Revolon Slough does not support shrub or tree riparian species, and only contains scattered herbaceous vegetation.
Elanus leucurus white-tailed kite	None/None G5/S3S4 FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Low Potential (nesting)	Potentially suitable foraging habitat is absent from the Study Area. The ornamental trees (e.g., blue gum eucalyptus, black cottonwood) along Laguna Road may provide low-quality nesting habitat.
Empidonax traillii extimus southwestern willow flycatcher	FE/SE G5T2/S3	Riparian woodlands in Southern California.	Not Expected	Suitable riparian habitat is absent from the Study Area. The Revolon Slough does not support shrub or tree riparian species, and only contains scattered herbaceous vegetation.
Eremophila alpestris actia California horned lark	None/None G5T4Q/S4 WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Low Potential	Potentially suitable habitat occurs in the agricultural land surrounding the Study Area. However, this land is actively used, and is not considered fallow. Therefore, habitat suitability is low.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Gymnogyps californianus California condor	FE/SE G1/S2 FP	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	Not Expected	Potentially suitable nesting and foraging habitat is absent from the Study Area.
Laterallus jamaicensis coturniculus California black rail	None/ST G3T1/S2 FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Not Expected	Freshwater marsh, wet meadow, and saltwater marsh habitat is absent from the Study Area.
Passerculus sandwichensis beldingi Belding's savannah sparrow	None/SE G5T3/S3	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County. Nests in Salicornia on and about margins of tidal flats.	Not Expected	Coastal salt marsh habitat is absent from the Study Area.
Polioptila californica californica coastal California gnatcatcher	FT/None G4G5T3Q/S2 SSC	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	Not Expected	Coastal sage scrub habitat is absent from the Study Area.
Rallus obsoletus levipes light-footed Ridgway's rail	FE/SE G3T1T2/S1 FP	Found in salt marshes traversed by tidal sloughs, where cordgrass and pickleweed are the dominant vegetation. Requires dense growth of either pickleweed or cordgrass for nesting or escape cover; feeds on molluscs and crustaceans.	Not Expected	Coastal salt marsh habitat is absent from the Study Area.
Riparia riparia bank swallow	None/ST G5/S3	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Not Expected	Vertical banks with fine-textured soils are absent from the Study Area. The banks of the Revolon Slough are entirely concrete-lined.
Setophaga petechia yellow warbler	None/None G5/S3 SSC	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Not Expected	Suitable riparian habitat is absent from the Study Area. The Revolon Slough does not support shrub or tree riparian species, and only contains scattered herbaceous vegetation.
Sternula antillarum browni California least tern	FE/SE G4T2T3Q/S2 FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, land fills, or paved areas.	Not Expected	Suitable coastal habitat is absent from the Study Area.
Vireo bellii pusillus least Bell's vireo	FE/SE G5T2/S3	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	Not Expected	Suitable riparian habitat is absent from the Study Area. The Revolon Slough does not support shrub or tree riparian species, and only contains scattered herbaceous vegetation.
Mammals				
Antrozous pallidus pallid bat	None/None G4/S3 SSC	Found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees which must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low Potential	The Study Area does not contain grassland, shrubland, woodland, or forest habitat to support this species, and the Study Area is frequently disturbed by human activity; therefore, roosting is not expected. The Laguna Road bridge may provide suitable habitat for this species. However, no bats or evidence of bat roosting (e.g., guano) was observed during the field survey.
Microtus californicus stephensi south coast marsh vole	None/None G5T2T3/S2 SSC	Occurs in tidal marshes of Orange, Los Angeles, and Ventura Counties.	Not Expected	Tidal marsh habitat is absent from the Study Area.
Neotoma lepida intermedia San Diego desert woodrat	None/None G5T3T4/S3S4 SSC	Occurs in scrub habitats of southern California from San Luis Obispo County to San Diego County.	Not Expected	Scrub habitats are absent from the Study Area.
Sorex ornatus salicornicus southern California saltmarsh shrew	None/None G5T1?/S1 SSC	Coastal marshes in Los Angeles, Orange and Ventura counties. Requires dense vegetation and woody debris for cover.	Not Expected	Coastal marsh habitat is absent from the Study Area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Project Area	Habitat Suitability/Observations
Taxidea taxus American badger	None/None G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not Expected	Open shrub, forest, and herbaceous habitats with friable soils are absent from the Study Area.

Regional Vicinity refers to within a 9-quad search radius of site.

Status (Federal/State)

FE = Federal Endangered
FT = Federal Threatened
FPE = Federal Proposed Endangered
FPT = Federal Proposed Threatened
FD = Federal Delisted
FC = Federal Candidate
SE = State Endangered
ST = State Threatened
SCE = State Candidate Endangered
SCT = State Candidate Threatened
SR = State Rare
SD = State Delisted
SSC = CDFW Species of Special Concern
FP = CDFW Fully Protected
WL = CDFW Watch List

Other Statuses

G1 or S1 Critically Imperiled Globally or Subnationally (state)
G2 or S2 Imperiled Globally or Subnationally (state)
G3 or S3 Vulnerable to extirpation or extinction Globally or Subnationally (state)
G4/5 or S4/5 Apparently secure, common and abundant
GH or SH Possibly Extirpated – missing; known from only historical occurrences but still some hope of rediscovery

Additional notations may be provided as follows

T – Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)
Q – Questionable taxonomy that may reduce conservation priority
? – Inexact numeric rank

CRPR (CNPS California Rare Plant Rank)

1A = Presumed extirpated in California, and rare or extinct elsewhere
1B = Rare, Threatened, or Endangered in California and elsewhere
2A = Presumed extirpated in California, but common elsewhere
2B= Rare, Threatened, or Endangered in California, but more common elsewhere
3 = Need more information (Review List)
4 = Limited Distribution (Watch List)

CRPR Threat Code Extension

.1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)
.2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)
.3 = Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)

Attachment 6

Unofficial Information for Planning and Consultation Species List

IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

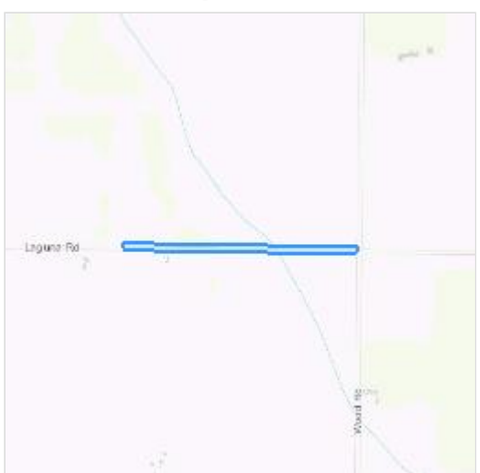
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Ventura County, California



Local office

Ventura Fish And Wildlife Office

(805) 644-1766
(805) 644-3958
FW8VenturaSection7@FWS.Gov

2493 Portola Road, Suite B
Ventura, CA 93003-7726

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
California Condor Gymnogyps californianus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8193	Endangered
Coastal California Gnatcatcher Polioptila californica californica Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo Vireo bellii pusillus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered
Marbled Murrelet Brachyramphus marmoratus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4467	Threatened
Southwestern Willow Flycatcher Empidonax traillii extimus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6749	Endangered

Yellow-billed Cuckoo Coccyzus americanus — Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/3911

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found	Candidate

No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/9743

Crustaceans

NAME	STATUS
Riverside Fairy Shrimp Streptocephalus woottoni Wherever found	Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/8148

Vernal Pool Fairy Shrimp Branchinecta lynchi — Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/498

Flowering Plants

NAME	STATUS

California Orcutt Grass Orcuttia californica — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4923

Gambel's Watercress Rorippa gambellii — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4201

Marsh Sandwort Arenaria paludicola — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/2229

Spreading Navarretia Navarretia fossalis — Threatened
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/1334

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

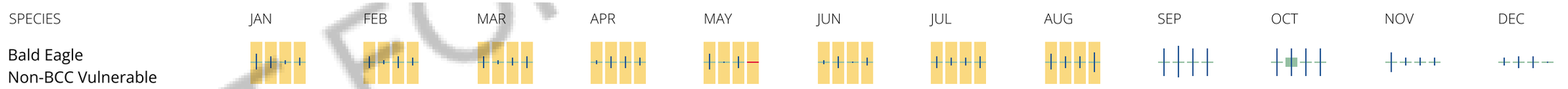
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

▪ probability of presence ▪ breeding season | survey effort – no data



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/ documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow Passerculus sandwichensis beldingi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15

Bullock's Oriole Icterus bullockii — Breeds Mar 21 to Jul 25
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

California Gull Larus californicus — Breeds Mar 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Marbled Godwit Limosa fedoa — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Western Grebe aechmophorus occidentalis — Breeds Jun 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/6743

Willet Tringa semipalmata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

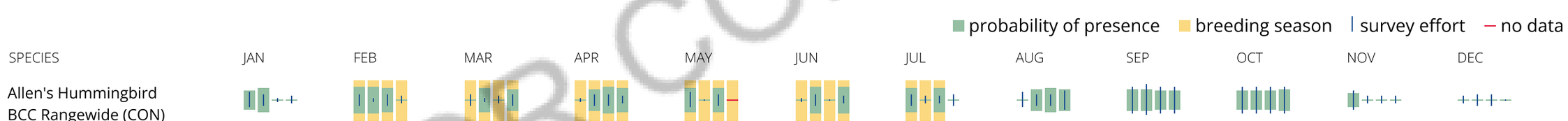
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

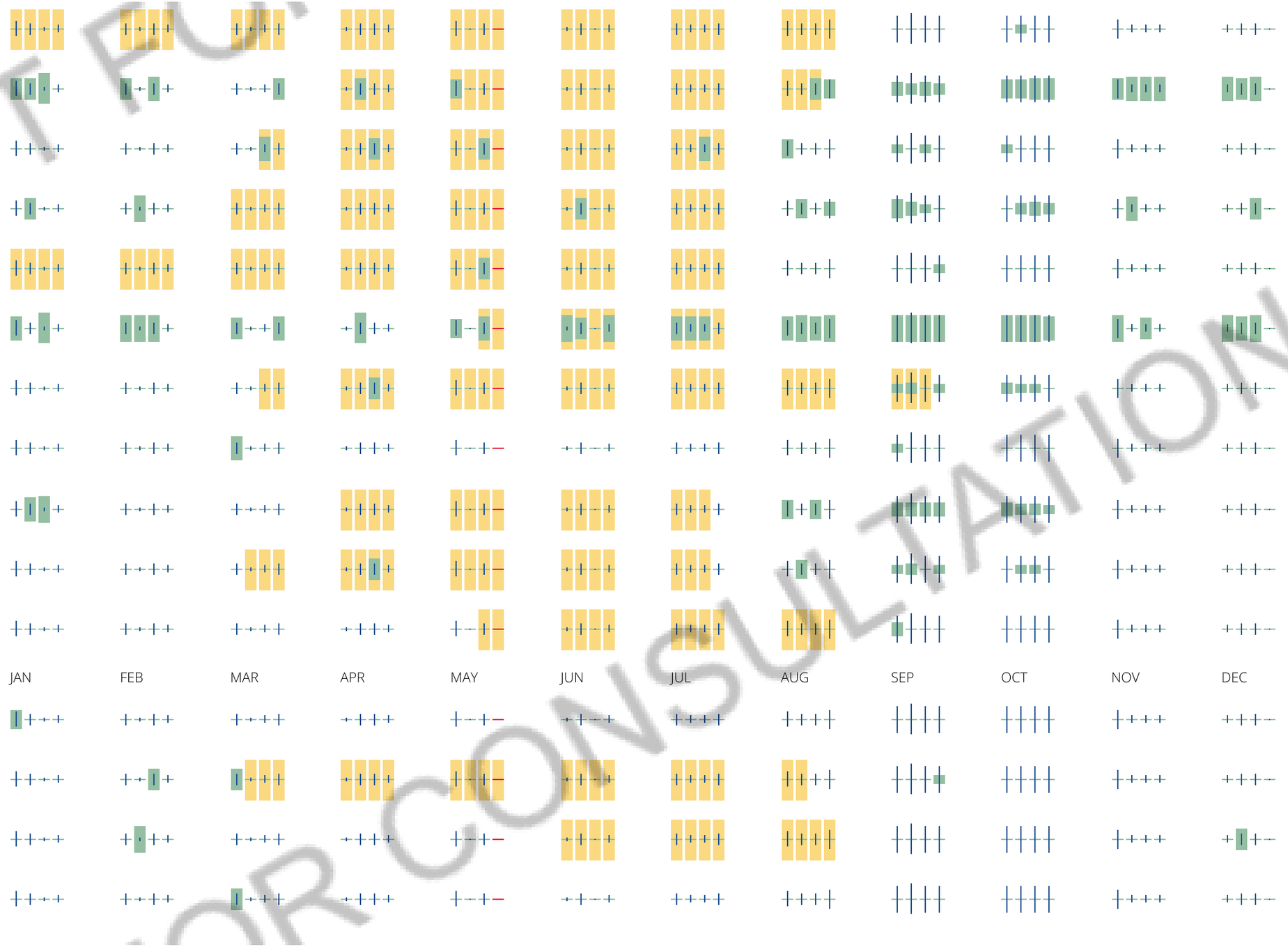
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Wrentit
BCC Rangewide (CON)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

PEM1Ax

RIVERINE

R4SBCx

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C

Cultural Resources Assessment

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003
805-644-4455

April 9, 2024
Project No: 23-14328

Zachary Hanson, Ph.D., P.E., Water Resources Engineer
United Water Conservation District
1701 North Lombard Street, Suite #200
Oxnard, California 93030
Via email: zhanson@unitedwater.org

Subject: Cultural Resources Assessment for the Pumping Trough Pipeline Recycled Water Connection – Laguna Road Pipeline Project, Unincorporated Ventura County, California

Dear Dr. Hanson:

United Water Conservation District (United) retained Rincon Consultants, Inc. (Rincon) to conduct a cultural resources assessment for the Pumping Trough Pipeline (PTP) Recycled Water Connection – Laguna Road Pipeline Project (project) in support of an Initial Study – Mitigated Negative Declaration (IS-MND) being prepared pursuant to the California Environmental Quality Act (CEQA). The project proposes the construction of a new recycled water pipeline, as well as a pump station with associated piping. This cultural resources assessment summarizes the methods and results of a cultural resources records search through the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC), a Sacred Lands File (SLF) search conducted by the California Native American Heritage Commission (NAHC), archival and background research, and a pedestrian survey. United is the lead agency under CEQA.

Project Site and Description

The project site is located in unincorporated Ventura County, south of Camarillo and east of Oxnard. Specifically, the project encompasses portions of Sections 8, 9, 16, and 17 of Township 1 North, Range 21 West on the *Camarillo*, *California* United States Geological Survey (USGS) 7.5-minute topographic quadrangle (Attachment 1, Figure 1). The proposed project alignment extends along or directly north of Laguna Road, which is approximately 1.7 miles east of State Route (SR) 1 and 1.4 miles south of SR 34 (Attachment 1, Figure 2). Two possible pipeline alignments are proposed. The North Alignment Alternative would be constructed within privately-owned agricultural land north of Laguna Road. The Roadway Alignment Alternative would be constructed along Laguna Road within the public right-of-way.

The purpose of the project is to enable the transfer of recycled water supplies from the recently-approved Pleasant Valley County Water District (PVCWD) Groundwater Sustainability Improvement Program pipeline to United's PTP System. The project would involve the construction of approximately 3,000 linear-feet of new 24-inch inside diameter water pipeline along Laguna Road, as well as distribution blow-off infrastructure and a pump station with associated piping. Construction would occur in two phases, with pipeline construction occurring in Phase 1 and pumpstation construction occurring in Phase 2.

The proposed pipeline would extend from Wood Road on the east to approximately 1 mile east of East Pleasant Valley Road on the west. The proposed pipeline alignment would cross Revolon Slough via a pipe bridge parallel to the Laguna Road Bridge, or via trenchless pipeline installation such as auger

boring or horizontal directional drilling underneath the slough. The installation of the pipe bridge would not directly alter either the adjacent Laguna Road Bridge or the Revolon Slough channel. The pump station would increase pressure to facilitate flow from the PVCWD system to United's PTP System. The pump station would be constructed at the northwest corner of the intersection of Laguna Road and Wood Road in an area that contains an existing well.

The project would include construction of two distribution blow-offs, which would allow for discharge of pipeline water from the proposed pipeline and pump station into Revolon Slough during emergency or maintenance operations where dewatering of the pipeline and/or pump station is required. In Phase 1 of construction, a distribution blow-off would be constructed near the intersection of Laguna Road and Revolon Slough. In Phase 2 of construction, an additional blow-off would be constructed as part of the proposed pump station. The maximum depth of ground disturbance would not exceed 13 feet below the ground surface during open cut trench pipeline installation, or approximately 30 feet below the ground surface during trenchless pipeline installation, if this method is selected. Once installed, the proposed pipeline would connect to the recently approved PVCWD Groundwater Sustainability Improvement Program pipeline at the intersection of Wood Road and Laguna Road.

Methods

California Historical Resources Information System Records Search

On June 19, 2023, Rincon conducted an in-person CHRIS records search at the SCCIC housed at California State University, Fullerton. The SCCIC is the official state repository for cultural resources records and reports for Ventura County. The purpose of the records search was to identify previous cultural resources studies and previously recorded cultural resources within the project site and a 0.5-mile radius. Rincon also reviewed the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Historical Landmarks list, and the Built Environment Resources Directory, as well as its predecessor the California State Historic Property Data File. Additionally, Rincon reviewed the Archaeological Determination of Eligibility list.

Sacred Lands File Search and Assembly Bill 52 Request

Rincon contacted the NAHC on June 21, 2023, to request a search of the SLF as well as an Assembly Bill 52 (AB 52) specific contact list of Native Americans culturally affiliated with the project site vicinity.

Background and Archival Research

Rincon completed background and archival research in support of this study, including a review of historical topographic maps and aerial photographs. Additionally, geologic and soils maps were reviewed along with a geotechnical report. The intent of the archival research was to provide a development history of the project site and its vicinity.

Field Survey

Rincon Archaeologist Lucas Nichols conducted a pedestrian survey of the project site on September 13, 2023, using transect intervals spaced at 15 meters and oriented generally from east to west. Exposed ground surfaces were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, historical debris (e.g., metal, glass, ceramics), and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, foundations). Ground disturbances such as burrows and drainages were also visually inspected. Survey accuracy was

maintained using a handheld Global Positioning Satellite unit and a georeferenced map of the project site. Site characteristics and survey conditions were documented using field records and a digital camera. Copies of the survey notes and digital photographs are maintained at Rincon's Ventura office.

Findings

California Historical Resources Information System Records Search

Previous Cultural Resources Studies

The CHRIS records search identified four cultural resources studies that have been previously conducted within the 0.5-mile records search radius. Of these studies, two (VN-01410 and VN-02978) include the project site. These studies are discussed in further detail below.

Study VN-01410

Fred Briuer prepared *Assessment of the Archaeological Impact Revolon-Beardsley Projects* in 1975 to assess archaeological resources along the extent of the planned channelization of the Revolon Slough and Beardsley Wash (Briuer 1975). The study included a review of previous studies, identification of two previously recorded cultural resources within the 1975 study area, and a pedestrian survey. The study recommended mitigation measures for the two identified cultural resources, as well as a recommendation for the unanticipated discovery of cultural resources within the 1975 study area. The two cultural resources identified as part of the study are not located within or immediately adjacent to the current project site.

Study VN-02978

Jim Sharpe and Lori Durio of CH2M Hill prepared *Groundwater Recover Enhancement and Treatment (GREAT) Program Cultural Resources Inventory Report* in 2004 (Sharpe and Durio 2004). The study was conducted for the City of Oxnard as part of its water resources master planning process and included routes considered for water pipeline installation, and parcels identified for the construction of water treatment facilities, wells, and blending stations. The study consisted of archival and background research, a records search, an SLF search, and an intensive survey of the study area, including the entirety of the current project site. The study covers a large portion of the Oxnard Plain and includes recommended mitigation measures including avoidance of cultural resources, monitoring in areas with potential to contain archaeological resources, archaeological sensitivity training for construction personnel, and guidelines in the event of unanticipated discovery of cultural resources. No cultural resources were identified within or adjacent to the current project site as a result of the study.

Previously Recorded Cultural Resources

The CHRIS records search did not identify any previously recorded cultural resources within the project site or the 0.5-mile records search radius. Although not on file at the SCCIC, a review of the California Department of Transportation local bridge inventory identified the Laguna Road Bridge over Revolon Slough (Bridge No. 52C0146). The bridge was constructed in 1977 and has been previously determined not eligible for listing in the NRHP but has not been evaluated for inclusion in the CRHR. See Attachment 2 for the CHRIS records search results.

Sacred Lands File Search

On July 7, 2023, the NAHC responded to Rincon's AB 52 contacts and SLF request, stating the results of the SLF search were negative. These results do not constitute tribal consultation under AB 52; United, as the CEQA lead agency, is required to conduct that tribal consultation. See Attachment 3 for the NAHC response, including Tribal contacts list(s).

Background and Archival Research

Historical Topographic Map and Aerial Photograph Review

Rincon completed a review of historical topographic maps and aerial imagery to ascertain the development history of the project site. A historical topographic map from 1904 depicts Laguna Road and Revolon Slough along their current alignments, as well as two small unidentified structures east and west of Revolon Slough, directly south of Laguna Road (USGS 2023a). Aerial imagery from 1927 shows a bridge, likely constructed of earth, over Revolon Slough, and that the western structure depicted in the 1904 map has been removed (University of California Santa Barbara [UCSB] FrameFinder 2023a). A historical topographic map from 1942 and aerial imagery from 1945 indicate that the second structure had been removed and a trench has been excavated north of Laguna Road, west of Revolon Slough (UCSB FrameFinder 2023b; USGS 2023b). Additionally, the aerial imagery from 1945 shows what appears to be a larger, possibly concrete bridge across Revolon Slough and a dense row of trees along the southern shoulder of Laguna Road, within and east of Revolon Slough (UCSB FrameFinder 2023b). Aerial imagery from 1970 shows the row of trees extending along the entire southern shoulder of the Laguna Road portion of the current project site (UCSB FrameFinder 2023c). The 1978 photograph shows Revolon Slough channelized in concrete (UCSB FrameFinder 2023d).

Geologic Map Review

Geologic mapping indicates the project site is located within Holocene-age (11,650 years ago to present) alluvial deposits (map unit Qya) (Dibblee and Ehrenspeck 1990). Holocene-age alluvium was deposited during the period spanning human occupation of the region and is conducive to the natural preservation of subsurface archaeological deposits. Due to the episodic nature of alluvial sedimentation, the sudden burial of artifacts is possible, and alluvial soils have an increased likelihood of containing buried archaeological deposits (Waters 1992).

Soils Map Review

Soils mapping indicates the western half of the project site is underlain by Camarillo loam, the central portion of the project site within the Revolon Slough is bisected by Riverwash, and the eastern half of the project site is underlain by Camarillo loam and Pacheco silty clay loam. The Camarillo Series soils are formed in alluvium derived from sedimentary rocks along generally level flood plains. A typical profile of this series features a very dark grayish brown topsoil (Ap Horizon) from the surface to a depth of 7 inches, that has been disturbed and compacted by agricultural activities. The topsoil (A Horizon) extends from 7 to 17 inches below the ground surface and can be characterized as a grayish brown to very dark grayish brown friable sandy loam. An underlying B Horizon extends from 17 to 80 inches below ground surface and ranges from grayish brown, very dark grayish brown, olive brown, pale brown, light olive brown, light gray, light brownish gray, to gray and texturally can range from sandy loam, heavy loam, fine sandy clay loam, to fine sand. The soils series data sheet indicates Camarillo Series profiles exhibit a range characteristics with some having the potential for buried topsoil (California Soil Resource Lab 2006).

Riverwash consists of sandy, gravely stream channels with cobbles and boulders, that overflow during the rainy season and are seasonally dry. Due to this, these locations are subject to scouring, deposition, and removal. Some areas are devoid of vegetation while others are covered in riparian vegetation and cover (United States Department of Agriculture/Soil Conservation Service and Forest Service 1981). Given the high energy conditions and dynamic nature of this soil type, it is not conducive to the preservation of subsurface archaeological conditions.

Pacheco silty clay loam soils are also formed from alluvium derived from sedimentary rocks along generally level flood plains. A typical profile of this series features a dark gray to very dark gray topsoil (A Horizon), from the surface to a depth of 20 inches below ground surface, that has been disturbed by agricultural activities. An underlying C Horizon extends from 20 to 105 inches below ground surface and ranges from grayish brown, brown, yellowish brown, dark grayish brown, dark brown, to dark yellowish brown, clay loam (California Soil Resource Lab 2001). This series does not contain previously documented buried A horizon soils.

Geotechnical Report Review

A preliminary geotechnical report was prepared for the proposed project by Yeh and Associates, Inc. (Yeh and Associates, Inc. 2022). The report documents the drilling of four borings to depths ranging from 11.5 to 51.5 feet below the ground surface, as well as a review of previous geotechnical data for the project site. All four borings were located within the project alignment, including a boring on the east side of the Revolon Slough channel, a boring on the west side of the slough, a boring in the central portion of the western half of the project site, and a boring in the central portion of the eastern half of the project site. The borings on the sides of Revolon Slough encountered artificial fill soils to 8 and 8.5 feet, with underlying alluvial soils. The fill soils were attributed to past disturbances associated with the construction of the channelized Revolon Slough and agricultural activities. The western and eastern most borings encountered alluvial soils disturbed by agricultural activities from 3 to 5 feet below existing ground surface, with underlying alluvial sediments. No buried A horizons indicative of buried topsoil were identified during the geotechnical borings.

Summary

The archival research indicates the Holocene-age geologic units mapped at surface within the project site are conducive to the natural burial and preservation of archaeological deposits. Three soil series are mapped within the project site, with the Camarillo Soils series having the potential for buried topsoil under certain conditions. Although the geologic and soils maps suggest deposits mapped within the project site are of appropriate age and type to bury and preserve subsurface archaeological materials, the historical map and aerial review indicates the project site has been subject to numerous disturbances throughout the 20th century associated with utility installation, roadway construction, agricultural activities, and the channelization of Revolon Slough. This is supported by the geotechnical investigation prepared for the proposed project, which identified the presence of fill deposits extending from the ground surface to depths of 3 to 8.5 feet. Further, the geotechnical investigation did not identify the presence of buried topsoil horizons. Given the degree of previous disturbances and that the geotechnical testing did not identify the presence of subsurface soil horizons, the project site has low sensitivity for the presence of intact subsurface archaeological deposits.

Survey Results

The topography of the project site is generally level with substantial evidence of past ground disturbance associated with above- and below-ground utility installation, roadway construction and maintenance, agricultural activities, and the channelization of Revolon Slough (Attachment 1, Figure 3). Pavement along Laguna Road precluded inspection of ground surfaces within a portion of

the southern half of the project site; however, the majority of the project site (more than 60 percent) was clear of obstruction and visibly inspected. These areas include the northern shoulder of Laguna Road, areas adjacent to Revolon Slough comprised of dirt roads, as well as an agricultural canal and an unimproved farm road north of and parallel to Laguna Road (Attachment 1, Figure 4). Ground surfaces within these areas were partially covered by annual grasses and leaf litter but predominantly barren of vegetation, resulting in very good to complete (70 to 100 percent) ground surface visibility (Attachment 1, Figure 5 and Figure 6). Soils observed within the project site include a grayish brown sandy loam. No archaeological resources were identified during the pedestrian survey.

The project would not directly alter the existing Laguna Road Bridge (Bridge No. 52C0146) or the Revolon Slough channel, constructed in 1977 and 1978, respectively. Further, given the ubiquitous nature of these structure types, they do not likely rise to a level of significance. Therefore, no built environment resources will be impacted by the project and the two structures were not documented as part of the field survey.

Conclusions and Recommendations

The impact analysis included here is organized based on the cultural resources thresholds included in CEQA Guidelines Appendix G: Environmental Checklist Form:

a. *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?*
b. *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*
c. *Would the project disturb any human remains, including those interred outside of dedicated cemeteries?*

Threshold A broadly refers to historical resources. To more clearly differentiate between archaeological and built environment resources, analysis under Threshold A is limited to built environment resources. Archaeological resources, including those that may be considered historical resources pursuant to Section 15064.5 and those that may be considered unique archaeological resources pursuant to Section 21083.2, are considered under Threshold B.

Historical Built Environment Resources (Threshold A)

The project proposes construction of a pump station and blow-off vault, as well as the installation of a primarily underground pipeline either within the Laguna Road right-of-way or immediately north of the right-of-way within existing agricultural fields. The proposed pipeline crossing at Revolon Slough channel would be accomplished by either directional boring underneath the channel or the construction of a proposed pipe bridge across the channel. Construction of the proposed pipe bridge would not directly alter either the Laguna Road Bridge (Bridge No. 52C0146) or the Revlon Slough channel. Moreover, given the ubiquitous nature of these two types of structures, they do not rise to a level of significance. Therefore, the project would have **no impact to historical resources**.

Historical and Unique Archaeological Resources (Threshold B)

This assessment did not identify archaeological resources as a result of the records search, SLF search, or pedestrian survey. The background and archival research suggests the project has a low potential to encounter intact subsurface archaeological deposits during construction given the degree of previous disturbance and that no subsurface soil horizons were identified as a result of the geotechnical testing. Although there is low potential for encountering subsurface archaeological

deposits, in the unlikely event archaeological materials are encountered during project construction, Rincon recommends the following standard mitigation measure be implemented. With the implementation of this measure, Rincon recommends a finding of **less than significant impact with mitigation incorporated** for archaeological resources that may qualify as historical resources or unique archaeological resource pursuant to CEQA.

Recommended Measures

Unanticipated Discovery of Cultural Resources

In the event archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 50 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the resource. If the resource is determined by the qualified archaeologist to be prehistoric, then a Native American representative shall also be contacted to participate in the evaluation of the resource. If the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for CRHR eligibility shall be completed. If the resource proves to be eligible for the CRHR and significant impacts to the resource cannot be avoided via project redesign, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource, per the requirements of the California Code of Regulations (CCR) Guidelines Section 15126.4(b)(3)(C). The data recovery plan shall identify data recovery excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance. United shall review and approve the treatment plan and archaeological testing as appropriate, and the resulting documentation shall be submitted to the regional repository of the California Historical Resources Information System, per CCR Guidelines Section 15126.4(b)(3)(C).

Human Remains (Threshold C)

No human remains are known to be present within the project site. However, the discovery of human remains is always a possibility during ground disturbing activities. If human remains are unexpectedly found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be of Native American origin, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance. With adherence to existing regulations, Rincon recommends a finding of **less than significant impact** to human remains under CEQA.

Should you have any questions concerning this study, please do not hesitate to contact Rincon Senior Archaeologist Michael Vader at 619-241-9238 or email at mvader@rinconconsultants.com.

Sincerely,
Rincon Consultants, Inc.

Lucas Nichols, BA
Archaeologist/Assistant Project Manager

Michael Vader, BA
Senior Archaeologist/Project Manager

Ken Victorino, MA, RPA
Senior Principal Investigator

Attachments

Attachment 1 Figures
Attachment 2 California Historical Resources Information System Records Search
Attachment 3 Native American Heritage Commission Documents

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2023b 1942, Hueneme, CA 1:62500 topographic map. Electronic document accessed September 11, 2023, from https://ngmdb.usgs.gov/topoview/viewer/#15/34.1746/-119.1094

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2023a Flight C-104 [air photo]. 1:18,000. Frame H-21. January 1, 1927. Electronic map accessed September 11, 2023. https://mil.library.ucsb.edu/ap_indexes/FrameFinder/.

2023b Flight C-9800 [air photo]. 1:14,000. Frame 3-343. October 24, 1945. Electronic map accessed September 11, 2023. https://mil.library.ucsb.edu/ap_indexes/FrameFinder/.

2023c Flight HB-RT [air photo]. 1:12,000. Frame 3-343. December 10, 1970. Electronic map accessed September 11, 2023. https://mil.library.ucsb.edu/ap_indexes/FrameFinder/.

2023c Flight USDA-40-06111 [air photo]. 1:40,000. Frame 178-112. January 1, 1978. Electronic map accessed September 11, 2023. https://mil.library.ucsb.edu/ap_indexes/FrameFinder/.

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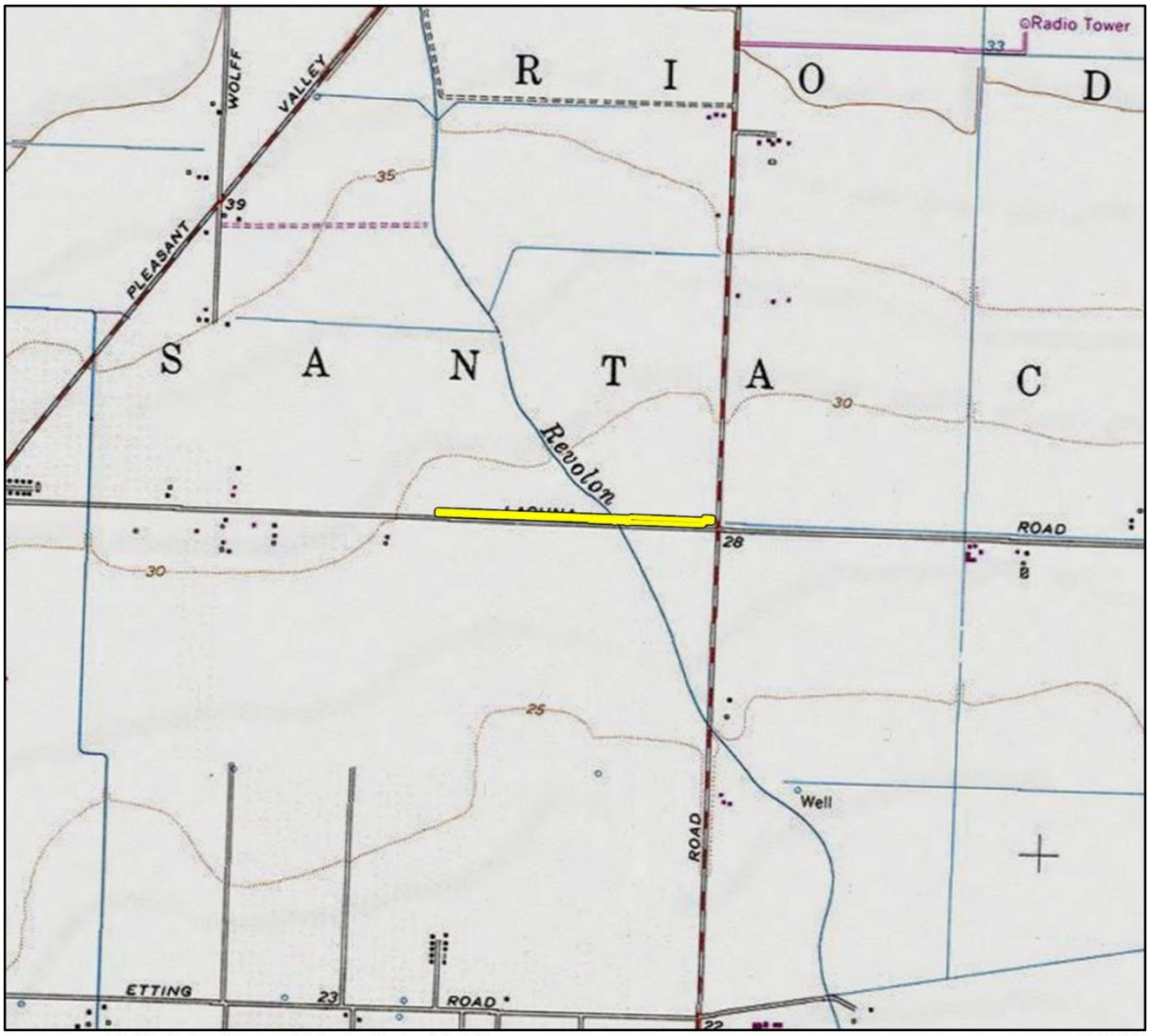
2022 Preliminary Geotechnical Report United Water Conservation District PTP Recycled Water Connection, Laguna Road Pipeline Project Oxnard, California. Yeh Project No.: 221-500

Attachment 1

Figures

Figure 1 Regional Location Map



Basemap provided by National Geographic Society, Esri and their licensors © 2023. Camarillo Quadrangle. T01N R21W S08, 09, 16, 17. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

23-14328 CR
CRFig 1 Proj Locn Map

Project Location

0 1,000 2,000 Feet

N

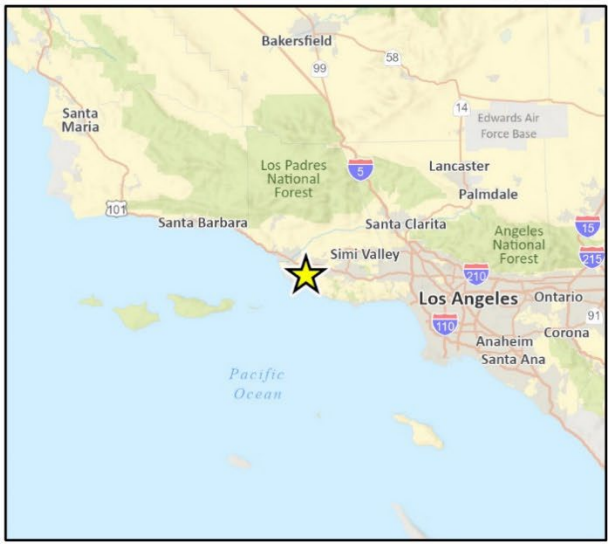
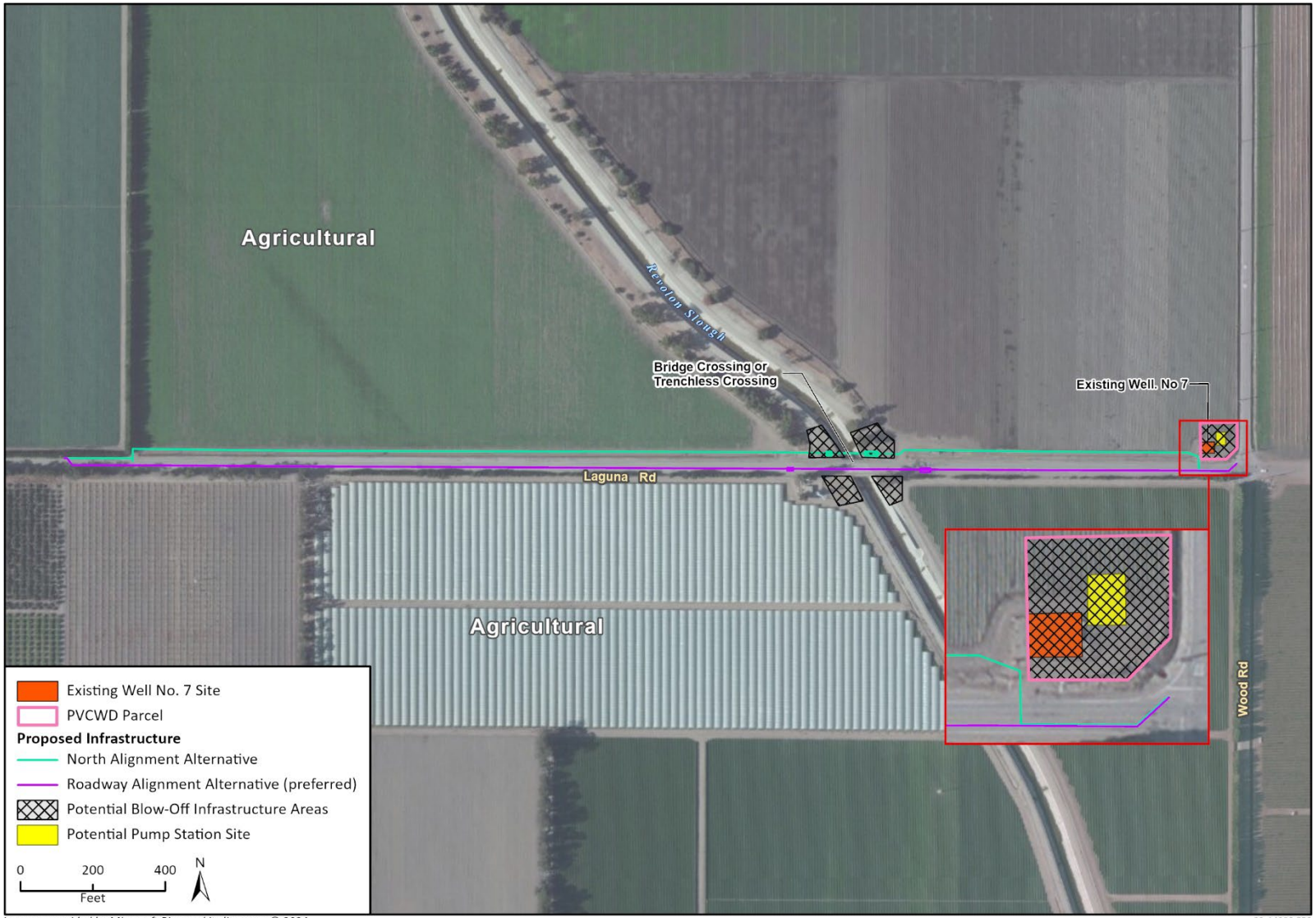


Figure 2 Project Location



Imagery provided by Microsoft Bing and its licensors © 2024.
Additional data provided by United Water Conservation District, 2023.

23-14328 EPS
Fig 2 Project Location

Figure 3 Overview of Revolon Slough on Southern Margin of Laguna Road Looking West

Figure 4 Overview of Project Site Looking East

Figure 5 Overview of Project Site Looking East

Figure 6 Overview of Project Site Looking West

Attachment 2

California Historical Resources Information System Records Search

CHRIS Information Center Records Search Data Sheet

Project Name: Laguna Road Pipeline

Project Number: 23-14328 Date: 7/19/2023

Information Center: SCCIC

Search Radius: Half Mile: X One Mile: _____ Other: _____

USGS Quadrangle: Camarillo

Public Land Survey System (PLSS): Township: 01N Range: 21W Section: 8, 9, 16, 17

County: Ventura

Previously Recorded Sites: None

Previous Studies: (4) - TWO WITHIN (VN2978 + VN1410), TWO OUTSIDE (VN491 + VN347)

National Register of Historic Places:	Copies:	Y	N
California Register of Historical Resources:	Copies:	Y	N
California Points of Historical Interest:	Copies:	Y	N
California Historical Landmarks List:	Copies:	Y	N
Archaeological Determinations of Eligibility:	Copies:	Y	N
California Historical Resources Inventory:	Copies:	Y	N

Historic Maps:

Notes:

rincon

Record Search Report Proximity Sheet

Project Name: 23-14328 Laguna Road Pipeline

Report Number	Within Project Site	Adjacent to Project Site	Outside of Project Site
VN 2978	X		
VN1410	X		
VN491			X
VN 347		~~X~~	X

Attachment 3

Native American Heritage Commission Documents

Local Government Tribal Consultation List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Type of List Requested

■ **CEQA Tribal Consultation List (AB 52)** – *Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2*

☐ **General Plan (SB 18)** - *Per Government Code § 65352.3.*

Local Action Type:

☐ **General Plan** ☐ **General Plan Element** ☐ **General Plan Amendment**

☐ **Specific Plan** ☐ **Specific Plan Amendment** ☐ **Pre-planning Outreach Activity**

Required Information

Project Title: Laguna Road Pipeline Project #23-14328

Local Government/Lead Agency: Ventura County

Contact Person: Lucas Nichols

Street Address: 319 E. Carrillo Street, Suite 105

City: Santa Barbara **Zip:** 93101

Phone: 805-947-4829 **Fax:**

Email: lnichols@rinconconsultants.com

Specific Area Subject to Proposed Action

County: Ventura **City/Community:** N/A

Project Description:

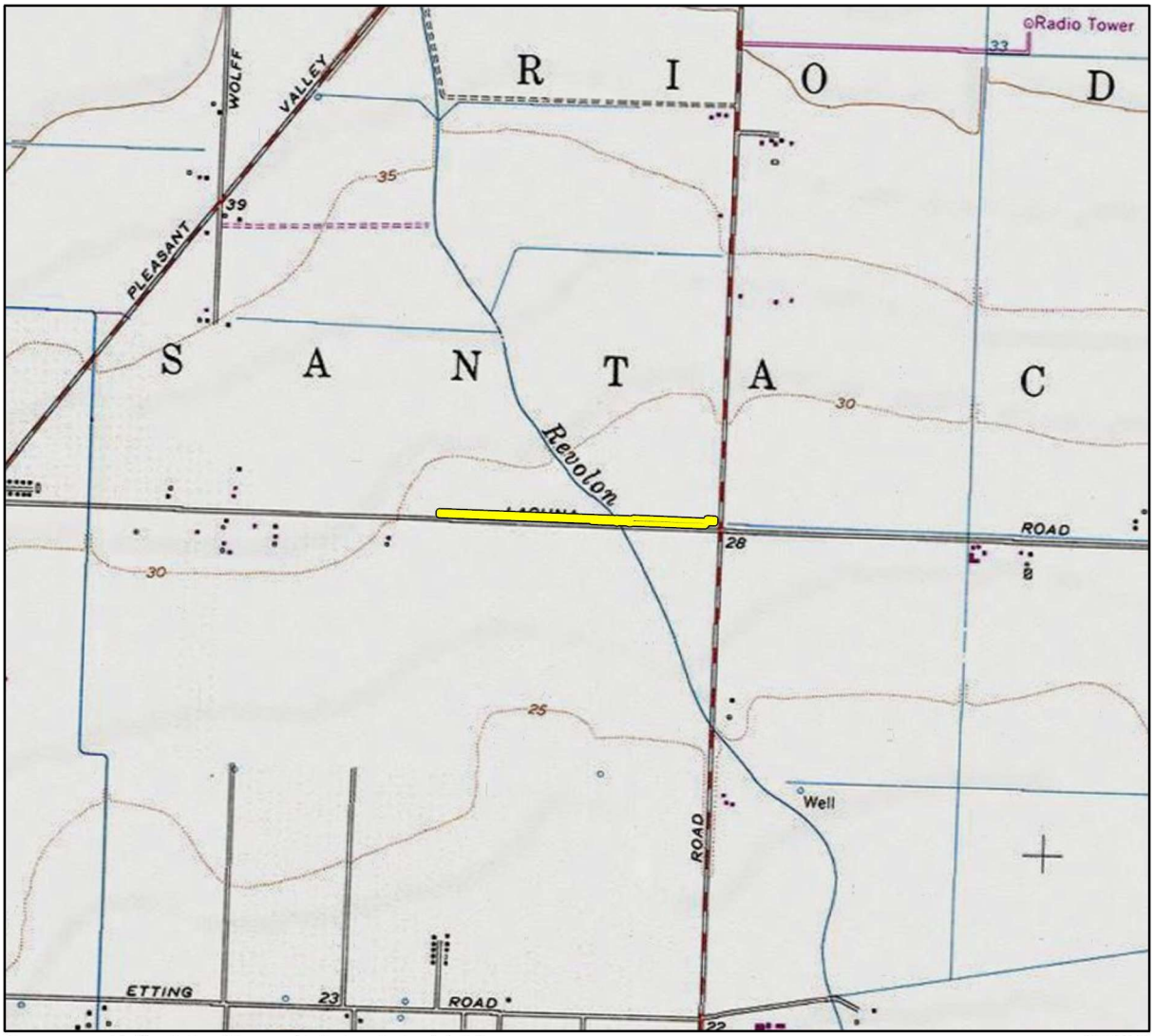
The project site is located in unincorporated Ventura County, California, south of Camarillo and east of Oxnard. The proposed project alignment would extend along Laguna Road, which is approximately 1.7 miles east of State Route (SR) 1 and 1.4 miles south of SR 34.

Additional Request

■ **Sacred Lands File Search** - *Required Information:*

USGS Quadrangle Name(s): Camarillo

Township: 01 N **Range:** 21 W **Section(s):** 08, 09, 16, 17



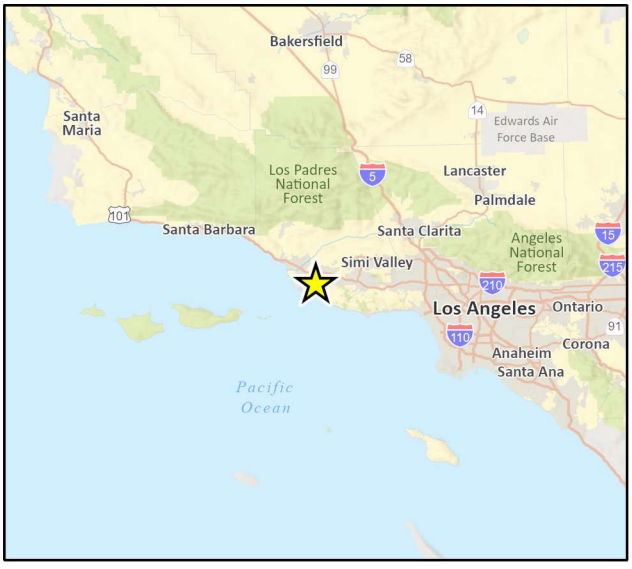
Basemap provided by National Geographic Society, Esri and their licensors © 2023. Camarillo Quadrangle. T01N R21W S08, 09, 16, 17. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

23-14328 CR
CRFig 1 Proj Locn Map

Project Location

0 1,000 2,000 Feet

N



NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

July 7, 2023

Lucas Nichols
Rincon Consultants, Inc.

Via Email to: lnichols@rinconconsultants.com

Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Laguna Road Pipeline #23-14328 Project, Ventura County

To Whom It May Concern:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

- Any report that may contain site forms, site significance, and suggested mitigation measures.

  All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person
Ventura	Barbareño/Ventureño Band of Mission Indians	N	Cultural Resource Committee,
	Chumash Council of Bakersfield	N	Julio Quair, Chairperson
	Coastal Band of the Chumash Nation	N	Gabe Frausto, Chairperson
	Gabrieleno/Tongva San Gabriel Band of Mission Indians	N	Anthony Morales, Chairperson
	Gabrielino /Tongva Nation	N	Sandonne Goad, Chairperson
	Gabrielino-Tongva Tribe	N	Charles Alvarez, Chairperson
	Gabrielino-Tongva Tribe	N	Sam Dunlap, Cultural Resource Director
	Northern Chumash Tribal Council	N	Violet Walker, Chairperson
	San Luis Obispo County Chumash Council	N	,
	Santa Ynez Band of Chumash Indians	F	Nakia Zavalla, Tribal Historic Preservation Officer
	Santa Ynez Band of Chumash Indians	F	Wendy Teeter, Cultural Resources Archaeologist

	Santa Ynez Band of Chumash Indians	F	Sam Cohen, Government & Legal Affairs Director
	Santa Ynez Band of Chumash Indians	F	Kelsie Shroll, Elders' Council Administrative Assistant

This list is current only as of the date of this document. Distribution of this list does not relieve any person of sta

This list is only applicable for consultation with Native American t

Native American Heritage Commission
Native American Contact List
Ventura County
7/7/2023

Contact Address	Phone #	Fax #	Email Address
P.O. Box 364 Ojai, CA, 93024	(805) 746-6685		CR@bvbmi.com
729 Texas Street Bakersfield, CA, 93307	(661) 322-0121		chumashtribe@sbcglobal.net
P.O. Box 40653 Santa Barbara, CA, 93140	(805) 568-8063		cbcntribalchair@gmail.com
P.O. Box 693 San Gabriel, CA, 91778	(626) 483-3564	(626) 286-1262	GTTribalcouncil@aol.com
106 1/2 Judge John Aiso St., #231 Los Angeles, CA, 90012	(951) 807-0479		sgoad@gabrielino-tongva.com
23454 Vanowen Street West Hills, CA, 91307	(310) 403-6048		Chavez1956metro@gmail.com
P.O. Box 3919 Seal Beach, CA, 90740	(909) 262-9351		tongvatcr@gmail.com
P.O. Box 6533 Los Osos, CA, 93412	(760) 549-3532		violetsagewalker@gmail.com
100 Via Juana Road Santa Ynez, CA, 93460			nzavalla@chumash.gov
100 Via Juana Road Santa Ynez, CA, 93460	(805) 325-8630		wteeter@chumash.gov

100 Via Juana Road Santa Ynez, CA, 93460			scohen@chumash.gov
100 Via Juana Road Santa Ynez, CA, 93460	(805) 245-5403		kshroll@chumash.gov

tutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources C

tribes under Public Resources Code Sections 21080.3.1 for the proposed Laguna Road Pipeline #23-14328 Project, Ventura

Cultural Affiliation	Counties	Last Updated
Chumash	Los Angeles,San Luis Obispo,Santa Barbara,Ventura	6/19/2023
Chumash	Kern,Los Angeles,San Luis Obispo,Santa Barbara,Ventura	
Chumash	Kern,Los Angeles,San Luis Obispo,Santa Barbara,Ventura	6/14/2022
Gabrieleno	Los Angeles,Orange,Riverside,San Bernardino,Ventura	
Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Ventura	3/28/2023
Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Ventura	5/30/2023
Gabrielino	Los Angeles,Orange,Riverside,San Bernardino,Ventura	5/30/2023
Chumash	Los Angeles,San Luis Obispo,Santa Barbara,Ventura	6/5/2023
Chumash	Los Angeles,San Luis Obispo,Santa Barbara,Ventura	4/8/2022
Chumash	Kern,Los Angeles,San Luis Obispo,Santa Barbara,Ventura	7/6/2023
Chumash	Kern,Los Angeles,San Luis Obispo,Santa Barbara,Ventura	7/6/2023

Chumash	Kern,Los Angeles,San Luis Obispo,Santa Barbara,Ventura	7/6/2023
Chumash	Kern,Los Angeles,San Luis Obispo,Santa Barbara,Ventura	7/6/2023

:ode and section 5097.98 of the Public Resources Code.

a County.

Record: PROJ-2023-003364
Report Type: AB52 GIS
Counties: Ventura
NAHC Group: All

From: CBCN Tribal Chair
Sent: Monday, October 2, 2023 7:40 PM
To: Tessa Lenz
Cc: afrausto@aandgconsulting805.com
Subject: Re: AB 52 Consultation Letter, Laguna Road Pipeline Project, Ventura County, California
Attachments: image001.png
image001.png

Hello Tessa,

Thank you for the information, I do not have any comments at this time. If at any time culturally sensitive resources are discovered, please contact us immediately.

Kind regards,

Kaqina'sh
Gabriel Frausto, Chairman
805-568-8063

Coastal Band of the Chumash Nation

P.O. Box 40653

Santa Barbara, CA 93140
https://coastalbandofthechumashnation.weebly.comKaqina'sh
Gabriel Frausto, Chairman
805-568-8063

Coastal Band of the Chumash Nation

P.O. Box 40653

Santa Barbara, CA 93140
https://coastalbandofthechumashnation.weebly.com

On Fri, Sep 29, 2023 at 3:39 PM Tessa Lenz <TessaL@unitedwater.org> wrote:

> Dear Honorable Chairperson Frausto:
>
> United Water Conservation District is providing the attached AB 52 consultation letter for the Laguna Road Pipeline Project. A hard copy was mailed to the address on file but return to our

SANTA YNEZ CHUMASH
TRIBAL ELDER'S COUNCIL
TO PROTECT AND PRESERVE TRIBAL ANCESTRY, TRADITIONS AND CULTURE

Santa Ynez Band of Chumash Indians
Tribal Elders' Council
P.O. Box 517 ◆ Santa Ynez ◆ CA ◆ 93460
Phone: (805)688-7997 ◆ Fax: (805)688-9578 ◆

September 20, 2023

United Water Conservation District
1701 N. Lombard St., Suite 200
Oxnard, CA 93030

Att.: Tessa Lenz, Environmental Scientist

Re: Laguna Road Pipeline Project

Dear Ms. Lenz:

Thank you for contacting the Tribal Elders' Council for the Santa Ynez Band of Chumash Indians.

At this time, the Elders' Council requests no further consultation on this project; however, we understand that as part of NHPA Section 106, we must be notified of the project.

Thank you for remembering that at one time our ancestors walked this sacred land.

Sincerely Yours,

Crystal Mendoza

Crystal Mendoza
Administrative Assistant | Cultural Resources
Santa Ynez Band of Chumash Indians | Tribal Hall
(805) 325-5537
cmendoza@chumash.gov

Appendix D

Energy Calculations

United Laguna Road Pipeline Project

Last Updated: 9/24/2023

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Tractors/Loaders/Backhoes	1	8	84	0.37	Linear Grubbing	336
Concrete/Industrial Saws	1	8	33	0.73	Linear Grubbing	260
Rollers	1	7	36	0.38	Road Repaving	107
Paving Equipment	1	8	89	0.36	Road Repaving	286
Signal Boards	1	8	6	0.82	Road Repaving	44
Bore/Drill Rigs	1	8	83	0.5	Pipeline Installation	2,985
Concrete/Industrial Saws	1	8	33	0.73	Pipeline Installation	1,733
Plate Compactors	1	8	8	0.43	Pipeline Installation	247
Air Compressors	1	8	37	0.48	Pipeline Installation	1,277
Rubber Tired Dozers	1	8	367	0.4	Pipeline Installation	9,498
Dumpers/Tenders	1	8	16	0.38	Pipeline Installation	437
Excavators	1	8	36	0.38	Pipeline Installation	984
Generator Sets	1	8	14	0.74	Pipeline Installation	745
Tractors/Loaders/Backhoes	1	8	84	0.37	Pipeline Installation	2,236
Graders	1	8	148	0.41	Site Preparation	590
Rubber Tired Dozers	1	7	367	0.4	Site Preparation	1,249
Tractors/Loaders/Backhoes	1	8	84	0.37	Site Preparation	336
Forklifts	1	6	82	0.2	Pump Station Construction	757
Cranes	1	8	367	0.29	Pump Station Construction	5,896
Forklifts	1	6	82	0.2	Pump Station Construction	757
Generator Sets	1	8	14	0.74	Pump Station Construction	638
Tractors/Loaders/Backhoes	1	6	84	0.37	Pump Station Construction	1,436
Welders	3	8	46	0.45	Pump Station Construction	3,824

Total Fuel Used **21,766 (Gallons)**

Construction Phase	Days of Operation
Linear Grubbing	23
Road Repaving	19
Pipeline Installation	153
Site Preparation	23
Pump Station Construction	131
Total Days	349

WORKER TRIPS

Construction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Linear Grubbing	24.1	5	18.5	88.28
Road Repaving	24.1	8	18.5	109.39
Pipeline Installation	24.1	25	18.5	2936.20
Site Preparation	24.1	8	18.5	141.24
Pump Station Construction	24.1	1	18.5	100.56
		Total		**3,133.87**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
		HAULING TRIPS		
Linear Grubbing	7.5	23	20.0	61.33
Road Repaving	7.5	0	20.0	0.00
Pipeline Installation	7.5	0	20.0	0.00
Site Preparation	7.5	0	20.0	0.00
Pump Station Construction	7.5	0	20	0.00
		Total		**61.33**
		VENDOR TRIPS		
Linear Grubbing	7.5	0	14.7	0.00
Road Repaving	7.5	0	14.7	0.00
Pipeline Installation	7.5	0	15.7	0.00
Site Preparation	7.5	0	16.7	0.00
Pipeline Installation	7.5	0	14.7	0.00
		Total		**-**

Total Gasoline Consumption (gallons)	**3,134**
Total Diesel Consumption (gallons)	**21,828**

Sources:

[1] United States Environmental Protection Agency. 2021. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2* . September. Available at: https://www.epa.gov/system/files/documents/2021-08/420r21021.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2021. *National Transportation Statistics* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Appendix E

Geotechnical Report

Preliminary Geotechnical Report

United Water Conservation District

PTP Recycled Water Connection, Laguna Road Pipeline Project

Oxnard, California

Yeh Project No.: 221-500

October 28, 2022

Prepared for:

Kennedy Jenks Consultants
2775 North Ventura Road, Suite 202
Oxnard, California 93036
Attn: Mr. Ray Lyons, PE

Prepared by:

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October 28, 2022

Project No. 221-500

Kennedy Jenks Consultants
2775 North Ventura Road, Suite 202
Oxnard, California 93036

Attn: Mr. Ray Lyons, PE

Subject: **Preliminary Geotechnical Report, United Water Conservation District, PTP Recycled Water Connection, Laguna Road Pipeline Project, Oxnard, California**

Dear Mr. Lyons:

Yeh and Associates, Inc. is pleased to submit this draft Geotechnical Report for preliminary design of United Water Conservation District PTP Recycled Water Connection, Laguna Road Pipeline project along Laguna Road west of Wood Road in Oxnard, California. This report was prepared in accordance with our agreement for professional services, dated February 18, 2022 and Amendment No. 1 dated May 9, 2022. Recommendations and geotechnical considerations are provided for pipe installation, pipe connections and trench details, earthwork, corrosion test data, seismicity, and liquefaction. Preliminary design considerations for trenchless installation using HDD or design considerations for foundations to support the pipe above ground is also provided.

The geotechnical evaluation consisted of a program of data review, field exploration with drilling and installation of a temporary monitoring well, laboratory testing, and analyses. Field and laboratory data collected for this study are attached to the report. Graphics showing the locations of the field explorations, and an interpreted subsurface profile are also provided.

A summary of the key geotechnical considerations for the design of the pipeline replacement is as follows:

- The field exploration program consisted of drilling four borings and installing one groundwater monitoring well as well as reviewing previous geotechnical data available in the site vicinity. Explorations along the proposed pipeline alignment extended to depths of 11.5 to 51.5 feet below the existing ground surface. The subsurface conditions encountered consisted of up to approximately 8.5 feet of artificial fill that has been placed and re-worked as part of agricultural activities. Alluvium was encountered below the artificial fill. The alluvium consisted predominantly of soft to stiff clay with interlayers of loose to medium dense sand. More sand was present in the borings west of the Revolon Slough.

- The new pipe is anticipated to be constructed between 7 and 12 feet below the invert of the channel using horizontal directional drilling (HDD) or supported at grade adjacent to the bridge on foundation supports. Geotechnical considerations that could impact the HDD below Revolon Slough are groundwater, caving and slumping ground, permeable sand and gravel lenses and layers, and relatively soft and variable subsurface conditions within the alluvium. The same considerations could impact a bridge alternative. Additional considerations for a bridge alternative are consolidation settlement for shallow foundations, the need for relatively long, deep foundations to obtain the capacity to resist the loads within the soft and wet fine-grained soil.

- Granular soil layers encountered within the alluvium in the borings is potentially liquefiable considering the design earthquake. The horizontal portion of an HDD alternative is below within these depths. The consequences of liquefaction are estimated to be approximately 1.5 inches of vertical settlement within the identified soil layers. Mitigation for liquefaction could consist of ground improvement, supporting the pipe on deep foundations, or managing the hazard as part of the operations and maintenance plan for the pipeline and water system with an emergency response plan. Yeh can provide additional information or services to address liquefaction for the design of the pipeline if requested.

We appreciate the opportunity to be of service. Please contact Loree Berry at 805-481-9590 or lberry@yeh-eng.com if you have questions or require additional information.

Sincerely,
YEH AND ASSOCIATES, INC.

Loree A. Berry, P.E.
Senior Project Manager

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1. Purpose and Scope of Study

Yeh and Associates was retained by Kennedy Jenks to provide geotechnical recommendations for the design of the United Water Conservation District (UWCD) Laguna Road recycled water pipeline project in Oxnard, California. The location of the site is shown on Figure 1.

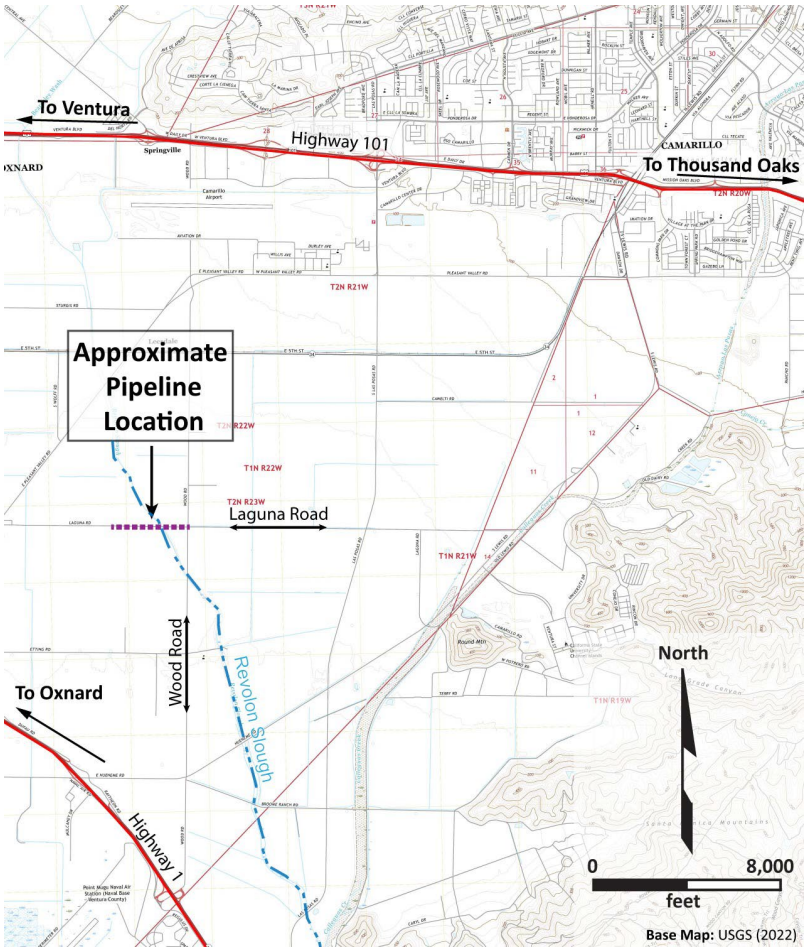

Figure 1: Project Location Map

The geotechnical evaluation consisted of a program of project coordination, field exploration with drilling, installation of a temporary groundwater well, laboratory testing, and engineering analyses as a basis for providing the preliminary recommendations in this report. This report provides field and laboratory data collected for the project, an assessment of key geologic hazards that could impact the project, and geotechnical considerations and recommendations for earthwork, the cut and cover portions of the new pipeline, and considerations for the proposed trenchless and above ground alternatives across the Revolon Slough.

2. Project Understanding

The project generally consists of constructing a new recycled water connection between the United Water Conservation District (UWCD) Pumping Trough Pipeline (PTP) and the Pleasant Valley County Water District (PV) system. The pipeline will consist of 24-inch diameter HDPE and extend approximately 2,700 linear feet. The majority of the new pipeline will be trenched with a minimum four feet of cover; however, the pipeline crosses the Revolon Slough, a 60-foot-wide concrete-lined flood control channel operated and maintained by Ventura County Public Works Department – Watershed Protection. Preliminary design is considering either an above ground option to support the pipe on the existing culvert or on above ground pipe footings where Laguna Road crosses the

slough or to design a trenchless crossing below the channel. A trenchless crossing would be approximately 600 feet long.

2.1 Site Description

The site of the new pipeline is within the Oxnard Plain. The terrain in the project vicinity is relatively flat and gently slopes to the west and the east from the Revolon Slough at an average grade of less than 1 percent. Existing site grades are near elevation 27 feet and flow in the channel flows southerly through the project limits. The Revolon Slough is a rectangular shaped concrete lined flood control channel approximately 60 feet wide and with 15-foot-high channel walls at the project location.

The pipeline alignment runs along Laguna Road from near Wood Road at the eastern end and extending approximately 2,700 feet west. The alignment is bordered by active agricultural uses on the north and south side of Laguna Road. Several overhead utility lines are present along the north side of Laguna Road.

2.2 Proposed Project Improvements

The project limits and preliminary layout of the site were provided on drawings and written descriptions from Kennedy Jenks in July 2022. The project generally consists of constructing a new 24-inch diameter recycled water pipeline below Laguna Road. The majority of pipe will be installed less than 5 feet deep using trenching methods. A portion of the pipeline will cross the Revolon Slough. Preliminary design concepts include installation using trenchless construction below the channel or by supporting the pipeline above ground on foundations. The most likely trenchless concept consists of approximately 600 linear feet of 24-inch diameter fused HDPE pipe installed below the flood control channel using horizontal directional drilling. The concept indicates the invert of the new pipe will be approximately 7 to 12 feet below the bottom of the channel. The new pipe will rise in elevation to the trenched portion of the pipe with an approximately 1400-foot bend radius outside the limits of the channel, resulting in a total drilled length of approximately 600 feet (measured horizontally). An alternative concept for the pipeline crossing is to support the pipeline above the ground surface on the existing or a retrofitted culvert or new pipe footings. The invert of the pipe beyond the crossing segment is anticipated to have approximately 3 to 4 feet of cover.

3. Field Exploration and Testing

The field exploration program consisted of drilling four borings adjacent to the project alignment. One of the borings was converted to a temporary groundwater monitoring well at the completion of drilling. The locations of the borings and well are shown on Plate 1. The logs of the borings including remarks on well completion are presented in Appendix A.

3.1 Drilling

The drilling subcontractor for this project was 2R Drilling from Chino, California. 2R Drilling used a CME75 truck-mounted rig equipped with 8-inch-diameter hollow-stem augers to drill four borings to depths ranging between 11.5 and 51.5 feet deep on April 28 and 29, 2022. Yeh personnel logged the subsurface conditions encountered during the drilling, secured soil samples for subsequent laboratory testing and classified the soil encountered. The samples intervals, a description of the subsurface conditions encountered, field tests, blow counts (N-Values) recorded during drive sampling, percent recovery, and selected laboratory test data are presented on the log.

Sampling was performed by driving either a modified California or standard penetration test (SPT) split spoon sampler at typical 2.5-foot intervals to approximately 20 feet below the ground surface, and at 5-foot intervals below 20 feet. The SPT sampler has a 2-inch outside diameter, 1-3/8-inch inside diameter and is equipped for but was used without liners. The modified California sampler has a 3-inch outside diameter, 2-3/8-inch inside diameter and was used with 1-inch-high brass liners. Drive samples were collected using a 140-pound automatic trip hammer in accordance with ASTM D-1586 (the Standard Penetration Test) procedures.

Upon completion, borings 22E-01, 22E-03, and 22E-04 were backfilled with bentonite chips mixed with approved native fill material collected from the auger cuttings to the ground surface. Boring 22E-02 was completed as a temporary 2-inch PVC monitoring well with a flush mount well cover. The well was constructed according to Ventura County Well Permit GWP-08653.

3.1 Water Level Monitoring

Yeh has measured the depth to groundwater in the monitoring well on April 29 and July 15, 2022 and the values are reported in the Section 4.3. A pressure transducer/datalogger (TD-Diver) will be installed in the well during October/November 2022 to obtain 1-hour groundwater measurements through approximately April 30, 2023. This will provide nearly continuous groundwater level data and the ability to track fluctuations, response to rain events, irrigation, or other. Yeh will periodically visit the well to download the collected data and manually measure water levels. Groundwater measurements subsequent to this report will be incorporated with the final Geotechnical Report.

3.2 Laboratory Testing

Laboratory testing was performed on selected samples recovered from the borings. Tests for moisture content, unit weight, percent passing the 200 sieve, Atterberg limits, and particle size distribution by sieve analysis were performed at our laboratory in Ventura, California. Union Materials Laboratory in Oxnard, California performed a test for unit weight versus moisture content relation by the modified Proctor test and sand equivalent. Cooper Testing of Palo Alto, California performed corrosion tests for soluble sulfates and soluble chlorides. A test for incremental

consolidation, unconsolidated undrained shear, and consolidated undrained triaxial shear strength were performed at Cal Poly Geo-E laboratory in San Luis Obispo. Testing was performed in accordance with applicable ASTM procedures. After the completion of the laboratory testing, the field descriptions were confirmed or modified as necessary and boring logs were prepared. The laboratory test results are presented in Appendix B.

4. SUBSURFACE CONDITIONS

4.1 GEOLOGIC SETTING

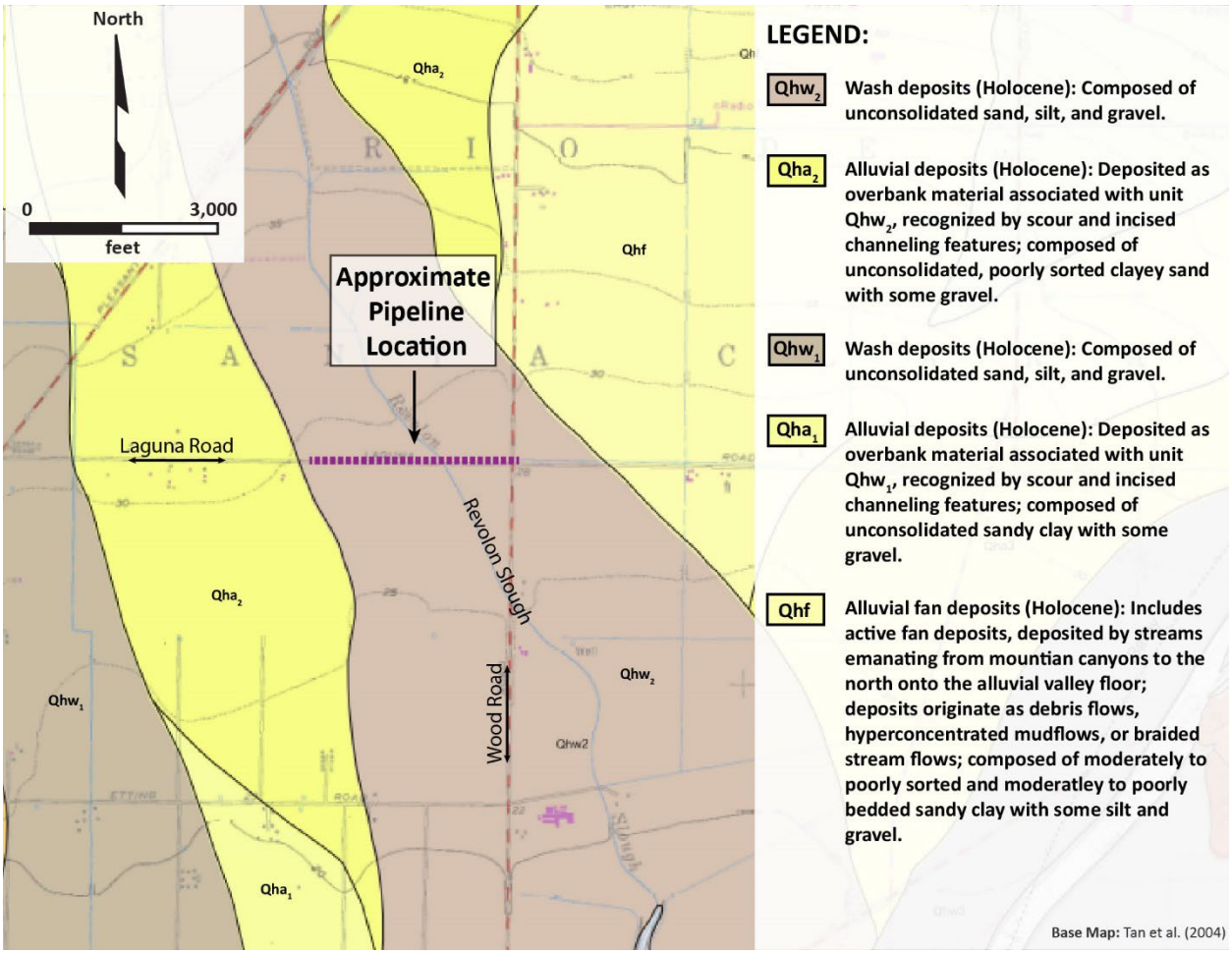

Figure 2: Regional Geologic Map
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The project site is located on the Oxnard Plain and within the Western Transverse Ranges Geomorphic Province of California. The Western Transverse Ranges are a regional deformation belt characterized by a northeast-southwest trending structural grain and corresponding geomorphic features that extend from the Santa Barbara Channel to the Mojave section of the San Andreas Fault. The Oxnard Plain is an alluvial fan that is bordered to the east by the Santa Monica Mountains, to the

west by the Santa Clara River and to the north by the Camarillo and the Las Posas Hills. The project site is located within the western portion of Oxnard Plain, proximal to the Santa Clara River.

The regional geology as mapped by Tan et al (2004) is shown on Figure 2. Tan maps the surface geology in the site vicinity as Holocene-age alluvial deposits (Qha).

4.2 Geologic Units

The borings encountered units of existing artificial fill (Af) and alluvium (Qa). An interpreted subsurface profile of the conditions encountered along the crossing segment is shown on Plate 2. A description of the units encountered and shown on the boring logs and profile are summarized below.

Artificial Fill (Af). Artificial fill was encountered in each of the explorations. The fill was encountered between 7.5 and 8.5 feet deep at the 2 borings closest to the Channel (22E-02 and 22E-03). That fill appears to have been placed by previous site grading associated with construction of the channel and other utilities, irrigation, and drainage pipes that traverse near the crossing. The fill was predominately composed of medium stiff to stiff silty and sandy clay. Trash, wood, and construction debris were noted within the artificial fill in boring 22E-02.

The fill encountered in borings 22E-01 and 22E-04 at the outer ends of the alignment was 3 to 5 feet thick. Those borings were completed within existing agricultural roads and the encountered fill appears to be re-worked alluvium that has been disturbed and moved and altered over the years as part of the farming operations. The fill was predominantly composed of loose clayey sand and medium stiff sandy clay. The fill was underlain by alluvium.

Alluvium (Qa). Alluvial deposits were encountered in each of the explorations below the artificial fill. The alluvium consisted of the two predominant units shown on Plate 1 and 2 and described below:

> Qa_1: This unit was encountered in each of the borings explorations and predominantly consisted of an soft to medium stiff sandy lean clay and very loose to loose clayey sand with interlayers up to 4 feet thick consisting of loose to medium dense poorly graded sand. The bottom of the unit is interpreted to be approximately 20 feet below the ground surface, near elevation 7 feet.
>
> Qa_2: This unit was encountered below Qa_1 in borings 22E-02 and 22E-03 and predominantly consisted of soft to stiff lean clay and sandy lean clay to the explored depth of 51.5 feet.

A summary of the laboratory test results for the various units shown on Plate 1 is presented in Table 1 below:

Table 1: Geotechnical Properties Test Summary[1]

Geologic Unit	Locations Encountered	Dry Unit Wt. (pcf)	Moisture Content (%)	Particle Size Analyses (%G, %S, %F)	Atterberg Limits LL, PI	Corrosion pH, ρ (Ω-cm)	Strength Parameters
Artificial Fill (Af)	22E-01*, 22E-02, 22E-03, 22E-04	87-101	19-27	0 G 26 S 73 F	--	pH 7.3-8.3 ρ = 180-583 SO_4^{2-} = 3,412-8,315 *SO_4^{2-} = 790 at 22E-01 CL^- = 35-156	S_{pp} = 1.75-3.75
Alluvium (Qa_1)	22E-01, 22E-02, 22E-03, 22E-04	90-103	18-50	0 G 20-81 S 19-80 F	LL 48 PI 26	--	S_{pp} = 0.5-0.75 ϕ'_{cu} = 37° c'_{cu}= 0 ksf
Alluvium (Qa_2)	22E-02, 22E-03	77-96	26-44	0 G 16 S 84 F	LL 32-40 PI 17-21	--	S_{pp} = 0.75-2.5 S_{uu} = 1.0

4.3 Groundwater Conditions

The interpreted groundwater elevation as extrapolated from the field explorations is shown on Plate 2, at approximately elevation 17 feet in the vicinity of Revolon Slough. Borings 22E-01 and 22E-04 were drilled near or within active irrigation areas and groundwater was encountered slightly higher, at approximately elevation 19 to 22 feet. Measurements from the groundwater well were taken April 29, 2022 at 10.9 feet and on July 15, 2022 at 11.3 feet deep. Groundwater conditions within the Oxnard Plain are typically associated with multiple aquifers. The groundwater conditions at the site are likely associated with the shallow aquifer and groundwater perching on clay layers that form aquitards below the site. The groundwater encountered in the field explorations appears to be perched above clay zones within the Qal1 unit shown on Plate 1. Soil moisture and groundwater conditions will vary seasonally in response to rainfall, irrigation, and pumping from local groundwater wells.

5. Seismic Hazards

Seismic hazards that could impact the pipeline design are associated with seismic shaking; liquefaction of the alluvium encountered in response to an earthquake. Neither faults or landslides were mapped within the project limits, and we did not observe evidence of those hazards within the project limits. A summary of our seismic hazard and liquefaction analysis of the soil conditions encountered is summarized below:

[1] Geotechnical properties are noted for dry unit weight (γ_d) and moisture content (w_o); particle size as percent gravel (G), sand size (S) and fines content (F); electrical resistivity (ρ) in ohm-centimeters (Ω-cm), soluble sulfates (SO_4^{2-}) and soluble chorides (CL^-) in parts per million; Atterberg liquid limit (LL) and plasticity index (PI); shear strength (S) in kips per square foot (ksf) measured by pocket penetrometer (pp), torvane (tv), cone penetration test (cp) or unconsolidated undrained (uu) tests; friction angle (ϕ) or cohesion (c) in kips per square foot measured from direct shear (ds) or consolidated undrained (cu) tests, uniaxial compressive strength (σ_a) in kip per square inch (ksi).

5.1 Seismic Data

The pipeline should be designed to resist lateral forces generated by earthquake shaking in accordance with the current building code and applicable design practice. The design earthquake for the project is an event having a 2 percent probably of exceedance in 50 years. The U.S. Geological Survey's online Unified Hazard Tool (accessed August 19, 2022) was used to estimate seismic data for liquefaction analysis. The site location was specified as 34.1765 degrees latitude by -119.1005 degrees longitude. Liquefaction analyses was performed using ground motions estimated using a Site Class D. The design earthquake is estimated to be a magnitude 7.0 earthquake occurring at a mean distance of approximately 11 kilometers from the site and resulting in a peak ground acceleration of approximately 0.75g. The design earthquake magnitude and distance correspond to the deaggregated mean magnitudes for the peak ground acceleration. Sources that contribute to the probabilistic seismic hazard are the Simi-Santa Rosa, Oak Ridge (onshore), Malibu Coast and Ventura-Pitas Point fault systems.

5.2 Liquefaction

Liquefaction is the loss of soil strength that typically occurs in loose to medium dense granular soil that is below the water table in response to seismic shaking. The extent and severity of liquefaction is dependent upon the intensity and duration of the strong ground motion. Yeh assessed liquefaction potential using the methods and procedures described in Seed et al. (2003). The analysis considered corrected SPT blow counts from boring 22E-02 and 22E-03 and a design ground water depth of 5 feet. The seismic inputs were the peak ground acceleration and earthquake magnitude listed in Section 5.1. The estimated total seismic settlement is approximately 1.5 inches to occur within the loose to medium dense sand encountered between at 7 to 10 feet, 13.5 to 16 feet, and 18.5 to 20.5 feet.

The impact to the project site could be manifested as vertical settlement, horizontal ground displacement of unlined channels, strength loss within potentially liquefiable layers, cracking at the ground surface, and sand boils.

6. Conclusions and Recommendations

The conclusions and recommendations of this report are intended for use with the UWCD's standard plans and specifications and are based on our project understanding and the subsurface conditions described in this report.

6.1 Earthwork – General

6.1.1 Clearing and Grubbing

Clearing and grubbing should be performed to remove existing vegetation and objectionable material from improvement areas that will be graded, receive fill, or serve as borrow sources. Grubbing

should include removing stumps, roots and buried vegetation. Care should be taken not to injure trees, plants or existing improvements outside of the clearing limits. Soil containing pavement, debris, organics, unsuitable, loose or disturbed materials should be removed prior to placing fill. Demolition areas should be cleared of old foundations, existing fill, pavement, abandoned utilities, and soil disturbed during clearing and grubbing. Depressions or disturbed material left from the removal or demolition of materials should be replaced with compacted fill.

6.1.2 COMPACTION

Table 2 provides a summary of the recommended minimum levels of compaction for locations where fill will be placed. Relative compaction should be assessed according to the latest approved edition of ASTM Standard Test Method D1557.

Table 2: Recommended Compaction

Location of Fill Placement	Recommended Minimum Relative Compaction
General	90% U.O.N.[2]
Utility trench bedding, pipe zone or backfill	90% U.O.N.
Fill or backfill placed within 3 feet of finished grade in pavement areas	95%
Asphalt concrete, aggregate base, or subbase	95%
Foundation areas and within 5 feet horizontal of foundations	95%

6.1.3 FILL PLACEMENT

Fill should be mechanically compacted. Jetting or ponding should not be permitted for placement or compaction of fill materials. Fill materials should be moisture conditioned and spread in lifts that are suitable for compaction with the equipment being used. Control of compaction layer thickness will be necessary to achieve compaction throughout the material being placed. Fill should typically be spread in loose lifts of approximately 8 inches or less, and within 2 percent of the optimum moisture content, to achieve the recommended compaction.

The moisture content of the material should be such that the specified compaction can be achieved in a firm and stable condition. Each layer should be spread evenly, bladed and mixed to provide relative uniformity of material within each layer, and be moisture conditioned by adding water or drying the material to provide a moisture content suitable for compaction, and be thoroughly mixed during the spreading to provide relative uniformity of material within each layer. Soft or yielding materials should be removed and replaced with properly compacted fill material prior to placing the

[2] U.O.N. – unless otherwise noted

next layer of fill. Fill and backfill materials may need to be placed in thinner lifts to achieve the recommended compaction with the equipment being used.

Particles greater than half the compacted lift thickness can limit compactive effort. The fill should not contain rocks, gravel or other solid particles larger than 3 inches in the greatest dimension. Deleterious materials, such as soft rock particles, concrete or pavement rubble, metal, glass or sharp objects should not be placed within the fill material being placed. Recycled or reused materials should only be used and placed within the fill when specifically permitted by the project specifications. Rocks should not be nested, and voids should be filled with compacted fill material.

6.1.4 Suggested Material Specifications

Pipeline construction and materials should generally conform to the latest approved edition of the United Water Conservation District (UWCD) Design and Construction Standards (Standards). Materials may also be referenced to the 2018 edition Caltrans Standard Specifications. The following specifications are suggested for materials referenced in various sections of this report.

Asphalt Concrete. Asphalt concrete consists of Type A Hot Mix Asphalt Concrete that complies with Section 39-2 of the Caltrans *Standard Specifications* with PG 64-16 asphalt binder.

Aggregate Base. Aggregate base consists of imported aggregate that complies with the grading and quality requirements for ¾-inch Class 2 aggregate base per Section 26-1.02B of the Caltrans *Standard Specifications*.

Compacted Fill to be placed as backfill of jacking and receiving pits, trench backfill, or general fill consists of on-site material free of organics, oversize rock (greater than 3 inches), trash, debris, corrosive, and other deleterious materials. Do not place drilling fluids or boring muck in the fill. Engineer will review fill and borrow sources before being imported to the site. Furnish fill materials that comply with all specified material requirements for the designated placement location as placed at the site.

Gravel. Aggregate for gravel drains or pipe bedding consists of imported gravel or crushed rock that is free of clay, organic, corrosive, trash, debris, recycled or reclaimed material, and other deleterious substances. Gravel will have a durability index of at least 40 when tested according to ASTM D3744. The gradation of the gravel shall conform to ASTM C-33 Number 8 aggregate (3/8-inch gravel). Gravel shall be fully encased in a geotextile fabric for separation.

Geotextile for Separation (Filter Fabric). Geotextile for separation consists of Class C filter fabric conforming to Section 96-1.02B of the Caltrans *Standard Specifications*.

Pipe Bedding - Sand consists of imported material conforming to Sections 3.13A of the Caltrans *Standard Specifications*.

Pipe Bedding - Gravel. see Gravel.

Pipe Zone Material. Bedding and Pipe Zone Material consist of imported material conforming to Sections 3.13A of the Standards.

Two-sack Slurry Backfill. Slurry cement backfill can be used as Trench Backfill and consists of 2-sack sand-cement slurry conforming to Section 19-3.02G of the Caltrans *Standard Specifications*. Aggregate will be imported sand conforming to the gradation and quality requirements of the *Standard Specifications*. Provide slurry cement backfill as a stable flowable mix and that can be consolidated using vibration during placement. Subsequent backfill or compacted material can be placed above slurry cement backfill once the slurry cement can support foot-traffic without more than ¼-inch indentation.

Trench Backfill. Trench backfill placed in overland areas consists of imported or onsite soil conforming to Compacted Fill. Trench backfill placed below pavement areas consists of imported sand conforming to Pipe Zone Material or Two-sack Slurry Backfill when required by the Engineer.

6.2 Seismic Considerations

Alluvial soil encountered in the borings is potentially liquefiable considering the design earthquake (analysis is discussed in Section 5.2 of this report). The potentially liquefiable soil layers are interbedded within the Qal_1 units shown on Plate 2. As previously discussed in this report, the consequences of liquefaction are estimated to be approximately 1.5 inches of vertical settlement The impacts to the pipe could be loss of ground support, differential settlement and ground movement along the alignment, and shear forces associated with horizontal displacement due to instability of layers of liquefiable soil. The potential for liquefaction to impact the new pipeline is similar to the hazard that already exists for the surrounding infrastructure. The location and specific impacts that seismic shaking and liquefaction could have on pipelines cannot be estimated using readily available methods, and the potential hazard should therefore be considered in a general sense relative to the pipeline design and operation.

Mitigation for liquefaction could consist of ground improvement to reduce the potential for the soil around the pipe to liquefy during the design earthquake, supporting the pipe on deep foundations above the creek to avoid liquefaction hazards and design the pile foundation to resist forces associated with liquefaction, or to manage the hazard to the waterline and associated water distribution system with the operations and maintenance guidelines for the pipe. Management

typically consists of planning inspections of the pipeline(s) following a major earthquake or catastrophic event, having a response plan in place to repair or bypass damaged sections of pipe, and having personnel trained to respond to those scenarios in preparation for a damaging earthquake. The latter management approach is commonly used for pipelines and pipe networks because of the complexity and uncertainty in the ability to predict the specific response of pipelines to earthquakes and where damage may occur. Yeh can provide additional information or services to address liquefaction for the design of the pipeline if requested.

6.3 Shallow Pipeline Design

A summary of trench backfill recommendations is presented on Figure 3. The portions of the pipe outside the limits of the Revolon Slough Crossing will be installed in a trench using conventional trench excavation and backfill. Suggested Material Specifications for bedding material, pipe zone material and trench backfill are described in Section 6.1.4 of this report. Bedding, pipe zone, and trench backfill should be compacted to 90 percent relative compaction unless a higher degree of compaction is recommended for the area where the material is being placed.

Bedding and Foundation Support. Bedding is initial backfill placed between the trench subgrade and the bottom of the pipe. At least 4 inches of Pipe Bedding should be provided below the pipe. The pipe should be placed on the bedding such that the middle third of the pipe ($D_0/3$ on Figure 4) is in contact with the bedding prior to placing initial backfill within the pipe zone. The bedding may be loosened along the invert of the pipe, if necessary, to help form the cradle. Pipe bedding should be compacted to at least 90 percent relative compaction.

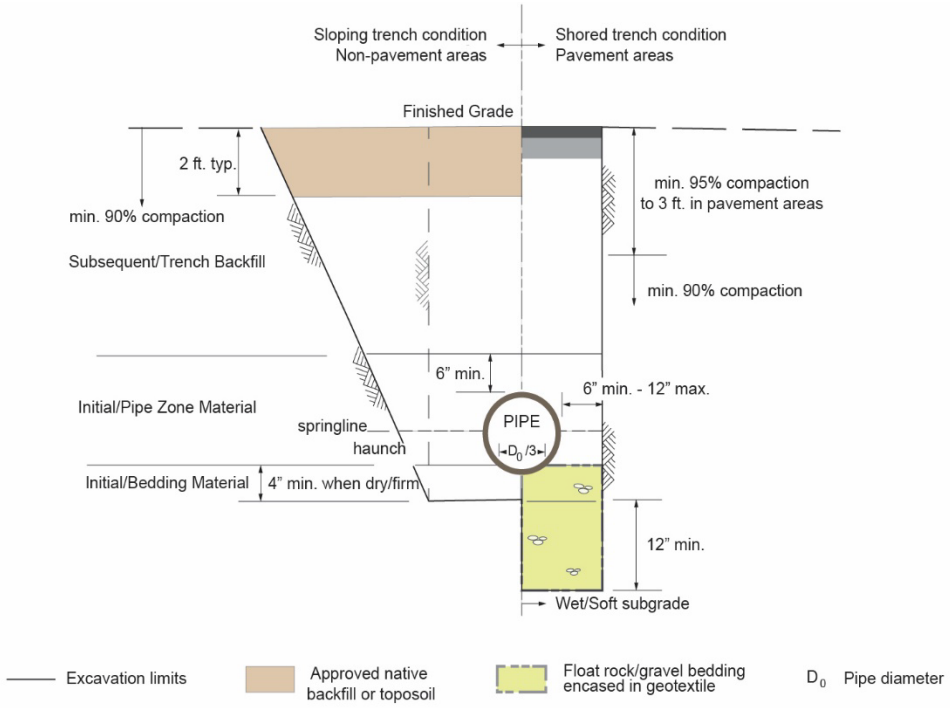

Figure 3: Typical Trench Detail

The bedding can be placed on firm subgrade material at the bottom of the trench, unless stabilization of the trench foundation is needed. If yielding subgrade conditions are encountered at the bottom of the trench, we recommend that at least 12 inches of gravel bedding encased in a filter fabric be provided below the pipe. The actual limits and need for subgrade stabilization should be evaluated based on the conditions encountered during construction. The project specifications should provide for varying the limits of the stabilization and the thickness of the gravel, if needed, based on the conditions encountered during construction.

Pipe Zone Material. Pipe zone material is fill placed from the top of the bedding to at least 12 inches above the top of the pipe. Compaction within the pipe zone should be performed such that the pipe is fully supported during compaction, and such that excessive deformation or damage to the pipe does not occur. Compaction above the springline or top of the pipe should not be performed until the fill placed below that elevation has been properly compacted.

Trench Backfill. Trench backfill is fill placed above the pipe zone to the finished grade or to the bottom of the base of other specified backfill materials (such as the pavement structural section or trench patch). Trench backfill can consist of either select on-site soil or imported fill material conforming to the recommendations of this report, and any other requirements for the area where the trench backfill is being placed.

6.4 Geotechnical Considerations for Design of Crossing at Revolon Slough

6.4.1 Subsurface conditions

Subsurface conditions should be considered in final alterative design selection for the pipeline crossing. Geotechnical considerations are provided below for a trenchless installation, or an above ground alternative supported on foundations. Yeh will provide additional design input to final alternative design and present it in a revised draft or final Geotechnical report. The subsurface conditions encountered at the project site were discussed previously in this report, on logs in Appendix A, and are summarized on Plate 2.

6.4.2 Trenchless Installation Considerations

Trenchless pipeline construction methods being reviewed are horizontal directional drilling (HDD), jack and bore, or microtunnel. Jack and bore methods will require dewatering within temporary entry and exit pits within encountered soft clay and loose sand soil below the groundwater table. Additional hydrogeologic testing and analyses may be needed to evaluate the potential to dewater not only the pits but the jack and bore crossing. Microtunnel would require the installation of a minimum 42-inch diameter casing and also require dewatering within the entry and exit pits. Horizontal directional drilling (HDD) is the likely preferred alternative for a trenchless option. HDD is generally best suited for relatively uniform firm ground without permeable layers or boulders. HDD entry/exit pits and its curved drill path can be designed to pass beneath the channel structure but will be below groundwater. The HDD bore should pass below the channel at a minimum depth of two bore diameters below the bottom of the channel. Temporary or permanent casing is recommended to support the HDD bore through the loose and soft layers of fill, sand and clay encountered within the Qa_1 layer shown on Plate 2 and to reduce the potential for soil fracturing and drill fluid loss in those zones. Factors that may adversely influence the drilling, rates of drilling, or the ability to guide the drilling on the planned alignment are the presence of gravel or cobble, caving soil conditions, permeable layers that may be prone to fluid losses, and weak soil layers that are prone to failure or squeezing under the fluid pressures needed to advance the drilling.

6.4.3 Above Ground Foundation Support considerations

The encountered artificial fill, soft clay and loose sand layers (Qa_1) is likely to produce static settlement as a result of foundation loads typical of pipeline bridges and also seismic settlement. The estimated amount of vertical settlement from soil liquefaction triggered by the design earthquake is approximately 1.5 inches. Foundations will need to be designed to resist the result of differential settlement between pipe supports. The flood zone elevation and depth to design level groundwater elevations will need to be considered in design. The foundation type and design approach will depend on the anticipated design loads and the estimated soil capacity to resist static and seismic conditions. Both a shallow and deep foundation approach are feasible and should be compared and

considered. Shallow foundations will require removal of unsuitable soil and replacement with several feet of structure fill below the footings to achieve the required capacity. The amount of recommended removal and replacement will be dependant on the load conditions and allowable settlement tolerance at the proposed support locations. The advantage of a shallow foundation is the potential to generally maintain excavations above groundwater. A drilled shaft foundation could be designed to resist static loads and potential downdrag loads from liquefiable soil layers during a seismic event. Drilled shaft foundations would develop capacity from soil friction developed along the caisson sidewalls that resist foundation loads. End bearing is not generally included for soil conditions encountered. Drilled shafts construction will extend below the groundwater table and shaft stability within the af and Qa_1 unit is a consideration without the use of casing or drill slurry.

A drilling plan should be required to be submitted by the Contractor and reviewed and approved by the design team prior to construction for the selected construction method.

6.5 Corrosion Data

Selected samples from the field exploration programs were tested for pH, resistivity, soluble sulfates and soluble chlorides. Results are presented in Appendix B. The results of the testing of four soil samples collected from the borings at depths ranging from 3 to 7.5 feet below the ground surface are summarized as follows:

- pH: 7.3 to 8.3
- Resistivity: 180 to 583 ohm-centimeters
- Soluble sulfates at borings 22E-02 to 22E-04): 3,412 to 8,315 ppm
- Soluble sulfates at boring 22E-01: 790 ppm
- Soluble chlorides: 35 to 156 ppm

The resistivity and pH suggest that site soils tested are corrosive to ferrous metals and reinforced concrete based on the test results. Design of the project should consider corrosivity test results using appropriate design standards including the American Concrete Institute (ACI) and the American Water Works Association (AWWA). Corrosion protection could consider installing sacrificial anodes on the pipeline or other corrosion protection measures depending on the chosen pipe material type and connectors.

6.6 Construction Considerations

6.6.1 Excavations and Shoring

The soil anticipated to be encountered in excavations vary from Type B to Type C depending on the location based on Cal OSHA guidelines for the design of temporary slopes and shoring systems. The contractor is responsible for job site safety and should provide a competent person at the time of

construction to review the excavation and select the proper sloping and/or shoring systems needed for the conditions being encountered. Dewatering in advance of excavations may be needed at various locations to provide stable slope conditions during excavation. Slopes should not be considered stable when excavated below the groundwater table or there is seepage daylighting on slopes.

Tight shoring systems such as sheet piles, braced excavations, secant pile walls, soldier pile/lagging walls should be provided where groundwater will be encountered within the excavation. The selected shoring system should reduce the flow of water into the excavation and allow for dewatering within the shoring to provide a work area for construction. Sheet piles, if used, should be embedded below the bottom of the excavation to help cutoff seepage and reduce uplift seepage forces and unstable conditions at the excavation depth. Alternatively, sheet piles can be shortened and a concrete plug could be placed over the bottom of the excavation to form a seal that would resist seepage pressures and allow for dewatering within the shored excavation.

Trench shields/boxes or slide-rail shoring systems are not considered suitable for excavations in loose soil or below the groundwater table. Trench shields or shoring jacks could likely be used in excavations where the soil type is appropriate for the shoring system and the excavation is above groundwater.

6.6.2 DEWATERING

When necessary, dewatering should lower the groundwater elevation to at least 2 feet below the depth of the excavation and provide a stable subgrade for construction. Groundwater is expected to be about 10 feet deep. Seepage may be found in shallower excavations and may be addressed using localized dewatering procedures such as gravel wells with sump pumps. Construction dewatering in excavations below approximately 10 feet deep could produce significant amounts of water that will need proper disposal relative to regulatory discharge requirements.

Dewatering can result in nearby ground settlement within soft compressible soils as pore water is removed and the soil skeleton compresses from self-weight and/or surcharge loads. Monitoring of the groundwater flow from pumps and piezometers, as well as surveying and monitoring settlement of existing structures can be performed to evaluate the impacts dewatering near existing structures. The necessary extents of monitoring will depend on pump system siting/depth, pumping rates, and soil types.

The contractor should submit a detailed excavation and dewatering plan for review by the geotechnical professional before beginning the excavation. Excavation and dewatering plans should be designed by a qualified professional civil engineer registered in the State of California engineer

familiar with design of excavations, shoring, and dewatering in similar subsurface conditions. The plan should detail the dewatering plans, shoring, support of adjacent structures and adjacent utilities, and an appropriate monitoring program for the anticipated subsurface conditions.

6.7 Subgrade Evaluation

A qualified geotechnical professional should observe the bottom of excavations to evaluate if the exposed subgrade is suitable for fill placement. The project specifications should provide for stabilization of the subgrade according to the recommendations of this report, if needed, to address soft or yielding subgrade conditions if encountered.

6.8 Grading Observation

A qualified geotechnical professional should observe backfill operations during construction on behalf of the owner to have reasonable certainty that fill placement and compaction is being performed according to the recommendations of this report. Field density testing should be performed to help evaluate the compaction and moisture content of the materials being placed. Fill and aggregates delivered to the site and excavated onsite soil that will be reused as fill or backfill, should be sampled and tested for conformance with gradation and quality requirements for the project or submittals reviewed for conformance. The frequency and locations of the tests should be at the discretion of the geotechnical professional. The project specifications should include provisions for the contractor to allow for testing and to provide any shoring, ingress-egress, or traffic control needed to safely perform the testing at the locations and depths needed.

7. Limitations

This study has been conducted in general accordance with currently accepted geotechnical practices in this area for use by the client for design purposes. The conclusions and recommendations submitted in this report are based upon the data obtained from field reconnaissance, subsurface exploration and sampling, and our understanding of the proposed project and type of construction described in this report. If there are any changes in the project or site conditions, Yeh should review those changes and provide additional recommendations, if needed. Any modifications to the recommendations of this report or approval of changes made to the project should not be considered valid unless they are made in writing. The report and drawings contained in this report are intended for design-input; and are not intended to act as construction drawings or specifications.

Site conditions will vary between points of observation or sampling, seasonally, and with time. The nature and extent of subsurface variations across the site may not become evident until excavation is performed. If during construction, fill, soil, or water conditions appear to be different from those described herein, Yeh should be advised and provided the opportunity to evaluate those conditions and provide additional recommendations, if necessary. The geotechnical professional should observe

portions of the construction and site conditions, such as excavations, exposed subgrades and earthwork, to evaluate whether or not the conditions encountered are consistent with those assumed for design, and to provide additional recommendations during construction, if needed.

8. REFERENCES

American Water Works Association. (AWWA 2014). *External Corrosion Control for Infrastructure Sustainability,* 3rd Edition, Manual for Water Supply Practices M27.

American Society of Civil Engineers (ASCE 2016). Minimum Design Loads for Buildings and other Structures. ASCE Standard 7-16.

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Approximate Alignment of 24-Inch Recycled Water Pipeline

Approximate Location of 8" Hollow Stem Auger Boring

Approximate Location of 2-inch temporary monitoring well

Base Map: Google Earth, 2022

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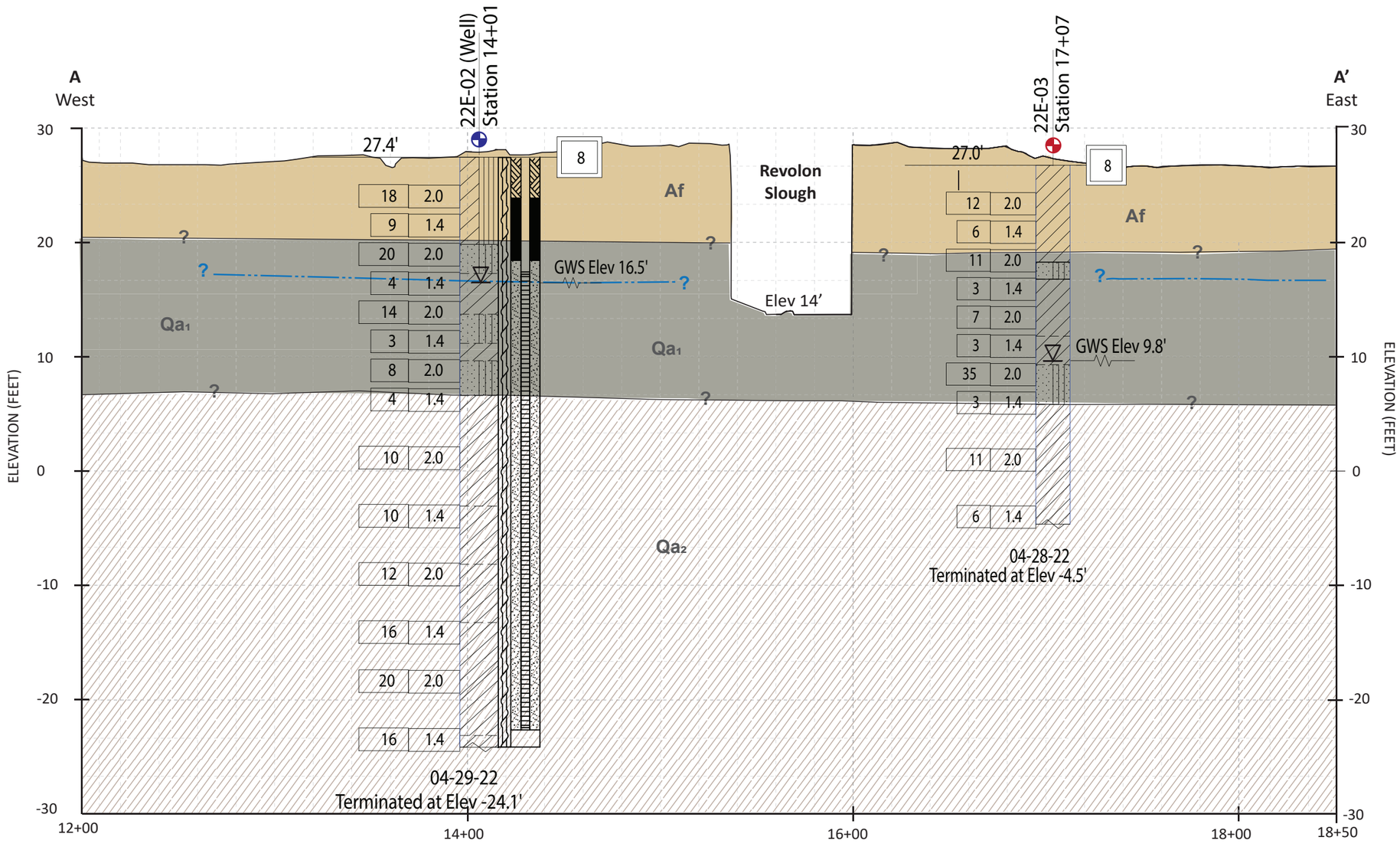
FIELD EXPLORATION PLAN

PROJECT NAME:
Laguna Road Recycled Water Pipeline
United Water Concervation District
Oxnard, CA

PLATE
1

PROJECT NUMBER:
221-500

REVISION DATE:
7/13/2022



LEGEND:

Af Artificial Fill: medium stiff to stiff silty and sandy clay and loose clayey sand

Qa₁ Alluvial deposits (Holocene): soft to medium stiff sandy lean clay and very loose to loose clayey sand with interlayers of up to 4 feet thick containing loose to medium dense poorly graded sand.

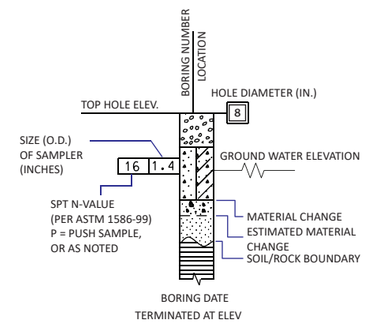
Qa₂ Alluvial deposits (Holocene): soft to stiff lean clay and sandy lean clay

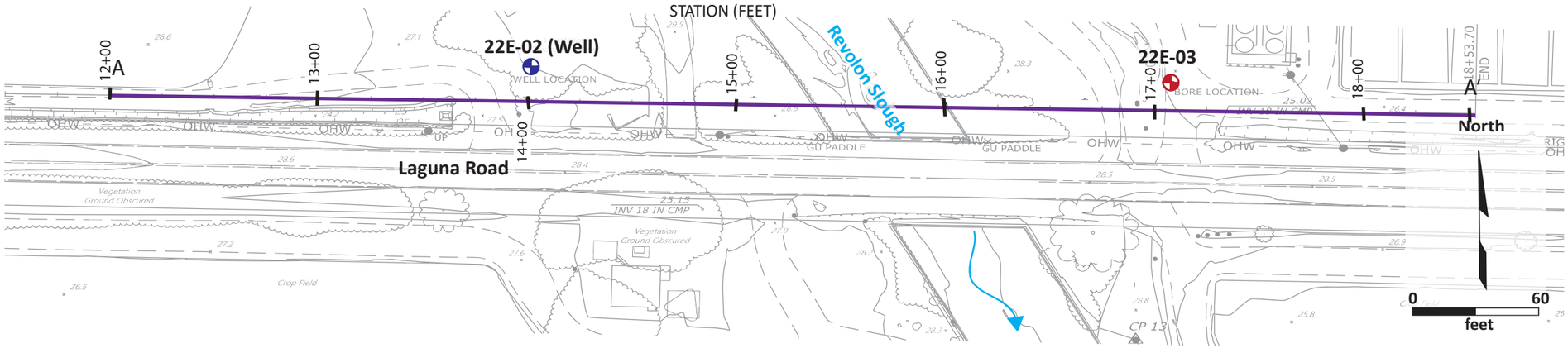
Geologic contact, queried where uncertain

Interpreted groundwater surface during drilling, queried where uncertain

Groundwater level encountered during drilling

See text and logs of exploration for description of subsurface conditions. All boundaries and locations are approximate.





PROFILE

1 in. = 10 ft. vertical
1 in. = 60 ft. horizontal

PLAN VIEW

Scale: 1" = 60'

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PLAN AND INTERPRETED SUBSURFACE PROFILE

PROJECT NAME:	PLATE
Laguna Road Recycled Water Pipeline United Water Conservation District Oxnard, CA	2
PROJECT NUMBER: 221-500	**REVISION DATE:** 8/20/22

APPENDIX A - FIELD EXPLORATION

GROUP SYMBOLS AND NAMES

Graphic / Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND
GP	Poorly graded GRAVEL Poorly graded GRAVEL with SAND
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GP-GM	Poorly graded GRAVEL with SILT Poorly graded GRAVEL with SILT and SAND
GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY) Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GM	SILTY GRAVEL SILTY GRAVEL with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL
SP	Poorly graded SAND Poorly graded SAND with GRAVEL
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SP-SM	Poorly graded SAND with SILT Poorly graded SAND with SILT and GRAVEL
SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY) Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SM	SILTY SAND SILTY SAND with GRAVEL
SC	CLAYEY SAND CLAYEY SAND with GRAVEL
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL
PT	PEAT
	COBBLES COBBLES and BOULDERS BOULDERS

Graphic / Symbol	Group Names
CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY elastic ELASTIC SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTS

C	Consolidation (ASTM D2435)
CL	Collapse Potential (ASTM D5333)
CP	Compaction Curve (ASTM D1557)
CR	Corrosion, Sulfates, Chlorides (CTM 643; ASTM D4972, ASTM G187, ASTM D4327)
CU	Consolidated Undrained Triaxial (ASTM D4767)
DS	Direct Shear (ASTM D3080)
EI	Expansion Index (ASTM D4829)
M	Moisture Content (ASTM D2216)
OC	Organic Content (ASTM D2974)
P	Permeability (ASTM 5084)
PA	Particle Size Analysis (ASTM D422-63 [2007])
PI	Liquid Limit, Plastic Limit, Plasticity Index (ASTM D4318)
PL	Point Load Index (ASTM D5731)
PM	Pressure Meter
PP	Pocket Penetrometer
R	R-Value (CTM 301)
RS	Torsional Ring Shear (ASTM D6467)
SE	Sand Equivalent (CTM 217)
SG	Specific Gravity (AASHTO T 100)
SL	Shrinkage Limit (ASTM D427)
SW	Swell Potential (ASTM D4546)
TV	Pocket Torvane
UC	Unconfined Compression - Soil (ASTM D2166) Unconfined Compression - Rock (ASTM D7012)
UU	Unconsolidated Undrained Triaxial (ASTM D2850)
UW	Unit Weight (ASTM D4767, ASTM D7263)
VS	Vane Shear (AASHTO T 223-96 [2004])
-200	200 Wash (ASTM D1140)

SAMPLER GRAPHIC SYMBOLS

- Standard Penetration Test (SPT) (2" O.D.)
- Standard California Sampler (2.5" O.D.)
- Modified California Sampler (3" O.D.)
- Shelby Tube
- Piston Sampler
- Rock Core
- Grab Sample
- Bulk Sample
- Other (see remarks)

DRILLING METHOD SYMBOLS

- Auger Drilling
- Rotary Drilling
- Dynamic Cone or Hand Driven
- Diamond Core

WATER LEVEL SYMBOLS

- First Water Level Reading (during drilling)
- Static Water Level Reading (short-term)
- Static Water Level Reading (long-term)

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REPORT TITLE
LEGEND FOR SOIL CLASSIFICATION

PROJECT NAME
UWCD Laguna Road Pipeline

DATE
5/17/2022

SHEET
1 of 2

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
C. Stopka	4/28/22	4/28/22	140-lb automatic trip	22E-01
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
L. Berry			N 6227432/E 1888424	27.8 ft
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
Hollow-Stem Auger			--	Warm, Breezy
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
2R Drilling			Farm road, ~2700ft west of Wood Rd, ~30ft north of Laguna Rd	Cuttings
DRILL RIG			GROUNDWATER READINGS DURING DRILLING / AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME-75			8.8 ft	11.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample or Run Location	Sample or Run Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Well Diagram	Well Description	Remarks
	0		CLAYEY SAND (SC); loose; brown; moist; (ALLUVIUM).		A											10:45 - Drilling Started CR (pH = 7.80, r = 583 ohm-cm, SO_4^{2-} = 790 mg/kg, Cl^- = 76 mg/kg)
26	2															
	3				1	3 3 5	8	100		22	99					SE
24	4															
	5		Very loose.		2	2 2 2	4	75								-200 (0% G, 35% S, 65% F)
22	6		Wet.													
	7															
20	8		Medium dense.		3	8 10 9	19	100		24	100					
	9															
18	10		Very loose; olive brown.		4	1 1 1	2	100								
	11															
16	12		Bottom of borehole at 11.5 ft bgs													11:35 - Drilling Completed
	13		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.													
14	14															
	15															
12	16															
	17															
10	18															
	19															
8	20															
	21															
6	22															
	23															
4	24															
	25															

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PROJECT NAME	
UWCD Laguna Road Pipeline	
PROJECT NUMBER	
221-500	
BORING NUMBER	
22E-01	
REVISION DATE	SHEET
5/17/2022	1 of 1

5 BR - STANDARD WITH MONITORING WELL 221-500 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 22/8/21

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
C. Stopka	4/29/22	4/29/22	140-lb automatic trip	22E-02
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
L. Berry			N 6228811/E 1888423	27.4 ft
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
Hollow-Stem Auger			--	Warm, Breezy
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
2R Drilling			Pullout, ~1250ft west of Wood Rd, ~60ft north of Laguna Rd	Monitoring Well
DRILL RIG			GROUNDWATER READINGS DURING DRILLING / AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME-75			10.9 ft on 4-29-22	51.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample or Run Location	Sample or Run Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Well Diagram	Well Description	Remarks
25	0		SILTY CLAY with SAND (CL-ML); stiff; brown; moist; white mineralization (calcite?); wood debris; (ARTIFICIAL FILL).		A										Flush mount traffic rated vault	
	1														Concrete surface seal	
	2														2 in. Schedule 40 PVC	
23	3				1	6 8 10	18	100		20	101				Bentonite seal	
	4															
	5		Chunk of concrete in sampler shoe.		2	4 4 5	9	25		19						Sample #2 was disturbed
21	6															
	7															
19	8		Poorly graded SAND with SILT (SP-SM); medium dense; light brown; moist; (ALLUVIUM).		3	6 8 12	20	100		25	87	3.75PP				-200 (0% G, 26% S, 73% F) CR (pH = 8.31, r = 180 ohm-cm, SO_4^{2-} = 8,315 mg/kg, Cl^- = 61 mg/kg)
	9														#3 Monterey sand	
17	10		Lean CLAY with SAND (CL); soft; brown; moist to wet.		4	1 2 2	4	100		27		0.75PP			2 in. Schedule 40 PVC, 0.02 in. slot size	PA (0% G, 25% S, 75% F)
	11															
15	12															
	13				5	4 6 8	14	100		23	103					
13	14		Poorly graded SAND with SILT (SP-SM); loose; light olive brown; moist to wet.													
	15				6	1 1 2	3	100		41						
11	16		Lean CLAY (CL); soft; dark grayish brown; moist.													
	17															
9	18		Poorly graded SAND with SILT (SP-SM); loose; brown; wet.		7	3 4 4	8	100								-200 (0% G, 81% S, 19% F)
	19															
7	20				8	1 2 2	4	100		33		0.75PP				
	21		Lean CLAY (CL); soft; dark grayish brown; moist to wet.													
5	22															
	23															
3	24															
	25															

(continued)

5 BR - STANDARD WITH MONITORING WELL 221-500 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 22/8/21

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Geotechnical • Geological • Construction Services

PROJECT NAME	
UWCD Laguna Road Pipeline	
PROJECT NUMBER	
221-500	
BORING NUMBER	
22E-02	
REVISION DATE	SHEET
5/17/2022	1 of 2

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample or Run Location	Sample or Run Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Well Diagram	Well Description	Remarks
	25		Medium stiff. Lean CLAY (CL) *(continued)*.		9	3 4 6	10	100		38	83	0.75PP				C
1	26															
	27															
-1	28															
	29															
-3	30		Lean CLAY with SAND (CL); stiff; light olive brown; moist; fine SAND.		10	5 5 5	10	50				0.75PP				-200 (0% G, 16% S, 84% F)
	31															
-5	32															
	33															
-7	34															
	35		Lean CLAY with SAND (CL); medium stiff; dark grayish brown; moist.		11	4 6 6	12	100		41	87	1.0PP				PI (40 LL, 23 PL, 17 PI) UU
-9	36															
	37															
-11	38															
	39															
-13	40		Lean CLAY with SAND (CL); very stiff; olive brown; moist to wet.		12	3 6 10	16	75				0.75PP				
	41															
-15	42															
	43															
-17	44															
	45		Stiff.		13	6 9 11	20	100		26	96	2.5PP				
-19	46															
	47															
-21	48															
	49															
-23	50				14	2 5 11	16	83				1.5PP				
	51		Lean CLAY (CL); very stiff; dark grayish brown; moist.													
-25	52		Bottom of borehole at 51.5 ft bgs													
	53															
-27	54		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.													
	55															

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PROJECT NAME	**UWCD Laguna Road Pipeline**
PROJECT NUMBER	**221-500**
BORING NUMBER	**22E-02**
REVISION DATE	**5/17/2022**
SHEET	**2 of 2**

5 BR - STANDARD WITH MONITORING WELL 221-500 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 22/8/21

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
C. Stopka	4/28/22	4/28/22	140-lb automatic trip	22E-03
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
L. Berry			N 6229116/E 1888413	27.0 ft
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
Hollow-Stem Auger			--	Warm, Breezy
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
2R Drilling			Farm road, ~960ft west of Wood Rd, ~50ft north of Laguna Rd	Bentonite Chips and Cutting
DRILL RIG			GROUNDWATER READINGS DURING DRILLING / AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME-75			17.0 ft / 17.2 ft on 4-28-22	31.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample or Run Location	Sample or Run Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Well Diagram	Well Description	Remarks
	0		SANDY lean CLAY (CL); medium stiff; strong brown; moist; (ARTIFICIAL FILL).		A					20						11:45 - Drilling Started CP ($\gamma_{D,MAX}$ = 123 pcf, w_{OPT} = 10%)
25	1															
	2															
	3				1	4 5 7	12	100		24	89	1.75PP				
23	4															
	5				2	2 3 3	6	100		23						CR (pH = 7.72, r = 507 ohm-cm, SO_4^{2-} = 5,061 mg/kg, Cl^- = 35 mg/kg)
21	6															
	7															
19	8				3	9 7 4	11	100		18	90					
	9		Poorly graded SAND with SILT (SP-SM); loose; brown; moist; (ALLUVIUM).													
17	10		SANDY lean CLAY (CL); soft; brown; mosit to wet.		4	2 2 1	3	100		34		0.75PP				PI (48 LL, 22 PL, 26 PI)
	11															
15	12															
	13		Mosit.		5	3 3 4	7	100				0.75PP				CU
13	14															
	15															
	16		Lean CLAY with SAND (CL); soft; light olive brown; moist; fine SAND.		6	1 1 2	3	100		50						
11	17															
	18		Poorly graded SAND with SILT (SP-SM); medium dense; light olive brown; wet.		7	13 20 15	35	100		23	102					PA (0% G, 47% S, 53% F)
9	19															
	20				8	1 1 2	3	100		35		0.5PP				
7	21		Lean CLAY (CL); medium stiff; very dark grayish brown; moist.													
	22															
5	23															
	24															
3	25															

(continued)

5 BR - STANDARD WITH MONITORING WELL 221-500 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 22/8/21

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

PROJECT NAME	
UWCD Laguna Road Pipeline	
PROJECT NUMBER	
221-500	
BORING NUMBER	
22E-03	
REVISION DATE	SHEET
5/17/2022	1 of 2

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample or Run Location	Sample or Run Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Well Diagram	Well Description	Remarks
	25		Lean CLAY (CL) *(continued)*.		9	4 5 6	11	100		44	77	1.5PP				PI (32 LL, 11 PL, 21 PI)
1	26															
	27															
-1	28															
	29															
-3	30				10	3 3 3	6	100		30		1.0PP				
	31															
-5	32		Bottom of borehole at 31.5 ft bgs													13:00 - Drilling Completed
	33															
-7	34		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.													
	35															
-9	36															
	37															
-11	38															
	39															
-13	40															
	41															
-15	42															
	43															
-17	44															
	45															
-19	46															
	47															
-21	48															
	49															
-23	50															
	51															
-25	52															
	53															
-27	54															
	55															

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

PROJECT NAME	**UWCD Laguna Road Pipeline**
PROJECT NUMBER	**221-500**
BORING NUMBER	**22E-03**
REVISION DATE	**5/17/2022**
SHEET	**2 of 2**

5 BR - STANDARD WITH MONITORING WELL 221-500 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 22/8/21

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
C. Stopka	4/28/22	4/28/22	140-lb automatic trip	22E-04
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
L. Berry			N 6229649/E 1888388	26.2 ft
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
Hollow-Stem Auger			--	Warm, Breezy
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
2R Drilling			Farm road, ~300ft west of Wood Rd, ~50ft north of Laguna Rd	Bentonite Chips and Cutting
DRILL RIG			GROUNDWATER READINGS DURING DRILLING / AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME-75			10.0 ft / 7.2 ft on 4-28-22	11.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample or Run Location	Sample or Run Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Well Diagram	Well Description	Remarks
	0		SANDY lean CLAY (CL); medium stiff; dark brown; moist; with pockets of SILTY SAND with GRAVEL (SM); brown; slightly moist; (ARTIFICIAL FILL).		A					27						13:10 - Drilling Started CR (pH = 7.33, r = 385 ohm-cm, SO_4^{2-} = 3,412 mg/kg, Cl^- = 156 mg/kg)
24	2															
	3				1	4 4 5	9	33								Sample #1 was disturbed SE
22	4															
	5		SANDY lean CLAY (CL); medium stiff; brown; moist; fine SAND; (ALLUVIUM). Strong brown.		2	2 3 3	6	100				0.75PP				-200 (0% G, 20% S, 80% F)
20	6															
	7															▼
18	8		Lean CLAY (CL); soft; olive brown; moist; trace fine SAND.		3	2 2 3	5	100		36	84					
	9															
16	10															▽
	11		Lean CLAY with SAND (CL); medium stiff; strong brown; moist to wet; fine SAND.		4	2 3 3	6	100								
14	12		Bottom of borehole at 11.5 ft bgs													13:40 - Drilling Completed
	13		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.													
12	14															
	15															
10	16															
	17															
8	18															
	19															
6	20															
	21															
4	22															
	23															
2	24															
	25															

5 BR - STANDARD WITH MONITORING WELL 221-500 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 22/8/21

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

PROJECT NAME	UWCD Laguna Road Pipeline
PROJECT NUMBER	221-500
BORING NUMBER	22E-04
REVISION DATE	5/17/2022
SHEET	1 of 1

APPENDIX B - RESULTS OF LABORATORY TESTING

SUMMARY OF LABORATORY TEST RESULTS

Sample Information				Total Unit Weight, γ_t (pcf)	Dry Unit Weight, γ_d (pcf)	Moisture Content (%)	Gradation			Atterberg		Corrosion				Compaction		R-Value	Expansion Index	Additional Testing	USCS Classification
Boring No.	Sample No.	Depth (ft)	Sample Type				Gravel (%)	Sand (%)	Fines (%)	Plasticity Index (PI)	Liquid Limit (LL)	pH	Resistivity (Ω - cm)	SO_4^{2-} (mg/kg)	Cl^- (mg/kg)	Max. Dry Unit Weight, $\gamma_{d,MAX}$ (pcf)	Optimum Moisture Content (%)				
22E-01	A	0.0	BULK	--	--	--	--	--	--	--	--	7.80	583	790	76	--	--	--	--	--	CLAYEY SAND (SC)
22E-01	1	2.5	MCAL	120	99	22	--	--	--	--	--	--	--	--	--	--	--	--	--	SE	CLAYEY SAND (SC)
22E-01	2	5.0	SPT	--	--	--	0	35	65	--	--	--	--	--	--	--	--	--	--	--	CLAYEY SAND (SC)
22E-01	3	7.5	MCAL	124	100	24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	CLAYEY SAND (SC)
22E-01	4	10.0	SPT	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	CLAYEY SAND (SC)
22E-02	A	0.0	BULK	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SILTY CLAY with SAND (CL-ML)
22E-02	1	2.5	MCAL	122	101	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SILTY CLAY with SAND (CL-ML)
22E-02	2	5.0	SPT	--	--	19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SILTY CLAY with SAND (CL-ML)
22E-02	3	7.5	MCAL	109	87	25	0	26	73	--	--	8.31	180	8,315	61	--	--	--	--	--	Poorly graded SAND with SILT (SP-SM)
22E-02	4	10.0	SPT	--	--	27	0	25	75	--	--	--	--	--	--	--	--	--	--	--	Lean CLAY with SAND (CL)
22E-02	5	12.5	MCAL	126	103	23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Lean CLAY with SAND (CL)
22E-02	6	15.0	SPT	--	--	41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Poorly graded SAND with SILT (SP-SM)
22E-02	7	17.5	MCAL	123	--	--	0	81	19	--	--	--	--	--	--	--	--	--	--	--	Poorly graded SAND with SILT (SP-SM)
22E-02	8	20.0	SPT	--	--	33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Lean CLAY (CL)
22E-02	9	25.0	MCAL	115	83	38	--	--	--	--	--	--	--	--	--	--	--	--	--	C	Lean CLAY (CL)
22E-02	10	30.0	SPT	--	--	--	0	16	84	--	--	--	--	--	--	--	--	--	--	--	Lean CLAY with SAND (CL)
22E-02	11	35.0	MCAL	122	87	41	--	--	--	17	40	--	--	--	--	--	--	--	--	UU	Lean CLAY with SAND (CL)
22E-02	12	40.0	SPT	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Lean CLAY with SAND (CL)
22E-02	13	45.0	MCAL	121	96	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Lean CLAY with SAND (CL)
22E-02	14	50.0	SPT	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Lean CLAY (CL)

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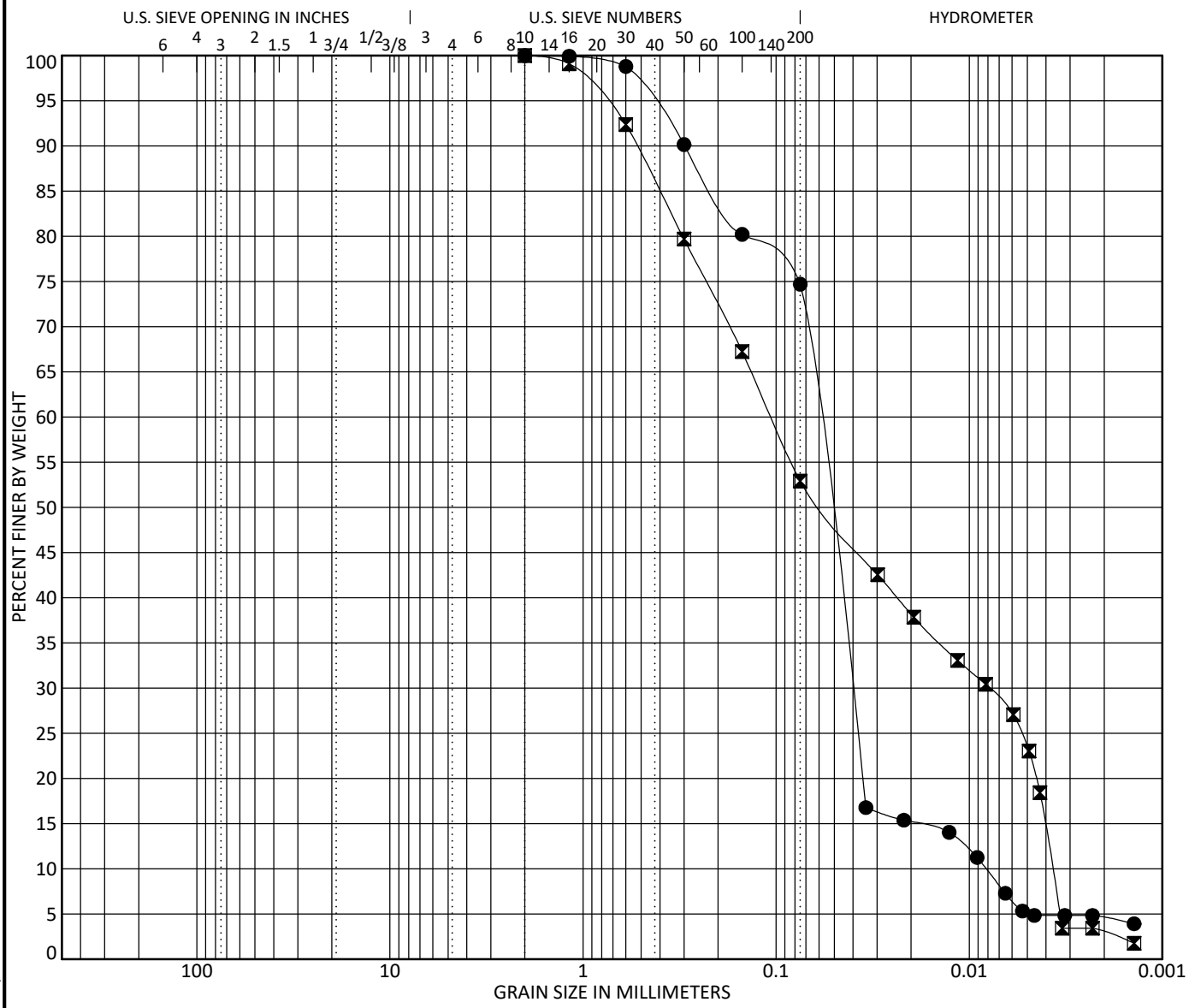
PROJECT NAME **UWCD Laguna Road Pipeline**	
PROJECT NO. **221-500**	REVISION DATE **5-17-22**
PROJECT MANAGER **L. Berry**	PREPARED BY **C. Stopka**
CHECKED BY **L. Berry**	SHEET **1 of 2**

SUMMARY OF LABORATORY TEST RESULTS

Sample Information				Total Unit Weight, γ_t (pcf)	Dry Unit Weight, γ_d (pcf)	Moisture Content (%)	Gradation			Atterberg		Corrosion				Compaction		R-Value	Expansion Index	Additional Testing	USCS Classification
Boring No.	Sample No.	Depth (ft)	Sample Type				Gravel (%)	Sand (%)	Fines (%)	Plasticity Index (PI)	Liquid Limit (LL)	pH	Resistivity (Ω - cm)	SO_4^{2-} (mg/kg)	Cl^- (mg/kg)	Max. Dry Unit Weight, $\gamma_{d,MAX}$ (pcf)	Optimum Moisture Content (%)				
22E-03	A	0.0	BULK	--	--	20	--	--	--	--	--	--	--	--	--	123	10	--	--	--	SANDY lean CLAY (CL)
22E-03	1	2.5	MCAL	111	89	24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SANDY lean CLAY (CL)
22E-03	2	5.0	SPT	--	--	23	--	--	--	--	--	7.72	507	5,061	35	--	--	--	--	--	SANDY lean CLAY (CL)
22E-03	3	7.5	MCAL	107	90	18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Poorly graded SAND with SILT (SP-SM)
22E-03	4	10.0	SPT	--	--	34	--	--	--	26	48	--	--	--	--	--	--	--	--	--	SANDY lean CLAY (CL)
22E-03	5	12.5	MCAL	124	98	26	--	--	--	--	--	--	--	--	--	--	--	--	--	CU	SANDY lean CLAY (CL)
22E-03	6	15.0	SPT	--	--	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Lean CLAY with SAND (CL)
22E-03	7	17.5	MCAL	126	102	23	0	47	53	--	--	--	--	--	--	--	--	--	--	--	Poorly graded SAND with SILT (SP-SM)
22E-03	8	20.0	SPT	--	--	35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Poorly graded SAND with SILT (SP-SM)
22E-03	9	25.0	MCAL	111	77	44	--	--	--	21	32	--	--	--	--	--	--	--	--	--	Lean CLAY (CL)
22E-03	10	30.0	SPT	--	--	30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Lean CLAY (CL)
22E-04	A	0.0	BULK	--	--	27	--	--	--	--	--	7.33	385	3,412	156	--	--	--	--	--	SANDY lean CLAY (CL)
22E-04	1	2.5	MCAL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SE	SANDY lean CLAY (CL)
22E-04	2	5.0	SPT	--	--	--	0	20	80	--	--	--	--	--	--	--	--	--	--	--	SANDY lean CLAY (CL)
22E-04	3	7.5	MCAL	114	84	36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Lean CLAY (CL)
22E-04	4	10.0	SPT	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Lean CLAY with SAND (CL)

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	



Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	22E-02	10.0 ft	Lean CLAY with SAND (CL)	--	--	--	3.34	7.52
⊠	22E-03	17.5 ft	Poorly graded SAND with SILT (SP-SM)	--	--	--	0.16	28.51

Specimen Identification			D100	D60	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	22E-02	10.0 ft	2	0.061	0.054	0.041	0.008	0.0	25.3	69.6	5.1
⊠	22E-03	17.5 ft	2	0.106	0.058	0.008	0.004	0.0	47.1	29.4	23.5

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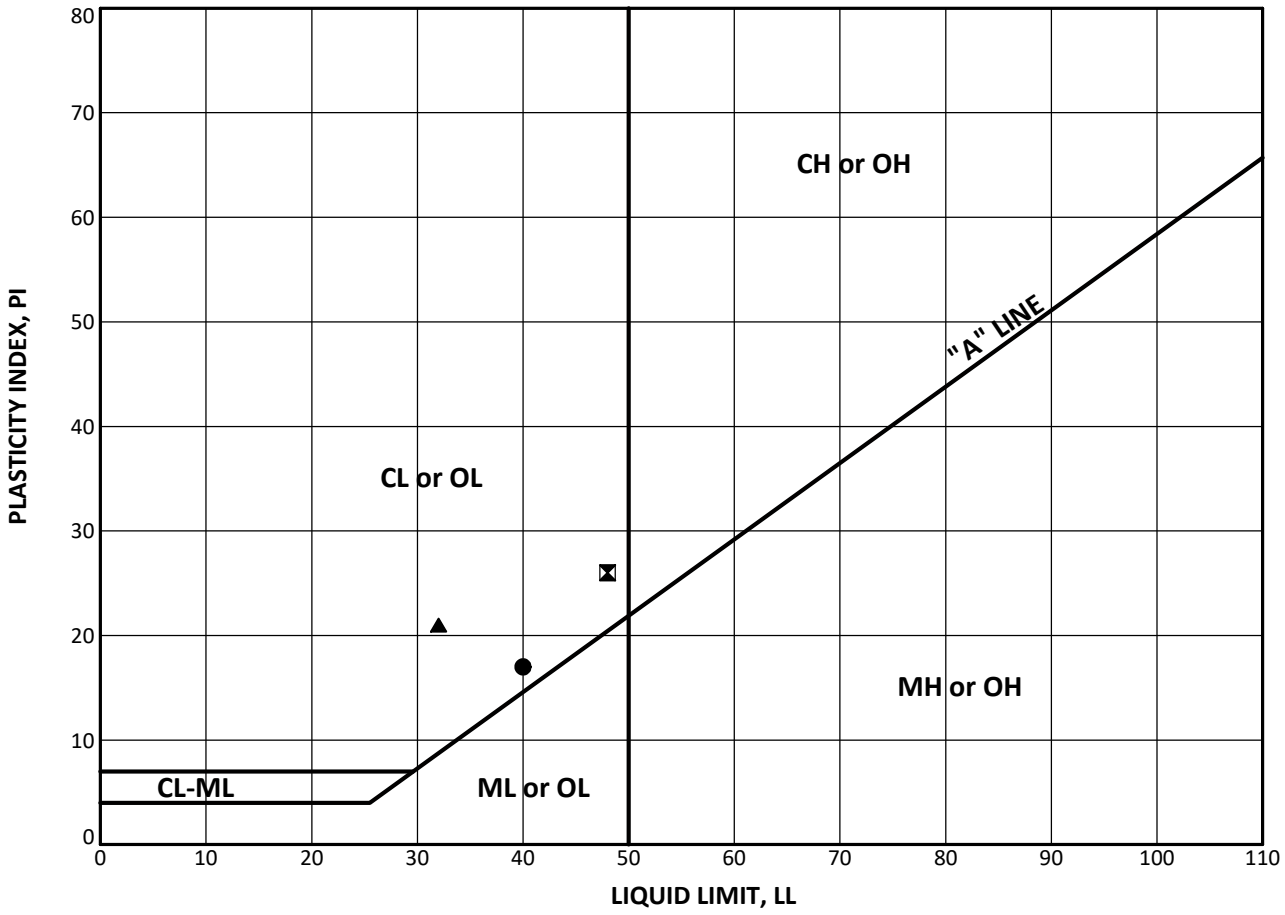
GRAIN SIZE DISTRIBUTION

PROJECT NAME	PROJECT NO.
UWCD Laguna Road Pipeline	221-500
REVISION DATE: 5-17-22	PROJECT MANAGER: L. Berry
PREPARED BY: C. Stopka	CHECKED BY: L. Berry
SHEET: 1 of 1	

YEH SIEVE 221-500 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 22/8/21



Boring Number	Sample ID	Depth (ft)	Test Symbol	MC (%)	Fines (%)	LL	PL	PI	Classification
22E-02	11	35.0	●	41	--	40	23	17	Lean CLAY with SAND (CL)
22E-03	4	10.0	⊠	34	--	48	22	26	SANDY lean CLAY (CL)
22E-03	9	25.0	▲	44	--	32	11	21	Lean CLAY (CL)

YEH ATTERBERG 221-500 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 22/8/21

Yeh and Associates, Inc.
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ATTERBERG LIMITS

PROJECT NAME: UWCD Laguna Road Pipeline	PROJECT NO.: 221-500
REVISION DATE: 5-17-22	PROJECT MANAGER: L. Berry
PREPARED BY: C. Stopka	CHECKED BY: L. Berry / SHEET: 1 of 1

Corrosivity Tests Summary

CTL # 687-158 **Date:** 5/31/2022 **Tested By:** PJ **Checked:** PJ
Client: Yeh and Associates **Project:** Laguna Road Pipeline **Proj. No:** 221-500
Remarks:

Sample Location or ID			Resistivity @ 15.5 °C (Ohm-cm)			Chloride	Sulfate		pH	ORP (Redox)		Sulfide	Moisture	Soil Visual Description
			As Rec.	Min	Sat.	mg/kg	mg/kg	%		E_H (mv)	At Test	Qualitative by Lead	At Test %	
						Dry Wt.	Dry Wt.	Dry Wt.						
Boring	Sample, No.	Depth, ft.	ASTM G57	Cal 643	ASTM G57	ASTM D4327	ASTM D4327	ASTM D4327	ASTM G51	ASTM G200	Temp °C	Acetate Paper	ASTM D2216	
22E-01	A	0-5	-	-	-	76	790	0.0790	-	-	-	-	17.5	Dark Brown CLAY w/ Sand
22E-02	8	20	-	-	-	61	8,315	0.8315	-	-	-	-	32.3	Brown CLAY
22E-03	2	5	-	-	-	35	5,061	0.5061	-	-	-	-	27.2	Brown CLAY w/ Sand
22-04	A	0-45	-	-	-	156	3,412	0.3412	-	-	-	-	21.8	Brown Clayey SAND

5/26/2022

Yeh and Associates, Inc.
56 E. Main Street
Suite 104
Ventura CA, 93001

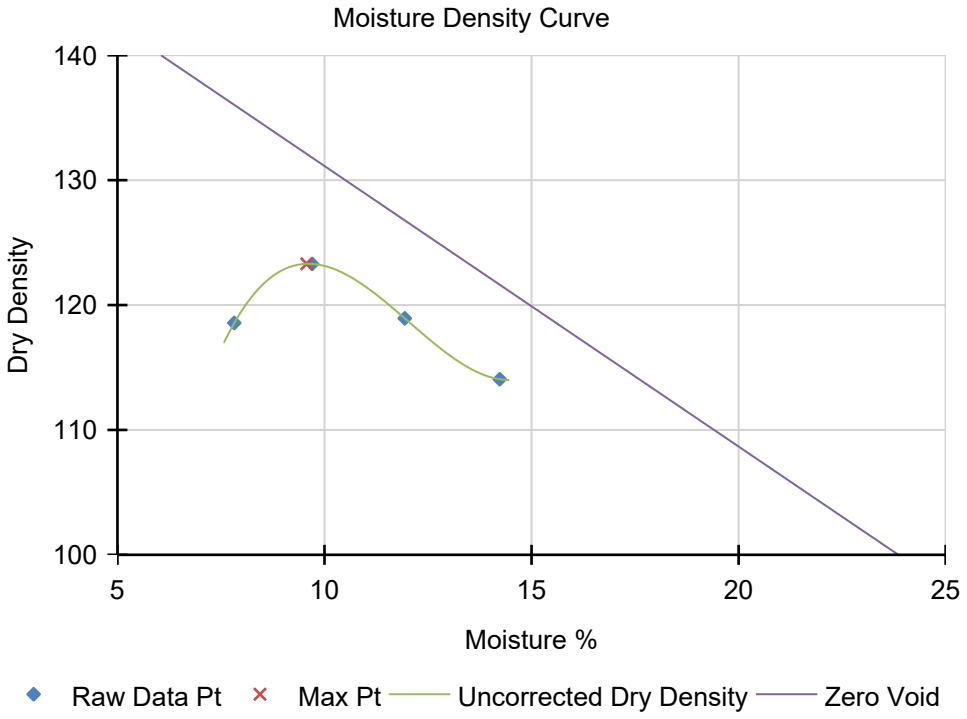
LABORATORY COMPACTION CHARACTERISTICS OF SOIL

Project No 0107
Client Reference No
Sample ID/Barcode 058
Material Criteria
Material Source
Material Description Clay with sand (CL-CH); olive brown, wet
Project Yeh - On-Call Master Agreement
Location Detail Yeh 221-500; 22E-03 #A @0'-5'

Date Sampled 5/16/2022
Date Tested 5/19/2022
Sampled By Client

Test Standard ASTM D1557
Compaction Method B
Rock Correction No
Rock Replacement No
Rock Specific Gravity
Specific Gravity Determination

Method of Sample Preparation Used Wet
Type of Compaction Rammer Used Automatic
Type of Rammer Face 2" Round
Optimum Moisture 9.6
Maximum Dry Dens 123.3



Sieve Analysis

Sieve Size	%Retained
+3/4"	0.0
+3/8"	2.0
+#4	3.0
Minus #4	
Total	5.0

Data Pt	Moisture %	Dry Density
1	7.8	118.6
2	9.7	123.3
3	11.9	118.9
4	14.2	114.1

Tested By Adam Sinutko

Manager Evan Folk

5/26/2022

Sand Equivalent Value of Soils and Fine Aggregate

AASHTO T176

Client Yeh and Associates, Inc.

Address Yeh and Associates, Inc.
56 E. Main Street
Suite 104
Ventura CA, 93001

Project No 0107
Client Reference No
Material Source
Material Description Clay (CL-CH); dark olive brown, wet
Project Yeh - On-Call Master Agreement
Location Detail Yeh #221-500; 22E-01 #1 @ 2.5'

Date Tested 5/20/2022
Sample Rec Date
Date Sampled 5/16/2022
Sampled By Client

Prep Method Dry
Shaker Method Mechanical Shaker

		Specification
Sand Reading Average	0.5	
Clay Reading Average	13.5	
Sand Equivalent Value	5.0	

Remarks

Technician Adam Sinutko
Digital Signature By User Login

Manager Evan Folk
Digital Signature By User Login

Lab Address PO Box 52506 OXNARD CA, 93031
System Link http://umt.vahalo.com/assignments/BE5A3B28-87D0-41D6-C776-24D0D2B5A9C6
System Path Yeh - On-Call Master Agreement / SOILS / AGGREGATE LAB / 0107 SandEquiv AS220519-1

5/26/2022

Sand Equivalent Value of Soils and Fine Aggregate

AASHTO T176

Client Yeh and Associates, Inc.

Address Yeh and Associates, Inc.
56 E. Main Street
Suite 104
Ventura CA, 93001

Project No 0107
Client Reference No
Material Source
Material Description Clay (CL-CH); dark olive brown, wet
Project Yeh - On-Call Master Agreement
Location Detail Yeh #221-500; 22E-04 #A @ 0-5'

Date Tested 5/20/2022
Sample Rec Date
Date Sampled 5/16/2022
Sampled By Client

Prep Method
Shaker Method Mechanical Shaker

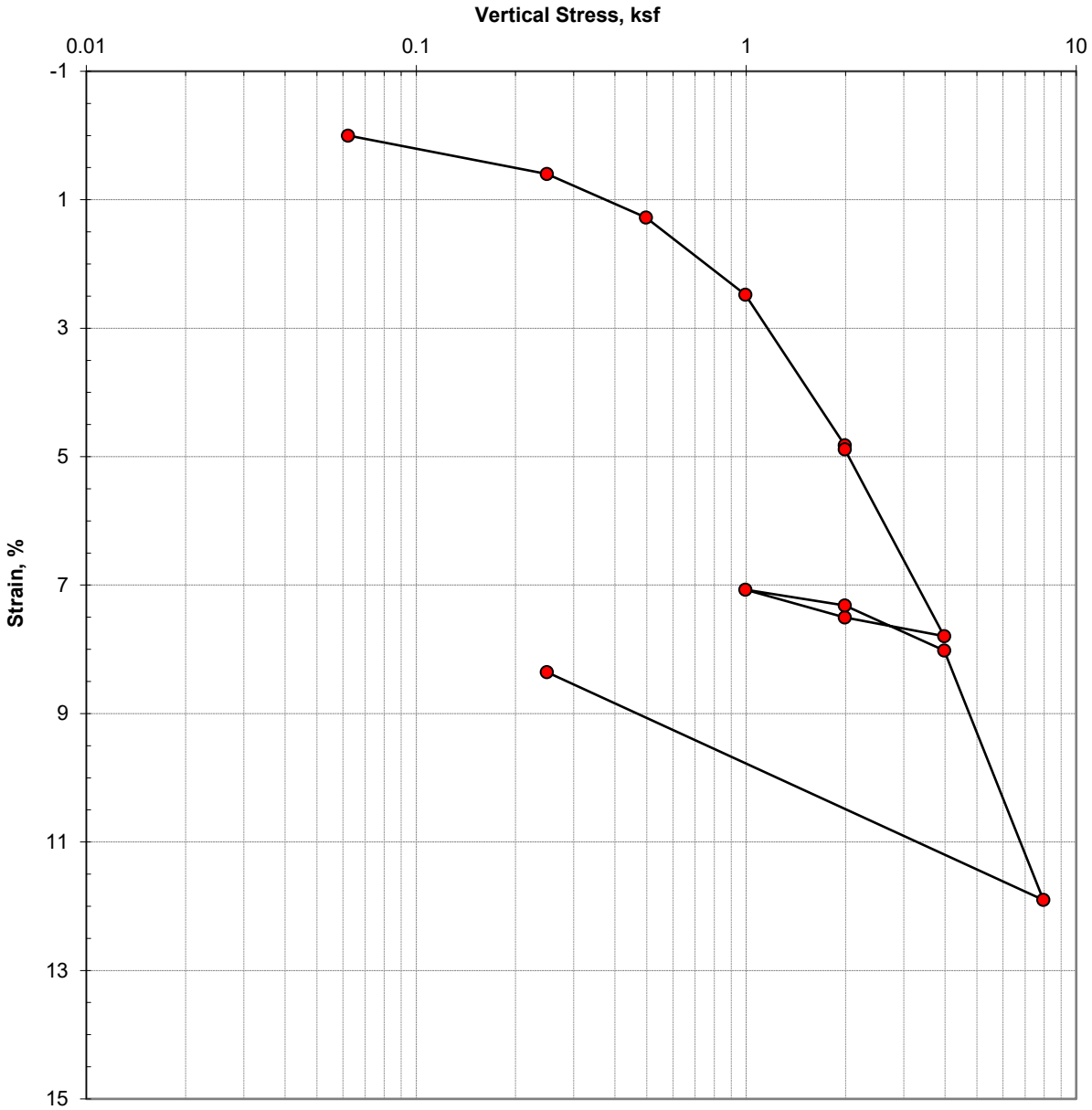
	Specification
Sand Reading Average	0.4
Clay Reading Average	13.3
Sand Equivalent Value	4.0

Remarks

Technician Adam Sinutko
Digital Signature By User Login

Manager Evan Folk
Digital Signature By User Login

Lab Address PO Box 52506 OXNARD CA, 93031
System Link http://umt.vahalo.com/assignments/5DA9270A-3425-4724-89D4-8AFF2E2CD5EA
System Path Yeh - On-Call Master Agreement / SOILS / AGGREGATE LAB / 0107 SandEquiv AS220519-2; 05B



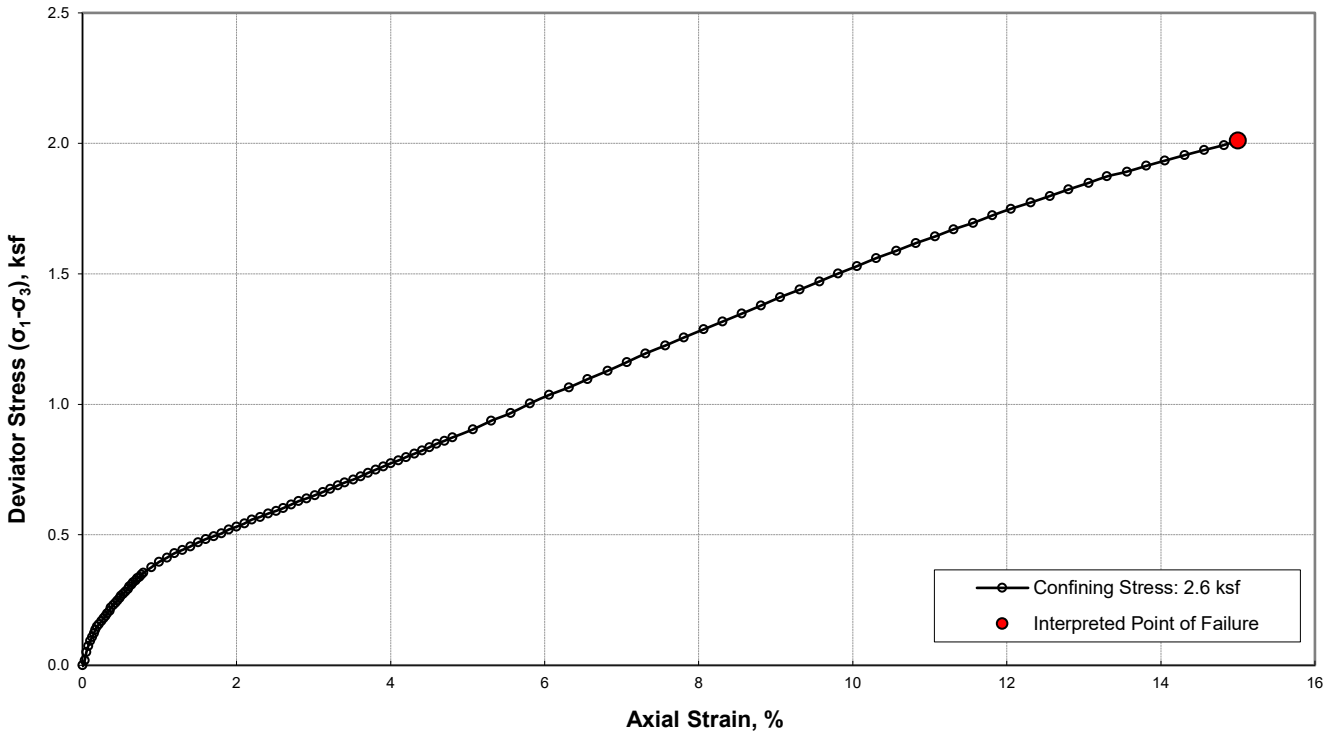
SAMPLE ID			
	Boring, Sample #, Depth	22E-02 , #9 , 25.0 ft	
	USCS Classification:	Lean Clay (CL)	

PROPERTIES	Initial	Final
Water Content, %	38.2%	32.5%
Dry Unit Weight, pcf	82.9	90.5
Saturation, %	98%	100%
Void Ratio	1.07	0.90
Diameter, in	2.42	2.42
Height, in	0.82	0.75

SUMMARY	
Preconsolidation Pressure, ksf	---
Inundation Increment, ksf	--
Liquid Limit	---
Plastic Limit	---
Plasticity Index	---
Passing #200	---
Estimated Gs	2.75

REMARKS
Test Method: ASTM D2435
Project: Laguna Road Pipeline
Test Performed by CalPoly GEO-E Lab
Checked by L.Berry, Yeh 8-19-22

INCREMENTAL CONSOLIDATION TEST



SAMPLE ID

Boring Number:	22E-02
Sample Number:	11
Sample Depth:	35.0 ft
USCS Classification:	Lean CLAY with sand (CL): gray brown, moist

PROPERTIES

Water Content, %	34.2%
Dry Unit Weight, pcf	86.5
Saturation, %	96%
Void Ratio	0.98
Diameter, in	2.42
Height, in	5.00

SAMPLE IMAGES

CLASSIFICATION

Sieve Size	% Passing	Other Parameters	
3/8-in. (9.5mm)	---	Liquid Limit	---
#4 (4.75mm)	---	Plastic Limit	---
#16 (1.18mm)	---	Plasticity Index	---
#30 (0.6mm)	---	Estimated Gs	2.75
#100 (0.150mm)	---	S_u from T_v, ksf	---
#200 (0.075mm)	---	S_u from PP, ksf	---

TEST SUMMARY

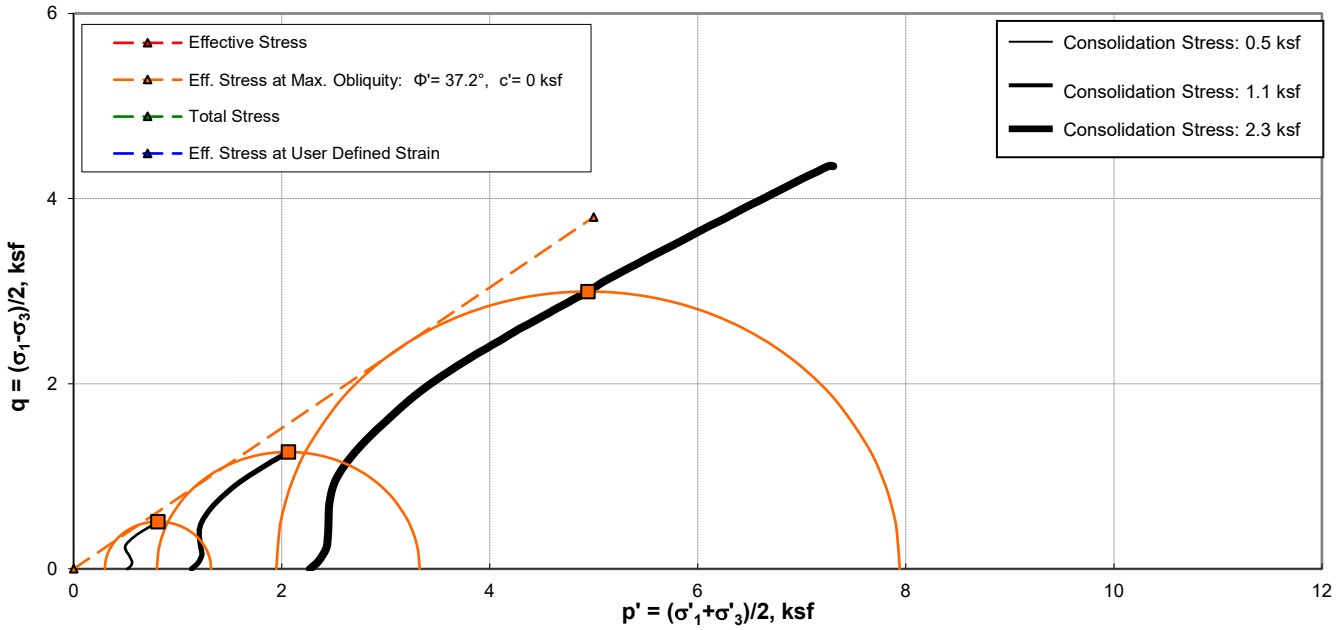
Maximum Deviator Stress, ksf	2.0
Undrained Shear Strength, ksf	1.0
Axial Strain at Failure, %	15.0
Strain Rate, %/min	1.0
Cell Pressure, ksf	2.6
Tested By:	GF
Date Tested:	5/27/22

REMARKS

Test Method: ASTM 2850
Project: Laguna Road Pipeline

Tested by the CalPoly Geo-E Laboratory. Checked by L. Berry, Y

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST REPORT



SAMPLE ID

Boring Number	22E-03
Sample Number	5
Specimen Depth	12.5 ft
USCS Classification	Clayey SAND (SC): gray olive brown, wet

INITIAL

Trial ID	A	B	C
Water Content, %	28.1%	25.9%	24.9%
Dry Unit Weight, pcf	95.3	99.1	100.7
Saturation, %	99%	100%	100%
Void Ratio	0.77	0.70	0.67
Diameter, in	2.42	2.42	2.42
Height, in	5.00	4.83	4.72

PRE-SHEAR

Water Content, %	25.9%	24.9%	24.0%
Dry Unit Weight, pcf	99.1	100.7	102.3
Saturation, %	100%	100%	100%
Void Ratio	0.70	0.67	0.65

REMARKS

Test Method: ASTM 4767 (modified for staged testing)
Project: Laguna Road Pipeline

Tested by CalPOLY Geo-E Laboratory.
Checked by L. Berry, Yeh and Associates, 8-19-22

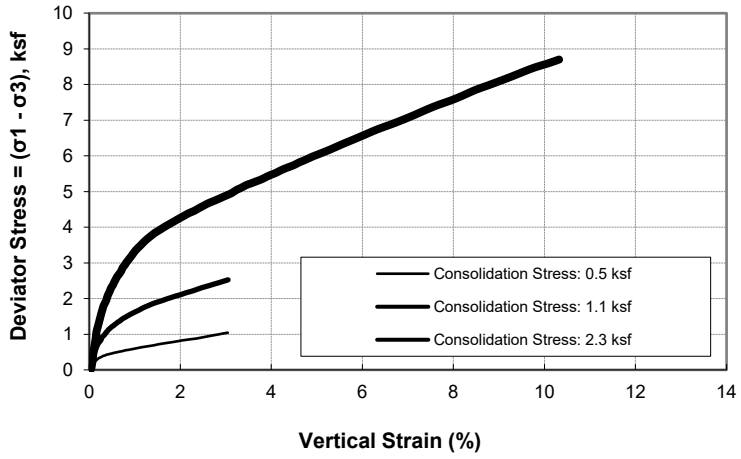
CLASSIFICATION

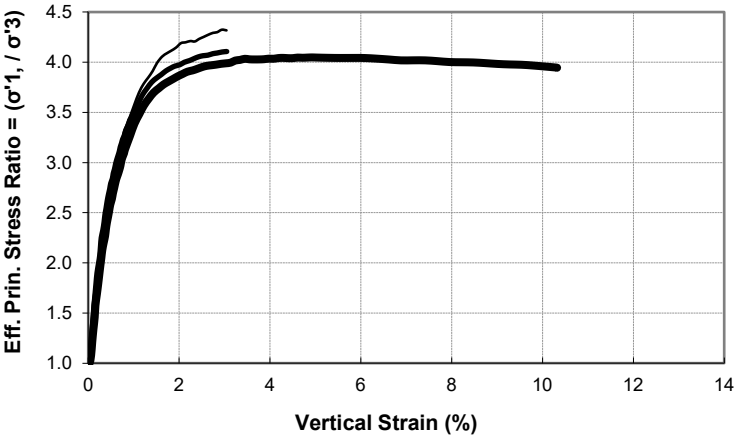
Trial ID	A	B	C
Liquid Limit	---	---	---
Plastic Limit	---	---	---
Plastic Index	---	---	---
Passing #4 (4.75 mm)	---	---	---
Passing #200 (0.075 mm)	---	---	---
Estimated Gs	2.70	2.70	2.70

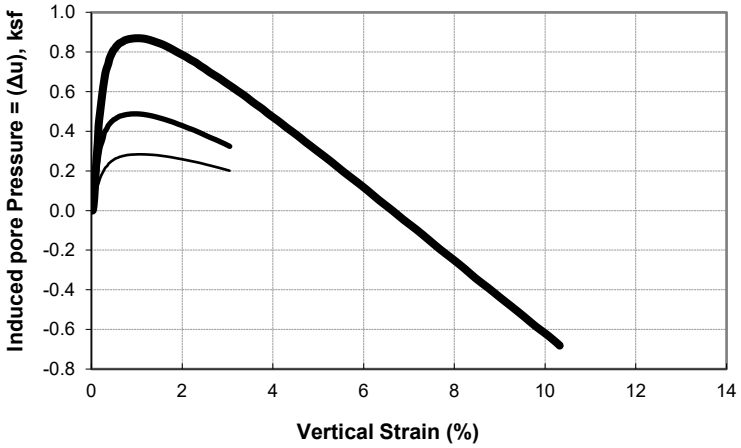
TEST SUMMARY

Trial ID	A	B	C
B-Parameter	0.98	0.98	0.98
t_{50}, minutes	N/A	N/A	N/A
Strain Rate, %/min	0.02	0.02	0.02
Cell Pressure, ksf	9.2	9.8	11.0
Back Pressure, ksf	8.7	8.7	8.7
Consolidation Stress, ksf	0.5	1.1	2.3
Deviator Stress @ Failure, ksf	1.0	2.5	5.9
Axial Strain @ Failure, %	2.9	3.0	4.9
σ'_{1F}, ksf	1.3	3.3	7.9
σ'_{3F}, ksf	0.3	0.8	1.9
Tested By:	ND	ND	ND
Date Tested:	5/29/22	5/30/22	5/31/22

CONSOLIDATED UNDRAINED TRIAXIAL TEST







A	22E-03	#5	12.5 ft	Clayey SAND (SC): gray olive brown, wet
B	22E-03	#5	12.5 ft	
C	22E-03	#5	12.5 ft	

CONSOLIDATED UNDRAINED TRIAXIAL TEST

Appendix F

Noise Modeling

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 10/24/2023
Case Description: Laguna Rd Pipeline

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Single family residence	Residential	50.0	45.0	40.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	600.0	0.0
Grader	No	40	85.0		600.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment		Calculated (dBA) Day Lmax	Day L10	Evening Lmax	Evening L10	Night Lmax	Night L10	Day Lmax	Day L10	Evening Lmax	Evening L10	Night Lmax	Night L10
Dozer		60.1	59.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader		63.4	62.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	63.4	64.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A