



**CITY OF SANTA MARIA
INITIAL ENVIRONMENTAL STUDY
MITIGATED NEGATIVE DECLARATION
DECEMBER 2022**

**CITY OF SANTA MARIA WELL 6S INTERTIE SPECIAL PROJECT
(SP2021-0012)**

Vacant parcels at the Santa Maria Public Airport
West of Skyway Dr, East of Airpark Dr, between Hangar St and Fairway Dr
APN 111-231-017

PROJECT SUMMARY

Project Description	<p>The City of Santa Maria Utilities Department is proposing to develop the connection of the City's existing groundwater Well 6S to the groundwater header line located at Well 11S, located along Airpark Drive. This pipeline connection would be approximately 2,020 feet long and consist of an 18-inch ductile iron pipe. No structural development is proposed.</p> <p>The proposed intertie project would increase the capacity of the City's water supply by approximately 1 million gallons per day. The range of flows in the proposed Well 6S Intertie Project will be from approximately 1,500 gallons per minute (gpm) to 7,700 gpm. There are no existing or proposed service connections to the Airport Pipeline.</p> <p>A majority of the pipeline would be constructed using conventional cut and cover construction trenching techniques. The project disturbance area would consist of an approximately 2,020 foot long by 15-foot-wide disturbance area. This also would include two access pits (approximately 34 x 14 feet and 12 x 8 feet in area respectively), for a total area of site disturbance of approximately 30,900 square feet. The project includes an estimated 1,750 cubic yards of excavation (1,100 cubic yards to be exported).</p> <p>There is one jack and bore section proposed across an existing open earthen drainage channel/creek on airport property to advance pipeline construction from south to north. The purpose of the bore is to avoid excavation in proximity to the creek. The bore will advance a 30-inch steel casing.</p> <p>The proposed pipeline location is within the footprint of a new road being planned by the City (with the exception of the portion of the pipeline underneath the creek). Additionally, based on plans produced by the Airport District, the future road will result in 4 to 7 feet of cover over the pipeline. In the interim condition, the pipeline will have approximately 4 feet of cover over it.</p>
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Location	The proposed project site is linear in form, following the proposed pipeline alignment, and is void of any existing development. The pipeline alignment would be approximately 2,020 feet long, extending south along the western side of Skyway Drive between the northern and southern sections of Airpark Drive in the City of Santa Maria.
Assessor's Parcel No.	111-231-017
General Plan Designation	Open Space (OS), Airport Service (A-AS), Light Industrial (LI)
Zoning	PD/M-1 (Planned Development/Light Manufacturing), OS (Open Space), CZ (Airport Clear Zone) and PD/AS-II (Planned Development/Airport Service II).
Size of Site	The project disturbance area would consist of an approximately 2,020 foot long by 15-foot-wide disturbance area. This also would include two access pits (approximately 34 x 14 feet and 12 x 8 feet in area respectively), for a total area of site disturbance of approximately 30,900 square feet.
Present Use	Undeveloped
Proposed Uses	Pipeline for connecting City water wells 6S and 11S.
Access	Airpark Drive
Surrounding Uses/Zoning:	
North	Light manufacturing uses (storage units and wire/cable manufacturing)
South	Santa Maria Airport
East	Light manufacturing uses (storage units and wire/cable manufacturing)
West	Santa Maria Airport
Storm Water Retardation	The project would comply with the adopted standards contained within the City of Santa Maria's Municipal Code, Chapter 8-12 (Wastewater Collection, Treatment, and Disposal) Section 8-12A (Stormwater Runoff Pollution Prevention).
Applicant/Agent/Owner	City of Santa Maria

GENERAL AREA DESCRIPTION:

The proposed project is located in the southwest portion of the City of Santa Maria, to the east of the Santa Maria Airport. The project site consists of an approximately 2,020-foot-long linear alignment extending roughly between the southern and northern sections of Airpark Drive. The project site is void of any development, consisting of open space between the Airport and Skyway Drive. A creek crosses the proposed pipeline alignment, consisting of a thin strip of riparian vegetation associated with the creek.

The proposed pipeline would be jack bored beneath the creek to avoid impacts to the creek and associated riparian vegetation. The rest of the site consists of non-native grassland that is regularly mowed and disturbed portions of the existing Airpark Drive.

ENVIRONMENTAL SETTING:

As noted above, the project alignment is within existing paved road, disturbed non-native annual grassland dominated by non-native weedy species such as annual bromes (*Bromus* spp.), veldt grass, and filarees (*Erodium* spp.), and surrounded by urban development including developed Airport and commercial/industrial development, and vacant lots of disturbed non-native annual grassland. A willow riparian corridor follows along the County flood control ditch. This stretch of ditch is characterized as Freshwater Forested/Shrub Wetland as willow scrub riparian habitat was observed through and nearby the project area. Several patches of tules (*Schoenoplectus acutus*) were present in the ditch during on-site surveys, under the willow canopy but did not form the dominant cover on the existing site.

PROJECT REVIEW:

The environmental impacts associated with the development of the site were determined using the City of Santa Maria Staff Project Environmental Checklist (attached), on-site inspection, various computer models, and information provided by the City of Santa Maria. Potentially significant adverse environmental impacts were identified in the areas of air quality, biological resources, cultural resources, geology and soils, and noise.

Based on the above-mentioned sources, no adverse impacts are associated with aesthetics, agriculture and forest resources, energy, greenhouse gas emissions, hazards and hazardous materials, hydrology/water quality, land use and planning, mineral resources, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire.

IMPACT SUMMARY TABLE

Size of Site	30,900 square feet
Size of Buildings	NA
Water Demand	NA
Sewage Generation	NA
Average Daily Trips	NA
P.M. Peak Trips	NA
<u>Unmitigated</u> Construction Emissions: ⁽¹⁾ Reactive Hydrocarbons Nitrogen Oxides	1.1050 pounds/day 12.0196 pounds/day

(1) CalEEMod 2020.4.0 Model.

The following discussion of the potential adverse environmental impacts includes mitigation measures which would reduce all identified impacts to a level of insignificance and are recommended to be included in the conditions of approval for the project. If the decision makers wish to delete a mitigation measure which is proposed to mitigate a significant impact, an alternative mitigation measure should be agreed to by the applicant and made part of the project. Verification that these mitigation measures have been implemented will be monitored as described in Section 8 of the City of Santa Maria's Environmental Procedures. The monitoring checklist is included at the end of this report.

Air Quality

Based on the CalEEMod air quality model prepared for this project, the proposed project would not result in the exceedance of any short-term construction threshold as recommended by the SBAPCD. However, because Santa Barbara County violates the state standard for PM10, dust control measures are required for all projects involved in earthmoving regardless of the significance of fugitive dust impacts. As such, impacts related to construction emissions are considered significant but mitigable.

Construction equipment itself can be the source of air quality emission impacts and may be subject to California Air Resources Board or SBAPCD permitting requirements. Truck trips associated with the materials that will be cut from the site may also be a source of emissions subject to SBAPCD permitting requirements, subject to specific truck routing selected. Impacts related to vehicle and heavy equipment emissions are considered significant but mitigable.

It is important to note that the proposed project is limited to the construction activities associated with the installation of the raw water pipeline between Well 6S and 11S. The project does not include an operational phase. In addition, the proposed project would not require any new staff. The project would have a less than significant impact resulting from 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.

The following mitigation shall be required in order to reduce impacts to less than significant levels:

AQ-1. To mitigate fugitive dust emissions related to project construction, the following shall be implemented:

- a) Reduce the amount of the disturbed area where possible;
- b) Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible;
- c) All dirt stock pile areas should be sprayed daily as needed;
- d) Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following

- completion of any soil disturbing activities;
- e) Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;
 - f) All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SBAPCD;
 - g) All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used;
 - h) Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
 - i) All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114;
 - j) Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site;
 - k) Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible;
 - l) All of these fugitive dust mitigation measures shall be shown on grading and building plans; and
 - m) The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20% opacity, and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the SBAPCD Compliance Division prior to the start of any grading, earthwork or demolition.

AQ-2. The required mitigation measures for reducing nitrogen oxides (NO_x), reactive organic gases (ROG), and diesel particulate matter (DPM) emissions from construction equipment are listed below:

- Maintain all construction equipment in proper tune according to manufacturer's specifications;
- Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- Use diesel construction equipment meeting ARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State off-Road Regulation;
- Use on-road heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NO_x exempt area fleets) may be eligible by proving alternative

compliance;

- All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5 minute idling limit;
- Diesel idling within 1,000 feet of sensitive receptors is not permitted;
- Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
- Electrify equipment when feasible;
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,
- Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

Biological Resources

Special-Status Wildlife

The search and review of the CNDDDB identified 12 special-status wildlife species with recorded observations within a five-mile radius of the project site and six special-status plant species with recorded occurrences within a five-mile radius of the project alignment. The background review identified additional species not recorded in the CNDDDB. Impacts related to special status plant species were determined to be less than significant. The following is a summary of the significant but mitigable impacts related to sensitive status wildlife species.

Only the California red-legged frog (*Rana draytonii*; CRLF), a federally threatened species and California Species of Special Concern (SSC) has recorded observations within the County flood control ditch near the project site. The CRLF is a highly aquatic species associated with perennial aquatic habitat for almost its entire lifecycle. The CRLF is known for overland movements between breeding sites during rain or heavy moisture (fog) events. The County flood control ditch has highly variable flows subject to duration and frequency of rainfall events and at times could support suitable aquatic habitat for breeding and movement upstream and downstream in the channel. This species may be present within the drainage channel particularly when water is present (i.e., winter rain season), but would only be expected to occur in the upland project alignment incidentally, if at all, due to lack of suitable habitat and limited vegetative cover in the project footprint during periods of overland movement occurring during or immediately after rainstorms. Suitable upland habitat (moist vegetative cover of shrubs, vines, etc.) is not present in the project footprint. Potential impacts to this species would occur if individuals were present during construction and were exposed to vehicle and heavy equipment traffic. Impacts to the channel will be avoided with the jack and bore approach for constructing the pipeline underneath the ditch so there would be no impact on the aquatic habitat. The short term and temporary project impacts from the buried pipeline would avoid and minimize any possibility of encounters with CRLF during construction. No loss of CRLF habitat would result from the project.

The project site existing conditions and proximity to USFWS identified known and potential breeding pond data were assessed for the potential of the site to support breeding or upland dispersal for the California tiger salamander (*Ambystoma californiense*; CTS), a federally endangered and state threatened species. The CTS is a lowland species that breeds in temporary pools with sufficient duration for metamorphosis (greater than 90-days) and seeks upland refuge (before/after aquatic breeding, metamorphosis, etc.) in small mammal burrows during most of its lifecycle. They can be found primarily in grasslands and low foothill and oak woodland habitats with a USFWS predicted maximum upland habitat dispersal of 1.3 miles from a breeding pond. CTS breed in long-lasting rain pools (e.g., seasonal ponds, vernal pools, rarely in slow-moving streams), and occasionally in permanent ponds lacking fish or other large predators. During the nonbreeding season, adults occur in upland habitats and primarily occupy ground squirrel (*Otospermophilus beecheyi*) burrows, and to a lesser extent pocket gopher (*Thomomys bottae*) burrows. They migrate nocturnally to aquatic sites to breed during relatively warm winter or spring rains. Juveniles emigrate at night from the drying pools to upland refuge sites, such as rodent burrows and cracks in the soil.

No known CTS breeding pools have been documented within the USFWS maximum predicted 1.3-mile CTS upland dispersal distance from the project site. See attached Figure 7. However, two potential breeding pools (SAMA-11 and SAMA-12) have been documented approximately one mile from the project site to the west of the developed Santa Maria Airport runways, hangars, and active agricultural fields. These two potential ponds are drainage basins without confirmed CTS use within a narrow corridor of habitat surrounded by intensive annual cultivation or row crops. The intervening land use between these ponds and the project site are developed Airport runways, hoop house agriculture between the runways, buildings and hangars that do not support upland refuge habitat and are a barrier to CTS overland movement. As such, the project site does not represent suitable upland or breeding habitat for the CTS and no impacts to this species would result from the proposed project.

The willow riparian habitat along the County flood control ditch when flowing could provide suitable habitat to support the western pond turtle (*Emys marmorata*) that is a highly aquatic species. Upland movement into the project area and developed land uses is unlikely for this aquatic species and no suitable breeding habitat is present in the study area due to its highly disturbed nature. The western spadefoot (*Spea hammondi*) is a toad that requires temporary pools (i.e., vernal pools) for breeding and upland dry season refuge. No suitable breeding pools are within the project area or surrounding areas so this species would not be expected to occur. Similarly, no suitable ponded habitat occurs for the vernal pool fairy shrimp (*Branchinecta lynchi*). The sandy (friable) soils along the project alignment represent suitable habitat for the silvery legless lizard (*Anniella pulchra*), Blainville's (coast) horned lizard (*Phrynosoma blainvillii*), American badger (*Taxidea taxus*), and burrowing owl (*Athene cunicularia*) all designated as species of special concern. The lack of shrub cover likely precludes the suitability for the silvery legless lizard and Blainville's horned lizard. While the legless lizard is a

subterranean species and would not have been observed during surveys, no horned lizards or other herpetofauna were observed during KMA field surveys. The American badger and burrowing owl would have distinct and observable evidence of use (i.e., dens with scat, prey remains and tracks) that was not observed during KMA field surveys. The Lompoc grasshopper (*Trimerotropis occulens*) requires gravelly/rocky habitat, and the monarch butterfly (*Danaus plexippus*) requires stands of trees neither of which occur on the project site. The peregrine falcon (*Falco peregrinus*) is a coastal species not expected to use the small urbanized inland site for foraging as no nesting habitat occurs onsite or nearby in the agricultural and urban landscape.

Based on the findings from database review and appropriately timed KMA field surveys, there is a potential for CRLF to occur in the County flood control ditch if water is present during construction. If construction of the project were to occur during the wet winter months when suitable aquatic habitat was present in the ditch, project activities could adversely affect CRLF, and thus be considered a potentially significant impact. No designated critical habitat occurs over the project site, so none would be affected. No other impacts on special-status wildlife species are expected from the temporary and short-term project construction.

The following mitigation shall be required in order to reduce impacts to less than significant levels:

BIO-1 Construction Best Management Practices. The City shall ensure the following general wildlife and waters of the U.S./State impact avoidance Best Management Practices (BMPs) are required for construction activity within the project site:

- Prior to construction, the flood control ditch riparian corridor and associated buffer shall be delineated and fenced off to ensure equipment does not encroach on the ditch. Fencing and staking shall be used to confine access routes and construction areas to the minimum area necessary to construct the project.
- Appropriate erosion and sediment control measures shall be installed to ensure soil and sediment are contained on site and are not allowed to run off into the drainage channel. Measures may include fiber rolls, mulches, and placement of silt fence in conjunction with orange protective or wildlife fencing where appropriate.
- To the extent feasible, initial ground disturbance and placement of orange protection fencing should be conducted during the dry season, or during periods of no rain in which the site is dry.
- If trenches or other excavations more than 12 inches deep are not closed nightly, then adequate means of escape for wildlife shall be provided (i.e., earthen ramps not more than 2:1 slope, wooden boards, etc.). Trenches shall be inspected daily for wildlife and shall be inspected immediately prior to backfilling. Any wildlife within trenches must be freed and allowed to move out of the project area.
- All refueling, maintenance, and staging of equipment and vehicles shall occur at least 100 feet from the flood control ditch. These activities shall occur in a

location where a spill would not drain toward the ditch and any seasonal aquatic habitat. A spill prevention and response plan must be in place for prompt and effective response to any accidental spills prior to the onset of work activities. All workers shall be informed of the appropriate measures to take should an accidental spill occur.

- During construction, no litter or construction debris shall be placed where it can be deposited in the drainage ditch. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site. In addition, all project-generated debris, building materials, and rubbish shall be maintained to avoid the drainage ditch and surrounding areas.
- Any substances which could be hazardous to aquatic species resulting from project-related activities shall be prevented from contaminating the soil and/or entering the drainage ditch.

BIO-2 Worker Environmental Awareness Program Training. Prior to the initiation of construction activities (including staging and mobilization), the City shall ensure all personnel associated with project construction attend a Worker Environmental awareness Program (WEAP) training.

- The training shall be conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the project area.
- The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and avoidance measures required to reduce impacts to biological resources within the work area.
- A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project.
- All employees shall sign a form provided by the trainer documenting they have attended the WEAP and understand the information presented to them.

BIO-3 California Red-legged Frog Impact Avoidance and Minimization. The City shall ensure the following actions are implemented to avoid potential impacts to CRLF:

- A pre-construction survey of the proposed disturbance footprint for CRLF shall be conducted by a qualified biologist within 48 hours prior to the start of project construction, including ESA fencing installation, to confirm this species is not present in the work area. A report documenting results of the survey shall be provided to the Community Development Director, prior to the start of construction. ESA fencing installation shall count as the start of construction for purposes of survey timing.

- A biological monitor familiar with CRLF will monitor all initial site disturbance (vegetation removal and fence installation). The monitor(s) must be approved by the City prior to working on the project.
- In the event the pre-construction survey or the onsite monitor identifies the presence of individuals of CRLF prior to or during construction, then the City shall stop work in the immediate area until the CRLF leave the site of their own accord. If CRLF do not move off site on their own, the City shall comply with all relevant requirements of take authorization under the federal Endangered Species Act prior to resuming project activities as follows:
 - o If the USFWS does not provide take authorization, CRLF found within the project site shall be avoided with a 100-foot buffer and no activities shall occur within that buffer until the CRLF has left the project site on its own as determined by a qualified biologist.

BIO-4 Western Pond Turtle Impact Avoidance and Minimization. The City shall ensure the following actions are implemented to avoid and minimize potential impacts to the western pond turtle:

- A pre-construction survey of the proposed disturbance footprint and County flood control ditch for western pond turtle shall be conducted by a qualified biologist within 48 hours prior to the start of project construction, including ESA fencing installation, to confirm this species is not present in the work area. A report documenting results of the survey shall be provided to the Community Development Director, prior to the start of construction. ESA fencing installation shall count as the start of construction for purposes of survey timing.
- A biological monitor familiar with the western pond turtle will monitor all initial site disturbance (vegetation removal and ESA fence installation). The monitor(s) must be approved by the City prior to working on the project. If western pond turtle are found, the monitor will halt work until the individual can be moved to a safe location of suitable habitat outside the work area.

BIO-5 Silvery Legless Lizard, Blainville's Horned Lizard, American Badger, and Burrowing Owl Impact Avoidance and Minimization. The City shall ensure the following actions are implemented to avoid and minimize potential impacts to silvery legless lizard, Blainville's horned lizard, American badger, and burrowing owl:

- A pre-construction survey for silvery legless lizard, Blainville's horned lizard, American badger, and burrowing owl shall be conducted of the proposed disturbance footprint by a qualified biologist within 30 days of the start of project construction. A report documenting results of the survey shall be provided to the Community Development Director, prior to the start of construction.
- If legless lizards or Blainville's horned lizard are observed during the survey or during biological monitoring, the biological monitor will relocate individuals to an area of suitable habitat outside the project impact footprint.

- If American badger dens are present, in order to avoid the potential direct take of adults and nursing young, no grading shall occur within 50 feet of an active badger den as determined by a City approved biologist between March 1 and June 30. Construction activities during July 1 and March 1 shall comply with the following measures to avoid direct take of adult and weaned juvenile badgers:
 - o Conduct a biological survey of the project alignment between 2 weeks and 4 weeks of the start of ground clearing or grading activity. Surveys shall focus on both old and new den sites. If dens are too long to see the end, a fiber optic scope (or other acceptable method) shall be used to assess the presence of badgers. Inactive dens shall be excavated and backfilled by hand with a shovel to prevent badgers from reusing them during construction.
 - o Badgers shall be discouraged from using currently active dens prior to the grading of the site by partially blocking the entrance of the den with sticks, debris and soil for 3 to 5 days. Access to the den shall be incrementally blocked to a greater degree over this period. This would cause the badger to abandon the den site and move elsewhere. After badgers have stopped using active dens within the development area, the dens shall be hand excavated and backfilled with a shovel to prevent re-use. The City-approved biologist shall be present during the initial clearing and grading activity. If badger dens are found, all work shall cease until the biologist can safely close the badger den and affirm passive relocation has occurred. Once the badger dens have been closed, work on the site may resume.
- Burrowing owls are not currently present or expected within the project footprint. To confirm burrowing owls are not present when construction begins, a qualified biologist shall complete a preconstruction survey within 30 days prior to construction, with a final clearance survey within 48 hours prior to start of construction. If an occupied burrow cannot be avoided, passive relocation may be implemented by the City approved biologist following a relocation plan approved by the City in consultation with CDFW. No burrowing owls may be trapped. Passive relocation shall be limited to the non-breeding season (typically between September 1st and February 1st). Passive relocation may involve installation of one-way doors at burrow entrances for a minimum of five days before the start of construction. Once the City-approved biologist has determined that the burrow is no longer occupied, the burrow may be hand excavated and backfilled to prevent re-occupancy.

BIO-6 Nesting Birds Impact Avoidance and Minimization. The City shall ensure the following actions are undertaken to avoid and minimize potential impacts to nesting birds:

- A nesting bird survey should be conducted by a qualified biologist no more than two weeks prior to the onset of construction activities. The nesting bird survey should be conducted within any and all suitable habitat that occurs within the project site, within 300 ft of its immediate vicinity for raptors, and 100 ft for all

other bird species (as is feasible). If no active nests are found, no further action would be required.

- If active bird nests are found, then an appropriately sized avoidance buffer should be established by the biologist in consultation with the City and/or CDFW (if appropriate) and all construction work within the buffer should be delayed until after the nesting season has ended or until the biologist has determined that the young have fledged.
- Limits of construction to avoid the nest shall be established in the field with flagging and stakes or construction fencing. Construction personnel shall be instructed on the sensitivity of the area. The City shall record the results of the recommended protective measures described above to document compliance with applicable state and federal laws pertaining to protection of native birds.

Plan Requirements and Timing. The pre-construction survey results in measure BIO-3, BIO-4, BIO-5, and BIO-6 shall be provided to the City prior to the start of construction. On-going measures required by BIO-1 and BIO-2 shall be accomplished by the City during construction. In the event CRLF are encountered, the City shall coordinate with the USFWS on obtaining take authorization or a no-take concurrence finding before proceeding with construction.

Monitoring. City staff will review any pre-construction survey reports and will perform onsite inspections as necessary during construction.

Cultural Resources

According to the City's General Plan Resources Management Element, the Santa Maria Valley is not a major archaeological or paleontological resource area as only a few sites have been recorded or discovered in the area. Figure RME-5 of the General Plan Resources Management Element delineates High or Moderate, Low, and Negligible Archaeological Sensitivity Areas in the City. The project site is located in Archaeological Sensitivity Area 2 – Low Sensitivity. However, ground disturbance associated with construction could have the potential to uncover previously unknown archeological deposits. As such, impacts are considered significant but mitigable.

Human graves are often associated with prehistoric occupation sites. Section 7050.5 of the California Health and Safety Code provides that it is a misdemeanor to knowingly disturb a human burial and Section 5097.99 of the Public Resources Code defines the obtaining or possession of Native American remains or grave goods to be a felony. In addition, State Health and Safety Code Section 7050.5 stipulates the process to be followed when human remains are encountered. Although not expected, there is the potential for the accidental discovery of human remains and potential damage or disturbance during project implementation. As such, impacts are considered significant but mitigable.

The following mitigation shall be required in order to reduce impacts to less than significant levels:

CR-1. If archaeological resources are discovered during construction, work shall be halted within 50 meters (160 feet) of the discovery until it can be evaluated by a qualified professional archaeologist. If the discovery is determined to be significant, the recommendations of the archaeologist shall be required for implementation in coordination with the City of Santa Maria.

CR-2. If human remains are discovered during construction, work shall be halted within 50 meters (160 feet) of the find. The County Coroner shall be notified in accordance with the provisions of Public Resources Code 5097.98-99, State Health and Safety Code Section 7050.5, and the Native American Heritage Commission shall be notified in accordance with PRC Section 5097. If the remains are determined to be of Native American origin, the Commission will designate a Most Likely Descendant who will be authorized to provide recommendations for management of the human remains.

Geology and Soils

In order to determine the project impacts related to soil suitability and engineering issues at the project site, a geotechnical engineering report was prepared for the proposed water well intertie project (Earth Systems Pacific, March 24, 2022). With respect to impacts related to soil erosion, the report indicates that the project site soils are considered to be highly erodible although considered to exhibit slow water erosion hazards. Accordingly, the report includes recommendations for stabilization of the surface soils, particularly those disturbed during construction, by vegetation or other means during and following construction to reduce the potential of erosion damage. As such, impacts are considered significant unless mitigated.

The project geotechnical engineering report provides an assessment of impacts related to project implementation and the potential for those soils to become unstable as a result of the proposed project. Specifically, the report indicates that the results of the soil boring show slow to fast raveling to flowing ground conditions resulting from relatively shallow groundwater at the project site that may result in significant settlement. As such, soils settlement during project construction is considered a significant impact unless mitigated.

In addition to impacts related to depth to groundwater and soil settlement, the report also identifies soil suitability impacts related excavation characteristics which may result in impacts related to soil stability, or the risk of slope or sidewall failure within excavated areas. This impact is also exasperated due to the high moisture content in the soils. Impacts related to soil stability are considered significant unless mitigated. Soil corrosivity, as it relates to the soil acidity levels, and installation of the proposed pipeline within corrosive soils was also identified as a potentially significant impact unless mitigated.

In order to address the potential project impacts related to soil saturation/groundwater, soil erosion, soil settlement and corrosivity associated with installation of the proposed water intertie project, the project geotechnical engineering report includes recommendations to address multiple details of the project design and construction.

GEO-1. In order to address the potential for geologic impacts related to the proposed project construction, the mitigation measure recommendations listed in Section 7.0 of the project geotechnical report shall be considered required elements of project construction. Please refer to the attached project geotechnical engineering report for a detailed discussion of construction and design recommendations to address potential geologic and soils impacts related to project implementation.

Noise

The project site is located in an area developed with airport-related and industrial uses. The nearest noise sensitive land uses are the Healing Rooms of the Santa Maria Valley Church and the Life Way Fellowship Church, located approximately 400 and 500 feet from the proposed water pipeline respectively, both within the Light Manufacturing zone. No other sensitive receptors exist or are planned in the area.

During the construction phase of the project, noise generated from construction activities may intermittently dominate the noise environment in the immediate area. Short-term construction noise would be limited in nature and duration; however, pipeline construction would occur in the vicinity of sensitive receptors in the community. Construction-related noise would be limited to the daytime hours of 7:00 a.m. to 5:00 p.m. Monday through Friday, consistent with City requirements. Potential construction-related noise impacts resulting from the proposed project construction activities could result in significant but mitigable short-term impacts.

In order to reduce noise impacts related to project construction to less than significant levels, the following mitigation is required:

N-1. Stationary construction equipment used for proposed construction within the community that generates noise exceeding 65 dBA at the project boundaries shall be shielded with the most modern and effective noise control devices (i.e., mufflers, lagging, and/or motor enclosures). Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction within the community shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed-air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed-air exhaust shall be used. All equipment shall be properly maintained to ensure that no additional noise, due to worn or improperly maintained parts, is generated. Stockpiling and vehicle staging areas shall be located as far as practical from sensitive noise receptors. Every effort shall be made to create the greatest distance between noise sources and sensitive receptors during construction activities within the community.

ENVIRONMENTAL RECOMMENDATION:

Based on the information available at the time of preparation this report and, without benefit of additional information which may come to light at the public hearing, the Environmental Officer recommends that a Negative Declaration be filed for the City of Santa Maria Well 6S Intertie Project based upon information contained in SP2021-0012.

PREPARED BY:



City of Santa Maria
Community Development Department
110 South Pine Street, #101
Santa Maria, CA 93458

Cody Graybehl

Cody Graybehl, Environmental Analyst

12/5/2022

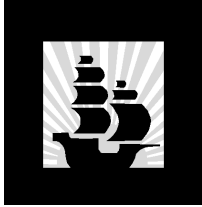
Date

Chuen Ng

Chuen Ng, Environmental Officer

12/5/2022

Date



CITY OF SANTA MARIA
Environmental Checklist / Initial Study
For City of Santa Maria Well 6S Intertie Special Project
(SP2021-0012)

1. Project Title and Location

City of Santa Maria Well 6S Intertie Project
Vacant parcels at the Santa Maria Airport
West of Skyway Dr, East of Airpark Dr, between Hangar St and Fairway Dr
APN 111-231-017

2. Lead Agency, Contact and Preparer

Cody Graybehl, Senior Planner
Community Development Department
110 South Pine Street, Suite #101
Santa Maria, CA 93458
805-925-0951, x (2552)
cgraybehl@cityofsantamaria.org

3. Project Sponsor's Name and Address

City of Santa Maria Utilities Department
2065 East Main Street
Santa Maria, CA 93454

4. General Plan Designation

Conservation Open Space (COS), Airport Service (A-AS), Light Industrial (LI)

5. Zoning Designation

The project consists of a linear site along the proposed pipeline corridor described below. The site is located within the airport property and includes the following zoning designations: PD/M-1 (Planned Development/Light Manufacturing), OS (Open Space), CZ (Airport Clear Zone) and PD/AS-II (Planned Development/Airport Service II).

6. Brief Description of Project:

The City of Santa Maria Utilities Department is proposing to develop the connection of the City's existing groundwater Well 6S to the groundwater header line located at Well 11S, located along Airpark Drive. This pipeline connection would be approximately 2,020 feet long and consist of an 18-inch ductile iron pipe. No structural development is proposed.

The proposed intertie project would allow the reactivation and use of Well 6S and will increase the available supply of municipal potable water that can be delivered into the City's distribution system. The proposed intertie project would increase the capacity of the City's water supply by approximately 1 million gallons per day, representing a critical supply upgrade. This increase in water supply is especially significant since the City's State Water allocation is currently 5% and anticipated to be 0% next year.

The Well 6S Intertie Project would convey raw water from the existing Well 6 to the existing discharge pipeline from Well 11. Wells 6 and 11 are owned and maintained by the City of Santa Maria. The proposed project would be installed in property owned by Santa Maria Airport and it is anticipated the City will obtain an easement from the Airport for the pipeline. The proposed project will convey raw untreated groundwater by pumping water north from Wells 6 and 11, to the City's Water Treatment Plant. There are no existing or proposed service connections to the Airport Pipeline.

A majority of the pipeline would be constructed using conventional cut and cover construction trenching techniques. The project disturbance area would consist of an approximately 2,020 foot long by 15-foot wide disturbance area. This also would include two access pits (approximately 34 x 14 feet and 12 x 8 feet in area respectively), for a total area of site disturbance of approximately 30,900 square feet. The project includes an estimated 1,750 cubic yards of excavation (1,100 cubic yards to be exported).

There is one jack and bore section proposed across an existing open earthen drainage channel/creek on airport property to advance pipeline construction from south to north. The purpose of the bore is to avoid excavation in proximity to the creek. The bore will advance a 30-inch steel casing. Upon completion of the casing installation, the carrier pipe (raw water pipeline) will be inserted into the casing by placing casing spacers around the carrier pipe and advancing it by pushing the carrier pipe across the channel through the casing. Isolation valves will allow operations staff to isolate the pipeline at the north and south ends to assist flushing the pipeline and also to isolate it for repairs.

The proposed pipeline location is within the footprint of a new road being planned by the City (with the exception of the portion of the pipeline underneath the creek). Additionally, based on plans produced by the Airport District, the future road will result in 4 to 7 feet of cover over the pipeline. In the interim condition, the pipeline will have approximately 4 feet of cover over it.

The range of flows in the proposed Well 6S Intertie Project will be from approximately 1,500 Gallons Per Minute (gpm) to 7,700 gpm. The City of Santa Maria will provide the operational control strategy for how Wells 6S and 11 will be integrated into the existing raw water distribution system and pumping of flows to the City's Water Treatment Plant.

7. Surrounding Land Uses and Setting:

The proposed project site is linear in form, following the proposed pipeline alignment, and is void of any existing development. The pipeline alignment would be approximately 2,020 feet long, extending south along the western side of Skyway Drive between the northern and southern sections of Airpark Drive. The pipeline alignment would be located on an undeveloped portion of the Airport property consisting of APN 111-231-017. The project site is bound by the Santa Maria Airport to the south and west and light manufacturing uses to the north and east (including storage units and wire/cable manufacturing). Please refer to the attached project site plans for a detailed depiction of the project site and pipeline alignment location.

8. Other Public Agencies Whose Approval is Required

Regional Water Quality Control Board (Region 3), consisting of the review of compliance with general permit conditions for storm water management at the construction site.

Easement from the Santa Maria Airport.

9. California Native American Tribes Consultation:

Consistent with the requirements of AB 52 and Public Resources Code Section 21080.3.1, The City of Santa Maria submitted invitations for project consultation to California Native American tribes traditionally and culturally affiliated with the project area as provided by the Native American Heritage Commission. Consultation invitation letters were sent on July 10, 2022, and as of the closing of the 30-day comment period on August 10, 2022 no requests for consultation were received.

Figure 1 – Project Vicinity Map

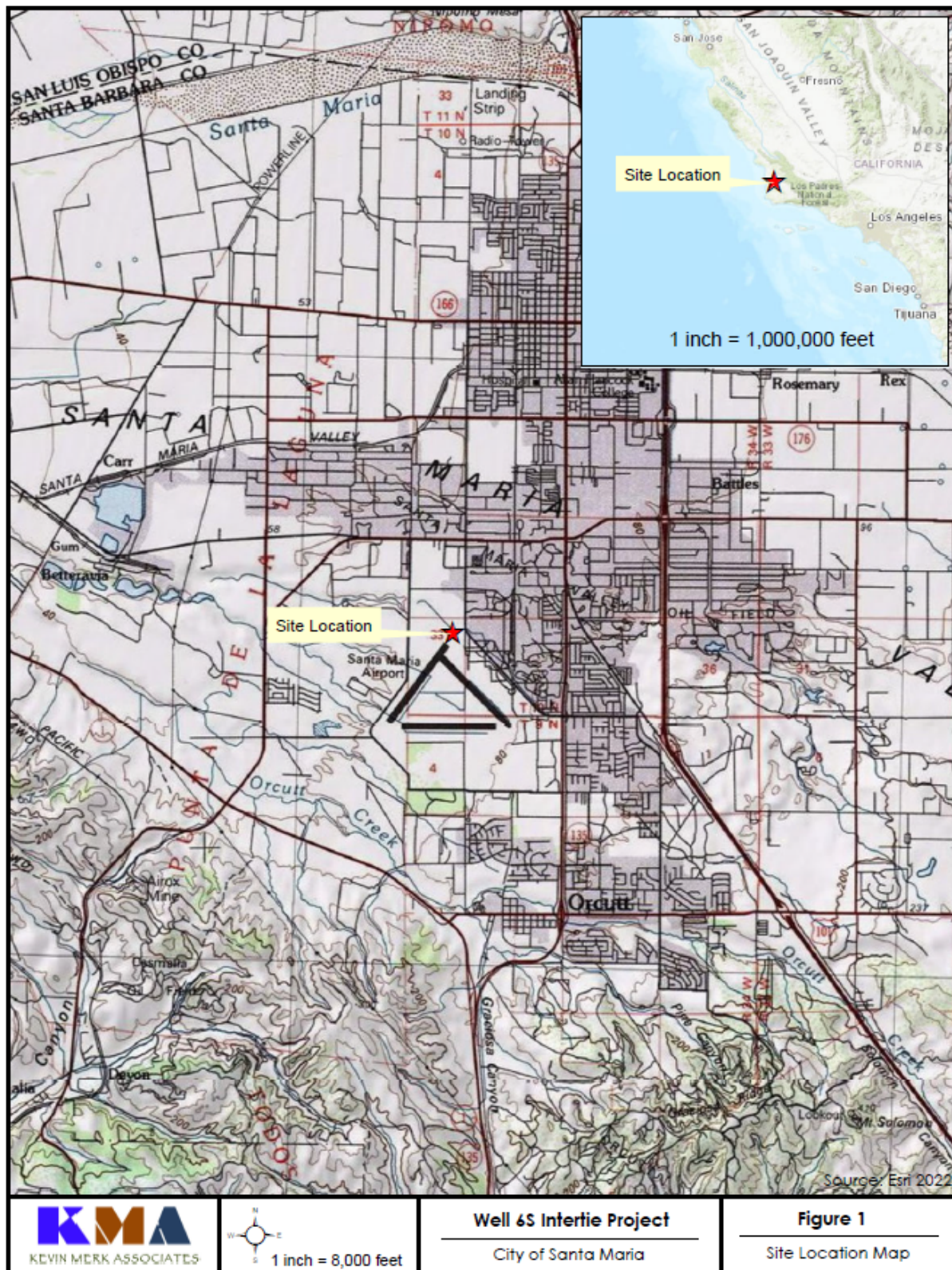


Figure 2 – Project Location Map



1. AESTHETICS/VISUAL RESOURCES

Except as provided in Public Resources Code Section 21099,

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?				X
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
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 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?			X	
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X

Setting: The proposed project is located within the Santa Maria Valley, in the southwest portion of the City of Santa Maria, adjacent to and east of the Santa Maria Airport. The project area is typified by a variety of urban land uses. The project site consists of an approximately 2,000 foot long linear alignment extending roughly between the southern and northern sections of Airpark Drive. The project site is void of any development, consisting of open space between the Airport and Skyway Drive. A creek crosses the proposed pipeline alignment, consisting of a thin strip of riparian vegetation associated with the creek. It is important to note that the proposed pipeline would be jack bored beneath the creek to avoid impacts to the creek and associated riparian vegetation. The remainder of the site consists of non-native grassland that is regularly mowed and disturbed portions of the existing Airpark Drive.

Impact Discussion:

- According to the City's General Plan, there are no unique or important scenic vistas in the immediate area of the project site. As such, the project would not result in any impacts to scenic vistas.
- According to the California Scenic Highway Mapping System and the City's General Plan, no designated State or local scenic highway corridors are identified in the project area. Additionally, no locally significant scenic resources have been identified in the project area. As such, the project would not result in any impacts to scenic resources within a state scenic highway.

- c. The project would involve the installation of a water intertie pipeline between two existing City water wells and is void of any structural development. The project is consistent with the existing site zoning and land use designation, and adjacent light manufacturing and airport uses. With the absence of any structural development the project would not change the visual character of the site and surrounding areas from their existing urban setting. This impact would be less than significant.
- d. The proposed project is void of structural development and does not include any proposed outdoor or security lighting. In the absence of any development associated with the proposed project, given the temporary nature of proposed construction, the project would not result in, or create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area. No impacts are anticipated.

Mitigation Measure(s) incorporated into the project: Impacts are considered less than significant and mitigation is not required.

2. AGRICULTURE AND FOREST RESOURCES

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

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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))?				X
d. Result in the loss of forest land or conversion of forest land to non-forest use?				X
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?				X

Setting: The project is located in an urbanized portion of the City of Santa Maria, adjacent to the Santa Maria Airport. The project is surrounded by associated light industrial development. The proposed pipeline alignment is within an undeveloped portion of the Airport property and would cross beneath an existing creek. According to the Natural Resource Conservation Service soils map, the pipeline site consists of the Betteravia loamy sand (0 to 2% slopes). Please refer to Attachment 3, Soils Map, for a detailed depiction of on-site soils. This is a moderately well drained soil with very slow to medium runoff potential with very slow permeability. This soil is considered to be "Class 3e" without irrigation and is not considered to be Prime Farmland.

Impact Discussion:

- a-e. The project site is not zoned for agricultural use. The project site does not support agriculture and is not eligible for agricultural activities. According to the California Department of Conservation Farmland Mapping and Monitoring Program and Land Conservation Act maps, the site is identified as Non-Williamson Act Urban and Built-Up Land. There is no active farmland, forest land or timberland on the project site or in the direct site vicinity. No impacts to farmland or agricultural resources are expected.

Mitigation Measure(s) incorporated into the project: No mitigation measures are required.

3. AIR QUALITY

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

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?			X	
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?		X		
c. Expose sensitive receptors to substantial pollutant concentrations?			X	
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

Setting: The project lies within the South Central Coast Air Basin (SCCAB). The Santa Barbara County Air Pollution Control District (SBAPCD) is the local agency authorized to regulate stationary air quality sources in the project area. The Federal Clean Air Act and the California Clean Air Act mandate the control and reduction of specific air pollutants. Under these Acts, the US Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for specific criteria pollutants, designed to protect public health and welfare. Primary criteria pollutants include carbon monoxide (CO), reactive organic gasses (ROG), nitrogen oxides (NO_x), particulate matter (PM₁₀), sulfur dioxide (SO₂), and lead (Pb). Secondary criteria pollutants include ozone (O₃), and fine particulate matter (PM_{2.5}).

The EPA administers National Ambient Air Quality Standards (NAAQS) under the Federal Clean Air Act. The EPA sets the NAAQS and determines if areas meet those standards. Violations of ambient air quality standards are based on air pollutant monitoring data and evaluated for each air pollutant. Areas that do not violate ambient air quality standards are considered to have attained the standard.

The SBAPCD monitors air pollutant levels to ensure that air quality standards are being met and develops strategies to meet the standards if they are not being met. Depending on whether or not the standards are met or exceeded, the SCCAB is classified as being in “attainment” or as “non-attainment”. According to the County of Santa Barbara Attainment and Non-Attainment Classification Summary (<https://www.ourair.org/air-quality-standards>.) the County is classified as being in non-attainment for PM₁₀ standards by the State, and O₃ is also considered a primary pollutant of concern.

Proposed projects capable of generating air pollutant emissions exceeding regionally established criteria are considered significant for purposes of CEQA analysis, whether or not such emissions have been accounted for in regional air planning. Any project that would directly cause or substantially contribute to a localized violation of an air quality standard would generate significant air pollution impacts. This includes projects that generate an increase in health risks from toxic air contaminants or introduce sensitive receptors to a site exposed to substantial health risks.

The State Air Quality Attainment Plan (AQAP) was adopted by the SBAPCD in 1991, and includes the 2019 Ozone Plan as part of the recent triennial update to the AQAP. The 2019 Ozone Plan provides a regulatory tool for maintaining attainment status and addresses the factors that threaten to increase regional NO_x and volatile organic compounds (VOC) emissions. In order for a project to be considered consistent with the 2019 Ozone Plan, the project direct and indirect emissions are required to be accounted for in the growth assumptions provided in the Plan and must be consistent with the policies adopted in the 2019 Ozone Plan. The 2019 Ozone Plan relies primarily on the land use and population projections provided by the Santa Barbara Council of Associated Governments (SBCAG) and CARB on-road emissions forecast as a basis for vehicle emissions forecasting (SBAPCD 2017).

Impact Discussion:

- a. CEQA Guidelines §15125(b) requires that a project be evaluated for consistency with applicable regional plans. As discussed above, the Ozone Plan addresses attainment of the State ozone standard and Federal air quality standards. The Ozone Plan projects growth in emissions based on population growth forecasts prepared by the SBCAG and other indicators. Consistency determinations are issued for commercial, industrial, residential, and infrastructure related projects that have the potential to induce population growth. A project is considered inconsistent with the Ozone Plan if it has not been accommodated in the forecast projections.

The proposed Well 6S Intertie Project does not include any housing or commercial development, and operation and maintenance of the project would not require new employees. The proposed project would not cause or otherwise induce population growth, as the project is intended to support existing populations in the City. In addition, due to the absence of operational emissions, the proposed project would not result in any long-term air quality impacts. As such, the proposed project would result in less than significant impacts resulting from conflicts with the applicable air quality plan.

- b. The SBAPCD is currently designated as “attainment” for the federal 8-hour ozone standard (i.e., 0.07 parts per million or “ppm”), and also for the State ozone standards as well. The County is designated as unclassified/attainment for the federal PM_{2.5} standard, unclassified for the State PM_{2.5} standard, and non-attainment for the State PM₁₀ standard.

Construction Generated Emissions

Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but possess the potential to represent a significant air quality impact. The construction of the proposed project would result in the temporary generation of emissions resulting from site preparation and earth moving, as well as from motor vehicle exhaust associated with construction equipment and the movement of equipment across unpaved surfaces and worker trips. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities.

Based on the project plans and information provided by the project engineer, short-term construction emissions associated with the proposed project were estimated using the California Emission Estimator Model (CalEEMod).

The SBAPCD has not established quantitative thresholds of significance for short-term air pollutant emissions. However, the SBAPCD recommends that Lead Agencies use a 25 tons/year significance threshold for construction emissions of ROG and NO_x, as well as other criteria emissions with the exception of CO. Please refer to Table 1, Estimated Construction Emissions, for an estimate of expected project construction emissions and applicable SBAOCD thresholds.

Table 1. Estimated Construction Emissions

	Emissions (lbs/day)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
SBAPCD Significance Threshold	25	25	NA	25	25	25
Project Emissions	1.1050	12.0196	6.1037	0.0145	5.8800	0.6997
Threshold Exceeded?	No	No	No	No	No	No
Source. CalEEMod emissions calculations prepared for the proposed project. See attached.						

As shown in Table 1 above, the proposed project would not result in the exceedance of any short-term construction threshold as recommended by the SBAPCD. However, because Santa Barbara County violates the state standard for PM₁₀, dust control measures are required for all projects involved in earthmoving regardless of the significance of fugitive dust impacts. As such, impacts related construction emissions are considered significant but mitigable.

Construction equipment itself can be the source of air quality emission impacts, and may be subject to California Air Resources Board or SBAPCD permitting requirements. Truck trips associated with the materials that will be cut from the site may also be a source of emissions

subject to SBAPCD permitting requirements, subject to specific truck routing selected. Impacts related to vehicle and heavy equipment emissions are considered significant but mitigable.

Operational Emissions

The proposed project is limited to the construction activities associated with the installation of the raw water pipeline between Well 6S and 11S. The project does not include an operational phase. In addition, the proposed project would not require any new staff. Based on the above analysis, the project would have a less than significant impact resulting from 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.

- c. Implementation of the proposed project would result in short-term emissions of fugitive dust associated with construction activities. However, as discussed above, the project would not result in emissions that would exceed SBAPCD's significant thresholds. Compliance with applicable SBAPCD regulations would minimize potential nuisance impacts in the project vicinity. It is important to note that the project site location is within the City's industrial zoned area adjacent to the Santa Maria Airport and is void of neighboring residential uses. As such, construction activities would be confided to have a less than significant impact to nearby sensitive receptors.
- d. Intermittent odors from construction associated with diesel exhaust could be noticeable at times to sensitive receptors in close proximity. However, given the limited short-term nature of the proposed construction, potential odors are not expected to result in odor complaints. Impacts are considered less than significant.

Mitigation Measure(s) incorporated into the project:

The following mitigation shall be required in order to reduce impacts to less than significant levels:

AQ-1. To mitigate fugitive dust emissions related to project construction, the following shall be implemented:

- a. Reduce the amount of the disturbed area where possible;
- b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible;
- c. All dirt stock pile areas should be sprayed daily as needed;
- d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities;

- e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;
- f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SBAPCD;
- g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used;
- h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
- i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114;
- j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site;
- k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible;
- l. All of these fugitive dust mitigation measures shall be shown on grading and building plans; and
- m. The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20% opacity, and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the SBAPCD Compliance Division prior to the start of any grading, earthwork or demolition.

AQ-2. The required mitigation measures for reducing nitrogen oxides (NO_x), reactive organic gases (ROG), and diesel particulate matter (DPM) emissions from construction equipment are listed below:

- a. Maintain all construction equipment in proper tune according to manufacturer's specifications;
- b. Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle
- c. diesel fuel (non-taxed version suitable for use off-road);
- d. Use diesel construction equipment meeting ARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State off-Road Regulation;

- e. Use on-road heavy-duty trucks that meet the ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- f. Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NOx exempt area fleets) may be eligible by proving alternative compliance;
- g. All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5 minute idling limit;
- h. Diesel idling within 1,000 feet of sensitive receptors is not permitted;
- i. Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
- j. Electrify equipment when feasible;
- k. Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,
- l. Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

4. BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?		X		
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				X
c. Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means				X

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?		X		
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
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?				X

Setting: This section is based on field reconnaissance surveys by Principal Biologist Kevin Merk (Kevin Merk Associates; KMA) on June 6, August 17, September 20, and October 13, 2022. The approximately 2,020-foot-long pipeline alignment will be trenched and buried within approximately 1,100 feet of existing paved roads, 900 feet through disturbed non-native annual grassland with patches of veldt grass (*Ehrharta calycina*), and 100-feet of the alignment will be constructed by jack and bore under the Santa Barbara County Flood Control District's Santa Maria Airport drainage ditch that supports a willow riparian habitat (ditch maintenance permitted in the County's 2001 *Updated Routine Maintenance Program*). The project alignment is surrounded by developed Airport and commercial/industrial development, and vacant lots of disturbed non-native annual grassland. The trenched and buried water pipeline will result in short term temporary disturbance to the roads and non-native annual grassland. Please refer to Attachment 1 – Site Location Map, Attachment 2 – Aerial Overview Map, Attachment 3 – Soils Map, and Attachment 4 – Habitat Map for further detail.

The analysis of biological resources along the project alignment is based on a search of available biological databases within an approximately five-mile radius around the project site, review of aerial photographs, review of multiple literature resources, and results of a reconnaissance-level surveys. A search and review of the California Natural Diversity Database (CNDDB) occurrences of special status plants, wildlife, natural communities of special concern (California Department of Fish and Wildlife; CDFW; 2022), and designated critical habitat and California tiger salamander breeding pond data from the United States Fish and Wildlife Service (USFWS) were conducted.

The KMA reconnaissance level biological surveys of the project site were conducted to establish existing conditions of the project alignment and the potential to support special-status species and natural communities of species concern. As noted above, the project alignment is within existing paved road, disturbed non-native annual grassland dominated

by non-native weedy species such as annual bromes (*Bromus* spp.), veldt grass, and filarees (*Erodium* spp.), and surrounded by urban development. A willow riparian corridor follows along the County flood control ditch (See Attachment 4). The USFWS National Wetlands Inventory (NWI) query mapped the flood control ditch at the project jack and bore crossing as Freshwater Emergent Wetland, and Riverine upstream and downstream of the project. Both the NWI mapping designations are incorrect and this stretch of ditch is better characterized as Freshwater Forested/Shrub Wetland as willow scrub riparian habitat was observed through and nearby the project area (see Attachment 2 and 4). Several patches of tules (*Schoenoplectus acutus*) were present in the ditch under the willow canopy but did not form the dominant cover.

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey depicts one soil map unit along the project alignment, Betteravia loamy sand, 0 to 2 percent slopes (NRCS 2022; See Attachment 3). KMA field survey observations of sandy surface soils from abundant gopher mounds corroborates the accuracy of the NRCS soils mapping unit.

Impact Discussion:

- a. The search and review of the CNDDDB identified six special-status plant species with recorded occurrences within a five-mile radius of the project alignment (see Attachment 5). Our knowledge of the region identified several additional species as detailed in the Biological Resources Summary Tables included as an attachment.

The La Graciosa thistle (*Cirsium scariosum* var. *loncholepis*), a state threatened, federally endangered, California Rare Plant Rank (CRPR) 1B.1 species, is a wetland species. No suitable wetland habitats occur along the project alignment and the County flood control ditch is regularly maintained and armored with concrete at locations making it unsuitable for the La Graciosa thistle. Further, it was not observed during surveys and no impacts on the willow riparian habitat along the flood control channel would result from the project.

Five upland special-status plant species (none formally listed) known from the region were identified in the CNDDDB that includes the black-flowered figwort (*Scrophularia atrata*; CRPR 1B.2), Blochman's leafy daisy (*Erigeron blochmaniae*; CRPR 1B.2), dune larkspur (*Delphinium parryi* ssp. *blochmaniae*; CRPR 1B.2), Kellogg's horkelia (*Horkelia cuneata* var. *sericea*; CRPR 1B.2), and San Luis Obispo monardella (*Monardella undulata* ssp. *crispa*; CRPR 1B.2). Five other CRPR species were identified from background sources as occurring in the region (see attached summary table). None of these species were observed along the project alignment and would have been noticeable and identifiable during the multiple KMA field surveys.

Based on the findings from database review and series of KMA field surveys, no special status plants are expected to occur in the study area. In addition, no designated critical habitat occurs over the project site, and no impacts to special-status botanical resources or natural communities of special concern would result from the proposed project.

Special-Status Wildlife

The search and review of the CNDDDB identified 12 special-status wildlife species with recorded observations within a five-mile radius of the project site. The background review identified additional species not recorded in the CNDDDB (see attached Attachment 6 and summary table).

Only the California red-legged frog (*Rana draytonii*; CRLF), a federally threatened species and California Species of Special Concern (SSC) has recorded observations within the County flood control ditch near the project site. The CRLF is a highly aquatic species associated with perennial aquatic habitat for almost its entire lifecycle. The CRLF is known for overland movements between breeding sites during rain or heavy moisture (fog) events. The County flood control ditch has highly variable flows subject to duration and frequency of rainfall events and at times could support suitable aquatic habitat for breeding and movement upstream and downstream in the channel. This species may be present within the drainage channel particularly when water is present (i.e., winter rain season), but would only be expected to occur in the upland project alignment incidentally, if at all, due to lack of suitable habitat and limited vegetative cover in the project footprint during periods of overland movement occurring during or immediately after rainstorms. Suitable upland habitat (moist vegetative cover of shrubs, vines, etc.) is not present in the project footprint. Potential impacts to this species would occur if individuals were present during construction and were exposed to vehicle and heavy equipment traffic. Impacts to the channel will be avoided with the jack and bore approach for constructing the pipeline underneath the ditch so there would be no impact on the aquatic habitat. The short term and temporary project impacts from the buried pipeline would avoid and minimize any possibility of encounters with CRLF during construction. No loss of CRLF habitat would result from the project.

The project site existing conditions and proximity to USFWS identified known and potential breeding pond data were assessed for the potential of the site to support breeding or upland dispersal for the California tiger salamander (*Ambystoma californiense*; CTS), a federally endangered and state threatened species. The CTS is a lowland species that breeds in temporary pools with sufficient duration for metamorphosis (greater than 90-days) and seeks upland refuge (before/after aquatic breeding, metamorphosis, etc.) in small mammal burrows during most of its lifecycle. They can be found primarily in grasslands and low foothill and oak woodland habitats with a USFWS predicted maximum upland habitat dispersal of 1.3 miles from a breeding pond. CTS breed in long-lasting rain pools (e.g., seasonal ponds, vernal pools, rarely in slow-moving streams), and occasionally in

permanent ponds lacking fish or other large predators. During the nonbreeding season, adults occur in upland habitats and primarily occupy ground squirrel (*Otospermophilus beecheyi*) burrows, and to a lesser extent pocket gopher (*Thomomys bottae*) burrows. They migrate nocturnally to aquatic sites to breed during relatively warm winter or spring rains. Juveniles emigrate at night from the drying pools to upland refuge sites, such as rodent burrows and cracks in the soil.

No known CTS breeding pools have been documented within the USFWS maximum predicted 1.3-mile CTS upland dispersal distance from the project site. See Attachment 7. However, two potential breeding pools (SAMA-11 and SAMA-12) have been documented approximately one mile from the project site to the west of the developed Santa Maria Airport runways, hangars, and active agricultural fields. These two potential ponds are drainage basins without confirmed CTS use within a narrow corridor of habitat surrounded by intensive annual cultivation or row crops. The intervening land use between these ponds and the project site are developed Airport runways, hoop house agriculture between the runways, buildings and hangars that do not support upland refuge habitat and are a barrier to CTS overland movement. As such, the project site does not represent suitable upland or breeding habitat for the CTS and no impacts to this species would result from the proposed project.

The willow riparian habitat along the County flood control ditch when flowing could provide suitable habitat to support the western pond turtle (*Emys marmorata*) that is a highly aquatic species. Upland movement into the project area and developed land uses is unlikely for this aquatic species and no suitable breeding habitat is present in the study area due to its highly disturbed nature. The western spadefoot (*Spea hammondi*) is a toad that requires temporary pools (i.e., vernal pools) for breeding and upland dry season refuge. No suitable breeding pools are within the project area or surrounding areas so this species would not be expected to occur. Similarly, no suitable ponded habitat occurs for the vernal pool fairy shrimp (*Branchinecta lynchi*). The sandy (friable) soils along the project alignment represent suitable habitat for the silvery legless lizard (*Anniella pulchra*), Blainville's (coast) horned lizard (*Phrynosoma blainvillii*), American badger (*Taxidea taxus*), and burrowing owl (*Athene cunicularia*) all designated as species of special concern. The lack of shrub cover likely precludes the suitability for the silvery legless lizard and Blainville's horned lizard. While the legless lizard is a subterranean species and would not have been observed during surveys, no horned lizards or other herpetofauna were observed during KMA field surveys. The American badger and burrowing owl would have distinct and observable evidence of use (i.e., dens with scat, prey remains and tracks) that was not observed during KMA field surveys. The Lompoc grasshopper (*Trimerotropis occulens*) requires gravelly/rocky habitat, and the monarch butterfly (*Danaus plexippus*) requires stands of trees neither of which occur on the project site. The peregrine falcon (*Falco peregrinus*) is a coastal species not expected to use the small urbanized inland site for foraging as no nesting habitat occurs onsite or nearby in the agricultural and urban landscape.

Based on the findings from database review and appropriately timed KMA field surveys, there is a potential for CRLF to occur in the County flood control ditch if water is present during construction. If construction of the project were to occur during the wet winter months when suitable aquatic habitat was present in the ditch, project activities could adversely affect CRLF, and thus be considered a potentially significant impact. No designated critical habitat occurs over the project site, so none would be affected. No other impacts on special-status wildlife species are expected from the temporary and short-term project construction.

- b. The CNDDDB identified one natural community of special concern, Southern Vernal Pool, within a five-mile radius of the project site. No vernal pools were observed along the project alignment.

Field surveys identified a willow riparian corridor that follows along the County flood control ditch. Willow riparian habitat can be considered a natural community of special concern. The USFWS National Wetlands Inventory (NWI) query mapped the flood control ditch at the project jack and bore crossing as Freshwater Emergent Wetland, and Riverine upstream and downstream of the project. Both the NWI mapping designations are incorrect and is better characterized as Freshwater Forested/Shrub Wetland as willow scrub riparian habitat was observed through the project area. See Attachments 2 and 4. As described above, no impacts on the willow riparian habitat along the County flood control ditch would result from the proposed project given the proposed jack and bore crossing that will install the pipeline below the ditch.

Based on the findings from database review and appropriately timed KMA field surveys, no impacts to natural communities of special concern would result from the proposed project.

- c. The County flood control ditch and associated riparian habitat could be considered a waters of the U.S./State under the jurisdiction of federal and state statutes. KMA field surveys determined no wetlands occur in the upland pipeline alignment. The proposed project would jack and bore the pipeline under the County flood control ditch that would avoid any impacts on state or federal jurisdictional habitat or protected wetlands. Entry and receiver pits will be sited away from the ditch and riparian habitat, and construction best management practices and erosion controls will be in place to avoid indirect impacts to the ditch.
- d. There are no wildlife movement corridors across the site that is surrounded by urban development. The County flood control ditch may provide wildlife dispersal and migration corridor upstream/downstream for a variety of local wildlife species adapted to the urban setting (i.e., racoons, opossum, skunk). However, as noted above, no project activities are proposed within the channel; all activities will occur well outside top of bank and no bordering riparian vegetation will be disturbed. Any potential runoff from the site is not expected to have a substantial effect on the channel or any habitat associated with the channel. Thus, the project would not

substantially alter the ability of wildlife to use the channel as a movement corridor. This site does not contain any features such as instream pools or large swaths of forest habitat which would provide a native wildlife nursery site that would attract animals or other migratory species. Therefore, this impact would be less than significant.

Potential but very low quality nesting habitat for ground nesting birds protected under the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (CFGF) occurs in the grassland areas of the project. As stated above, the project site and surrounding area are highly disturbed from human activities and the grassland areas are mowed regularly. Project construction may result in direct impacts to nesting bird species, should active nests be present within the project site at the time of vegetation clearance. In addition, potentially suitable nesting habitat for a wide range of birds exists within 500 feet of the site. No direct impacts to nesting birds or their habitat outside of the site are expected. Potential impacts to nesting birds could occur only if individuals were to be present during construction and be exposed to vehicle and heavy equipment traffic. Appropriate measures to reduce potential impacts on nesting birds to less than significant levels are provided at the end of this section.

- e. The City of Santa Maria oversees land use planning through implementation of the City's General Plan. Biological resources are specifically addressed in the General Plan Resources Management Element (RME). The project would not conflict with the policies therein, related to the protection of biological resources. In addition, no trees occur within the project disturbance footprint. Therefore, there is no impact from conflict with any local policies or ordinances.
- f. There are no habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans in effect for the project site. Therefore, there would be no impact.

Mitigation Measure(s) incorporated into the project:

The following mitigation shall be required in order to reduce impacts to less than significant levels:

BIO-1 Construction Best Management Practices. The City shall ensure the following general wildlife and waters of the U.S./State impact avoidance Best Management Practices (BMPs) are required for construction activity within the project site:

- a. Prior to construction, the flood control ditch riparian corridor and associated buffer shall be delineated and fenced off to ensure equipment does not encroach on the ditch. Fencing and staking shall be used to confine access routes and construction areas to the minimum area necessary to construct the project.

- b. Appropriate erosion and sediment control measures shall be installed to ensure soil and sediment are contained on site and are not allowed to run off into the drainage channel. Measures may include fiber rolls, mulches, and placement of silt fence in conjunction with orange protective or wildlife fencing where appropriate.
- c. To the extent feasible, initial ground disturbance and placement of orange protection fencing should be conducted during the dry season, or during periods of no rain in which the site is dry.
- d. If trenches or other excavations more than 12 inches deep are not closed nightly, then adequate means of escape for wildlife shall be provided (i.e., earthen ramps not more than 2:1 slope, wooden boards, etc.). Trenches shall be inspected daily for wildlife and shall be inspected immediately prior to backfilling. Any wildlife within trenches must be freed and allowed to move out of the project area.
- e. All refueling, maintenance, and staging of equipment and vehicles shall occur at least 100 feet from the flood control ditch. These activities shall occur in a location where a spill would not drain toward the ditch and any seasonal aquatic habitat. A spill prevention and response plan must be in place for prompt and effective response to any accidental spills prior to the onset of work activities. All workers shall be informed of the appropriate measures to take should an accidental spill occur.
- f. During construction, no litter or construction debris shall be placed where it can be deposited in the drainage ditch. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site. In addition, all project-generated debris, building materials, and rubbish shall be maintained to avoid the drainage ditch and surrounding areas.
- g. Any substances which could be hazardous to aquatic species resulting from project-related activities shall be prevented from contaminating the soil and/or entering the drainage ditch.

BIO-2 Worker Environmental Awareness Program Training. Prior to the initiation of construction activities (including staging and mobilization), the City shall ensure all personnel associated with project construction attend a Worker Environmental awareness Program (WEAP) training.

- a. The training shall be conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the project area.
- b. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and avoidance measures required to reduce impacts to biological resources within the work area.

- c. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project.
- d. All employees shall sign a form provided by the trainer documenting they have attended the WEAP and understand the information presented to them.

BIO-3 California Red-legged Frog Impact Avoidance and Minimization. The City shall ensure the following actions are implemented to avoid potential impacts to CRLF:

- a. A pre-construction survey of the proposed disturbance footprint for CRLF shall be conducted by a qualified biologist within 48 hours prior to the start of project construction, including ESA fencing installation, to confirm this species is not present in the work area. A report documenting results of the survey shall be provided to the Community Development Director, prior to the start of construction. ESA fencing installation shall count as the start of construction for purposes of survey timing.
- b. A biological monitor familiar with CRLF will monitor all initial site disturbance (vegetation removal and fence installation). The monitor(s) must be approved by the City prior to working on the project.
- c. In the event the pre-construction survey or the onsite monitor identifies the presence of individuals of CRLF prior to or during construction, then the City shall stop work in the immediate area until the CRLF leave the site of their own accord. If CRLF do not move off site on their own, the City shall comply with all relevant requirements of take authorization under the federal Endangered Species Act prior to resuming project activities as follows:

If the USFWS does not provide take authorization, CRLF found within the project site shall be avoided with a 100-foot buffer and no activities shall occur within that buffer until the CRLF has left the project site on its own as determined by a qualified biologist.

BIO-4 Western Pond Turtle Impact Avoidance and Minimization. The City shall ensure the following actions are implemented to avoid and minimize potential impacts to the western pond turtle:

- a. A pre-construction survey of the proposed disturbance footprint and County flood control ditch for western pond turtle shall be conducted by a qualified biologist within 48 hours prior to the start of project construction, including ESA fencing installation, to confirm this species is not present in the work area. A report documenting results of the survey shall be provided to the Community Development Director, prior to the to the start of construction. ESA fencing installation shall count as the start of construction for purposes of survey timing.

- b. A biological monitor familiar with the western pond turtle will monitor all initial site disturbance (vegetation removal and ESA fence installation). The monitor(s) must be approved by the City prior to working on the project. If western pond turtle are found, the monitor will halt work until the individual can be moved to a safe location of suitable habitat outside the work area.

BIO-5 Silvery Legless Lizard, Blainville's Horned Lizard, American Badger, and Burrowing Owl Impact Avoidance and Minimization. The City shall ensure the following actions are implemented to avoid and minimize potential impacts to silvery legless lizard, Blainville's horned lizard, American badger, and burrowing owl:

- a. A pre-construction survey for silvery legless lizard, Blainville's horned lizard, American badger, and burrowing owl shall be conducted of the proposed disturbance footprint by a qualified biologist within 30 days of the start of project construction. A report documenting results of the survey shall be provided to the Community Development Director, prior to the start of construction.
- b. If legless lizards or Blainville's horned lizard are observed during the survey or during biological monitoring, the biological monitor will relocate individuals to an area of suitable habitat outside the project impact footprint.
- c. If American badger dens are present, in order to avoid the potential direct take of adults and nursing young, no grading shall occur within 50 feet of an active badger den as determined by a City approved biologist between March 1 and June 30. Construction activities during July 1 and March 1 shall comply with the following measures to avoid direct take of adult and weaned juvenile badgers:

Conduct a biological survey of the project alignment between 2 weeks and 4 weeks of the start of ground clearing or grading activity. Surveys shall focus on both old and new den sites. If dens are too long to see the end, a fiber optic scope (or other acceptable method) shall be used to assess the presence of badgers. Inactive dens shall be excavated and backfilled by hand with a shovel to prevent badgers from reusing them during construction.

Badgers shall be discouraged from using currently active dens prior to the grading of the site by partially blocking the entrance of the den with sticks, debris and soil for 3 to 5 days. Access to the den shall be incrementally blocked to a greater degree over this period. This would cause the badger to abandon the den site and move elsewhere. After badgers have stopped using active dens within the development area, the dens shall be hand excavated and backfilled with a shovel to prevent re-use. The City-approved biologist shall be present during the initial clearing and grading activity. If badger dens are found, all work shall cease until the biologist can safely

close the badger den and affirm passive relocation has occurred. Once the badger dens have been closed, work on the site may resume.

- d. Burrowing owls are not currently present or expected within the project footprint. To confirm burrowing owls are not present when construction begins, a qualified biologist shall complete a preconstruction survey within 30 days prior to construction, with a final clearance survey within 48 hours prior to start of construction. If an occupied burrow cannot be avoided, passive relocation may be implemented by the City approved biologist following a relocation plan approved by the City in consultation with CDFW. No burrowing owls may be trapped. Passive relocation shall be limited to the non-breeding season (typically between September 1st and February 1st). Passive relocation may involve installation of one-way doors at burrow entrances for a minimum of five days before the start of construction. Once the City-approved biologist has determined that the burrow is no longer occupied, the burrow may be hand excavated and backfilled to prevent re-occupancy.

BIO-6 Nesting Birds Impact Avoidance and Minimization. The City shall ensure the following actions are undertaken to avoid and minimize potential impacts to nesting birds:

- a. A nesting bird survey should be conducted by a qualified biologist no more than two weeks prior to the onset of construction activities. The nesting bird survey should be conducted within any and all suitable habitat that occurs within the project site, within 300 ft of its immediate vicinity for raptors, and 100 ft for all other bird species (as is feasible). If no active nests are found, no further action would be required.
- b. If active bird nests are found, then an appropriately sized avoidance buffer should be established by the biologist in consultation with the City and/or CDFW (if appropriate) and all construction work within the buffer should be delayed until after the nesting season has ended or until the biologist has determined that the young have fledged.
- c. Limits of construction to avoid the nest shall be established in the field with flagging and stakes or construction fencing. Construction personnel shall be instructed on the sensitivity of the area. The City shall record the results of the recommended protective measures described above to document compliance with applicable state and federal laws pertaining to protection of native birds.

Plan Requirements and Timing. The pre-construction survey results in measure BIO-3, BIO-4, BIO-5, and BIO-6 shall be provided to the City prior to the start of construction. On-going measures required by BIO-1 and BIO-2 shall be accomplished by the City during construction. In the event CRLF are encountered, the City shall coordinate with the USFWS on obtaining take authorization or a no-take concurrence finding before proceeding with construction.

Monitoring. City staff will review any pre-construction survey reports, and will perform onsite inspections as necessary during construction. Assistance from a City approved Biologist and/or specialist may be required.

5. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?				X
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		X		
c. Disturb any human remains, including those interred outside of dedicated cemeteries?		X		

Impact Discussion:

- a. The project site is void of any structural development and does not contain and is not located near any historic resources identified in the National Register of Historic Places or California Register of Historic Resources. The project site is not identified on the City's Landmarks map or on the City's Objects of Historic Merit map as published by the City's Landmark Committee. Therefore, the project would not result in any impacts to historical resources.
- b. According to the City's General Plan Resources Management Element, the Santa Maria Valley is not a major archaeological or paleontological resource area as only a few sites have been recorded or discovered in the area. Figure RME-5 or the General Plan Resources Management Element delineates High or Moderate, Low, and Negligible Archaeological Sensitivity Areas in the City. The project site is located in Archaeological Sensitivity Area 2 – Low Sensitivity. However, ground disturbance associated with construction could have the potential to uncover previously unknown archeological deposits. As such, impacts are considered significant but mitigable.

Under the requirements of AB52, Native American outreach was initiated as part of the project coordination and research effort. The City of Santa Maria contacted the Native American Heritage Commission and local Native American groups including the Northern Chumash Tribal Council, the San Luis Obispo County Chumash Council, the Santa Ynez Band of Chumash Indians, Barbareno/Ventureno Band of Mission Indians, Chumash Council of Bakersfield, and the Coastal Band of the Chumash Nation; groups known to have knowledge of or ties to the project area. Please refer to Section 18, Tribal Cultural Resources, for an assessment of tribal outreach.

- c. Human graves are often associated with prehistoric occupation sites. Section 7050.5 of the California Health and Safety Code provides that it is a misdemeanor to knowingly disturb a human burial and Section 5097.99 of the Public Resources Code defines the obtaining or possession of Native American remains or grave goods to be a felony. In addition, State Health and Safety Code Section 7050.5 stipulates the process to be followed when human remains are encountered. Although not expected, there is the potential for the accidental discovery of human remains and potential damage or disturbance during project implementation. As such, impacts are considered significant but mitigable.

Mitigation Measure(s) incorporated into the project:

The following mitigation shall be required in order to reduce impacts to less than significant levels:

CR-1. If archaeological resources are discovered during construction, work shall be halted within 50 meters (160 feet) of the discovery until it can be evaluated by a qualified professional archaeologist. If the discovery is determined to be significant, the recommendations of the archaeologist shall be required for implementation in coordination with the City of Santa Maria.

CR-2. If human remains are discovered during construction, work shall be halted within 50 meters (160 feet) of the find. The County Coroner shall be notified in accordance with the provisions of Public Resources Code 5097.98-99, State Health and Safety Code Section 7050.5, and the Native American Heritage Commission shall be notified in accordance with PRC Section 5097. If the remains are determined to be of Native American origin, the Commission will designate a Most Likely Descendant who will be authorized to provide recommendations for management of the human remains.

6. ENERGY

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

Impact Discussion:

The proposed project entails short-term construction activities related to the raw water pipeline intertie project in the City of Santa Maria. The project does not include any development and does not include an operational phase that would have the potential to consume energy resources in the long run.

Standard diesel-fueled construction equipment is proposed for use. In accordance with applicable air quality regulations, the construction equipment will be equipped with fuel-efficient engines and properly maintained. At the completion of the project, energy consumption will be limited to occasional vehicle trips and equipment used for temporary maintenance activities.

- a. As described above in Section 3, Air Quality, the proposed project will incorporate several measures to reduce emissions during short-term construction activities. In turn, these measures will result in fuel efficiencies. For example, heavy equipment will be outfitted to meet current emissions standards and haul trucks will meet CARB's emissions standards for fuel-efficient engines. Impacts are considered less than significant.
- b. The proposed project will incorporate several measures to reduce emissions during short-term construction activities. In turn, these measures will result in fuel efficiencies. As such, impacts related to energy use are considered less than significant.

Mitigation Measure(s) incorporated into the project:

Impacts are considered less than significant with the required incorporation of mitigation measures listed above under Section 3, Air Quality, and incorporation of emissions standards for fuel-efficient engines under CARB. No additional mitigation is required.

7. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii. Strong seismic ground shaking?			X	
iii. Seismic-related ground failure, including liquefaction?			X	

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
iv. Landslides?			X	
b. Result in substantial soil erosion or the loss of topsoil?		X		
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?		X		
d. Be located on expansive soil, as defined in Table 18-1-B of the most recent Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			X	
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?				X
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

Setting: The proposed project is located within the Santa Maria Valley, and east-west trending alluvial valley bound to the north by the San Rafael Range and to the south by the Casmalia Range and the Solomon Hills. The Santa Maria River traverses the valley from east to west, to the Pacific Ocean just west of the City of Guadalupe. The Santa Maria River is formed by the convergence of the Cuyama and the Sisquoc Rivers at Fulger Point.

According to the City of Santa Maria General Plan Safety Element, several active, potentially active, and inactive faults exist within the region. These faults generally trend north-west. The major faults include the Santa Maria, Santa Maria River, and Casmalia Faults. These faults do not qualify for Earthquake Fault Zone status by the State Geologist under the Alquist-Priolo Earthquake Fault Zone Act.

According to the Safety Element, liquefaction potential from ground shaking is generally low within the City due to the relatively deep groundwater levels. However, several areas of perched groundwater in the vicinity of the project site are listed in the Safety Element (Figure SE-2), resulting in potential liquefaction during an earthquake.

Landslides could potential occur in areas with steep slopes. The proposed project site is not located within a designated landslide zone or within an area with steep slopes. The project site is relatively flat in topography and is not located in the vicinity of steep slopes that would be susceptible to landslides.

As discussed under Section 2, Agriculture and Forestry Resources, the project site is underlain by Betteravia loamy sand (0-2% slopes). Please refer to Attachment 3, Soils Map,

for a depiction of on-site soils. This soil type is typified by very slow permeability, very slow surface runoff and a none-to-slight water erosion hazard.

Impact Discussion:

- a. As discussed above, the project site is located in a region with known active faults. The project site is located approximately midway between the Santa Maria Fault and the Casmalia Fault Zone. However, the project site is not located within a mapped Alquist-Priolo Earthquake Fault Zone. It is also important to note that the project site does not include any structural development. The potential for surface rupture to occur on the site is determined to be low, and impacts are considered less than significant.

Small to moderate earthquakes (with magnitudes less than 5.0 on the Richter Scale) are common in Santa Barbara County. As such, strong shaking should be expected during the lifetime of the proposed project. However, the pipeline intertie project does not include any structural development. Impacts related to seismic hazards are considered less than significant.

Liquefaction is the loss of strength in saturated granular soils produced by seismic shaking. For this to occur, the soils must be saturated at a relatively shallow depth, of a granular (non-cohesive) nature, and be relatively loose. If those criteria are met and strong ground motion occurs, then those soils may liquefy. Based on the project geotechnical analysis and the Santa Maria General Plan, the potential for lateral spreading and liquefaction to occur as a result of a seismic event is considered to be less than significant.

The project site is not located to steep slopes or in proximity to hazards associated with landslides. Landslide impacts are considered less than significant.

- b. In order to determine the project impacts related to soil suitability and engineering issues at the project site, a geotechnical engineering report was prepared for the proposed water well intertie project (Earth Systems Pacific, March 24, 2022). With respect to impacts related to soil erosion, the report indicates that the project site soils are considered to be highly erodible although considered to exhibit slow water erosion hazards. Accordingly, the report includes recommendations for stabilization of the surface soils, particularly those disturbed during construction, by vegetation or other means during and following construction to reduce the potential of erosion damage. As such, impacts are considered significant unless mitigated.
- c. The project geotechnical engineering report provides an assessment of impacts related to project implementation and the potential for those soils to become unstable as a result of the proposed project. Specifically, the report indicates that the results of the soil boring show slow to fast raveling to flowing ground conditions resulting from relatively shallow groundwater at the project site that may result in significant settlement. As such, soils settlement during project construction is considered a significant impact unless mitigated.

In addition to impacts related to depth to groundwater and soil settlement, the report also identifies soil suitability impacts related excavation characteristics which may result in impacts related to soil stability, or the risk of slope or sidewall failure within excavated areas. This impact is also exasperated due to the high moisture content in the soils. Impacts related to soil stability are considered significant unless mitigated. Soil corrosivity, as it relates to the soil acidity levels, and installation of the proposed pipeline within corrosive soils was also identified as a potentially significant impact unless mitigated.

- d. According to the City's General Plan Safety Element, the project site is not located within an area with expansive soils. In addition, the project does not include any structural development. As such, hazards related to expansive soils are considered less than significant.
- e-f. The proposed project does not include any development and impacts related to septic systems are not anticipated. With respect to paleontological resources, these resources have been identified within certain geologic formations within the County. Such resources are generally found within bedrock. The proposed project and excavations are limited to soil and will not excavate into bedrock. Therefore, the probability of encountering paleontological resources is considered low and impacts are considered less than significant.

Mitigation Measure(s) incorporated into the project:

In order to address the potential project impacts related to soil saturation/groundwater, soil erosion, soil settlement and corrosivity associated with installation of the proposed water intertie project, the project geotechnical engineering report includes recommendations to address multiple details of the project design and construction.

GEO-1. In order to address the potential for geologic impacts related to the proposed project construction, the mitigation measure recommendations listed in Section 7.0 of the project geotechnical report shall be considered required elements of project construction. Please refer to the attached project geotechnical engineering report for a detailed discussion of construction and design recommendations to address potential geologic and soils impacts related to project implementation.

Implementation of the measures recommended in the project geotechnical engineering report will reduce impacts to less than significant levels.

8. GREENHOUSE GAS EMISSIONS

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

Setting: Data compiled by the United Nations Framework Convention on Climate Change indicates that, in 2010, total worldwide greenhouse gas (GHG) emissions were estimated to be 48,629 million metric tons of carbon dioxide equivalent (MMTCO_{2e}), including emissions/removals from land use, land use change, and forestry; greenhouse gas emissions in the U.S. were 6,809 MMTCO_{2e}, and emissions in California were 450 MMTCO_{2e}.

Prominent GHG emissions contributing to the greenhouse effect are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). GHG emissions in excess of natural ambient concentrations are responsible for intensifying the greenhouse effect and have led to a trend of global climate change or global warming. Global sources of GHG emissions include fossil fuel combustion in both stationary and mobile sources, fugitive emissions from landfills, wastewater treatment, agricultural sources, deforestation, high global warming potential (GWP) gases from industrial and chemical sources, and other activities. While California's greenhouse gas emissions inventory is large, it has low emissions per capita.

California ranks fourth lowest of the 50 states in CO₂ emissions per capita. The largest source of greenhouse gases in California is transportation. According to the most recent ARB Scoping Plan Inventory (2017) transportation contributed an average of 41% of the State's total greenhouse gas emissions between 2000 and 2017. Industrial emissions generation was the second-largest source at 24%.

Statewide legislation, rules and regulations that apply to GHG emissions associated with the project setting include the Sustainable Communities and Climate Protection Act of 2008 (Senate Bill [SB] 375), the Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32), Advanced Clean Cars Rule, Low Carbon Fuel Standard, Renewable Portfolio Standard, California Building Codes, and recent amendments to the California Environmental Quality Act (CEQA) pursuant to SB 97 with respect to analysis of GHG emissions and climate change impacts. In addition, Executive Order (EO) B-55-18 was issued in September 2018, establishing a new statewide goal to achieve carbon neutrality no later than 2045, and to achieve and maintain net negative emissions thereafter.

Local Regulations

The Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS) were prepared by SBCAG and consist of local plans that include goals and policies related to the reduction of GHG emissions. The RTP is a long-range planning document that defines how the region plans to invest in the transportation system over the next 20 years based on regional goals, multi-modal transportation needs, and estimates of available funding. The RTP includes the SCS as required under SB 375. The SCS sets forth a forecasted development pattern for the region. When integrated with the transportation network and other transportation measures and policies, the SCS will reduce GHG emissions from passenger vehicles and light trucks to achieve the GHG reduction targets set by CARB. The future land use and transportation scenario presented in the SCS must accommodate forecast populations, employment and housing sufficient to meet the needs of the population, including the State mandated Regional Housing Needs Assessment (RHNA), while considering State housing goals.

Impact Discussion:

- a. As discussed under Section 3, Air Quality, project implementation is not expected to exceed established thresholds for air quality emissions. In addition, the project does not include an operational phase with the potential to result in significant air quality emissions. Limited vehicle trips associated with the project are expected and project emissions modeling shows that the project falls far below the threshold of 10,000 MT of CO_{2e} per year. As such, the project will result in less than significant impacts related to GHG.
- b. The proposed project is consistent with the City General Plan, the SBCAG 2040 RTP and SCS, the 2017 Climate Change Scoping Plan, and Executive Order B-55-18, which are regulations adopted to implement a statewide, regional or local plan to reduce or mitigate GHGs. In addition, the project is limited to the proposed water well intertie project and does not include an operational phase. Therefore, less than significant impacts are expected.

Mitigation Measure(s) incorporated into the project: No measures are required.

9. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			X	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d. Be located on a site which is included on a list of hazardous materials 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?				X
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?			X	
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X

Setting:

Hazardous materials are defined as substances with physical and chemical properties of ignitability, corrosivity, reactivity, or toxicity which may pose a threat to human health or the environment. This includes, for example, chemical materials such as petroleum products, solvents, pesticides, herbicides, paints, metals, asbestos, and other regulated chemical materials. Additionally, hazards include known historical spills, leaks, illegal dumping, or other methods of release of hazardous materials to soil, sediment, groundwater, or surface water. If a historical release exists, then there is a risk associated with disturbing the historical release area. The potential for risks associated with hazardous materials are varied regionally. The primary risk concerns within the project area are expected to focus on the transportation of hazardous materials in and around the community. Most of these incidents are related to the increasing frequency of transport of chemicals over roadways, railways or through industrial accidents. In the City of Santa Maria, the use and storage of hazardous materials is primarily regulated by the Uniform Fire Code. Transport of hazardous materials and waste on public streets is primarily regulated by the California Vehicle Code

and the City's Municipal Code. Storage and disposal of hazardous wastes is primarily regulated by the Santa Barbara County Environmental Health Services Division (EHS) through their Hazardous Waste Generator Program as authorized by the State Health and Safety Code. Any business that stores hazardous materials in accordance with Article 80 of the Uniform Fire Code must provide either a hazardous materials inventory statement (HMIS) or a hazardous materials management plan (HMMP) to the Fire Chief of the City of Santa Maria and the County of Santa Barbara. In addition, the City of Santa Maria Fire Department and the County EHS require a Business Plan in accordance with State regulations for businesses that store and use hazardous waste (City of Santa Maria 1995).

Fires have the potential to cause significant losses to life, property, and the environment. Urban fire hazards result from the materials that make up the built environment, the size and organization of structures, and spacing of buildings. Additional factors that can accelerate fire hazards are availability of emergency access, available water volume and pressure for fire suppression, and response time for fire fighters. Fire hazard severity in rural areas, including areas on the edge between urban and rural land (commonly called the wildland interface), are highly influenced by the slope of the landscape and site vegetation and climate. Where wildland fires may be a threat, plant fuels are often managed by replacement planting, grazing, plowing, or mechanical clearing.

The project site is located on the Santa Maria Airport property and is located approximately 500 feet from the easternmost runway.

Impact Discussion:

- a. The proposed project would not create a significant hazard to the public or to the environment through the routine transport, use, or disposal of hazardous materials. Construction of the proposed project would be required to comply with applicable building, health, fire, and safety codes. Hazardous materials would be used in varying amounts during construction of the project. Construction and maintenance activities would use hazardous materials such as fuels (gasoline and diesel), oils, and lubricants; paints and paint thinners; glues; cleaners (which could include solvents and corrosives in addition to soaps and detergents); and possibly pesticides and herbicides. The amount of materials used would be small, so the project would not create a significant hazard to the public or to the environment through the routine transport, use, or disposal of hazardous materials, assuming such use complies with applicable federal, state, and local regulations, including but not limited to Titles 8 and 22 of the CCR, the Uniform Fire Code, and Chapter 6.95 of the California Health and Safety Code. The project is not located in an area of known hazardous material contamination and is not listed on the "Cortese List" of hazardous materials sites compiled pursuant to Government Code Section 65962.5. As such, impacts are considered to be less than significant.
- b. The proposed project would not result in the routine transport, use, disposal, handling, or emission of any hazardous materials that would create a significant hazard to the public or to the environment. Implementation of Title 49, Parts 171–180, of the Code of Federal Regulations and stipulations in the General Plan Safety Element would reduce any impacts associated with the potential for accidental

release during construction. These regulations establish standards by which hazardous materials would be transported, within and adjacent to the proposed project. Where transport of these materials occurs on roads, the California Highway Patrol is the responsible agency for enforcement of regulations. Impacts are considered less than significant.

- c. The nearest school, Jimenez Elementary School is located at 1970 Biscayne Street and is located over one mile from the project site. As such, the project would not emit hazardous materials within on-quarter mile of an existing or proposed school. No impacts are expected.
- d. According to California Department of Toxic Substances Control's Hazardous Waste and Substances Site List (Cortese List), the project site has not been identified as a hazardous materials site pursuant to Government Code Section 65962.5. Therefore, the project would not result in any hazard to the public or the environment associated with identified hazardous materials sites and there would be no impact.
- e. The Santa Maria Public Airport is located adjacent to the project site with the terminal located approximately one-half miles to the southeast. The project is located within airport property. According to the City of Santa Maria *General Plan Safety Element*, much of the southern portion of the City is located within the Airport Influence Area, also referred to as "Hazard Zone I". The project site and surrounding areas are located within "Hazard Zone II," which is a smaller region where more specific "Safety Areas" apply. The project site is linear in form and portions of the proposed water pipeline intertie project are located within the more restrictive "Clear Zone" (Safety Area 1) and "Airport Approach" (Safety Area 2). The purpose of Safety Area 1 is to minimize conflicting land uses near the airport runways by keeping these areas clear of conflicting development. Safety Area 2 establishes regulations to minimize the hazard to safe landing and take-off of aircraft by limiting the height of buildings and uses within these areas and allowed uses are limited to airport services, light industrial, heavy commercial manufacturing and lower density residential.

The SBCAG serves as the Airport Land Use Commission (ALUC) for Santa Barbara County. The ALUC adopted the Santa Barbara County Airport Land Use Plan (ALUP) in 1993. In 2019, the ALUC published a draft ALUPs for each of the public airports in the County. According to Figure 4-2, Santa Maria Public Airport Safety Compatibility Map, portions of the project site are located within Zone 1 (Runway Protection Zone) and Zone 2 (Inner Approach/Departure Zone). The ALUP provides requirements for development within each of the Safety Zones, with Zones 1 and 2 being the most restrictive. However, the project is limited to the construction of the proposed water well intertie pipeline and no structural development is proposed that would have the potential to conflict with the ALUP. As such, impacts are considered less than significant.

The project is limited to the installation of the proposed water well intertie pipeline and does not include any structural development. As such, the project is considered to be consistent with the airport land use compatibility standards, and with all City

design standards and safety requirements. Impacts related to airport hazards would be less than significant.

- f. The project does not include any characteristics or features that would interfere with an adopted emergency response plan or emergency evacuation plan. The project is limited to the proposed water pipeline construction and impacts are expected to be less than significant.
- g. The project site is not adjacent to a wildland area or characterized as residential uses intermixed with wildland areas. Therefore, the project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires. No impact would occur.

Mitigation Measure(s) incorporated into the project: Impacts are considered less than significant and no mitigation is required.

10. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
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 a substantial erosion or siltation on- or off-site;			X	
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			X	
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			X	
iv. Impede or redirect flood flows?			X	

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

Setting:The project site is located within the Santa Maria Watershed, one of the largest coastal drainage basins in California, and includes all areas tributary to the Cuyama, Sisquoc, and Santa Maria Rivers. The Santa Maria Watershed overlies the Santa Maria River Valley Groundwater Basin (“SMRVGB”), covering more than 280 square miles in the southwestern corner of San Luis Obispo County and the northwestern corner of Santa Barbara County.

The project area is located within the Santa Maria River Valley Groundwater Basin (3-012.01) (California Department of Water Resources. 2021). The Santa Maria River Valley Groundwater Basin is adjudicated, which specifies that monitoring shall be sufficient to determine groundwater conditions, land and water uses, sources of water supply, and the disposition of all water supplies in the Santa Maria River Valley Groundwater Basin. In the adjudication process, the Santa Maria Valley River Groundwater Basin was divided into three management areas. The largest was the Santa Maria Valley Management Area. According to the 2020 Annual Report, the conditions of the Santa Maria Valley Management Area do not satisfy all of the criteria delineated in the adjudication for defining a severe water shortage.

In 2015, the State legislature approved the groundwater management law known as the Sustainable Groundwater Management Act (“SGMA”). The purpose of SGMA is to protect groundwater resources over the long-term. Historically, the City of Santa Maria pumped water from the SMRVGB as its sole water supply until the City of began receiving State Water Project (“SWP”) water from the Central Coast Water Authority (“CCWA”) in 1997. The SMRVGB is currently under a 2008 court-ordered stipulation that allows the City of Santa Maria to obtain its water supply from local groundwater, associated return flows from imported SWP water that may be recaptured in the basin, and a share of the yield of Twitchell Reservoir operations.

The proposed project would require trenching, which could result in minimal erosion of onsite soils and potential sedimentation during heavy wind or rain events. The project would be required to comply with all local, state, and federal requirements. In addition, the mitigation measures included in Section 7. Geology and Soils, and listed in the project geotechnical engineering report would be implemented to control the discharge of pollutants, including sediment from erosion into local surface water drainages.

According to the Federal Emergency Management Agency (“FEMA”), the proposed project site is not located within the 100-year flood zone. In addition, the project area is not within a tsunami inundation area.

Impact Discussion:

- a. The proposed project construction consists of on-site trenching and jack and bore tunneling, which could result in the erosion of onsite soils and sedimentation during heavy wind or rain events. However, as discussed in Section 7. Geology and Soils above, measures will be required to reduce erosion. Additionally, the project would comply with the adopted standards contained within the City of Santa Maria’s Municipal Code, Chapter 8-12 (Wastewater Collection, Treatment, and Disposal) Section 8-12A (Stormwater Runoff Pollution Prevention). With implementation of required mitigation measures and incorporation of the provisions and procedures associated with the aforementioned municipal code sections, the project would not violate water quality standards and waste discharge requirements; therefore, impacts would be less than significant.
- b. The project involves the proposed intertie pipeline connection between two existing City water wells and would not impede sustainable groundwater management in the basin. The City of Santa Maria derives water from multiple supply sources, including local groundwater, purchased water from the SWP, associated return flows recaptured from the Santa Maria Groundwater Basin, assigned rights to water from the Santa Maria Groundwater Basin, and assigned rights to augmented yield from Twitchell Reservoir. However, the project does not include any structural development and does not introduce any new water users. As such, impacts are considered less than significant.
- c.i-iv. The project is limited to the proposed construction of an intertie pipeline to connect two existing City water wells. Construction activities for pipeline installation would involve trenching and other pipeline installation methods such as jack and bore tunneling that would disturb unpaved land within the project site. This disturbance would be temporary. Construction would be required to comply with BMPs and City of Santa Maria’s Municipal Code requirements which would reduce impacts related to erosion and surface runoff. After construction, the project area would be restored to its original condition, and any drainage pattern within the right-of-way would be returned to existing conditions following project construction activities.

In addition, the proposed project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-site or off-site or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. BMPs would be implemented during construction activities to minimize runoff and erosion. Furthermore, the project would not impede or redirect flood flows, since the project consists of underground pipelines. For these reasons, less than significant impacts would result from construction and operation of the project.

- d. Tsunamis or “tidal waves” are seismic waves created when displacement of a large volume of seawater occurs as a result of movement on seafloor faults. The project site is located outside a tsunami hazard zone. The project is limited to the construction of an underground water pipeline connection and would have no impact related to the risk release of pollutants due to project inundation due to these areas.
- e. As described above, the SMRVGB is part of an adjudicated basin managed by the courts. The project is limited to the proposed water pipeline construction and does not include any development. Therefore, the project would have less than significant impacts regarding conflicting with or obstructing applicable water quality control plans or sustainable groundwater management plans.

Mitigation Measure(s) incorporated into the project: Impacts are considered less than significant and no mitigation is required.

11. LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?			X	
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?			X	

Impact Discussion:

- a. The project site is in an area planned and zoned for the specified pipeline construction. The project site is surrounded by airport-related and industrial land uses. The proposed project would be installed underground and would be consistent with the surrounding land uses; including the following zoning designations: PD/M-1 (Planned Development/Light Manufacturing), OS (Open Space), CZ (Airport Clear Zone) and PD/AS-II (Planned Development/Airport Service II); and applicable General Plan policies pertaining to development of the site. Therefore, the project would not conflict with any local programs, plans, or ordinances, or divide an established community. Impacts would be less than significant.
- b. The project would not conflict with any policy adopted for the purposes of avoiding and/or mitigating an adverse environmental effect. Construction of the project is limited to trenching and jack and bore tunneling for pipeline installation. The improvement of a municipal water system is consistent with the land use designations on the site and within the project area. Less than significant impact are expected.

Mitigation Measure(s) incorporated into the project: No mitigation measures are required.

12. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			X	
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?			X	

Impact Discussion:

- a-b. As discussed in the City of Santa Maria Resource Management Element of the General Plan, the primary resources suitable for mining and conservation are sand, rock, and oil. The Santa Maria River channel is considered to be a valuable mineral resource for sand and rock. The project site is over six miles southwest of the Santa Maria River. The Santa Maria basin is also a significant hydrocarbon producing basin, historically allowing for the development of the oil industry throughout the region. Many of the area's oil wells have since been capped and abandoned due to the development and urbanization of the City of Santa Maria. The project site is located outside the City-designated Areas of Operational, Existing, or Abandoned Oil Facilities.

According to Figure RME-4 of the Resource Management Element, the project site is located outside of the City's Mineral Resource Zones. This zone is designated for areas containing mineral deposits. As such, the project would not result in the loss of availability of a valuable known mineral resource or locally important mineral resource recovery site. Impacts would be less than significant.

Mitigation Measure(s) incorporated into the project: No mitigation measures are required.

13. NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?		X		
b. Generation of excessive ground borne vibration or ground borne noise levels?			X	
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?			X	

Setting: Community noise levels are typically measured in terms of A-weighted decibels (“dBA”). A-weighting is a frequency correction that correlates overall sound pressure levels with the frequency response of the human ear. Equivalent noise level (Leq) is the average noise level on an energy basis for a specific time period. The duration of noise and the time of day at which it occurs are important factors in determining the impact of noise on communities.

The Community Noise Equivalent Level (“CNEL”) and Day-Night Average Level (“Lnd”) account for the time of day and duration of noise generation. These indices are time-weighted average values equal to the amount of acoustic energy equivalent to the time-varying sound over a 24-hour period. The Noise Element of the City’s General Plan includes compatibility standards for noise exposure by land use (City of Santa Maria. 2009).

Table 2 - Noise Element Land Use Categories		Standard dB CNEL	
Category	Uses	Interior	Exterior
Residential	Single Family, Duplex, Multiple Family, Mobile Home	45	60
Noise-Sensitive Land Uses	Motel, Hospital, School, Nursing Home, Church, Library, and Other	45	60
Commercial	Retail, Restaurant, Professional Office	55	65
Industrial	Manufacturing, Utilities, Warehousing, Agriculture	65	70
Open Space	Passive Outdoor Recreation	-	65

Impact Discussion:

- a. The project site is located in an area developed with airport-related and industrial uses. The nearest noise sensitive land uses are the Healing Rooms of the Santa Maria Valley Church and the Life Way Fellowship Church, located approximately 400 and 500 feet from the proposed water pipeline respectively, both within the Light Manufacturing zone. No other sensitive receptors exist or are planned in the area.

During the construction phase of the project, noise generated from construction activities may intermittently dominate the noise environment in the immediate area. Short-term construction noise would be limited in nature and duration; however, pipeline construction would occur in the vicinity of sensitive receptors in the community. Construction-related noise would be limited to the daytime hours of 7:00 a.m. to 5:00 p.m. Monday through Friday, consistent with City requirements. Potential construction-related noise impacts resulting from the proposed project construction activities could result in significant but mitigable short-term impacts.

The proposed project is not expected to result in a significant long-term increase in traffic noise levels. The proposed pipeline installation does not include an operational phase. As such, noise-related impacts resulting from operation of the proposed project would be less than significant.

- b. The project is not subject to substantial groundborne vibration, nor would it generate any permanent source of groundborne vibration at nearby sensitive receptors. Construction activities may generate groundborne vibration, however, these activities would be temporary, and the vibration effects of typical construction equipment is not expected to affect nearby sensitive residential receptors. Impacts are considered less than significant.
- c. The project area is located within Santa Maria Airport property, adjacent to the eastern boundary of the Airport. Based on the ALUP and the City of Santa Maria General Plan Noise Element, Figure N-2, portions of the proposed water pipeline alignment are located within the Airport 60 dB noise contour. However, the project is limited to the construction of the underground pipeline and intertie connection and does not include any development or operational phase with the potential to introduce sensitive receptors to excessive noise levels. Therefore, this is considered a less than significant impact.

Mitigation Measure(s) incorporated into the project: In order to reduce noise impacts related to project construction to less than significant levels, the following mitigation is required:

- N-1.** Stationary construction equipment used for proposed construction within the community that generates noise exceeding 65 dBA at the project boundaries shall be shielded with the most modern and effective noise control devices (i.e., mufflers, lagging, and/or motor enclosures). Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction within the community shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed-air exhaust from pneumatically powered tools. Where use of pneumatic

tools is unavoidable, an exhaust muffler on the compressed-air exhaust shall be used. All equipment shall be properly maintained to ensure that no additional noise, due to worn or improperly maintained parts, is generated. Stockpiling and vehicle staging areas shall be located as far as practical from sensitive noise receptors. Every effort shall be made to create the greatest distance between noise sources and sensitive receptors during construction activities within the community.

14. POPULATION AND HOUSING

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

Setting: The City of Santa Maria has experienced a consistent increase in population since approximately the early 1990s, largely due to the affordable housing the City provides relative to other cities in Santa Barbara and San Luis Obispo Counties and the development of programs and policies to further encourage growth and development.

Impact Discussion:

- The project consists of the proposed installation of a new water pipeline connection between City water wells 6S and 11s for the purpose of serving the existing population. The project does not include a residential component and would not displace any existing housing. Impacts are considered less than significant.
- The proposed project involves the construction of a water well intertie project, connecting two existing City water wells. The new connection would only serve the existing customers of the RWC. The project would not displace substantial numbers of existing people, housing, or necessitate the construction of replacement housing elsewhere. No impacts would result.

Mitigation Measure(s) incorporated into the project: No mitigation measures are required.

15. PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:				
i. Fire protection?			X	
ii. Police protection?			X	
iii. Schools?				X
iv. Parks?				X
v. Other public facilities?				X

Setting: Fire protection services for the project area are provided by the City of Santa Maria. Six fire stations serve the City, the nearest station to the proposed project is Station No. 6, located at the Santa Maria Airport at 3339 Terminal Drive. The City of Santa Maria Police Department provides law enforcement services for the City. The Santa Maria-Bonita School District serves the City's elementary and junior high-schools, and the high-schools are served by the Santa Maria Joint Union High School District.

Impact Discussion:

i-ii. Because the project is limited to the proposed construction of a water well intertie pipeline, it will have no post-construction impact on the City Fire Department or Police Department. However unlikely, these departments could be required to respond to potential construction-related emergencies. Construction is considered temporary and short-term and will not significantly impact fire protection or police protection services or require the construction of new or remodeled facilities. Impacts are considered less than significant.

iii-v. The water well intertie project is limited to the construction of the proposed water pipeline and does not include any development. The project would have no physical impact on schools, parks, or other public facilities and would not require the construction of new or remodeled facilities. No impact is expected to result from implementation of the proposed project.

Mitigation Measure(s) incorporated into the project: No mitigation measures are required.

16. RECREATION

Would the project:	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?				X
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?				X

Setting: The City of Santa Maria Recreation and Parks Department establishes goals, policies, and implementation measures for the management, renovation, and expansion of existing, and the development of new, parks and recreation facilities in order to meet existing and projected needs and to assure an equitable distribution of parks throughout the City. The City does not identify any public trails, parks, or recreational facilities on the project site.

Public facilities fees, Quimby fees, and developer conditions are several ways the City currently funds public parks and recreational facilities. Public facility fees are collected upon construction of new residential units and currently provide funding for new community-serving recreation facilities.

Impact Discussion:

- a-b. The project is limited to the proposed water well intertie pipeline construction and would not increase the use of surrounding recreational facilities and would not contribute to the physical deterioration of park facilities or necessitate the construction of new recreational facilities. No impact to recreational facilities would result from implementation of the project.

Mitigation Measure(s) incorporated into the project: No mitigation measures are required.

17. TRANSPORTATION

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			X	
b. Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?			X	
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d. Result in inadequate emergency access?			X	

Setting: The project is located on the western boundary of the City of Santa Maria, within the Santa Maria Airport property. Regional access to the project site is provided via West McCoy Lane, Skyway Drive, Airpark Drive and U.S. Route 101, which is located approximately 1 mile to the east of the proposed project area. In the Circulation Element of the City of Santa Maria General Plan, West McCoy Lane is considered a secondary arterial. Skyway Drive provides access to the Santa Maria Airport and is considered to be a primary arterial. Airpark Drive is not listed as an arterial under the Circulation Element.

The project will require excavation within a portion the City of Santa Maria right-of-way on Airpark Drive for the water pipeline trenching. The project applicant will be responsible for obtaining an encroachment permit, if needed, from the City prior to the start of construction. If needed, the encroachment permit will require a traffic control plan. The proposed project would not generate any trips after construction has been completed.

Impact Discussion:

- The proposed project is limited to temporary construction activities and does not include an operational phase. As such, the project would result in a temporary increase in traffic during construction. However, traffic or vehicle miles traveled (VMT) will not increase as a result of project implementation once construction is completed.

Construction-related vehicle trips would include workers traveling to and from the project construction site and staging area(s) and other trucks associated with equipment and material deliveries. Truck trips for materials and hauling for the water well intertie pipeline construction will vary depending on delivery of materials and construction vehicles. Compared to the existing level of traffic traveling on Airpark Drive or Skyway Drive, the temporary construction related traffic would be minimal. No sidewalks or bike lanes exist along the pipeline alignments. Road closures are not anticipated as needed for the project. However, in the event of any type of closure, clear signage (e.g., closure and

detour signs) must be provided to ensure vehicles, pedestrians and bicyclists are able to adequately reach their intended destinations safely. The construction contractor would prepare a construction Traffic Control Plan as part of the encroachment permit, if required, from the City of Santa Maria. This plan should address the construction schedule, street closures and/or detours, construction staging areas and parking, and planned truck routes.

Construction is a short-term, temporary activity and construction trips would account for a relatively small portion of existing traffic on area roadways. Therefore, traffic flow impacts during construction would be less than significant.

- b. The City of Santa Maria Environmental Procedures and Guidelines includes a list of discretionary development projects that are not subject to VMT analysis. Specifically, the City has adopted a screening threshold stating that small discretionary development projects that would generate fewer than 110 daily trips, are not subject to VMT analysis. The proposed project falls within this category. The proposed project would not generate any trips once operational. As such, the project is expected to have a less than significant impact on the City road system.
- c. The project would not substantially increase hazards due to a design feature (for example, sharp curves or dangerous intersections) or incompatible uses. The project does not include an operational phase and would not generate traffic or vehicle trips once implemented. The project does not include the construction of hazardous design features and would not result in incompatible uses with the surrounding area. Impacts are considered less than significant.
- d. The project does not include an operational phase and would not generate traffic or vehicle trips once implemented. In addition, upon completion of the construction of the water well intertie pipeline the project site will be returned to existing conditions. As such, the project would not have the potential to effect emergency access and impacts are considered less than significant.

Mitigation Measure(s) incorporated into the project: No mitigation measures are required.

18. TRIBAL CULTURAL RESOURCES

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

Setting: Approved in 2014, AB 52 added tribal cultural resources to the categories of resources that must be evaluated under CEQA. Tribal cultural resources are defined as either of the following:

- 1) Sites, features, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - a. Included or determined to be eligible for inclusion in the California Register of Historical Resources; or
 - b. Included in a local register of historical resources as defined in subdivision (k) of California Public Resources Code Section 5020.1.
- 2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of California Public Resources Code Section 5024.1. In applying these criteria for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe.

Recognizing that tribes have expertise with regard to their tribal history and practices, AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally

affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area.

As discussed under Section 5, Cultural Resources, according to the City's General Plan Resources Management Element, the Santa Maria Valley is not a major archaeological or paleontological resource area as only a few sites have been recorded or discovered in the area. Figure RME-5 of the General Plan Resources Management Element delineates High or Moderate, Low, and Negligible Archaeological Sensitivity Areas in the City. The project site is located in Archaeological Sensitivity Area 2 – Low Sensitivity. However, ground disturbance associated with construction could have the potential to uncover previously unknown archeological deposits. As such, the applicant will be required to implement Mitigation Measures CR-1 and CR-2, consisting of stop work procedures in the event that archaeological resources are discovered during project construction and follow procedures for notification in the event human remains are encountered.

Under the requirements of AB52, Native American outreach was initiated as part of the project coordination and research effort. The City of Santa Maria contacted the Native American Heritage Commission and local Native American groups including the Northern Chumash Tribal Council, the San Luis Obispo County Chumash Council, the Santa Ynez Band of Chumash Indians, Barbareno/Ventureno Band of Mission Indians, Chumash Council of Bakersfield, and the Coastal Band of the Chumash Nation; groups known to have knowledge of or ties to the project area. No responses were received as a result of the consultation invitations.

Discussion:

- i-ii. The project site is void of any structural development and does not contain and is not located near any historic resources identified in the National Register of Historic Places or California Register of Historic Resources. The project site is not identified on the City's Landmarks map or on the City's Objects of Historic Merit map as published by the City's Landmark Committee. The project site is located in Archaeological Sensitivity Area 2 – Low Sensitivity. However, ground disturbance associated with construction could have the potential to uncover previously unknown archeological deposits. Should archaeological resources be unexpectedly discovered during construction, work shall be halted until it can be evaluated by a qualified professional archaeologist and determined to be significant, and appropriate mitigation measures formulated and implemented, as identified in Mitigation Measures CR-1 and CR-2. The project would have a less-than-significant impact on tribal cultural resources.

Mitigation Measure(s) incorporated into the project: With the implementation of Mitigation Measures CR-1 and CR-2, impacts are considered less than significant and no additional measures are required.

19. UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			X	
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c. Result in a determination by the waste water 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?			X	
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?			X	
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

Setting: The City of Santa Maria provides water and wastewater services for the project site. Per the City's Stormwater Program, the Public Works Department is responsible for ensuring that new construction sites implement best management practices during construction, and that site plans incorporate appropriate post-construction stormwater runoff controls. Construction sites that disturb 1.0 acre or more must obtain coverage under the SWRCB's Construction General Permit. The project is, in and of itself, a community utility upgrade for water transfer. The project would be beneficial to the City's utility systems. Please refer to Section 10, Hydrology and Water Quality, for a discussion of project area water resources and community water supply.

The City of Santa Maria Utilities Department (City of Santa Maria) is currently responsible for the collection of solid waste in the project area. Waste from the project area is transported to the Santa Maria Regional Landfill.

Pacific Gas & Electric Company (PG&E) is the primary electricity provider and both PG&E and Southern California Gas Company provide natural gas services for urban and rural communities within the County of Santa Barbara.

As it relates to the proposed pipeline installation project, there is no housing or permanent population existing or projected within the project footprint and the project will not include any residential development. Hence, there is no additional demand for permanent public utilities or services.

Impact Discussion:

- a-e. The proposed project would not generate wastewater or require wastewater disposal during project construction or operation. Construction-related wastewater would be accommodated by licensed on-site portable restroom and hand-washing facilities and disposed of in accordance with existing regulations. The project will not require water use outside of temporary construction activities. The project will not generate significant solid waste, outside of construction garbage generation, which will be collected by a construction site dumpster and transferred to the Santa Maria Regional Landfill. Utility and service system impacts are considered less than significant.

Mitigation Measure(s) incorporated into the project: No mitigation measures are required.

19. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones,

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
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?			X	
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?			X	
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X

Setting: In central California, the fire season usually extends from roughly May through October; however, recent events indicate that wildfire behavior, frequency, and duration of the fire season are changing in California.

Fire Hazard Severity Zones (FHSZ) are defined by the California Department of Forestry and Fire Protection (CalFire) based on the presence of fire-prone vegetation, climate, topography, assets at risk (e.g., high population centers), and a fire protection agency's ability to provide service to the area (CAL FIRE 2007). Please refer to Section 15, Public Services, for a discussion of the City's fire protection services. The project area is fairly urbanized and absent of vegetation with the exception of the thin strip of vegetation along the creek that transects the project site. The topography of the project site is relatively flat and void of steep slopes which can exacerbate wildland fires.

The California Fire Code provides minimum standards for many aspects of fire prevention and suppression activities. These standards include provisions for emergency vehicle access, water supply, fire protection systems, and the use of fire resistant building materials.

Impact Discussion:

- a. The proposed project does not include any characteristics or features that would interfere with an adopted emergency response plan or emergency evacuation plan. The project would not result in the closure of any roads. Impacts are considered less than significant.
- b. The project site is currently void of any structural development and is surrounded by light industrial activities and the Santa Maria Airport. The site is relatively flat and lacks physical and biological features that would be conducive to wildland fire. The project site is not located within or adjacent to a designated FHSZ or a wildland area. Therefore, the project would not be exposed to risks from wildland fires and impacts are considered less than significant.
- c. The site is currently void of any structural development and is surrounded by light industrial uses as well as the Santa Maria Airport. The project does not include any development and would not result in an increased need for fire protection. The project does not include infrastructure facilities that would exacerbate fire risk and impacts are considered less than significant.
- d. The project is not located within a State Responsibility Area (SRA) Fire Hazard Zone. The project is not at risk of downslope or downstream flooding or landslides resulting from a loss of vegetation in the event of a wildfire. As such, no impacts are expected.

Mitigation Measure(s) incorporated into the project: No mitigation measures are required.

CONSULTATION AND DATA SOURCES

CONSULTATION SOURCES

City Departments Consulted

<input type="checkbox"/>	Administrative Services
<input type="checkbox"/>	Attorney
<input type="checkbox"/>	Fire
<input type="checkbox"/>	Library
<input type="checkbox"/>	City Manager
<input type="checkbox"/>	Police
<input checked="" type="checkbox"/>	Public Works
<input checked="" type="checkbox"/>	Utilities
<input type="checkbox"/>	Recreation and Parks

County Agencies/Departments Consulted

<input type="checkbox"/>	Air Pollution Control District
<input type="checkbox"/>	Association of Governments
<input type="checkbox"/>	Flood Control District
<input type="checkbox"/>	Environmental Health
<input type="checkbox"/>	Fire (Hazardous Materials)
<input type="checkbox"/>	LAFCO
<input checked="" type="checkbox"/>	Public Works
<input checked="" type="checkbox"/>	Planning and Development
<input type="checkbox"/>	Other (list)

Special Districts Consulted

<input checked="" type="checkbox"/>	Santa Maria Public Airport
<input checked="" type="checkbox"/>	Airport Land Use Commission
<input type="checkbox"/>	Cemetery
<input type="checkbox"/>	Santa-Maria Bonita School District
<input type="checkbox"/>	Santa Maria Joint Union High School
<input type="checkbox"/>	Laguna County Sanitation District
<input type="checkbox"/>	Cal Cities Water Company

State/Federal Agencies Consulted

<input type="checkbox"/>	Army Corps of Engineers
<input type="checkbox"/>	Caltrans
<input type="checkbox"/>	CA Fish and Game
<input type="checkbox"/>	Federal Fish and Wildlife
<input type="checkbox"/>	FAA
<input checked="" type="checkbox"/>	Regional Water Quality Control Bd.
<input type="checkbox"/>	Integrated Waste Management Bd.

List of Attachments

1. Site Location Map
2. Aerial Overview Map
3. Soils Map
4. Habitat Map
5. CNDDDB Plants Map
6. CNDDDB Animals Map
7. CTS Breeding Pond Map
8. Biological Resources Summary Table
9. Photo Plate
10. Geotechnical Engineering Report

DATA SOURCES

General Plan

<input checked="" type="checkbox"/>	Land Use Element
<input checked="" type="checkbox"/>	Circulation Element
<input checked="" type="checkbox"/>	Safety Element
<input checked="" type="checkbox"/>	Noise Element
<input checked="" type="checkbox"/>	Housing Element
<input checked="" type="checkbox"/>	Resources Management Element

Other

<input type="checkbox"/>	Agricultural Preserve Maps
<input checked="" type="checkbox"/>	Archaeological Maps/Reports
<input type="checkbox"/>	Architectural Elevations
<input checked="" type="checkbox"/>	Biology Reports
<input type="checkbox"/>	CA Oil and Gas Maps
<input checked="" type="checkbox"/>	FEMA Maps (Flood)
<input type="checkbox"/>	Grading Plans
<input checked="" type="checkbox"/>	Site Plan
<input type="checkbox"/>	Topographic Maps
<input checked="" type="checkbox"/>	Aerial Photos
<input type="checkbox"/>	Traffic Studies
<input type="checkbox"/>	Trip Generation Manual (ITE)
<input checked="" type="checkbox"/>	CalEEMod Air Quality Model
<input checked="" type="checkbox"/>	Zoning Maps

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MANDATORY FINDINGS OF SIGNIFICANCE

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

The lead agency shall find that a project may have a significant effect on the environment and thereby require an EIR to be prepared for the project where there is substantial evidence, in light of the whole record, that any of the following conditions may occur. Where prior to commencement of the environmental analysis a project proponent agrees to mitigation measures or project modifications that would avoid any significant effect on the environment or would mitigate the significant environmental effect, a lead agency need not prepare an EIR solely because without mitigation the environmental effects would have been significant (per State CEQA Guidelines § 15065).

1. Incorporation of Mitigation Measures AQ-1 through AQ-2 under Section 3, Air Quality, will reduce air quality impacts to less than significant levels. Mitigation Measures BIO-1 through BIO-6 under Section 4, Biological Resources, will reduce impacts to biological resources to less than significant levels. Mitigation Measures CR-1 through CR-2, listed under Section 5, Cultural Resources, will lessen cultural and tribal cultural resource impacts to less than significant levels. Mitigation Measure GEO-1 under Section 7, Geology and Soils, will reduce geologic impacts to less than significant levels. Mitigation Measure N-1 under Section 13, Noise, will reduce noise impacts to less than significant levels.
2. Project construction activities will be temporary, and no permanent uses will be established. Project activities will not affect present or future development of the

surrounding area. No cumulative effects are expected from the short-term project activity.

3. As discussed in each resource section above, the proposed project may result in significant but mitigable impacts to Air Quality, Biological Resources, Cultural Resources, Geology and Soils, and Noise. The required mitigation measures will reduce impacts to less than significant levels.

SUMMARY OF POTENTIALLY SIGNIFICANT IMPACTS

<input type="checkbox"/>	Aesthetics/Visual Resources	<input type="checkbox"/>	Land Use and Planning
<input type="checkbox"/>	Agriculture and Forest Resources	<input type="checkbox"/>	Mineral Resources
<input checked="" type="checkbox"/>	Air Quality	<input checked="" type="checkbox"/>	Noise
<input checked="" type="checkbox"/>	Biological Resources	<input type="checkbox"/>	Population and Housing
<input checked="" type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Public Services
<input type="checkbox"/>	Energy	<input type="checkbox"/>	Recreation
<input checked="" type="checkbox"/>	Geology and Soils	<input type="checkbox"/>	Transportation
<input type="checkbox"/>	Greenhouse Gas Emissions	<input type="checkbox"/>	Tribal Cultural Resources
<input type="checkbox"/>	Hazards and Hazardous Materials	<input type="checkbox"/>	Utilities and Service Systems
<input type="checkbox"/>	Hydrology/Water Quality	<input type="checkbox"/>	Wildfire

DETERMINATION

On the basis of the Initial Study, the staff of the Community Development Department:

- ____ Finds that the proposed project is a Class ____ **CATEGORICAL EXEMPTION** and no further environmental review is required.
- ____ Finds that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- X** Finds that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- ____ Finds that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- ____ Finds that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to acceptable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on the attached sheets. An **ENVIRONMENTAL IMPACT REPORT (EIR)/SUBSEQUENT EIR/SUPPLEMENTAL EIR/ADDENDUM** is required, but it must analyze only the effects that remain to be addressed.
- ____ Finds that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to acceptable 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.


Cody Graybehl
Environmental Analyst


Chuen Ng
Environmental Officer

12/5/2022
Date

12/5/2022
Date



City of Santa Maria
Community Development Department
110 South Pine Street, Suite #101
Santa Maria, CA 93458
805-925-0951



Study Area Boundary

National Wetlands Inventory (USFWS)



Freshwater Emergent Wetland



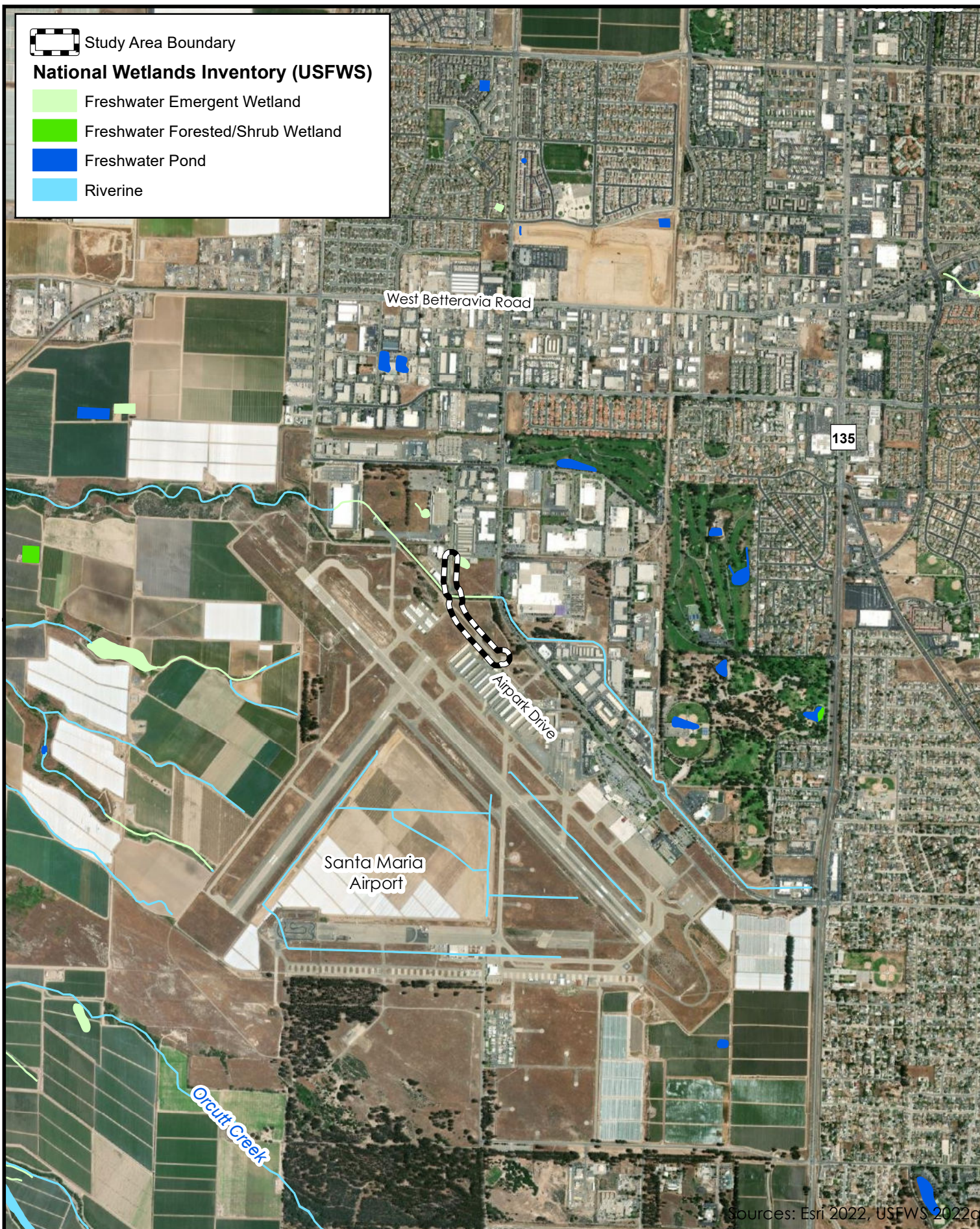
Freshwater Forested/Shrub Wetland



Freshwater Pond



Riverine



Sources: Esri 2022, USFWS 2022a



1 inch = 2,000 feet

Well 6S Intertie Project

City of Santa Maria

Figure 2

Aerial Overview Map



Study Area Boundary

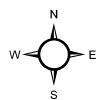
NRCS Web Soil Survey



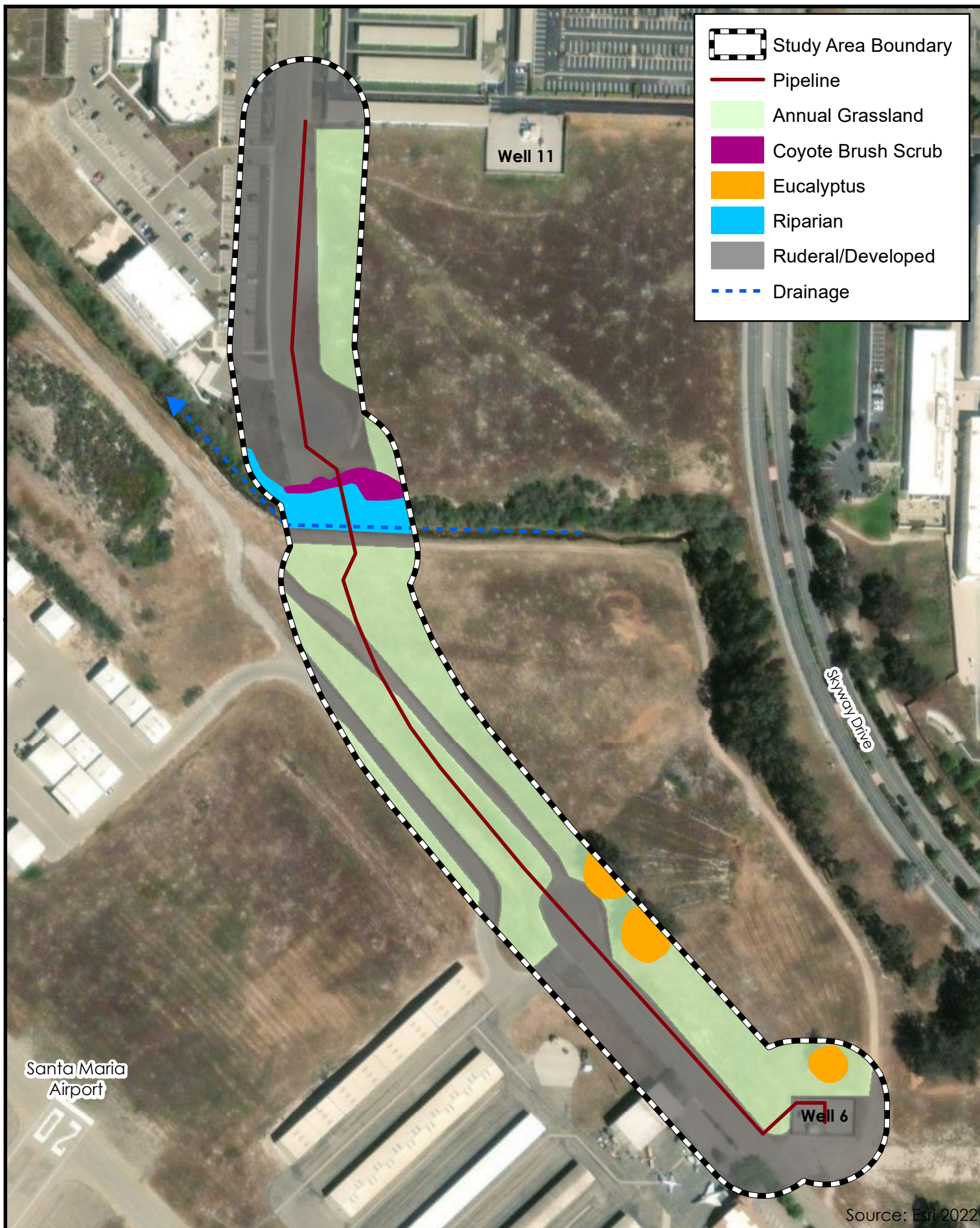
Betteravia loamy sand, 0 to 2 percent slopes

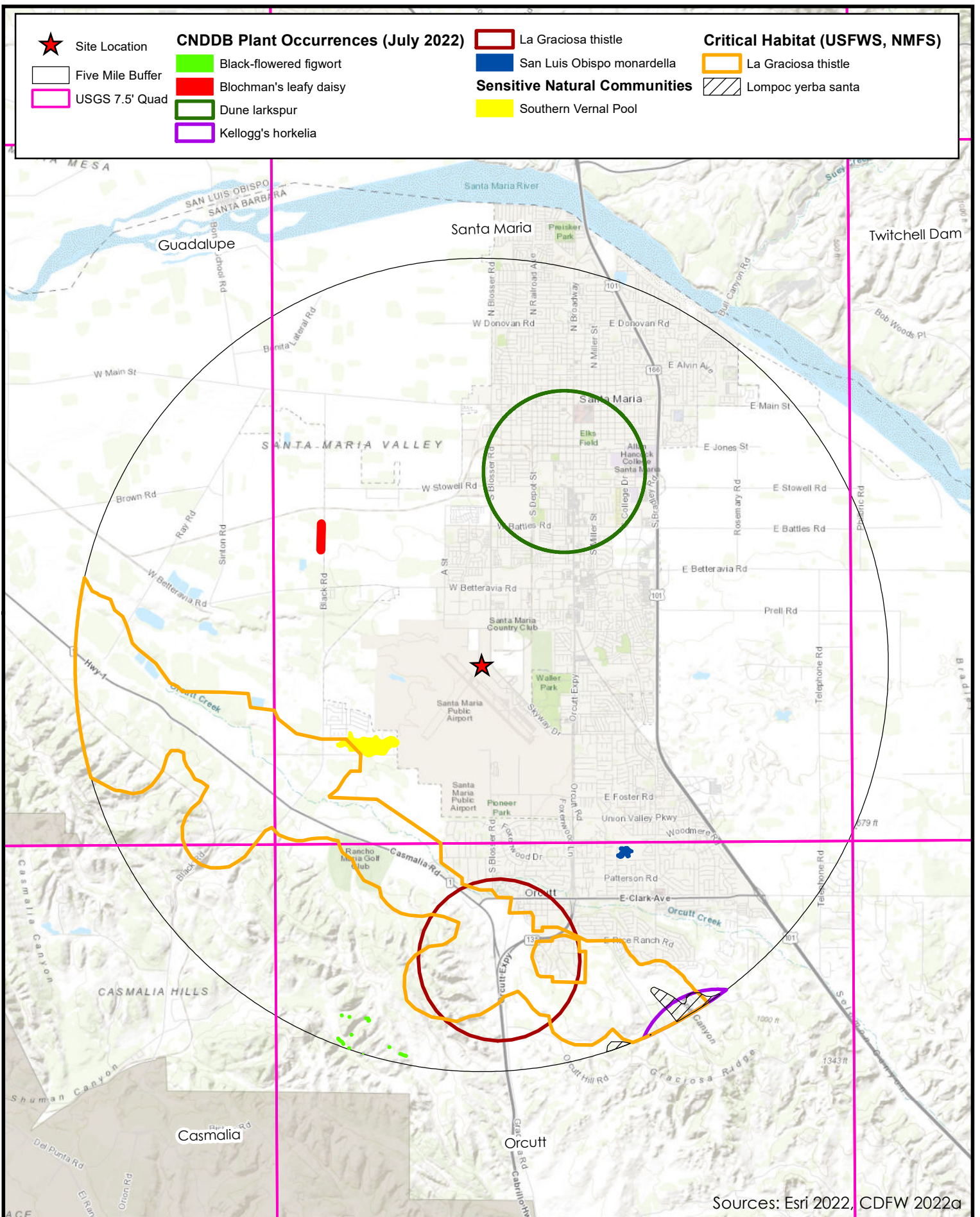


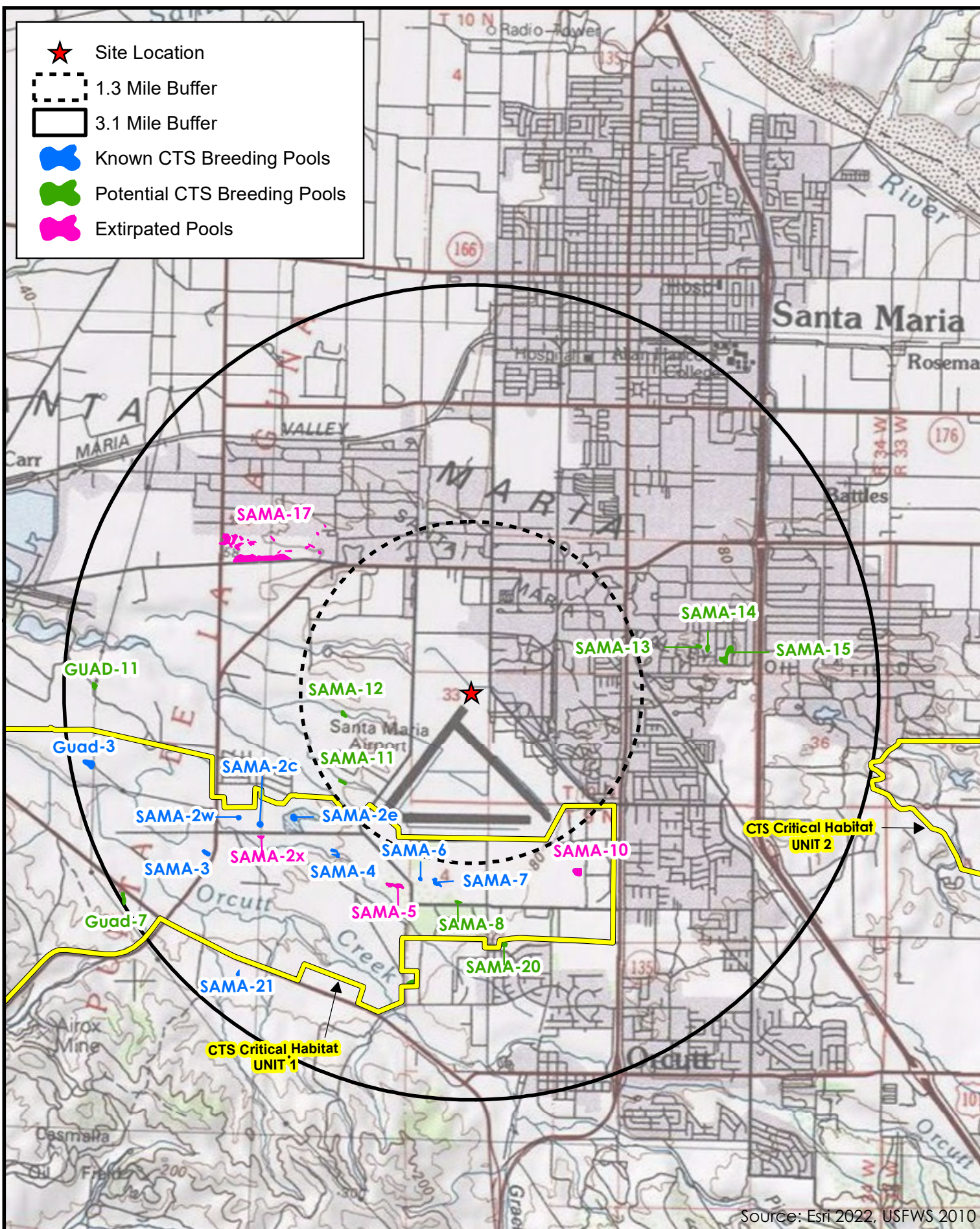
Source: Esri 2022, NRCS 2022



1 inch = 500 feet







Special-status Biological Resources Summary Tables

PLANTS			
Species	Status* Fed/CA/ CRPR	Ecological Information	Evaluation of Occurrence / Site Suitability / Local Records
Black-flowered figwort <i>Scrophularia atrata</i>	--/--/1B.2	Perennial herb; coniferous forest, chaparral, coastal dunes, coastal scrub and riparian scrub on sand or diatomaceous shale; 10-500 meters in elevation; blooms March to July.	Not expected. Marginal habitat present onsite and study area was searched during species bloom time and it was not observed.
Blochman's leafy daisy <i>Erigeron blochmaniae</i>	--/--/1B.2	Perennial herb known from coastal dunes within coastal strand habitat; typically less than 70 m elevation and blooms from July to October	Not expected. Marginal habitat present onsite and study area was searched during species bloom time and it was not observed.
Dune larkspur <i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	--/--/1B.2	Perennial herb known from coastal dune sands with strand, scrub and chaparral habitats. Typically occurs less than 200 m in elevation and blooms April through May.	Not expected. Marginal habitat present onsite and study area was searched during species bloom time and it was not observed.
Hoover's bent grass <i>Agrostis hooveri</i>	--/--/1B.2	Stoloniferous perennial herb; chaparral, cismontane woodland, and valley and foothill grassland habitats in sandy soils; 60-600 meters in elevation; blooms April to July.	Not expected. Suitable sandy soils are present and the site is within the species' local distribution, but suitable plant communities are absent and this perennial species was not seen during the surveys.
Kellogg's horkelia <i>Horkelia cuneata</i> var. <i>sericea</i>	--/--/1B.1	Perennial herb; openings in coniferous forest, maritime chaparral, coastal dunes and coastal scrub on sandy or gravelly soils; 10-200 meters in elevation; blooms April to September.	Not expected. Disturbed habitats onsite were searched and species not observed.
La Graciosa thistle <i>Cirsium scariosum</i> var. <i>loncholepis</i>	E/T/1B.1	Perennial herb; mesic sites in cismontane woodland, coastal dunes, coastal scrub, brackish marshes and swamps and valley and foothill grassland on sandy soils; 4-220 meters in elevation; blooms May to August.	Not expected. No suitable mesic conditions or plant communities are present onsite, and this species occurs further west of the site.
La Purisima manzanita <i>Arctostaphylos purissima</i>	--/--/1B.1	Perennial evergreen shrub; chaparral and coastal scrub on sandy soils or sandstone; 60-555 meters in elevation; blooms November to May.	Not expected. No suitable plant communities occur onsite and this perennial shrub would have been seen during the survey.
Lompoc yerba santa <i>Eriodictyon capitatum</i>	E/R/1B.2	Perennial evergreen shrub; coastal bluff scrub, closed-cone coniferous forest and maritime chaparral on sandy soils; 40-900 meters in elevation; blooms May to September.	Not expected. No suitable plant communities are present, the site is outside of the species' local distribution and would have been seen during the survey.
Mesa horkelia <i>Horkelia cuneata</i> var. <i>puberula</i>	--/--/1B.1	Perennial herb; chaparral, coastal scrub and cismontane woodland on sandy or gravelly soils; 15-1,645 meters in elevation; blooms February to July.	Not expected. Disturbed habitats onsite were searched and species not observed.
San Luis Obispo monardella <i>Monardella undulata</i> ssp. <i>undulata</i>	--/--/1B.2	Perennial rhizomatous herb; coastal dunes and coastal scrub on sandy soils; 10-200 meters in elevation; blooms May to September.	Not expected. Marginal scrub habitat present onsite, and not known from the immediate area. Site was searched for this species during bloom period and not observed.

Sand mesa manzanita <i>Arctostaphylos rudis</i>	--/--/1B.2	Perennial shrub; maritime chaparral and coastal scrub habitats on sandy soils; 25-230 meters in elevation; blooms November to February.	Not expected. No suitable plant communities are present onsite, and perennial shrub would have been seen during the surveys.
--	------------	---	---

*E = Endangered; T = Threatened; R = Rare; '--' = no status; CRPR: Rank 1B – Rare or endangered in California and elsewhere; Rank 2A – Presumed extirpated in California, but more common elsewhere; Rank 2B – Rare or endangered in California, but more common elsewhere; Rank 4 – Limited distribution (Watch List). Sources: California Natural Diversity Database (California Department of Fish and Wildlife 2022a); Special Vascular Plants, Bryophytes, and Lichens List (California Department of Fish and Wildlife 2018a); Inventory of Rare and Endangered Plants of California (California Native Plant Society 2022); Information on Wild California Plants for Conservation, Education, and Appreciation (Calflora 2022).

ANIMALS			
Species	Status* Fed/CA/ CDFW	Ecological Information	Evaluation of Occurrence/ Site Suitability / Local Records
American badger <i>Taxidea taxus</i>	--/--/SSC	Open grasslands, fields and the edge of scrub and woodland habitats; requires dry soils for burrowing and shelter and feeds on a variety of small mammals such as California ground squirrel and pocket gopher.	Potential. Could move through the site, but no ground squirrel or significant prey base present, and surrounding areas are developed with urban land uses and human activity. There are numerous records from the region, and species may occur onsite at some point in time.
American peregrine falcon <i>Falco peregrinus anatum</i>	BCC/--/FP (nesting)	Coastal areas, inland wetlands, and riparian. Feeds mainly on birds, but also eats bats and insects. Breeds on high cliffs, dunes or mounds near water from coastal areas north of Santa Barbara. Also uses buildings, cavities in trees or snags or old raptor nests.	Unlikely. Could forage onsite but unlikely due to small area and urban setting. No suitable nesting habitat present, but could move through the study area between suitable habitat areas west or east of city limits.
Blainville's (coast) horned lizard <i>Phrynosoma blainvillii</i>	--/--/SSC	Grasslands, sandy washes, coastal scrub, chaparral, coniferous forest, riparian and woodlands with patches of open areas for sunning and bushes for cover. Often with loose sandy soils for burial, but not restricted to sandy areas and can use small mammal burrows. Preys on native species of ants and other small invertebrates.	Potential. Suitable sandy soils are present but site is highly disturbed and surrounded by disturbed land uses. Regular mowing of grassland and lack of significant scrub vegetation reduces the likelihood this species could occur along the margins of development, but suitable habitat is in the region.
Burrowing owl <i>Athene cunicularia</i>	--/--/SSC (burrow sites & some wintering sites)	Open treeless areas with low sparse vegetation such as grasslands, deserts, pastures, agricultural fields, airports, and artificial embankments where they prey on small vertebrates and various invertebrates; nests in burrows created by other animals with nearby lookouts such as fence posts or shrubs; occurs year-round in this area.	Unlikely. All records are from the Santa Maria Airport region are for wintering. Low potential to occur onsite due to surrounding development and human activity. Low probability for transient individuals to stop over at the site due to developed nature of area and the lack of significant prey base.
California horned lark <i>Eremophila alpestris actia</i>	--/--/WL	Areas with sparse vegetation or bare ground in prairies, deserts, tundra, beaches, dunes, airports, plowed fields and heavily grazed pastures where they eat seeds and insects; nesting is on bare ground; occurs year-round in this area.	Potential. Suitable foraging habitat is present in the project area, but not expected to nest onsite due to regular disturbance associated with urban uses. Recorded at several locations surrounding the site, but grassland is highly disturbed and mowed.

California red-legged frog <i>Rana draytonii</i>	T/--/SSC	Forages and breeds in streams with deep slow-moving pools, stock ponds, reservoirs, springs, lagoons, and marshes; usually with emergent or riparian vegetation but also found at sites lacking vegetation. Uses riparian and various upland habitats in winter and for dispersal.	Potential. Storm drainage ditch running through the site has been documented to support the species. While no suitable aquatic habitat was present in the ditch during 2022 field surveys, frogs could use ditch on a seasonal basis for movement opportunities during winter rain season.
California tiger salamander <i>Ambystoma californiense</i>	E/T/WL (Santa Barbara County DPS)	Grassland, low foothill oak savanna and edges of mixed woodland. Breeds in rain pools, vernal pools and temporary ponds. During dry season is fossorial and uses rodent burrows in upland habitat.	Unlikely. No breeding habitat is onsite, and site is separated from known breeding pools by airport development. Storm drainage ditch would not provide suitable habitat for the species given steep slopes, rock slope protection and swift flowing water during winter rain season.
Lompoc grasshopper <i>Trimerotropis occulens</i>	--/--/SSC	Highly restricted range from western Santa Barbara County in gravelly and rocky ground.	Not expected. No suitable habitat onsite.
Monarch <i>Danaus plexippus</i> pop. 1	--/--/-- (CA overwintering population)	Adults feed on the nectar of various blooming plants. During breeding can be found in fields, pastures, residential areas, grassland and scrub. Eggs are laid on and caterpillars feed on milkweed. Overwinters in wind-protected tree groves of eucalyptus, Monterey pine and cypress along the coast.	Potential. The site is located in the vicinity of overwintering populations, but no suitable overwintering habitat is present in or adjacent to work areas. Several eucalyptus trees are present in the study area, but individual trees do not provide suitable overwintering habitat. No milkweed observed onsite and only nectar sources suitable as foraging habitat are in landscaped areas and isolated eucalyptus trees. Could fly through the site.
Northern California legless lizard <i>Anniella pulchra</i>	--/--/SSC	Beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, oak woodland, and stream terraces with riparian vegetation. Fossorial species requires moist, loose soils or leaf litter with plant cover or surface objects (rocks, boards, logs, etc.). Can occur in residential areas.	Potential. Suitable sandy soils for burrowing are present on the study area, but not likely to occur in project footprint due developed nature of the area and lack of shrubs with leaf litter or other cover. Potentially could occur under objects if present in grassland, scrub and margins of riparian habitat around the impact area. Numerous records from the vicinity.
Pallid bat <i>Antrozous pallidus</i>	--/--/SSC	Open dry habitats including deserts, grasslands, shrublands, woodlands, and forests. Roosts in rocky outcrops, caves, crevasses, mines, hollow trees, and buildings that moderate temperature. Night roosts on porches and open buildings.	Unlikely. The study area supports marginal foraging habitat and no roosting habitat is present in the proposed work area. If they foraged in open habitats surrounding the site, there is a slight chance they could night roost in buildings in the area.

Southwestern (western) pond turtle <i>Actinemys pallida</i> (= <i>Emys marmorata</i>)	--/--/SSC	Ponds, lakes, rivers, streams, marshes, brackish lagoons, and irrigation ditches with a mosaic of vegetation and open areas for basking. Uses upland areas for nesting and in winter, including woodland, forest, grassland, chaparral, and grasslands.	Potential. Storm drainage ditch could provide seasonal movement opportunities for this species when water is present. Unlikely to persist or breed onsite due to the ephemeral nature of flows and would not be expected to occur during the dry season.
Steelhead – Southern California DPS <i>Oncorhynchus mykiss irideus</i>	E/--/SSC	Adults spawn in freshwater streams with clear, well-oxygenated, cool water and clean gravel substrate. Also require instream cover (branches, logs) and streamside vegetation. Juveniles rear in freshwater reaches or lagoons before going to the ocean to mature, and then return to freshwater to reproduce.	Not expected. No suitable aquatic habitat is present on or near the site. Santa Maria River is closest potential habitat.
Tricolored blackbird <i>Agelaius tricolor</i>	--/T/SSC (nesting colony)	Forages in a variety of habitats including pastures, agricultural fields, rice fields, and feedlots. Nests colonially in freshwater marshes with tules or cattails, or in other dense thickets of willow, thistle, blackberry, or wild rose in close proximity to open water. Occurs year-round in this area.	Unlikely. No suitable nesting habitat is present onsite. There are observations in the region, and there is a low probability that transients could occur.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T/--/--	Endemic to vernal pools in grasslands of central coast mountains and valleys; inhabits small clear-water depressions, pools and swales lacking flow. Needs standing water for at least 16 days to complete its lifecycle.	Not expected. Onsite soils are sandy and well-drained and would not support ponded water. No vernal pool habitat or topographic depressions are present.
Western spadefoot <i>Spea hammondi</i>	--/--/SSC	Grassland, open woodland/savanna, coastal scrub, and chaparral habitats where it primarily occupies underground burrows that it digs in a variety of soils but often associated with sand. Breeds in vernal pools, ephemeral ponds, stock ponds and streams that dry to isolated pools which lack aquatic vertebrate predators.	Not expected. No suitable aquatic habitat is present on the site, and site does not support suitable upland habitat given separation from potentially suitable breeding habitat to the west. Drainage ditch has swift flowing water following storm events which is not suitable for this vernal pool species.
White-tailed kite <i>Elanus leucurus</i>	--/--/FP (nesting)	Savannas, open woodlands, marshes, desert grasslands, and fields where they prey on small mammals, birds, lizards, and insects. Nests and roosts in the edges of forests or in isolated trees. Occurs in this area year-round.	Unlikely. Could forage in open habitats surrounding the site, but no suitable nesting habitat in construction area. Several large eucalyptus trees are present in the area and were searched for large stick nests indicative of raptors and none were observed. Could fly over the site, but no significant prey base makes foraging unlikely.

Yellow warbler <i>Setophaga petechia</i>	--/--/SSC	Wetland and riparian habitats with willows, cottonwoods, aspens, sycamores and alders where they eat insects; nesting is in shrubs or small trees; occurs year-round in this area.	Unlikely. Marginal riparian scrub habitat occurs as a narrow band with poor structure. Unlikely to nest onsite given human presence and management activities, but has been recorded at numerous locations in urban areas of Santa Maria/Orcutt. Low probability to occur onsite as a transient.
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*E = Endangered; T = Threatened; C = Candidate; SSC = Species of Special Concern; FP = Fully Protected; WL = Watch List; '--' = no status; California Natural Diversity Database (California Department of Fish and Wildlife 2022a); Special Animals List (California Department of Fish and Wildlife 2022b); California Wildlife Habitat Relationships System (CDFW 2022c); A Guide to the Amphibians and Reptiles of California (California Herps 2019); eBird (The Cornell Lab of Ornithology 2022a); All About Birds (The Cornell Lab of Ornithology 2022b); Guide to North American Birds (Audubon 2022).

SENSITIVE NATURAL COMMUNITIES*	
Central Coast Arroyo Willow Riparian Scrub	Present. Narrow band of arroyo willows is present along drainage ditch as shown on Habitat Map.
Coastal and Valley Freshwater Marsh	Absent. Several small patches of tules are present along the northern bank of the drainage ditch under willow canopy mapped as riparian scrub. Did not provide greater than 50% areal cover to warrant mapping as freshwater marsh.
Southern Vernal Pool	Absent. Soils are sandy and well-drained and do not support topographic depressions capable of supporting seasonal ponded water.
Valley Needlegrass Grassland	Absent. No native bunchgrass grassland habitat occurs onsite, as all areas are highly disturbed.

*Sources: California Natural Diversity Database (California Department of Fish and Wildlife 2022); Holland (1986).

DESIGNATED CRITICAL HABITAT*	
California Red-legged Frog	Absent. Study area does not occur within or adjacent to designated critical habitat.
California Tiger Salamander, Santa Barbara County DPS	Absent. Study area does not occur within or adjacent to designated critical habitat.
La Graciosa Thistle	Absent. Study area does not occur within or adjacent to designated critical habitat.
Lompoc Yerba Santa	Absent. Study area does not occur within or adjacent to designated critical habitat.
Steelhead – Southern California DPS	Absent. No aquatic resources occur onsite or adjacent to the study area.

*Source: Threatened and Endangered Species Active Critical Habitat Report (United States Fish and Wildlife Service 2022b).

Photo Plate

Photo 1. Easterly view of Well 6S from Airpark Drive showing ruderal and developed areas with blue gum eucalyptus trees in the distance. The project will be located primarily in the disturbed roadway.



Photo 2. Southerly view of the proposed pipeline route to be located in Airpark Drive. Well 6S is visible in the distance on the left (east) side of the road.



Photo 3. Northerly view of pipeline route traversing an existing dirt road and adjacent annual grassland habitat that is disturbed from mowing and other maintenance activities. The pipeline route follows the future extension of Airpark Drive.



Photo 4. Southerly view of disturbed annual grassland in the general location where the jack and bore entry pit will be sited. Excess sandy soils will be spread through this general area and restored to annual grassland habitat post construction.



Photo 5. Westerly view of jack and bore entry pit location on the south side of the storm drainage ditch.



Photo 6. Westerly view of managed storm drainage ditch with near vertical southern bank composed of upland annual grasses and weeds. Arroyo willow riparian scrub is present on the northern bank.



Photo 7. Easterly view of storm drainage ditch showing steep banks and dry channel during the summer months.

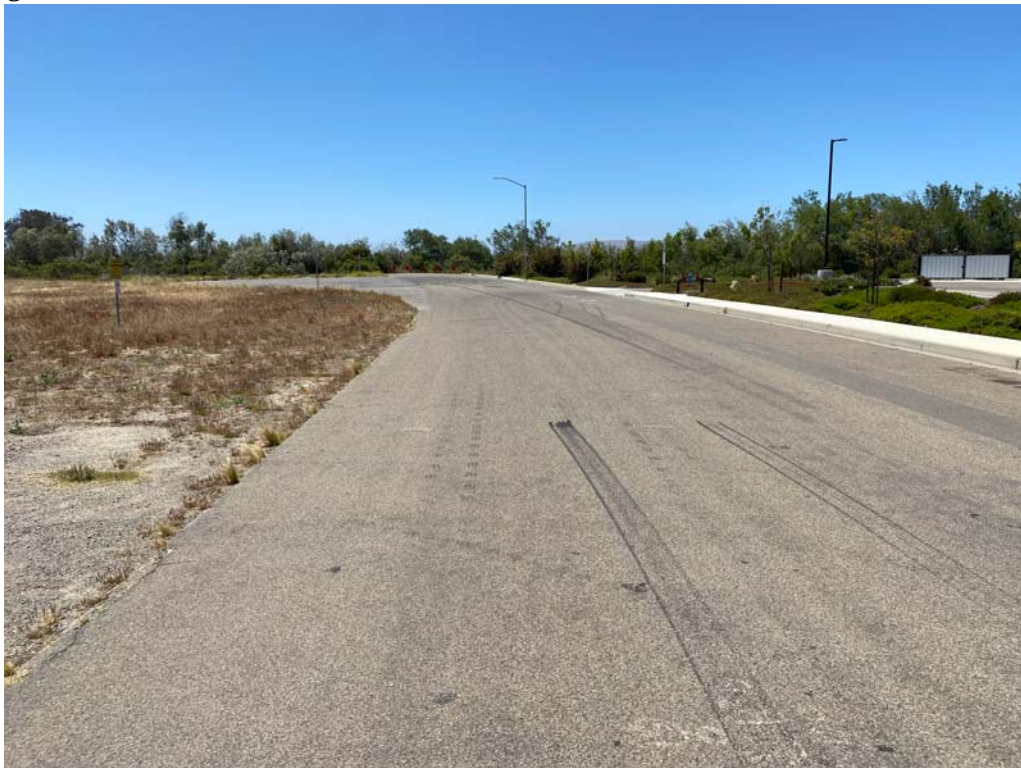


Photo 8. Southerly view of Airpark Drive on the north side of the storm drainage ditch. To the right (or west) is existing development, and to the east is an undeveloped parcel that has been mowed and disturbed overtime. The pipeline route will be located in the developed roadway up to where existing infrastructure is located for the tie in to Well 11.



Photo 9. Northerly view of Airpark Drive where the water pipeline will be installed. The project will terminate near the building on the far right where existing infrastructure to Well 11 is located.



Photo 10. Easterly view of Well 11 (surrounded by green fencing) from Airpark Drive. Existing pipes are in the ground at this location and the new pipeline tie in will be located in the disturbed roadway.

**GEOTECHNICAL ENGINEERING REPORT
SANTA MARIA AIRPORT WATER PIPELINE
AIRPARK DRIVE BETWEEN HANGAR STREET AND FAIRWAY DRIVE
SANTA MARIA, CALIFORNIA**

March 24, 2022

Prepared for:

HDR, Inc.
Mr. John Coffman, PE

Prepared by

Earth Systems Pacific
2049 Preisker Lane, Suite E
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March 24, 2022

FILE NO.: 305204-001

Mr. John Coffman, PE
HDR, Inc.
200 East Santa Clara Street, Suite 220
Ventura, California 93001

PROJECT: SANTA MARIA AIRPORT WATER PIPELINE
AIRPARK DRIVE BETWEEN HANGAR STREET AND FAIRWAY DRIVE
SANTA MARIA, CALIFORNIA

SUBJECT: Geotechnical Engineering Report

REF: Revised Proposal for Geotechnical Engineering Report, Santa Maria Airport
Water Pipeline, by Earth Systems Pacific, dated January 5, 2022, Doc. No.
SM-2111-004.REVPRP

Dear Mr. Coffman:

In accordance with the authorization of the above-referenced proposal, this geotechnical engineering report has been prepared for the Santa Maria Airport Water Pipeline. The project will be constructed along Airpark Drive between Hangar Street and Fairway Drive in the City of Santa Maria, California. An electronic copy of this report is being furnished for your use.

We appreciate the opportunity to have provided services for this project and look forward to working with you again in the future. If there are any questions concerning this report, please do not hesitate to contact the undersigned.

Sincerely,
Earth Systems Pacific


Phillip Madrid, PE
Project Engineer

Doc. No. 2203-045.SER/In





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Appendices

APPENDIX A

Exploration Location Map
Boring Log Legend
Boring Logs

APPENDIX B

Laboratory Test Results

APPENDIX C

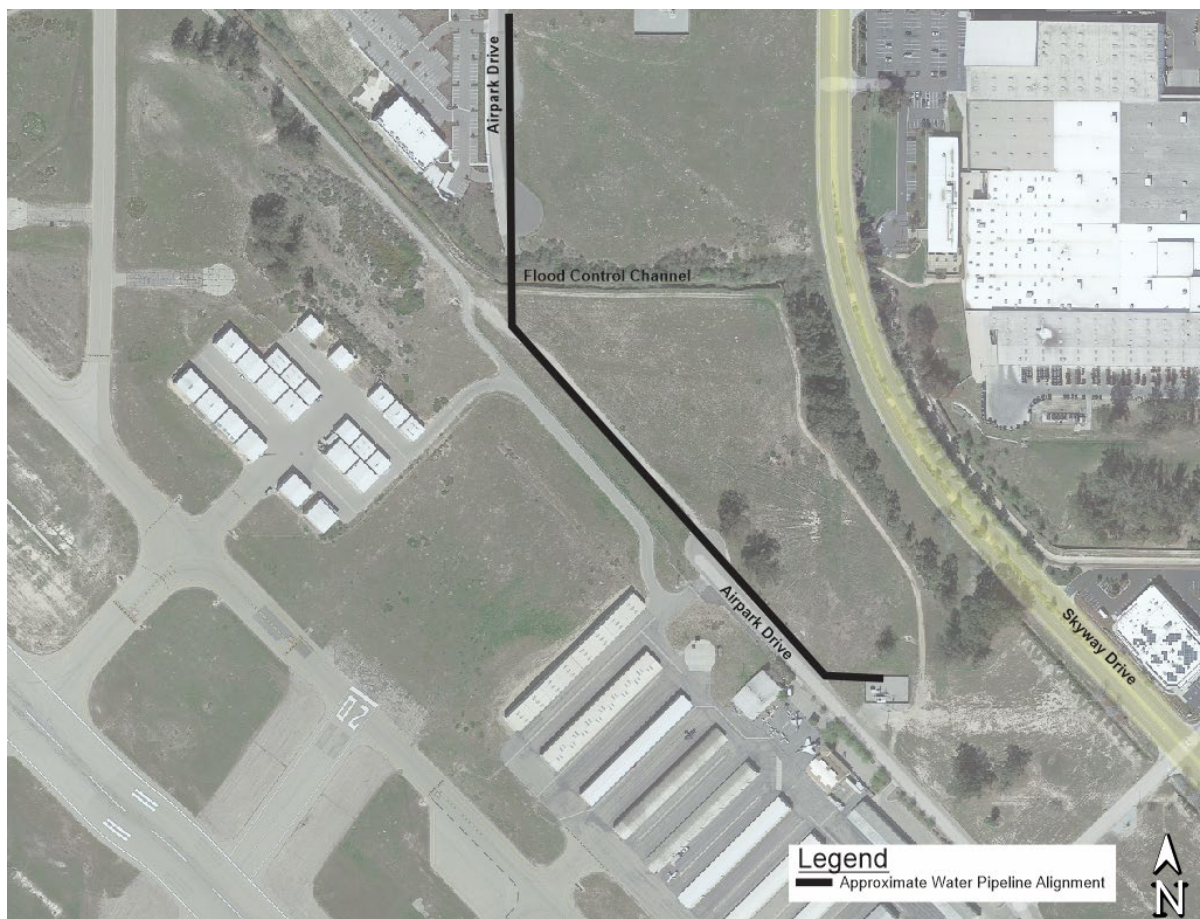
Corrosivity Test Results by HDR, Inc.



1.0 INTRODUCTION

A new water pipeline is planned along Airpark Drive between Hangar Street and Fairway Drive in the City of Santa Maria, California. The proposed alignment will be approximately 1,950 feet and will connect City Well No. 6 to Well No. 11. This report's primary focus is the portion of the new alignment that will cross under a flood control channel; however, this report also addresses the alignment where open trench and soil backfill will be utilized. The general area where the pipeline will be constructed is referred to herein as "the site." The site is shown on the Exploration Location Map presented in Appendix A.

Figure 1



We understand that the underground crossing at the flood control channel will be approximately 10 feet below the bottom of the channel, or 20 feet below the existing ground



surface (bgs) at the top of bank. A 12 to 14-inch diameter water pipeline will be installed within a larger (21 to 26-inch) diameter steel casing. Based on preliminary information from the client we have assumed the length of the underground crossing will be on the order of 150 to 200 feet. We understand that the preferred installation method being considered for casing installation is horizontal auger boring in combination with pipe jacking, also known as “jack and bore”. This method will require the excavation of an entrance pit and a receiving pit; the pits will be a few feet deeper than the bottom of the casing.

We have assumed that beyond the crossing, the water line will be installed on the order of 5 feet bgs. Based on the anticipated alignment length, approximately 1,750 to 1,800 feet of water line will be constructed within an open trench.

We have assumed that surface improvements will be limited to repairing or replacing the existing hot mix asphalt (HMA) pavement where the pavement is removed or damaged during construction. No other structures or improvements are planned.

2.0 SCOPE OF SERVICES

The scope of work for the geotechnical engineering report included a general site reconnaissance, subsurface investigation, laboratory testing of selected soil samples, geotechnical evaluation of the data, and preparation of this report. The report and subsequent preliminary geotechnical recommendations were based, in part, on information provided by the client.

This report is intended to comply with common geotechnical engineering practice in this area under similar conditions at this time with respect to trenchless construction projects. The test procedures were accomplished in general conformance with the standards noted, as modified by common geotechnical engineering practice in this area under similar conditions at this time.

Geotechnical engineering information, opinions, conclusions, and recommendations regarding the planned construction are based the subsurface conditions encountered in the



borings and our conversations with the client. The information, opinions, conclusions, and recommendations provided in this report are intended to assist the client and the City of Santa Maria in ascertaining the feasibility of utilizing jack and bore construction methods for this project, and to better understand the risks as they relate to the geotechnical engineering conditions that are likely to be encountered during the project.

Preliminary geotechnical recommendations for temporary excavation backcut and shoring parameters, boring and jacking, and excavation pit and utility trench backfill, and observation and testing are also presented herein to guide the development of project plans and specifications. It is our intent that this report be used exclusively by the client to form the geotechnical basis of the design of the project and in the preparation of plans and specifications. Application beyond this intent is strictly at the user's risk.

This report **does not address** issues in the domain of contractors such as, but not limited to, site safety, loss of volume due to stripping of the site, shrinkage or subsidence of soils during compaction, excavatability, **dewatering**, temporary slope angles, construction means and methods, boring equipment selection, etc. Analyses of the soil for asbestos (either man-made or naturally occurring), radioisotopes, mold or other microbial content, hydrocarbons, lead, or other chemical properties (except for geotechnical corrosivity) are beyond the scope of this report. Ancillary features such as access roads; retaining walls; fences and site work walls; flag and light poles; signage; effluent disposal systems; drainage disposal systems; and embankment fills and slopes are not within our scope and are also not addressed.

In the event that there are any changes in the nature, design, or location of improvements, or if any assumptions used in the preparation of this report prove to be incorrect, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report are modified or verified by the geotechnical engineer in writing. The criteria presented in this report are considered preliminary and are based on a limited number of borings.



3.0 SITE SETTING

The site is located between Hangar Street and Fairway Drive in the City of Santa Maria or northwest sector of Santa Barbara County, California. The site is shown on Figure 1 and on the Exploration Location Map presented in Appendix A. The approximate coordinates and elevation of the flood control channel crossing obtained from the Google Earth website (Google, 2022) are latitude 34.9075 degrees north, longitude 120.4564 degrees west, and 220 feet.

Airpark Drive provides access to the north side of the flood control channel and terminates in a cul-de-sac near the top of the north bank of the channel. Another segment of Airpark Drive provides access to the south side of the channel and terminates in a cul-de-sac approximately 700 feet southeast of the south bank of the channel. An aggregate base (AB) access road provides further access from the cul-de-sac to the channel. The site is generally undeveloped except for the previously mentioned flood control channel and surface improvements. Underground utilities including sewer and communication conduits are also present near the channel. Topographically, the site is relatively flat except for the banks of the flood control channel. Drainage is by sheet flow into the channel.

4.0 FIELD AND LABORATORY INVESTIGATION

On February 10, 2022, two exploratory borings were drilled at the site to a depth of approximately 31.5 feet bgs. The borings were drilled with a Mobile Model B-53 drill rig equipped with a 6-inch outside diameter hollow stem auger and an automatic trip hammer for sampling. The approximate locations of the borings are shown on the Exploration Location Map presented in Appendix A.

Soils encountered in the exploratory borings were categorized and logged in general accordance with the Unified Soil Classification System and ASTM D2488-17. Copies of the boring logs and a Boring Log Legend are included in Appendix A. In reviewing the boring logs and legend, the reader should recognize that the legend is intended as a guideline only, and there are a number of conditions that may influence the soil characteristics as observed



during drilling. These include, but are not limited to, the presence of cobbles or boulders, cementation, variations in soil moisture, presence of groundwater, and other factors. Consequently, the logger must exercise judgment in interpreting the subsurface characteristics, possibly resulting in soil descriptions that vary somewhat from the legend. The reader should also consider the sampler type used when reviewing the blow counts.

As the borings were drilled, soil samples were obtained using a ring-lined barrel sampler (ASTM D3550/D3550M-17, with shoe similar to D2937-17). Bulk soil samples were also obtained from the auger cuttings.

Ring samples were tested for unit weight and moisture (ASTM D2937-17, as modified for ring liners). Two ring samples were tested for direct shear (ASTM D3080/D3080M-11). Selected ring samples were also tested for particle size analysis (ASTM D1140-17). Two bulk samples were sent to HDR, Inc's office in Claremont, California for corrosivity testing. The test results are for use by the architect/engineer in determining appropriate corrosion mitigation measures. The laboratory test results, and the corrosivity tests performed by HDR, Inc. are presented in Appendices B and C, respectively.

5.0 GENERAL SUBSURFACE PROFILE

The general subsurface profile observed in the borings consisted of layered sand and clay soils. The soils were in a moist to wet condition. The sands had a loose to dense consistency, and the clay was very stiff. Please refer to the boring logs for a more complete description of the subsurface conditions.

Groundwater

Subsurface water was encountered in Boring 1 at 10 feet bgs during drilling; however, the water disappeared after the boring was advanced below 10 feet bgs. Subsurface water was not encountered in Boring 2. We performed a search of the California Department of Water Resources (DWR) Water Data Library for well data in the vicinity of the project site. Our



search identified three wells within two miles of the flood control channel crossing, and the results of our search are summarized below.

Well No.	Location (approx.)	Highest Groundwater Elevation and Measurement Date
349216N1204585W001	0.9 mile north of site	101.6 feet on 2-18-2005
349019N1204407W001	1 mile southeast of site	95.2 feet on 12-30-2004
349106N1204888W001	1.9 miles west of site	91.5 feet on 3-6-2005

Based on the conditions encountered in the borings and the well data it appears that the groundwater encountered in Boring 1 was a perched condition caused by water infiltrating through the bottom of the flood control channel and into the borehole and does not represent a phreatic groundwater surface. Given the well data above and an approximate ground surface elevation of 220 feet at the site (Google, 2022) we estimate that the free groundwater surface is in excess of 100 feet bgs at the site.

6.0 CONCLUSIONS

The primary geotechnical engineering concerns at this site are the selection of the construction methods, the soil and groundwater considerations with respect to jack and bore construction methods, the potential for settlement, the excavation characteristics of the soils, the suitability of the soils for use as fill and backfill, the stability of the soils during excavation, the corrosive nature of the soils, and the erodible nature of the soils.

Construction Methods

There are several different types of trenchless construction methods for subsurface excavation and conduit installations, and the selection of the appropriate method depends on many factors such as the soil and groundwater conditions; the length, diameter, and type of conduit installed; the required accuracy of installation; and the available work area.

We understand from the client that the preferred installation method being considered for casing installation is jack and bore, and the conclusions and recommendations in this report are focused on this method. The jack and bore method is generally used for conduit



installations ranging from 1 to 5 feet in diameter at distances ranging from approximately 100 to 500 feet. This method requires the excavation of an entrance pit and installation of an auger boring machine with jacking capabilities. The machine sits on a track and advances the conduit while rotating a cutting bit at the face of the excavation. The cutting bit is attached to a helical auger which transports the excavated materials through the conduit towards the entrance pit. This method does not use drilling fluid, but the use of a lubricant between the conduit and the native soil is helpful during pipe jacking.

One disadvantage of the jack and bore method is the limited capability for steering and tracking; however, where greater accuracy and steering are needed, a smaller diameter guided pilot tube can be installed ahead of the main jack and bore. The jack and bore method can be used in a variety of soil and rock conditions, but under some conditions the soils may ravel, squeeze, run, or flow into the conduit due to the soil consistency or the presence of groundwater. The soils could be stabilized by injecting cement or chemical grout, or other means prior to implementing the jack and bore process. Another potential mitigation measure would be to install dewatering wells to control the groundwater. Jack and bore construction is difficult when mixed conditions (e.g. soil and bedrock) are encountered at the excavation face, or if large cobbles, boulders, or other obstructions are encountered within the soil matrix. Neither of these conditions are anticipated for this project.

Other construction methods such as horizontal directional drilling (HDD) or microtunneling could be considered for this application; however, a discussion of these methods and providing associated recommendations is beyond the scope of this report.

Soil and Groundwater Considerations for Jack and Bore

Soft-ground behavior is described in terms of the Tunnelman's Ground Classification, first described by Terzaghi (1950) and later modified by Heuer (1974). The Tunnelman's Ground Classification is presented in the table below. Along most portions of the boring alignment, we anticipate slow to fast raveling and running ground conditions for the granular soils. Slow raveling is anticipated where unsaturated medium dense to dense sands are encountered.



Fast raveling or flowing conditions are anticipated locally where granular soils saturated by water from the flood control channel are encountered. Firm ground conditions are anticipated locally where very stiff fine-grained (clay) soils are encountered.

Classification	Behavior	Typical Soil Types
Firm	Heading can be advanced without initial support, final lining can be constructed before ground starts to move.	Loess above the water table, hard clay, marl, cemented sand and gravel when not highly overstressed.
Raveling - Slow Raveling - Fast Raveling	Chunks or flakes of materials begin to drop out of the arch or walls sometime after the ground has been exposed, due to loosening, over-stress and "brittle" fracture. In fast raveling ground, the process starts within a few minutes, otherwise the ground is slow raveling.	Residual soils or sand with small amounts of binder may be fast raveling below the water table, slow raveling above. Stiff fissured clay may be slow or fast raveling depending upon degree of overstress.
Flowing	A mixture of soil and water flows into the tunnel like a viscous fluid. The material can enter the tunnel from the invert as well as from the face, crown, and wall, and can flow for great distances, completely filling the tunnel in some cases.	Below the water table in silt, sand, or gravel without enough clay content to give significant cohesion and plasticity. May also occur in highly sensitive clay when such material is disturbed.

Due to the anticipated raveling to flowing ground conditions, ground modification or groundwater control techniques may be required. The contractor should carefully review the boring logs in this report, and perform their own assessment of potential construction difficulties, and installation methods should be selected accordingly. The method of excavation and support is ultimately left to the contractor with guidance and restrictions provided by the designer and owner.

Flowing ground conditions will require control of water and soil conditions at the face, or other precautionary measures to control ground movement and groundwater inflow. Failure to control water and ground conditions at the face may lead to settlement at the ground surface.



Settlement Potential

A primary concern for the project is the potential for ground settlement above the horizontal boring due to ground losses during construction. Ground losses may occur as the result of soil movement in front of the excavation by means of raveling, caving, or flowing ground. Ground losses may also occur as the result of soil movement downward toward the support system (casing) due to the movement of subsurface water and vibrations caused by construction. To reduce the potential for ground loss, vibrations should be minimized and the casing should be advanced continuously during boring to support the excavation. We recommend that the ground and adjacent roadway surfaces be monitored for settlement and signs of distress prior to, during, and following boring operations. A monitoring program should also be established for existing subsurface utility conduits located near the boring alignment.

The contractor should establish a means of measuring the amount of material excavated compared with the theoretical volume of the excavation to determine if excess ground is being removed from the excavation. The contractor should have an onsite means of immediately controlling any potential caving or other ground loss to prevent any damage to utilities or other improvements above the boring operations. Additionally, the contractor should utilize construction techniques to control raveling and flowing conditions through proper equipment and installation selection and ground improvement techniques, such as pressure grouting, if required.

Excavation Characteristics

The soils are anticipated to be excavatable with conventional earthmoving equipment; however, the stability of excavations is a concern. Based on our preliminary testing, the soils are considered to be "Type C" per the 2019 Cal/OSHA classification system. This classification should be verified by the contractor's "Competent Person" at the time of construction. Excavation sloping and shoring will be needed to safely work in, and to restrict the size of, the



excavations. As with all construction safety issues, the methods of excavation stabilization, sloping, and/or shoring are ultimately the responsibility of the contractor.

Perched groundwater should be anticipated near the flood control channel. The potential impacts of this condition could be reduced by constructing the crossing during the dry season and/or installing dewatering wells.

Suitability of the Soils for Use as Fill and Backfill

We anticipate that the majority, if not all, of the soils excavated at the site will be acceptable from a geotechnical viewpoint for reuse as compacted fill and backfill. Special requirements for utility trench bedding and shading per the specifications of the City of Santa Maria, the conduit manufacturer, and the utility companies should be anticipated.

Stability of Soils During Grading

The soils may be susceptible to temporary high soil moisture contents, especially during or soon after the rainy season. Attempting to compact the soils in an overly moist condition may create unstable conditions in the form of pumping, yielding, shearing, and/or rutting. These conditions will not allow proper compaction and are inappropriate for continued fill placement. Therefore, the construction schedule should allow adequate time during grading for aerating and drying the soils to near optimum moisture content prior to compaction. If unstable conditions occur, the geotechnical engineer should be consulted to provide recommendations for correction of the conditions.

Corrosive Soils

Based on the testing performed by HDR, Inc., the site soils can be classified as "neutral to mildly alkaline" based on pH and "mildly corrosive to corrosive" to ferrous metals based on resistivity (Romanoff, 1957). The architect/engineer should refer to the HDR, Inc. Corrosivity Test Results presented in Appendix C for use in determining appropriate mitigation measures for soil corrosivity.



Soil Erosion

The soils are considered to be highly erodible. Stabilization of the surface soils, particularly those disturbed during construction, by vegetation or other means *during and following* construction is essential to reduce the potential of erosion damage. Care should be taken to establish and maintain proper drainage around the structures and improvements.

7.0 PRELIMINARY GEOTECHNICAL RECOMMENDATIONS

The following preliminary geotechnical recommendations are intended for use in the preparation of plans and specifications for the project as described in the “Introduction” section of this report.

Definitions

Unless otherwise noted, the following definitions are used in these recommendations. Where specific terms are not defined, common definitions used in the construction industry are intended.

- **Moisture Conditioning:** Adjusting the soil moisture to optimum moisture content or slightly above, prior to the application of compaction effort.
- **Compacted or Recompacted:** Soils placed in level lifts not exceeding 8 inches in loose thickness, and compacted to a minimum of 90 percent of maximum dry density. A minimum of 95 percent will be required in the upper 1-foot of subgrade below vehicle pavement and in all AB. The standard tests used to define maximum dry density and field density should be ASTM D1557-12 and ASTM D6938-17a, respectively, or by other methods acceptable to the geotechnical engineer and the governing jurisdiction.
- **Nonexpansive Material:** Nonexpansive material is defined as being a coarse-grained soil (ASTM D2487-17) and having an expansion index of 10 or less (ASTM D4829-19).



Temporary Excavation Backcut and Shoring Parameters

1. We have assumed the jacking and receiving pits will be on the order of 20 to 25 feet below the existing ground surface.
2. The contractor should be responsible for the structural design and safety of all excavations and shoring systems. Construction excavations should be sloped and/or shored per the 2019 Cal/OSHA specifications. The soils are considered to be “Type C” per the 2019 Cal/OSHA classification system. This classification should be verified by the contractor’s “Competent Person” at the time of construction.

3. The following soil parameters are presented for use in shoring design:

Soil unit weight	125 pcf
Angle of Internal Friction	34 degrees
Cohesion	200 psf
K _a	0.28
K _o	0.44
K _p	3.53

4. Equivalent fluid pressures may be calculated by multiplying the coefficients K_a K_o and K_p with the soil unit weight listed above. No factors of safety, load factors, and/or other factors have been applied to any of the values above.
5. External factors that may affect the shoring include groundwater, adjacent underground conduits and utilities, surface and subsurface structures, loading and vibration from traffic and construction equipment, upslope conditions, and loads that may be applied by stockpiled construction materials and excavated soil. Such factors should be accommodated in the contractor’s shoring or backcut design.



Boring and Jacking Recommendations

Since the success of trenchless construction projects is strongly dependent on construction methods, equipment, and procedures utilized by the contractor selected for this project. The selected contractor should be highly experienced in this type of construction under the anticipated conditions. The contractor should develop a plan for construction monitoring and quality control. The following recommendations may or may not apply to all boring and jacking situations. The contractor should determine the appropriate construction techniques and procedures in coordination with the owner and the geotechnical engineer.

1. The cutting edge of the auger should not be advanced beyond the casing, and the casing should be advanced continuously to support the excavation. Boring operations should be near continuous if possible.
2. The boring diameter should not be larger than the casing diameter, and a minimum of two casing diameters of cover should be provided between the casing and the bottom of the flood control channel, existing utility conduits, or any other settlement sensitive structures.
3. A lubricant should be used between the casing and the in-situ soils to reduce adhesion and aid in jacking. A friction factor of 0.25 can be used for preliminary evaluation of the resistance between the smooth steel casing and the native soils. This value does not include a factor of safety, and greater frictional resistance could be encountered. The construction methods used including the lubricant will influence the frictional resistance.
4. Vibrations of the casing should be minimized to reduce the potential for consolidation of the soils surrounding the casing.
5. The ground surface should be monitored for settlement on a ten-foot grid pattern above the boring alignment and extending a minimum of ten feet in each direction from the boring alignment.



6. After installation of the casing and the water pipeline the casing ends should be permanently sealed or the annular space between the casing and the pipeline should be completely grouted to prevent the migration of soil and water into the voids.

Excavation Pit and Utility Trench Backfill

1. Excavation pit backfill and utility trench backfill should be moisture conditioned and compacted. In existing or future public roadway areas, trench backfill should be compacted a minimum of 95 percent of maximum dry density, in accordance with the City of Santa Maria Department of Public Works, Engineering Division, Standard Specifications, Standard Drawing No. RD-33, Trench Repair (CSM, 2019). A minimum of 95 percent of maximum dry density should also be obtained where trench backfill comprises the upper 1-foot of subgrade beneath vehicle pavement, and in all AB. Post-construction backfill settlement is estimated to be approximately 0.3 to 0.4 percent of the total backfill thickness for fills placed and compacted as recommended above.
2. On-site material and approved import materials may be used as general fill. All imported soil should be nonexpansive. Proposed imported soils should be evaluated by the geotechnical engineer before being used, and on an intermittent basis during placement on the site.
3. All materials used as fill should be cleaned of any debris and rocks larger than 6 inches in diameter. No rocks larger than 3 inches in diameter should be used within the upper 3 feet of finish grade. When fill material includes rocks, the rocks should be placed in a sufficient soil matrix to ensure that voids caused by nesting of the rocks will not occur and that the fill can be properly compacted.

Construction Observation and Testing

The planning and construction process is an integral design component with respect to the geotechnical aspects of this project. Because geotechnical engineering is an inexact science



due to the variability of construction processes, proper geotechnical observation and testing during construction is imperative to allow the geotechnical engineer the opportunity to verify assumptions made during the design process. Therefore, we recommend that Earth Systems be retained during the construction of the proposed jacking and boring operations to observe compliance with the design concepts and geotechnical recommendations, and to allow design changes in the event that subsurface conditions or methods of construction differ from those assumed while completing this commission.

8.0 CLOSURE

Our intent was to perform the investigation in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the locality of this project under similar conditions. No representation, warranty, or guarantee is either expressed or implied. This report is intended for the exclusive use by the client as discussed in the "Scope of Services" section of this report. Application beyond the stated intent is strictly at the user's risk.

This report is valid for conditions as they exist at this time for the type of project described herein. The conclusions and recommendations contained in this report could be rendered invalid, either in whole or in part, due to changes in building codes, regulations, standards of geotechnical or construction practice, changes in physical conditions, or the broadening of knowledge.

If changes with respect to development type or location become necessary, if items not addressed in this report are incorporated into plans, or if any of the assumptions used in the preparation of this report are not correct, this firm shall be notified for modifications to this report. Any items not specifically addressed in this report shall comply with the CBC (CBSC, 2019) and the requirements of the governing jurisdiction.

The preliminary recommendations of this report are based upon the geotechnical conditions encountered at the site, and may be augmented by additional requirements of the



architect/engineer, or by additional recommendations provided by the geotechnical engineer based on conditions exposed at the time of construction.

This document, the data, conclusions, and recommendations contained herein are the property of Earth Systems Pacific. This report shall be used in its entirety, with no individual sections reproduced or used out of context. Copies may be made only by Earth Systems Pacific, the client, and the client's authorized agents for use exclusively on the subject project. Any other use is subject to federal copyright laws and the written approval of Earth Systems Pacific.

Thank you for this opportunity to have been of service. If you have any questions, please feel free to contact this office at your convenience.

End of Text



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APPENDIX A

Exploration Location Map

Boring Log Legend

Boring Logs



LEGEND

2  Boring Location (Approx.)

BASE MAP PROVIDED BY: GOOGLE EARTH (2022)



NOT TO SCALE



Earth Systems

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EXPLORATION LOCATION MAP

SANTA MARIA AIRPORT WATER PIPELINE

Airpark Drive Between Hangar Street and Fairway Drive
 Santa Maria, California

Date
 February 2022

Project No.
 305204-001



Earth Systems Pacific

BORING LOG LEGEND

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487)

MAJOR DIVISIONS	GROUP SYMBOL	TYPICAL DESCRIPTIONS	GRAPH. SYMBOL
COARSE GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN #200 SIEVE SIZE	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
	GP	POORLY GRADED GRAVELS, OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, NON-PLASTIC FINES	
	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, PLASTIC FINES	
	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES	
	SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES	
	SM	SILTY SANDS, SAND-SILT MIXTURES, NON-PLASTIC FINES	
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES, PLASTIC FINES	
FINE GRAINED SOILS HALF OR MORE OF MATERIAL IS SMALLER THAN #200 SIEVE SIZE	ML	INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	
	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS	
	CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
	PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	

SAMPLE / SUBSURFACE WATER SYMBOLS	GRAPH. SYMBOL
CALIFORNIA MODIFIED	
STANDARD PENETRATION TEST (SPT)	
SHELBY TUBE	
BULK	
SUBSURFACE WATER DURING DRILLING	
SUBSURFACE WATER AFTER DRILLING	

OBSERVED MOISTURE CONDITION

DRY	SLIGHTLY MOIST	MOIST	VERY MOIST	WET (SATURATED)
-----	----------------	-------	------------	-----------------

CONSISTENCY

COARSE GRAINED SOILS			FINE GRAINED SOILS		
BLOWS/FOOT		DESCRIPTIVE TERM	BLOWS/FOOT		DESCRIPTIVE TERM
SPT	CA SAMPLER		SPT	CA SAMPLER	
0-10	0-16	LOOSE	0-2	0-3	VERY SOFT
11-30	17-50	MEDIUM DENSE	3-4	4-7	SOFT
31-50	51-83	DENSE	5-8	8-13	MEDIUM STIFF
OVER 50	OVER 83	VERY DENSE	9-15	14-25	STIFF
			16-30	26-50	VERY STIFF
			OVER 30	OVER 50	HARD

GRAIN SIZES

U.S. STANDARD SERIES SIEVE				CLEAR SQUARE SIEVE OPENING		
# 200	# 40	# 10	# 4	3/4"	3"	12"
SILT & CLAY	SAND			GRAVEL		COBBLES
	FINE	MEDIUM	COARSE	FINE	COARSE	
						BOULDERS

TYPICAL BEDROCK HARDNESS

MAJOR DIVISIONS	TYPICAL DESCRIPTIONS
EXTREMELY HARD	CORE, FRAGMENT, OR EXPOSURE CANNOT BE SCRATCHED WITH KNIFE OR SHARP PICK; CAN ONLY BE CHIPPED WITH REPEATED HEAVY HAMMER BLOWS
VERY HARD	CANNOT BE SCRATCHED WITH KNIFE OR SHARP PICK; CORE OR FRAGMENT BREAKS WITH REPEATED HEAVY HAMMER BLOWS
HARD	CAN BE SCRATCHED WITH KNIFE OR SHARP PICK WITH DIFFICULTY (HEAVY PRESSURE); HEAVY HAMMER BLOW REQUIRED TO BREAK SPECIMEN
MODERATELY HARD	CAN BE GROOVED 1/16 INCH DEEP BY KNIFE OR SHARP PICK WITH MODERATE OR HEAVY PRESSURE; CORE OR FRAGMENT BREAKS WITH LIGHT HAMMER BLOW OR HEAVY MANUAL PRESSURE
SOFT	CAN BE GROOVED OR GOUGED EASILY BY KNIFE OR SHARP PICK WITH LIGHT PRESSURE, CAN BE SCRATCHED WITH FINGERNAIL; BREAKS WITH LIGHT TO MODERATE MANUAL PRESSURE
VERY SOFT	CAN BE READILY INDENTED, GROOVED OR GOUGED WITH FINGERNAIL, OR CARVED WITH KNIFE; BREAKS WITH LIGHT MANUAL PRESSURE

TYPICAL BEDROCK WEATHERING

MAJOR DIVISIONS	TYPICAL DESCRIPTIONS
FRESH	NO DISCOLORATION, NOT OXIDIZED
SLIGHTLY WEATHERED	DISCOLORATION OR OXIDATION IS LIMITED TO SURFACE OF, OR SHORT DISTANCE FROM, FRACTURES: SOME FELDSPAR CRYSTALS ARE DULL
MODERATELY WEATHERED	DISCOLORATION OR OXIDATION EXTENDS FROM FRACTURES, USUALLY THROUGHOUT; Fe-Mg MINERALS ARE "RUSTY", FELDSPAR CRYSTALS ARE "CLOUDY"
INTENSELY WEATHERED	DISCOLORATION OR OXIDATION THROUGHOUT; FELDSPAR AND Fe-Mg MINERALS ARE ALTERED TO CLAY TO SOME EXTENT, OR CHEMICAL ALTERATION PRODUCES IN SITU DISAGGREGATION
DECOMPOSED	DISCOLORATION OR OXIDATION THROUGHOUT, BUT RESISTANT MINERALS SUCH AS QUARTZ MAY BE UNALTERED; FELDSPAR AND Fe-Mg MINERALS ARE COMPLETELY ALTERED TO CLAY



Earth Systems Pacific

LOGGED BY: L. Johnson
 DRILL RIG: Mobile B-53 with Automatic Hammer
 AUGER TYPE: 6" Hollow Stem

Boring No. 1
 PAGE 1 OF 2
 JOB NO.: 305204-001
 DATE: 2/10/2022

DEPTH (feet)	USCS CLASS	SYMBOL	SANTA MARIA AIRPORT WATER PIPELINE Airpark Drive Between Hangar Street and Fairway Drive Santa Maria, California	SAMPLE DATA				
				INTERVAL (feet)	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.
0	SP		POORLY GRADED SAND: brown, loose, moist					
1				0.0 - 4.0	○			
2								
3								
4	SC		CLAYEY SAND: brown, medium dense, moist	4.0 - 8.0	○			4
5			orange-brown, some oxidation staining	5.0 - 6.5	■	111.9	13.1	9
6								19
7								
8	SP		POORLY GRADED SAND: light brown, medium dense, moist	8.0 - 15.0	○			
9								
10			wet	10.0 - 11.5	■	123.0	12.3	4
11			interbedded lean clay					10
12								13
13								
14								
15				15.0 - 16.5	■	103.3	23.0	8
16								14
17								15
18								
19								
20	SP-SM		POORLY GRADED SAND WITH SILT: brown, medium dense, very moist	20.0 - 21.5	■	116.9	12.9	9
21								14
22								22
23								
24								
25			dense, moist	25.0 - 26.5	■	109.7	7.6	12
26			some oxidation staining					23
								44

LEGEND: ■ Ring Sample ○ Grab Sample □ Shelby Tube Sample ● SPT

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



Earth Systems Pacific

LOGGED BY: L. Johnson
 DRILL RIG: Mobile B-53 with Automatic Hammer
 AUGER TYPE: 6" Hollow Stem

Boring No. 1
 PAGE 2 OF 2
 JOB NO.: 305204-001
 DATE: 2/10/2022

DEPTH (feet)	USCS CLASS	SYMBOL	SANTA MARIA AIRPORT WATER PIPELINE Airpark Drive Between Hangar Street and Fairway Drive Santa Maria, California	SAMPLE DATA				
				INTERVAL (feet)	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.
27 - 28 - 29 - 30 - 31 - 32 - 33 - 34 - 35 - 36 - 37 - 38 - 39 - 40 - 41 - 42 - 43 - 44 - 45 - 46 - 47 - 48 - 49 - 50 - 51 - 52 - 53 -	SP- SM		POORLY GRADED SAND WITH SILT: same as above	30.0 - 31.5		115.0	4.8	14 33 50/4"
			very dense					
			End of Boring @ 31.5' Subsurface water encountered @ 10.0' during drilling No water was observed after drilling was completed					

LEGEND: Ring Sample Grab Sample Shelby Tube Sample SPT
 NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling.
 Subsurface conditions may differ at other locations and times.



Earth Systems Pacific

LOGGED BY: L. Johnson
 DRILL RIG: Mobile B-53 with Automatic Hammer
 AUGER TYPE: 6" Hollow Stem

Boring No. 2
 PAGE 1 OF 2
 JOB NO.: 305204-001
 DATE: 2/10/2022

DEPTH (feet)	USCS CLASS	SYMBOL	SANTA MARIA AIRPORT WATER PIPELINE Airpark Drive Between Hangar Street and Fairway Drive Santa Maria, California	SAMPLE DATA				
				INTERVAL (feet)	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.
0	SP		POORLY GRADED SAND: brown, loose, moist					
1				0.0 - 5.0	○			
2								
3								
4								
5	SC		CLAYEY SAND: brown, medium dense, moist	5.0 - 6.5	■	117.3	13.1	7 16 24
6				5.0 - 9.0	○			
7								
8								
9			light brown	9.0 - 15.0	○			
10	SP			10.0 - 11.5	■	113.6	13.9	10 16 22
11								
12								
13								
14								
15	SP		POORLY GRADED SAND: brown, dense, moist	15.0 - 16.5	■	120.0	10.5	18 27 39
16								
17								
18								
19								
20	CL		LEAN CLAY WITH SAND: orange-brown, very stiff, moist	20.0 - 21.5	■	115.7	16.6	7 14 18
21								
22								
23								
24								
25	SM		SILTY SAND: brown, medium dense, moist	25.0 - 26.5	■	115.0	5.7	10 18 25
26								

LEGEND: ■ Ring Sample ○ Grab Sample □ Shelby Tube Sample ● SPT

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



Earth Systems Pacific

LOGGED BY: L. Johnson
 DRILL RIG: Mobile B-53 with Automatic Hammer
 AUGER TYPE: 6" Hollow Stem

Boring No. 2
 PAGE 2 OF 2
 JOB NO.: 305204-001
 DATE: 2/10/2022

DEPTH (feet)	USCS CLASS	SYMBOL	SANTA MARIA AIRPORT WATER PIPELINE Airpark Drive Between Hangar Street and Fairway Drive Santa Maria, California	SAMPLE DATA				
				INTERVAL (feet)	SAMPLE TYPE	DRY DENSITY (pcf)	MOISTURE (%)	BLOWS PER 6 IN.
27 - 28 - 29 - 30 - 31 - 32 - 33 - 34 - 35 - 36 - 37 - 38 - 39 - 40 - 41 - 42 - 43 - 44 - 45 - 46 - 47 - 48 - 49 - 50 - 51 - 52 - 53 -	SM		SOIL DESCRIPTION					
			SILTY SAND: same as above pale brown, very dense some oxidation staining End of Boring @ 31.5' No subsurface water encountered	30.0 - 31.5	■	115.3	7.0	13 39 50/5"

LEGEND: ■ Ring Sample ○ Grab Sample □ Shelby Tube Sample ● SPT
 NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling.
 Subsurface conditions may differ at other locations and times.

APPENDIX B

Laboratory Test Results

BULK DENSITY TEST RESULTS

ASTM D 2937-17 (modified for ring liners)

March 7, 2022

BORING NO.	DEPTH feet	MOISTURE CONTENT, %	WET DENSITY, pcf	DRY DENSITY, pcf
1	6.0 - 6.5	13.1	126.5	111.9
1	11.0 - 11.5	12.3	138.2	123.0
1	16.0 - 16.5	23.0	127.0	103.3
1	21.0 - 21.5	12.9	131.9	116.9
1	26.0 - 26.5	7.6	118.1	109.7
1	31.0 - 31.5	4.8	120.5	115.0
2	6.0 - 6.5	13.1	132.7	117.3
2	11.0 - 11.5	13.9	129.4	113.6
2	16.0 - 16.5	10.5	132.5	120.0
2	21.0 - 21.5	16.6	135.0	115.7
2	26.0 - 26.5	5.7	121.6	115.0
2	31.0 - 31.5	7.0	123.4	115.3

DIRECT SHEAR

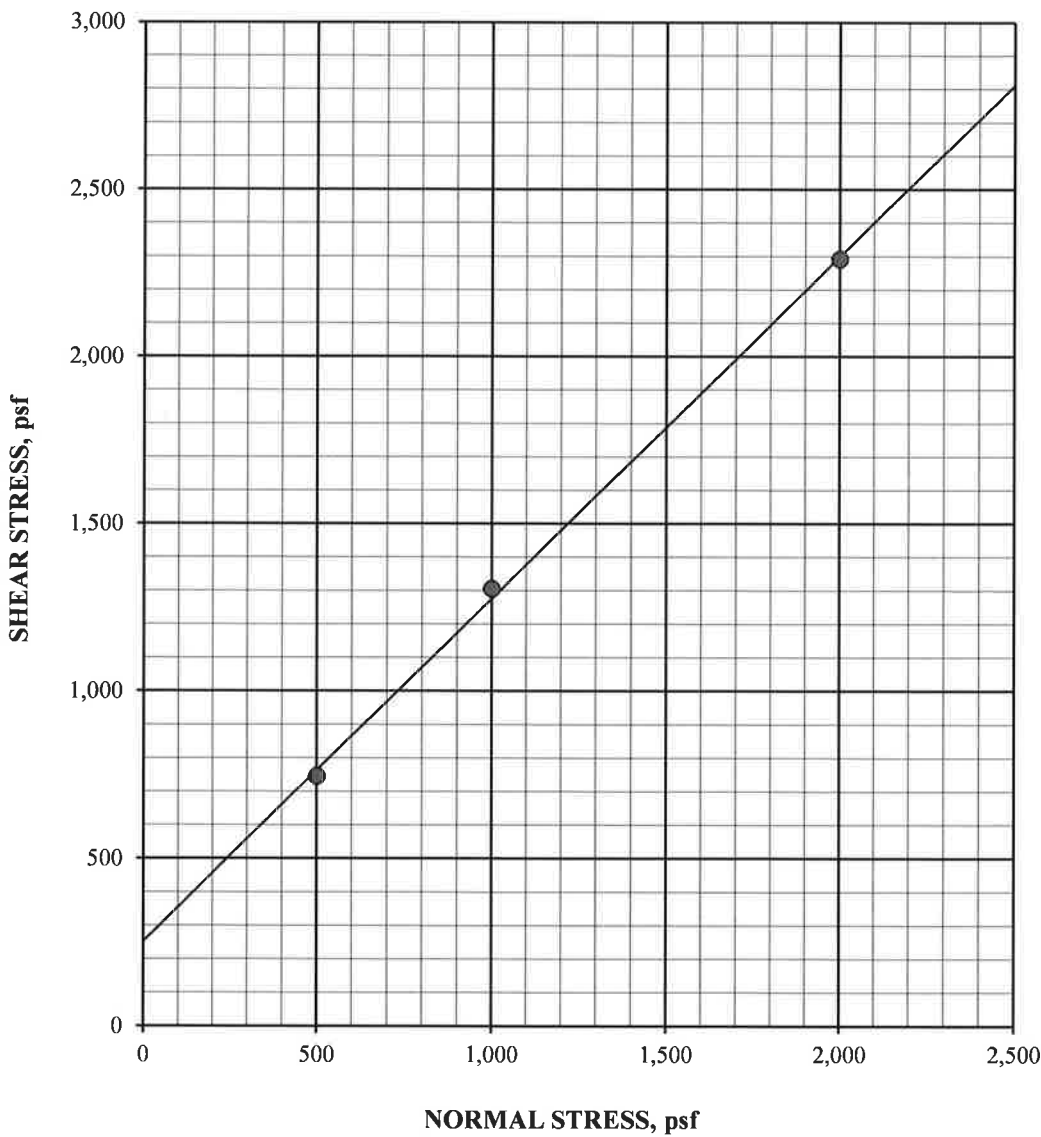
ASTM D 3080/D3080M-11 (modified for consolidated, undrained conditions)

March 7, 2022

Boring #1 @ 11.0 - 11.5
Poorly Graded Sand (SP)
Ring sample, saturated

INITIAL DRY DENSITY: 118.2 pcf
INITIAL MOISTURE CONTENT: 12.3 %
PEAK SHEAR ANGLE (ϕ): 46°
COHESION (C): 253 psf

SHEAR vs. NORMAL STRESS



DIRECT SHEAR continued

ASTM D 3080/D3080M-11 (modified for consolidated, undrained conditions)

Boring #1 @ 11.0 - 11.5

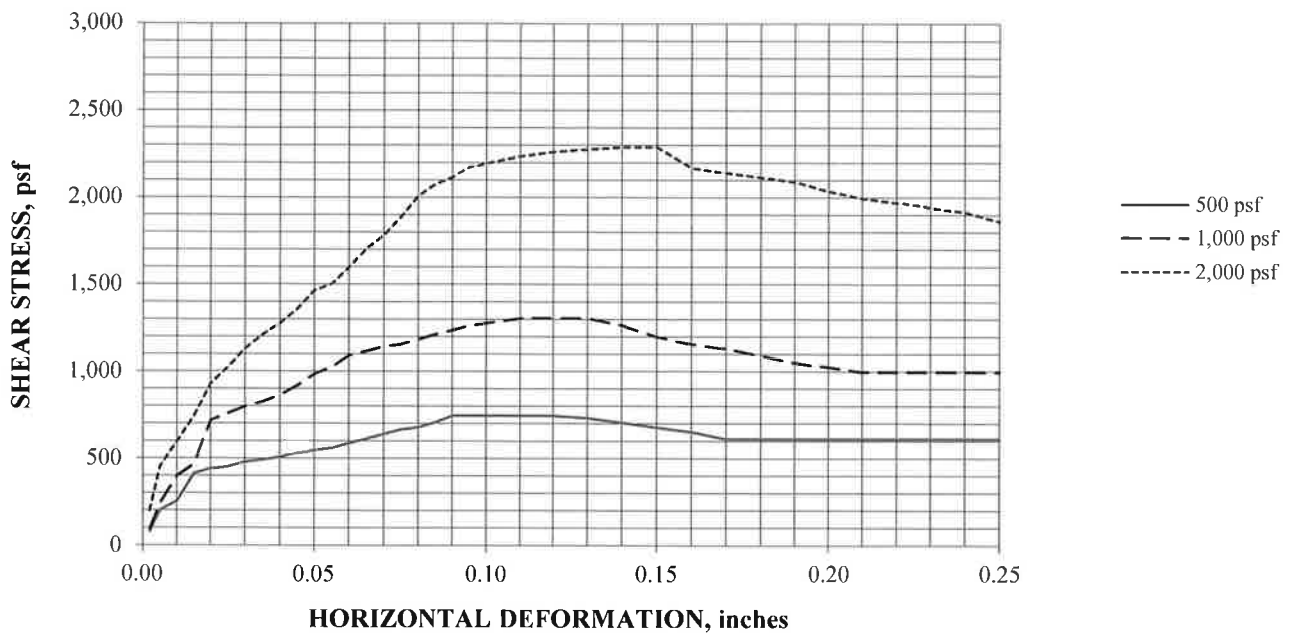
March 7, 2022

Poorly Graded Sand (SP)

Ring sample, saturated

SPECIFIC GRAVITY: 2.65 (assumed)

SAMPLE NO.:	1	2	3	AVERAGE
INITIAL				
WATER CONTENT, %	12.3	12.3	12.3	12.3
DRY DENSITY, pcf	112.9	120.1	121.5	118.2
SATURATION, %	70.1	86.5	90.3	82.3
VOID RATIO	0.465	0.377	0.361	0.401
DIAMETER, inches	2.410	2.410	2.410	
HEIGHT, inches	1.00	1.00	1.00	
AT TEST				
WATER CONTENT, %	17.7	17.5	16.9	
DRY DENSITY, pcf	114.4	122.9	128.6	
SATURATION, %	100.0	100.0	100.0	
VOID RATIO	0.446	0.345	0.286	
HEIGHT, inches	0.99	0.98	0.95	



DIRECT SHEAR

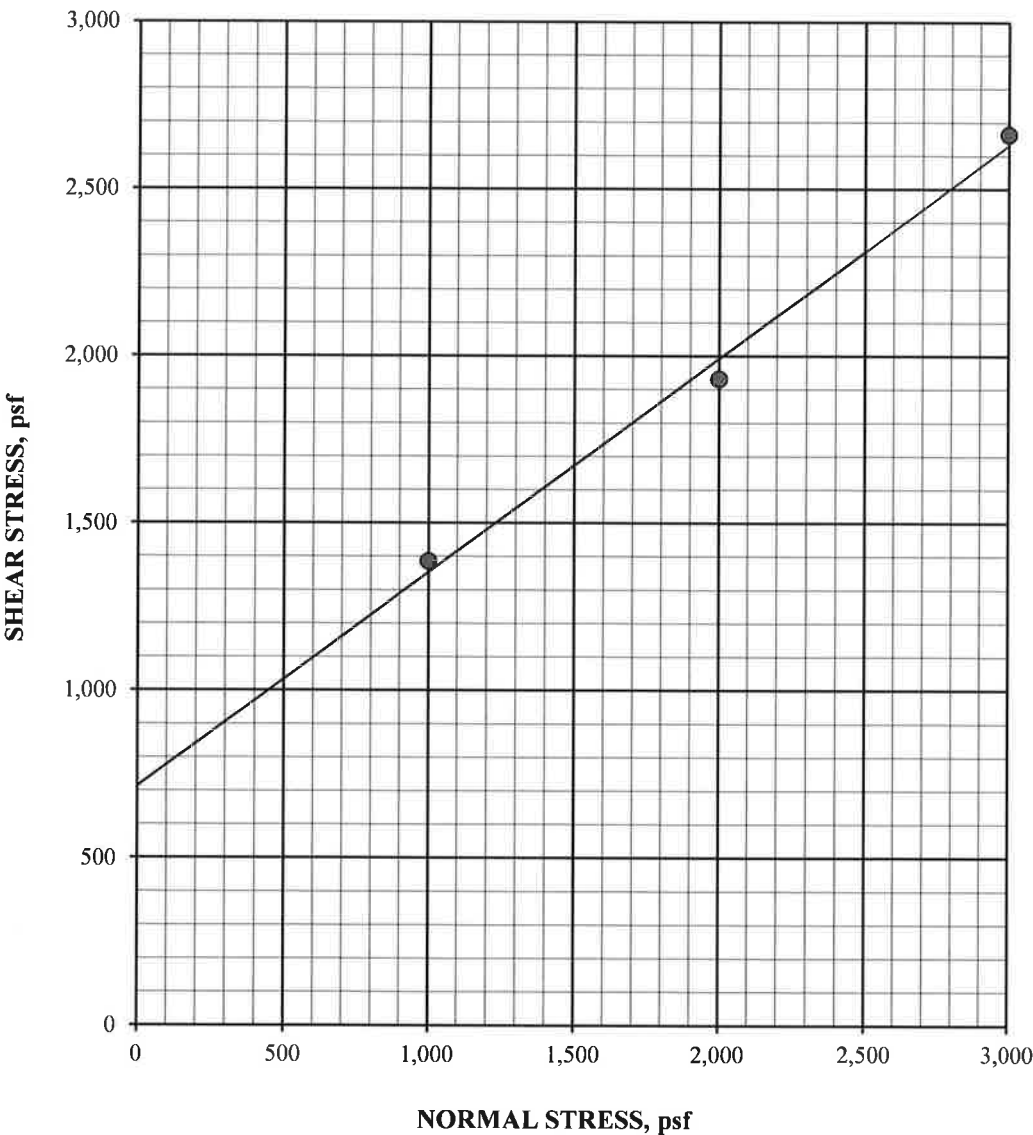
ASTM D 3080/D3080M-11 (modified for consolidated, undrained conditions)

March 7, 2022

Boring #2 @ 21.0 - 21.5
Lean Clay with Sand (CL)
Ring sample, saturated

INITIAL DRY DENSITY: 116.0 pcf
INITIAL MOISTURE CONTENT: 16.6 %
PEAK SHEAR ANGLE (ϕ): 33°
COHESION (C): 715 psf

SHEAR vs. NORMAL STRESS



DIRECT SHEAR continued

ASTM D 3080/D3080M-11 (modified for consolidated, undrained conditions)

Boring #2 @ 21.0 - 21.5

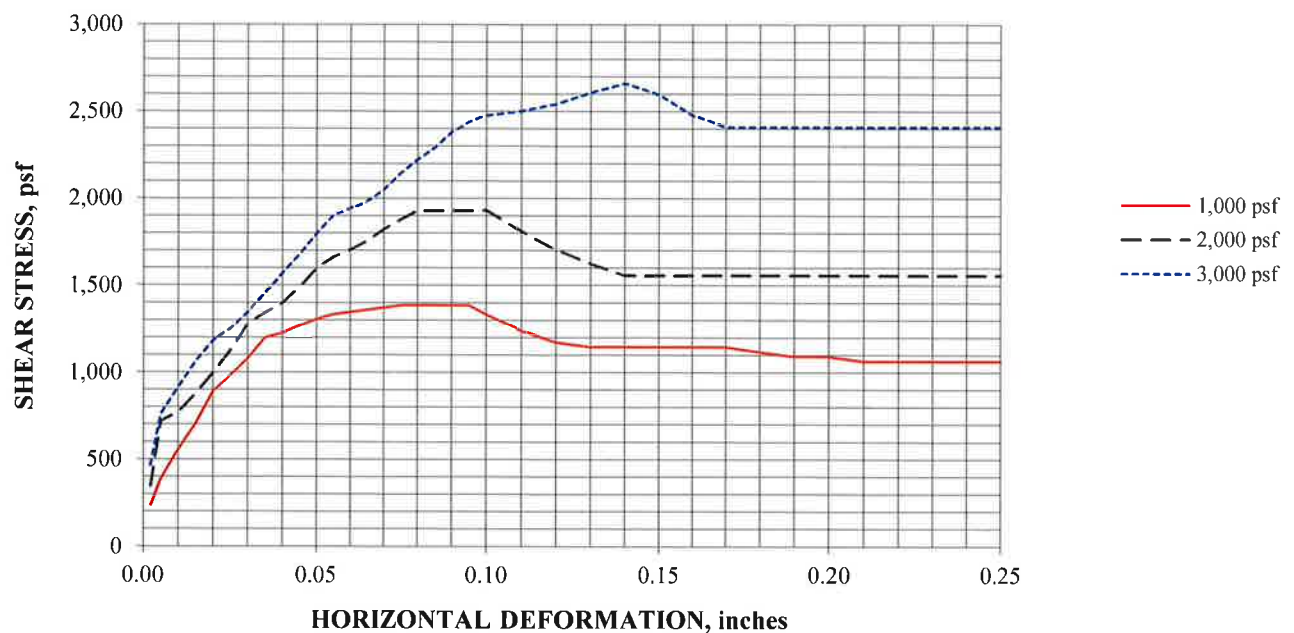
March 7, 2022

Lean Clay with Sand (CL)

Ring sample, saturated

SPECIFIC GRAVITY: 2.70 (assumed)

SAMPLE NO.:	1	2	3	AVERAGE
INITIAL				
WATER CONTENT, %	16.6	16.6	16.6	16.6
DRY DENSITY, pcf	116.7	114.8	116.5	116.0
SATURATION, %	100.0	95.9	100.0	99.1
VOID RATIO	0.444	0.467	0.447	0.453
DIAMETER, inches	2.410	2.410	2.410	
HEIGHT, inches	1.00	1.00	1.00	
AT TEST				
WATER CONTENT, %	24.4	24.4	23.1	
DRY DENSITY, pcf	119.7	121.1	131.4	
SATURATION, %	100.0	100.0	100.0	
VOID RATIO	0.408	0.391	0.282	
HEIGHT, inches	0.98	0.95	0.89	



PARTICLE SIZE ANALYSIS

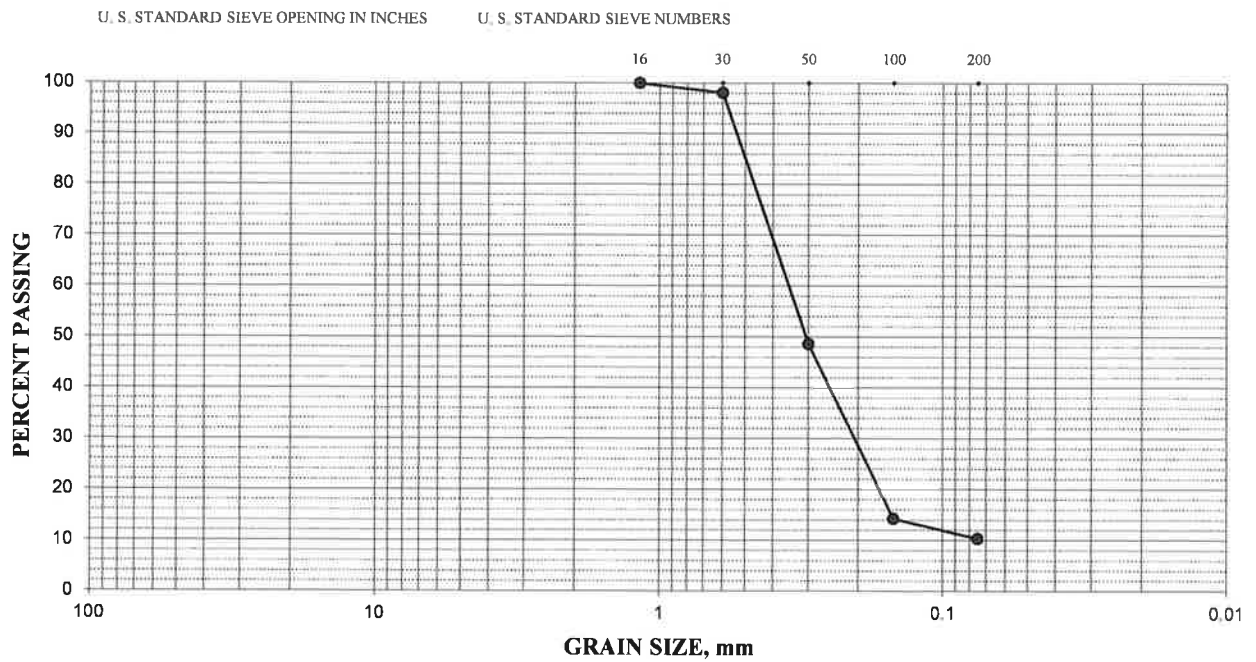
ASTM D 422-63/07; D 1140-017

Boring #1 @ 26.0 - 26.5'

March 7, 2022

Poorly Graded Sand (SP)

Sieve size	% Retained	% Passing
#16 (1.18-mm)	0	100
#30 (600-μm)	2	98
#50 (300-μm)	51	49
#100 (150-μm)	86	14
#200 (75-μm)	90	10



PARTICLE SIZE ANALYSIS

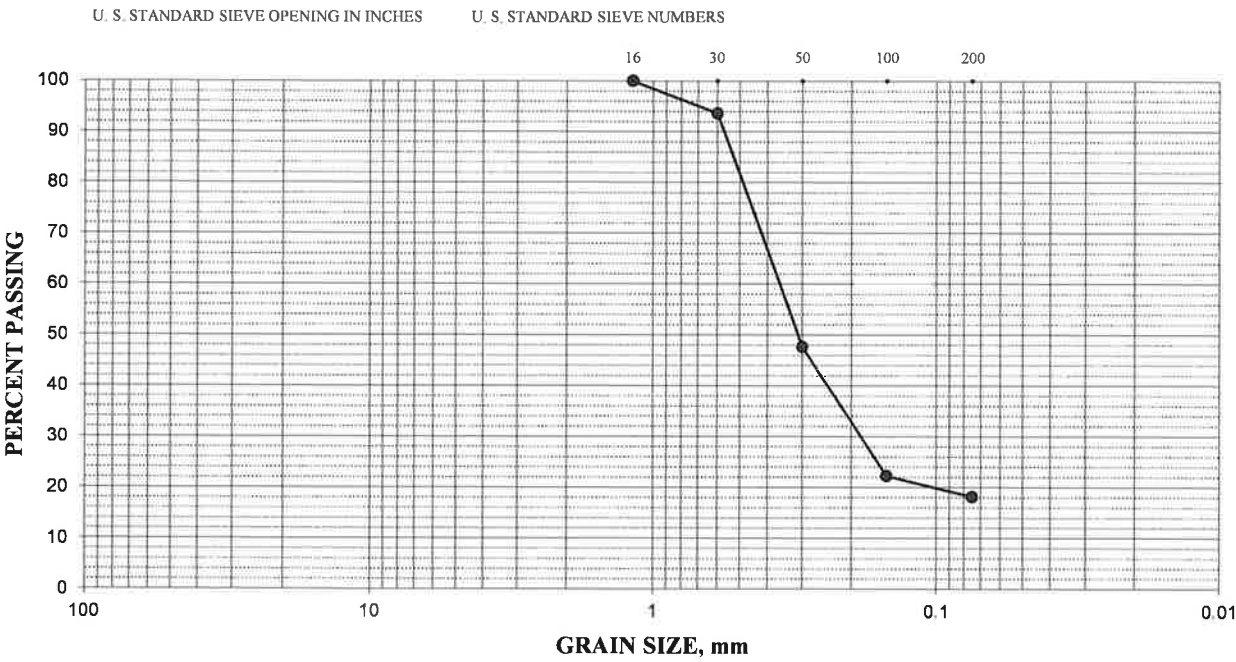
ASTM D 422-63/07; D 1140-017

Boring #2 @ 26.0 - 26.5'

March 7, 2022

Brown Silty Sand (SM)

Sieve size	% Retained	% Passing
#16 (1.18-mm)	0	100
#30 (600-μm)	6	94
#50 (300-μm)	52	48
#100 (150-μm)	78	22
#200 (75-μm)	82	18



PARTICLE SIZE ANALYSIS

ASTM D 422-63/07

Boring #2 @ 21.0 - 21.5'

March 7, 2022

Lean Clay with Sand (CL)

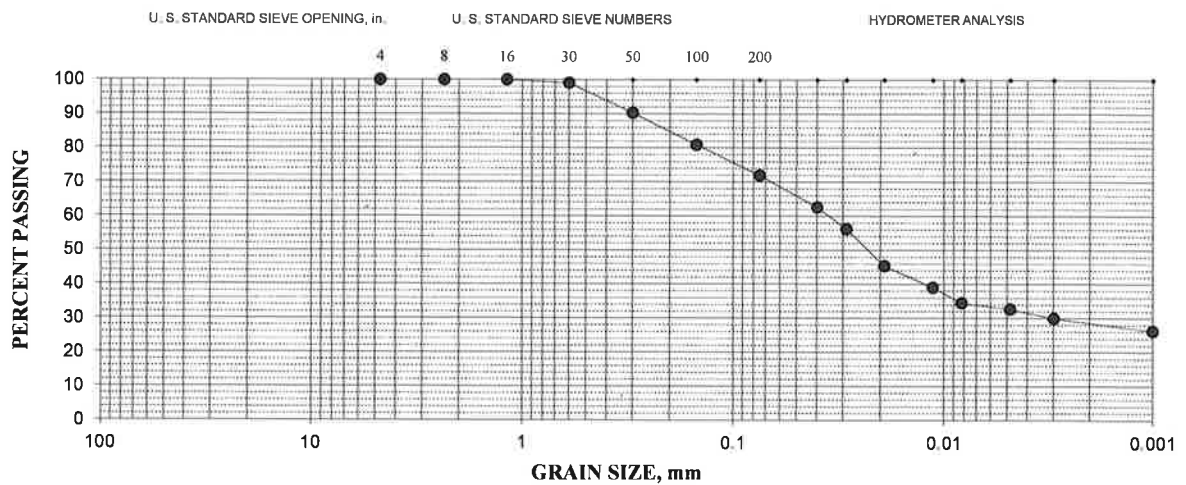
Specific Gravity = 2.70 (assumed)

Gravel = 0%; Sand = 28%; Silt = 39%; Clay = 33%

Sieve size	% Retained	% Passing
#4 (4.75-mm)	0	100
#8 (2.36-mm)	0	100
#16 (1.18-mm)	0	100
#30 (600- μ m)	1	99
#50 (300- μ m)	10	90
#100 (150- μ m)	19	81
#200 (75- μ m)	28	72

Hydrometer Analysis

40- μ m	62
29- μ m	56
19- μ m	45
11- μ m	39
8- μ m	34
4.8- μ m	33
3.0- μ m	30
Colloids	26



APPENDIX C

Corrosivity Test Results by HDR, Inc.



TRANSMITTAL LETTER

DATE: March 23, 2022

ATTENTION: John Coffman

TO: HDR, Ventura
701 East Santa Clara Street, Suite 36
Ventura, CA 93001-5972

SUBJECT: Laboratory Test Data
Santa Maria Well 6S Intertie
Your #ESP job 305204-001, HDR Lab #22-0289LAB

COMMENTS: Enclosed are the results for the subject project.

A handwritten signature in black ink, appearing to read 'J. Keegan', written over a horizontal line.

James T. Keegan, MD
Corrosion and Lab Services Section Manager

**Table 1 - Laboratory Tests on Soil Samples**

HDR, Ventura
Santa Maria Well 6S Intertie
Your #ESP job 305204-001, HDR Lab #22-0289LAB
23-Mar-22

Sample ID			Boring 2 @ 21-21.5'	Boring 2 @ 26-26.5'
Resistivity				
	Units			
as-received	ohm-cm		1,360	44,000
saturated	ohm-cm		1,040	11,200
pH			7.1	7.6
Electrical				
Conductivity	mS/cm		0.10	0.02
Chemical Analyses				
Cations				
calcium	Ca ²⁺	mg/kg	34	32
magnesium	Mg ²⁺	mg/kg	ND	ND
sodium	Na ¹⁺	mg/kg	75	26
potassium	K ¹⁺	mg/kg	5.6	3.0
ammonium	NH ₄ ¹⁺	mg/kg	ND	ND
Anions				
carbonate	CO ₃ ²⁻	mg/kg	ND	ND
bicarbonate	HCO ₃ ¹⁻	mg/kg	165	128
fluoride	F ¹⁻	mg/kg	6.8	4.7
chloride	Cl ¹⁻	mg/kg	77	6.0
sulfate	SO ₄ ²⁻	mg/kg	29	10
nitrate	NO ₃ ¹⁻	mg/kg	4.7	1.6
phosphate	PO ₄ ³⁻	mg/kg	ND	0.5
Other Tests				
sulfide	S ²⁻	qual	na	na
Redox		mV	na	na

Resistivity per ASTM G187, pH per ASTM G51, Cations per ASTM D6919, Anions per ASTM D4327, and Alkalinity per APHA 2320-B.

Electrical conductivity in millisiemens/cm and chemical analyses were made on a 1:5 soil-to-water extract.

mg/kg = milligrams per kilogram (parts per million) of dry soil.

Redox = oxidation-reduction potential in millivolts

ND = not detected

na = not analyzed