Draft Environmental Impact Report

SANDRIDGE IRRIGATION PIPELINE EXTENSION PROJECT

State Clearinghouse No. 2023120577

May 2024

Stratford Public Utility District
19681 Railroad Street
Stratford, CA 93266

Draft Environmental Impact Report

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ES.1 Introduction

The Stratford Public Utility District (SPUD) has prepared this Draft Environmental Impact Report (Draft EIR) to evaluate the impacts of implementing the Sandridge Irrigation Pipeline Extension Project (proposed project). SPUD is the California Environmental Quality Act (CEQA) lead agency for the proposed project.

Sandridge Partners LP (Sandridge, the project proponent) owns and operates farms on over 65 percent of the farmland in the Stratford Irrigation District. Sandridge also operates in neighboring districts, including the Empire West Side Irrigation District, Lemoore Irrigation District, Jacobs Irrigation District, and John Heinlein Mutual Water Company. The proposed project aims to enhance the efficiency of irrigation water transportation, a crucial aspect of Sandridge's farming operations due to the challenges posed by subsidence in the region. The project's focus is on developing an approximately 5.5-mile irrigation water pipeline that efficiently conveys Sandridge irrigation water from northern to eastern and southwestern areas near Stratford within Kings County. Given the restrictions on new well development and water allocations, Sandridge has prioritized the irrigation of the most fertile soils, avoiding marginal lands. This approach necessitates moving water without significant evaporation loss, which is vital for sustainable farming. Part of construction of the pipeline required a 320-foot-long easement across SPUD property, hence SPUD's involvement as the CEQA lead agency.

ES.2 Project Objectives

As presented in Chapter 2, *Project Description*, the objectives of the proposed project include:

- Develop and extend Sandridge irrigation conveyance system to more efficiently transport water from northern farmland wells to eastern and southwestern farmland owned by Sandridge near Stratford.
- Integrate the extended pipeline with Sandridge's existing water transportation infrastructure.
- Deliver irrigation water to Sandridge's fertile soil farmland south of Stratford in Kings County where water is scarce.
- Avoid significant evaporation loss in a canal-based irrigation water transportation system.
- Avoid water perching and prevent the mixing of irrigation water with local salts and/or pollutants.
- Enhance the efficiency of irrigation water transportation.

- Address irrigation and water transportation challenges posed by subsidence in the region.
- Improve overall safety of Sandridge's water conveyance system.

ES.3 Summary of Proposed Project

In Fall 2021, Sandridge began construction of an approximately 5.5-mile, 48-inch diameter irrigation water pipeline that would connect to and from existing Sandridge water distribution systems in Kings County, California. Construction required a 320-foot-long by 20-foot-wide right-of-way easement across the southeast corner of property owned by SPUD. The SPUD Board of Directors considered the Sandridge easement request at its October 6, 2021, special meeting and at its October 13, 2021, regular meeting. Before each of these meetings, SPUD provided notice of the meeting date, time, and location, as well as a meeting agenda, which included the Sandridge easement request. SPUD granted Sandridge the right-of-way easement in October 2021.

Construction activities were put on hold after a legal challenge to SPUD's grant of the easement was filed by the Tulare Lake Canal Company (TLCC) alleging that SPUD failed to comply with CEQA. TLCC obtained a temporary restraining order preventing further project construction and use in March 2022, which remains in place pending resolution of the CEQA litigation.

The proposed project encompasses construction of an approximately 5.5-mile long, underground 48-inch irrigation water pipeline that would connect to and from existing Sandridge water distribution systems and replace existing open irrigation ditches. The proposed project includes segments that are both constructed (approximately 3.2 miles) and yet to be constructed (approximately 2.3 miles); these segments collectively comprise the proposed project (approximately 5.5 total miles of pipeline).

New construction would involve the installation of a 48-inch diameter HDPE pipeline approximately 200 feet across the Tulare Lake Canal, controlled by Tulare Lake Canal Company (TLCC) and accessed on Sandridge-owned land with a 120-foot right-of-way held by TLCC for the canal. The pipeline would be installed approximately 4 feet below the channel of the Tulare Lake Canal (with the pipeline trench approximately 4 feet below the pipeline). The pipeline is designed so that when installation of the pipeline and restoration of the canal is complete, the pipeline would not interfere with the canal's transportation of water or otherwise affect the integrity of the earthen canal.

Proposed activity in the vicinity of Tulare Lake Canal would take place when water flow in the canal is minimal during (e.g., the non-irrigation season) and would take approximately five days to complete; therefore, up to a five-day interruption in TLCC services are expected. The minimal flows in Tulare Lake Canal would be diverted across or around the installation activity and routed back to the canal or dammed during the pipe installation process. The canal would be crossed either by using an excavator to dig an approximately six-foot-wide open cut trench across the canal deep enough to lay the pipe and covering the pipe and trench with a slurry topping. The top would be compacted with the dirt/clay removed from the open cut trench.

New construction would also involve the replacement of approximately 2.3 miles of existing canal that experiences significant water loss due to evaporation on Sandridge-owned land located north of Kent Avenue and south of Jersey Avenue near Stratford to State Route 41. Installation of the new pipeline would require crossings under Kent Avenue, Kansas Avenue, and State Route 41. The pipeline would be installed at a depth of approximately 3.5 to 4 feet below the surface and the pipeline trench would be approximately 4 feet below the bottom of the pipe. The pipeline would have an approximately 10-foot area on either side for staging and construction activities and would have a total footprint of approximately 5.6 acres.

The previously constructed sections of the proposed project encompass approximately 2.4 miles of underground 48-inch diameter HDPE pipeline installed at a depth of approximately 3.5 to 4 feet below the surface of the existing canal between State Route 41 and the north side of the Tulare Lake Canal, as well as approximately 0.8 mile of 48-inch diameter HDPE pipeline installed below the existing canal from the south side of the Tulare Lake Canal to Blakely Canal.

The elements of the proposed project, including construction activities, construction timing, and operational considerations, are discussed in more detail in Chapter 2, *Project Description*.

In general, the environmental baseline is the same as the existing on-the-ground conditions when environmental review begins. Some segments of the pipeline alignment were constructed between the Fall of 2021 and March 2022. No change in the baseline condition has occurred since the issuance of the temporary restraining order in March 2022; therefore, this Draft EIR uses an environmental baseline date of December 20, 2023 (i.e., the date the NOP is published).

ES.4 Alternatives to the Proposed Project

As described in Chapter 6, *Project Alternatives*, potential alternatives to the proposed project were screened based on their ability to feasibly attain most of the basic project objectives, their feasibility, and their ability to reduce or eliminate any significant environmental impacts of the proposed project.

One alternative considered but rejected was to change the route of the existing pipeline. A potential alternative route would be for the pipeline to travel west along Kansas Avenue and then turn south at 21st Avenue, cross the Stratford Canal and travel along the western boundary of Stratford before crossing the Kings River, Highway 41, and the Blakeley Canal to reach Sandridge's southwestern farmlands. The alternative route would meet project objectives to develop and extend the Sandridge irrigation conveyance system, connecting Sandridge's water and farmland in the north, southwest, and east. The alternative would also reduce the amount of evaporation in a canal-based irrigation water transportation system. The pipeline would integrate into the existing water transportation infrastructure without needing to cross the Tulare Lake Canal, avoiding potential service interruptions. More of Sandridge's farmland southwestern of Stratford in King's County would be connected to the pipeline.

However, the alternative route would have increased construction impacts as well as increased costs from rerouting the pipeline to the west of Stratford. While the Tulare Lake Canal would not

experience service interruptions, crossing the Stratford Canal, Blakeley Canal, and Kings River could potentially experience service interruptions with the alternative route. Furthermore, the feasibility of crossing the Kings River north of Highway 41 is uncertain. Other pipeline routes would require the irrigation water to travel greater distances, reducing efficiency. The alternative route would therefore not efficiently convey water from the northern to eastern and southern farmland owned by Sandridge near Stratford and vice versa. The alternative route would not prioritize the irrigation of the most fertile soils, would not avoid water perching or the mixing of irrigation water, and would not address irrigation and water transportation challenges posed by subsidence in the region.

Another project alternative considered but rejected was to operate the pipeline as it currently exists (with approximately 3.2 miles already constructed). No additional construction of the pipeline to the southwest would occur and the Tulare Lake Canal would not be crossed. The sections of the pipeline already constructed, however, would be used to transport water from the north to Sandridge's farmland in the east. Benefits of this project would include some reduction in construction-related impacts and the avoidance of any potential service interruptions at the Tulare Lake Canal. Water transportation efficiency would be increased due to reduced evaporation, and there would be partial connectivity between Sandridge's water and farmland in the north and east.

Currently, the pipeline terminates just north of the Tulare Lake Canal and does not reach Sandridge's farmlands on the other side of the canal. In its current state, there is nowhere for tailwater to drain. Irrigation water would not be delivered to approximately 3,200 acres of fertile farmland southwest of Stratford. The pipeline as currently constructed would not meet or fully meet project objectives such as the ability to increase the efficiency of irrigation water transportation. The current pipeline does not address irrigation and water transportation challenges posed by subsidence in the region, nor does it convey water to northern and eastern farmland owned by Sandridge near Stratford, which does not prioritize the irrigation of the most fertile soils in the area. Given that the current pipeline as it exists does not allow for the proper drainage of tailwater, there is potential for irrigation water to mix with local salts and/or pollutants.

As a result of the proposed project's development process and alternatives screening, two alternatives were identified for further evaluation in the Draft EIR.

Under the No Project Alternative, the portion of the pipeline that is already constructed (3.2 miles in length) would remain but would not be used to transport water. The No Project Alternative would not deliver irrigation water through the existing pipeline and the remaining sections would not be completed. Approximately 3,200 acres of southwestern farmland near Stratford would therefore not receive irrigation water, inhibiting the productive use of some of the most fertile soils in the region. Sandridge's existing water conveyance system is not as efficient and loses significant amounts of water due to evaporation. Problems with Sandridge's existing water conveyance system of open ditches also include water perching and pollution contamination. Therefore, the No Project Alternative does not meet the project objectives of the proposed project.

Under the New Well(s) Alternative, new wells would be developed to irrigate Sandridge's eastern and southwest farmland near Stratford in Kings County. Therefore, the construction of the existing pipeline would not need to be completed in the southwest. In addition, there would be no need to cross the Tulare Lake Canal, which would avoid potential service interruptions.

However, given that the Tulare Lake Subbasin Groundwater Sustainability Plan was determined as inadequate by the California Department of Water Resources, there are significant restrictions on developing new wells in the subbasin. These restrictions could hamper construction or development of the wells. Furthermore, limited groundwater availability in the southwestern area near Stratford would not provide enough water to irrigate the farmland and it is uncertain whether new and/or deeper wells would do so sustainably.

Given the uncertainty of the ability for new wells to be constructed, the New Well(s) Alternative would not be insured to meet the objectives of the proposed project. The efficiency and safety of irrigation water transportation, the efficient conveyance of water from northern to eastern and southwestern farmland near Stratford, and the prioritization of the most fertile land in the region would not be adequately met. Irrigation and water challenges posed by subsidence in the region would also not be addressed and may in fact be exacerbated by increased wells or deeper wells in the region.

Table ES-1 presents a comparison of impacts by resource issue area for the proposed project and the No Project Alternative and New Well(s) Alternative.

TABLE ES-1
SUMMARY COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT, NO PROJECT ALTERNATIVE AND THE NEW WELL(S) ALTERNATIVE

Resource Topic		Proposed Project	New Well(s) Alternative	No Project Alternative
3.2 Air Quality and Greenhouse Gas Emissions	**3.2-1:** Construction and operation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan.	LTS	LTS	NI
	3.2-2: Construction and operation of the proposed project could 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.	LTS	LTS	NI
	3.2-3: Construction and operation of the proposed project could expose sensitive receptors to substantial pollutant concentrations.	LTS	LTS	NI
	3.2-4: Construction and operation of the proposed project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LTS	LTS	NI
	3.2-5: Construction and operation of the proposed project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	LTS	LTS	NI
	3.2-6: Construction and operation of the proposed project could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	LTS	LTS	NI

Resource Topic		Proposed Project	New Well(s) Alternative	No Project Alternative
3.3 Biological Resources	**3.3-1:** Construction and operation of the proposed project could result in 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 CDFW or USFWS.	LSM	LSM	NI
	3.3-2: Construction and operation of the proposed project could result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means.	LSM	LSM	NI
	3.3-3: Construction and operation of the proposed project could 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.	LTS	LTS	NI
	3.3-4: Construction and operation of the proposed project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	LTS	LTS	NI
3.4 Cultural Resources	**3.4-1:** Construction and operation of the proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.	LSM	LSM	NI
	3.4-2: Construction and operation of the proposed project could disturb human remains, including those interred outside of dedicated cemeteries.	LSM	LSM	NI
3.5 Hydrology and Water Quality	**3.5-1:** Construction and operation of the proposed project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	LTS	LTS+	LTS+
	3.5-2: Construction and operation of the proposed project could substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	LTS	LTS+	LTS+
	3.5-3: Construction and operation of the proposed project could alter existing drainage patterns.	LTS	LTS	NI
	3.5-4: Construction and operation of the proposed project in a flood hazard zone could risk releases of pollutants due to project inundation.	LTS	LTS	NI
	3.5-5: Construction and operation of the proposed project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LTS	LTS+	LTS+
3.6 Transportation	**3.6-1:** Construction and operation of the proposed project could conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	LTS	LTS	LTS-
	3.6-2: Construction and operation of the proposed project could result in inadequate emergency access.	LTS	LTS	NI
3.7 Tribal Cultural Resources	**3.7-1:** Construction and operation of the proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074.	LSM	LSM	NI

NOTES: NI—No impact; LTS—Less than significant; LSM—Less than significant after application of feasible mitigation measure(s); + = Impact is more severe than under the proposed project.

SOURCE: Data compiled by Environmental Science Associates in 2024.

As shown in Table ES-1, and as discussed in Chapter 6, *Project Alternatives*, the New Well(s) Alternative would result in construction-related impacts similar to those of the proposed project, given that ground-disturbing activities may occur. The No Project Alternative would not result in any construction impacts. However, both the No Project Alternative and the New Well(s) Alternative could result in greater water quality impacts, and potentially greater impacts on agricultural resources and water supply (including groundwater demand), than the proposed project because water efficiency would not be increased and groundwater demand may increase. The No Project Alternative is considered the environmentally superior alternative because it would result in potential impacts on fewer environmental resources than the proposed project. The proposed project is the environmentally superior alternative among the other alternatives. Implementation of the mitigation measures identified in Chapter 3 would minimize the potential for significant impacts from the proposed project.

ES.5 Areas of Known Controversy and Concern

As noted in Section ES.3, *Summary of Proposed Project* above, construction activities for the proposed project were put on hold after a legal challenge to SPUD's grant of the easement was filed by the TLCC alleging that SPUD failed to comply with CEQA. TLCC obtained a temporary restraining order preventing further project construction and use in March 2022, which remains in place pending resolution of the CEQA litigation.

Seven comment letters were received in response to the Notice of Preparation (NOP). See Appendix A of the Draft EIR for the NOP and comment letters.

ES.6 Next Steps for the EIR

This Draft EIR is available to federal, state, and local agencies and interested organizations and individuals who may want to review and comment on the adequacy of the analysis. Publication of the Draft EIR marks the beginning of a 45-day public review period. The 45-day public review period for this Draft EIR is Wednesday, June 12, 2024, through 5:00 p.m. on Friday, July 26, 2024. During the public review period, written comments should be postmarked by Friday, July 26, 2024, and mailed or emailed to:

> Stratford Public Utility District, 19681 Railroad Street, Stratford, CA 93266
> Email: stratfordpud@gmail.com

Please use "Sandridge Irrigation Pipeline Extension Project EIR Comments" in the subject line. Please also include the name of a contact person if submitting comments on behalf of an agency, tribal group, or organization. All comments received, including names and addresses, will become part of the official administrative record and may be available to the public.

A Notice of Availability for the Draft EIR was made available at the Kings County Clerk's office and posted at the SPUD office and the Stratford Post office. The Draft EIR is available for review at SPUD's office at 19681 Railroad Street, Stratford, CA 93266.

ES.7 Summary of Environmental Impacts of the Proposed Project

Potential environmental impacts and associated mitigation measures are summarized in **Table ES-2**.

TABLE ES-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Issue Area	Impact Statement	Significance Prior to Mitigation Measures	Mitigation Measure	Significance After Mitigation Measures
3.2 Air Quality and Greenhouse Gas Emissions	**3.2-1:** Construction and operation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan.	LTS	None Required.	NA
	3.2-2: Construction and operation of the proposed project could 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.	LTS	None Required.	NA
	3.2-3: Construction and operation of the proposed project could expose sensitive receptors to substantial pollutant concentrations.	LTS	None Required.	NA
	3.2-4: Construction and operation of the proposed project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LTS	None Required.	NA
	3.2-5: Construction and operation of the proposed project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	LTS	None Required.	NA
	3.2-6: Construction and operation of the proposed project could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	LTS	None Required.	NA
3.3 Biological Resources	**3.3-1:** Construction and operation of the proposed project could result in 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 CDFW or USFWS.	PS	**Mitigation Measure 3.3-1: Protection of Special-status Terrestrial Species** • For special status mammals, before the start of construction, a qualified biologist shall conduct a habitat assessment to determine presence of San Joaquin kit fox or kangaroo rat burrows or their signs. If no observations, burrows, or signs (e.g., scat) of special-status mammal species are detected, no further measures will be required. – If burrows and signs of kangaroo rat are observed, an approved biologist will conduct protocol-level surveys in accordance with *Survey Protocol for Determining Presence of San Joaquin Kangaroo Rats* (USFWS 2013). If positive signs of these species are detected during the survey, the contractor, under the supervision of the approved biologist, shall establish non-disturbance exclusion zones (using wildlife exclusion fencing [e.g., a silt fence or similar material]).	LTM

NA: Not Applicable; LTS: Less than Significant; PS: Potentially Significant; LSM: Less than Significant with Mitigation Incorporated

Issue Area	Impact Statement	Significance Prior to Mitigation Measures	Mitigation Measure	Significance After Mitigation Measures
			– If signs of kit fox are observed, an approved biologist shall conduct pre-construction surveys in accordance with USFWS' *Standardized Recommendations for Protection of the San Joaquin Kit Fox prior to or during Ground Disturbance* (USFWS 2011). If potential dens are observed and avoidance is determined to be feasible by a qualified biologist in consultation with USFWS, buffer distances shall be established prior to construction activities. If avoidance of potential dens is not feasible, the biologist shall excavate these dens by hand with a shovel to prevent them from being used during construction. • For the northwestern pond turtle, the contractor shall install temporary exclusion fencing around work areas within 200 feet of wetted channels that provide suitable habitat for the species. The fence shall be of a minimum aboveground height of 30 inches, and the bottom shall be buried to a depth of at least 6 inches. The fence shall be installed prior to ground-disturbing activities and monitored by a qualified biologist, who will check the fence alignment before vegetation clearing and fence installation to ensure no northwestern pond turtles are present. – If northwestern pond turtle is encountered during construction activities, it will be allowed to move out of harm's way of its own volition, or a qualified biologist shall relocate it to the nearest suitable habitat that is at least 100 feet outside of the construction impact area. • Prior to moving equipment at the start of a day, construction personnel shall inspect underneath parked vehicles and heavy machinery for special-status terrestrial species. If any are found, they will be allowed to move out of the construction area under their own volition, or a qualified biologist shall relocate the organism(s) to the nearest suitable habitat that is at least 100 feet outside of the work area.	
			Mitigation Measure 3.3-2: Protection of Migratory Birds To the extent practicable, vegetation removal shall be scheduled outside the breeding season for nesting raptors and other migratory birds (generally February 1 through August 31). Removal of vegetation outside of the nesting season is intended to minimize the potential for delays in vegetation removal due to active nests. • If work is to occur during the nesting season, a qualified biologist shall conduct a pre-construction survey for nesting migratory birds and raptors within the project area. The pre-construction survey shall be conducted no more than 15 days prior to the initiation of construction in a given area. If an active nest is found, a construction-free buffer zone (250 feet for migratory birds, 500 feet for raptors) shall be established around the active nest site. If establishment of the construction-free buffer zone is not practicable, appropriate conservation measures (as determined by a qualified biologist and approved by CDFW) shall be implemented. These measures may include establishing a different construction-free buffer zone around the active nest site, conducting daily biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged. • If occupied western burrowing owl burrows, or other migratory bird nest are detected during the breeding season and maintaining a 250-foot no-disturbance buffer is not practicable, CDFW shall be consulted to determine and approve alternative measures to minimize the potential for disturbance to occupied burrows and nesting activities. Measures may include continuous biological monitoring by a qualified biologist until it has been determined that the	

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Issue Area	Impact Statement	Significance Prior to Mitigation Measures	Mitigation Measure	Significance After Mitigation Measures
			young have fledged or construction is complete. No direct disturbance of western burrowing owl burrows with eggs or young of any migratory bird can be conducted without written authorization from CDFW and USFWS. – If burrowing owls are detected outside of breeding season and maintaining a 150-foot, no-disturbance buffer from the burrows is not practicable, a qualified biologist shall submit an exclusion and passive-relocation plan to CDFW for approval. The exclusion and passive-relocation plan will generally follow the guidelines outlined in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).	
	3.3-2: Construction and operation of the proposed project could result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means.	PS	**Mitigation Measure 3.3-3: Protection of Jurisdictional Wetlands and Other Waters** Prior to construction, an aquatic resources delineation shall be conducted in all aquatic work areas and submitted to the U.S. Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (Regional Water Board) for verification. Wetlands and other waters of the United States, and waters of the state that would be removed, lost, and/or degraded shall be replaced, restored, or enhanced on a "no net loss" basis, in accordance with all permits secured from and related requirements imposed by the USACE and/or Regional Water Board.	LSM
	3.3-3: Construction and operation of the proposed project could 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.	LTS	None Required.	NA
	3.3-4: Construction and operation of the proposed project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	LTS	None Required.	NA
3.4 Cultural Resources	**3.4-1:** Construction and operation of the proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.	PS	**Mitigation Measure 3.4-1: Inadvertent Discovery of Archaeological Resources or Tribal Cultural Resources.** If pre-contact or historic-era archaeological resources are encountered during project implementation, all construction activities within 100 feet shall halt, and a qualified archaeologist shall inspect the find within 24 hours of discovery and notify SPUD of the initial assessment. Pre-contact archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include building or structure footings and walls, and deposits of metal, glass, and/or ceramic refuse. If SPUD determines, based on recommendations from a qualified archaeologist and a Native American representative (if the resource is pre-contact indigenous related), that the resource may qualify as a historical resource or unique archaeological resource (as defined in CEQA Guidelines Section 15064.5) or a tribal cultural resource (as defined in Public Resources Code [PRC]	LSM

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Issue Area	Impact Statement	Significance Prior to Mitigation Measures	Mitigation Measure	Significance After Mitigation Measures
			Section 21080.3), the resource shall be avoided if feasible. Consistent with Section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource, or incorporating the resource within open space, capping and covering the resource. If avoidance is not feasible, SPUD shall consult with appropriate Native American Tribes (if the resource is pre-contact indigenous related), and other appropriate interested parties to determine treatment measures to avoid, minimize, or mitigate any potential impacts to the resource pursuant to PRC Section 21083.2, and CEQA Guidelines Section 15126.4. This shall include documentation of the resource and may include data recovery (according to PRC Section 21083.2), if deemed appropriate, or other actions such as treating the resource with culturally appropriate dignity and protecting the cultural character and integrity of the resource (according to PRC Section 21084.3).	
	3.4-2: Construction and operation of the proposed project could disturb human remains, including those interred outside of dedicated cemeteries.	PS	**Mitigation Measure 3.4-2: Inadvertent Discovery of Human Remains.** If potential human remains are encountered, all work will halt within 100 feet of the find and SPUD will be contacted by on-site construction crews. SPUD will contact the Kings County coroner in accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission. As provided in PRC Section 5097.98, the Native American Heritage Commission will identify the person or persons believed to be the Most Likely Descendant. The Most Likely Descendent will make recommendations for the means of treating, with appropriate dignity, the human remains and any associated grave goods, as provided in PRC Section 5097.98.	LSM
3.5 Hydrology and Water Quality	**3.5-1:** Construction and operation of the proposed project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	LTS	None Required.	NA
	3.5-2: Construction and operation of the proposed project could substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	LTS	None Required.	NA
	3.5-3: Construction and operation of the proposed project could alter existing drainage patterns.	LTS	None Required.	NA
	3.5-4: Construction and operation of the proposed project in a flood hazard zone could risk releases of pollutants due to project inundation.	LTS	None Required.	NA
	3.5-5: Construction and operation of the proposed project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LTS	None Required.	NA

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Issue Area	Impact Statement	Significance Prior to Mitigation Measures	Mitigation Measure	Significance After Mitigation Measures
3.6 Transportation	**3.6-1:** Construction and operation of the proposed project could conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	LTS	None Required.	NA
	3.6-2: Construction and operation of the proposed project could result in inadequate emergency access.	LTS	None Required.	NA
3.7 Tribal Cultural Resources	**3.7-1:** Construction and operation of the proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074.	PS	Implement Mitigation Measures 3.4-1 and 3.4-2.	LSM

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CHAPTER 1
Introduction

1.1 Introduction

The Stratford Public Utility District (SPUD) has prepared this Draft Environmental Impact Report (Draft EIR) to evaluate the impacts of implementing the Sandridge Irrigation Pipeline Extension Project (proposed project). SPUD is the California Environmental Quality Act (CEQA) lead agency for the proposed project.

Sandridge Partners LP (Sandridge, the project proponent) owns and operates farms on over 65 percent of the farmland in the Stratford Irrigation District. Sandridge also operates in neighboring districts, including the Empire West Side Irrigation District, Lemoore Irrigation District, Jacobs Irrigation District, and John Heinlein Mutual Water Company. The proposed project aims to enhance the efficiency of irrigation water transportation, a crucial aspect of Sandridge's farming operations due to the challenges posed by subsidence in the region. The project's focus is on developing an approximately 5.5-mile irrigation water pipeline that efficiently conveys Sandridge irrigation water from northern to eastern and southwestern areas near Stratford within Kings County. Given the restrictions on new well development and water allocations, Sandridge has prioritized the irrigation of the most fertile soils, avoiding marginal lands. This approach necessitates moving water without significant evaporation loss, which is vital for sustainable farming. Part of construction of the pipeline required a 320-foot-long easement across SPUD property, hence SPUD's involvement as the CEQA lead agency.

The elements of the proposed project, including construction activities, construction timing, and operational considerations, are discussed in more detail in Chapter 2, *Project Description*.

1.2 Purpose of the Draft EIR

This Draft EIR has been prepared in conformance with CEQA (Public Resources Code [PRC] Section 21000 et seq.) and the *Guidelines for Implementing the California Environmental Quality Act* (CEQA Guidelines) (California Code of Regulations title 14, Section 15000 et seq.). As described in CEQA Guidelines Section 15121(a), an EIR is a public information document that objectively assesses and discloses potential environmental effects—in this case, the effects of the proposed project. CEQA requires that lead, responsible, or trustee agencies consider the environmental consequences of projects over which they have discretionary authority.

As the lead agency for the proposed project, SPUD will use the information in this Draft EIR to evaluate the proposed project's potential environmental impacts; determine whether any feasible

mitigation measures and alternatives are necessary and available to reduce potentially significant environmental impacts; and approve, modify, or deny approval of the proposed project.

1.3 Environmental Review and Approval Process

The preparation of an EIR involves multiple steps. The public is provided the opportunity to review and comment on the scope of the analysis, the content of the EIR, results and conclusions presented, and the overall adequacy of the document to meet the substantive requirements of CEQA. This section describes the steps in the environmental review process for the proposed project.

1.3.1 Notice of Preparation and Public Scoping Period

SPUD issued a notice of preparation (NOP) on Wednesday, December 20, 2023, to satisfy the requirements of CEQA and CEQA Guidelines Section 15082 (State Clearinghouse #2023120577). The purpose of the NOP is twofold: (1) to notify the public, responsible agencies, trustee agencies, the Governor's Office of Planning and Research, potentially affected public agencies, involved federal agencies, and tribes regarding SPUD's intent to prepare an EIR for the proposed project; and (2) to solicit input from the public and those agencies as to the scope and content of the environmental information to be included in the Draft EIR. Note that since the circulation of the NOP, the approximately 0.5 mile of existing canal on Sandridge-owned land that was proposed for replacement with three individual segments of pipeline have been revised to instead include one continuous pipeline approximately 2.3 miles in length with proposed crossings under Kent Avenue, Kansas Avenue, and State Route 41. The pipeline would have an approximately 10-foot area on either side for staging and construction activities and would have a total footprint of approximately 5.6 acres (as opposed to 1.3 acres of total footprint that was originally identified in the NOP); see Chapter 2, *Project Description*.

The issuance of the NOP began the 30-day public comment period, which closed at 5 p.m. on Friday, January 19, 2024. In accordance with PRC Section 21080.4(a) and CEQA Guidelines Section 15082(b), each responsible agency, trustee agency, and involved federal agency was requested to provide, in writing, the scope and content of the environmental information to be included in the Draft EIR related to its area of statutory responsibility. The NOP was also made available for review at the SPUD office at 19681 Railroad Street, Stratford, CA 93266, the Stratford Post office at 20340 Main Street, Stratford, CA 93266, and the Kings County Clerk's office.

Written comments were accepted throughout the 30-day public NOP comment period. Written comments were accepted via both U.S. Mail and email. Seven comment letters were received and are included in **Appendix A**, *Notice of Preparation*, which includes the NOP and the comment letters.

1.3.2 Notification of California Native American Tribes

Assembly Bill (AB) 52 requires lead agencies to notify California Native American tribes that are traditionally and culturally affiliated with the geographic area of an individual restoration project, if they have requested notice of projects proposed in that area. The Santa Rosa Rancheria Tachi Yokut Tribe reached out to SPUD to be consulted with on SPUD projects as per PRC

Sections 21080.3.1. A consultation letter about the proposed project was mailed to the Santa Rosa Rancheria Tachi Yokut Tribe on December 18, 2023, and emailed on December 20, 2023. No response was received within the 30-day time frame set forth by Public Resources Code (PRC) Section 21080.3.1 (b). According to PRC Section 21082.3 (d)(3), consultation is considered complete.

1.3.3 Draft EIR

This Draft EIR is available to federal, state, and local agencies and interested organizations and individuals who may want to review and comment on the adequacy of the analysis. Publication of the Draft EIR marks the beginning of a 45-day public review period. The 45-day public review period for this Draft EIR is Wednesday, June 12, 2024, through 5:00 p.m. on Friday, July 26, 2024. During the public review period, written comments should be postmarked by Friday, July 26, 2024, and mailed or emailed to:

> Stratford Public Utility District, 19681 Railroad Street, Stratford, CA 93266
> Email: stratfordpud@gmail.com

Please use "Sandridge Irrigation Pipeline Extension Project EIR Comments" in the subject line. Please also include the name of a contact person if submitting comments on behalf of an agency, tribal group, or organization. All comments received, including names and addresses, will become part of the official administrative record and may be available to the public.

A Notice of Availability for the Draft EIR was made available at the Kings County Clerk's office and posted at the SPUD office and the Stratford Post office. The Draft EIR is available for review at SPUD's office at 19681 Railroad Street, Stratford, CA 93266.

1.3.4 Final EIR and Mitigation Monitoring and Reporting Program

Written and verbal comments received on the Draft EIR during the public review period will be addressed in a response to comments document that, together with the Draft EIR and any changes to the Draft EIR made in response to comments received, will constitute the Final Environmental Impact Report (Final EIR). The Draft EIR and Final EIR together will compose the EIR for the proposed project.

As part of the approval process, SPUD will prepare and adopt a mitigation monitoring and reporting program, as required by PRC Section 21081.6(a), for any mitigation measures in this Draft EIR.

1.3.5 Approval Process

Under CEQA Guidelines Section 15090(a), SPUD must certify that the EIR has been completed in compliance with CEQA; that SPUD has reviewed and considered the information in the EIR; and that the EIR reflects SPUD's independent judgment and analysis.

CEQA requires SPUD to adopt appropriate findings as part of the approval of the proposed Guidelines, as set forth in CEQA Guidelines Section 15091. Under CEQA Guidelines Section 15092, a lead agency may approve or carry out a project subject to an EIR only if it determines the following:

- The project will not have a significant effect on the environment. OR
- The agency has eliminated or substantially lessened all significant effects on the environment where feasible. AND
  - Any remaining significant effects on the environment that are found to be unavoidable are acceptable due to overriding considerations, in which case it will adopt a statement of overriding considerations pursuant to CEQA Guidelines Section 15093.

After certification of the EIR, SPUD will file a notice of determination in compliance with CEQA Guidelines Section 15094.

1.3.6 Trustee and Responsible Agencies

A "trustee agency" under CEQA is a public agency having jurisdiction by law over natural resources that may be affected by a project that are held in trust for the people of the state of California. In addition, under CEQA, "responsible agencies" are state and local public agencies, other than the lead agency, which have the authority to carry out or approve a project or are required to approve a portion of the project for which a lead agency is preparing or has prepared an EIR.

1.4 Scope of the EIR

The EIR will analyze potentially significant impacts that may result from implementation of the proposed project. The EIR will evaluate a range of environmental issues contemplated for consideration under CEQA and the CEQA Guidelines including:

- Air Quality/Greenhouse Gas Emissions
- Biological Resources
- Cultural Resources
- Hydrology and Water Quality
- Transportation
- Tribal Cultural Resources
- Cumulative Impacts

Environmental issues not contemplated for consideration due to the determination that there will be no impact or less-than-significant impacts (without mitigation) from the proposed project are discussed in Section 3.1.2, *Environmental Issues Not Requiring Further Analysis*, and this Draft EIR does not evaluate these topics further.

1.5 Organization of the Draft EIR

This Draft EIR is organized as follows:

- **Executive Summary:** The Executive Summary provides a summary of the Draft EIR.
- **Chapter 1, *Introduction*:** This section provides a brief summary of the proposed project, the CEQA environmental review and approval process, the scope of the EIR, and the organization of this Draft EIR.
- **Chapter 2, *Project Description*:** This chapter describes the proposed project, including background on the proposed project, objectives of the proposed project per CEQA, and the project site. This chapter also describes the construction and operations and maintenance aspects of the proposed project, and the anticipated required permits and approvals.
- **Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*:** The resource sections in this chapter evaluate the potential environmental impacts of the proposed project. Each section of Chapter 3 describes the existing environmental conditions (environmental setting), existing relevant regulations (regulatory setting), thresholds of significance, and analysis methodology and assumptions. Each resource section then evaluates anticipated changes to existing environmental conditions resulting from the proposed project. For any potentially significant impact that could result, mitigation measures are presented, and the significance level with implementation of mitigation measures is determined.
- **Chapter 4, *Cumulative Impacts*:** This chapter describes the CEQA requirements for cumulative impacts, the geographic scope and time frame for the cumulative analysis, the existing conditions context for past activities, related projects and plans, and cumulative impact analysis.
- **Chapter 5, *Other CEQA Considerations*:** This chapter describes the significant unavoidable impacts and significant irreversible environmental changes, if applicable.
- **Chapter 6, *Project Alternatives*:** This chapter describes the CEQA requirements for alternatives, alternatives to the proposed project, and alternatives eliminated from detailed analysis; provides a comparative analysis of impacts from the alternatives to the proposed project (greater than, equal to, or lesser than); and identifies the environmentally superior alternative.
- **Chapter 7, *List of Preparers*:** This chapter lists the individuals who helped to prepare this Draft EIR and identifies the qualifications and affiliations of those individuals.
- **Chapter 8, *References*:** This chapter identifies the references used as sources of information in this Draft EIR.
- **Appendices** contain information that support the analyses presented in this Draft EIR.

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CHAPTER 2
Project Description

2.1 Background

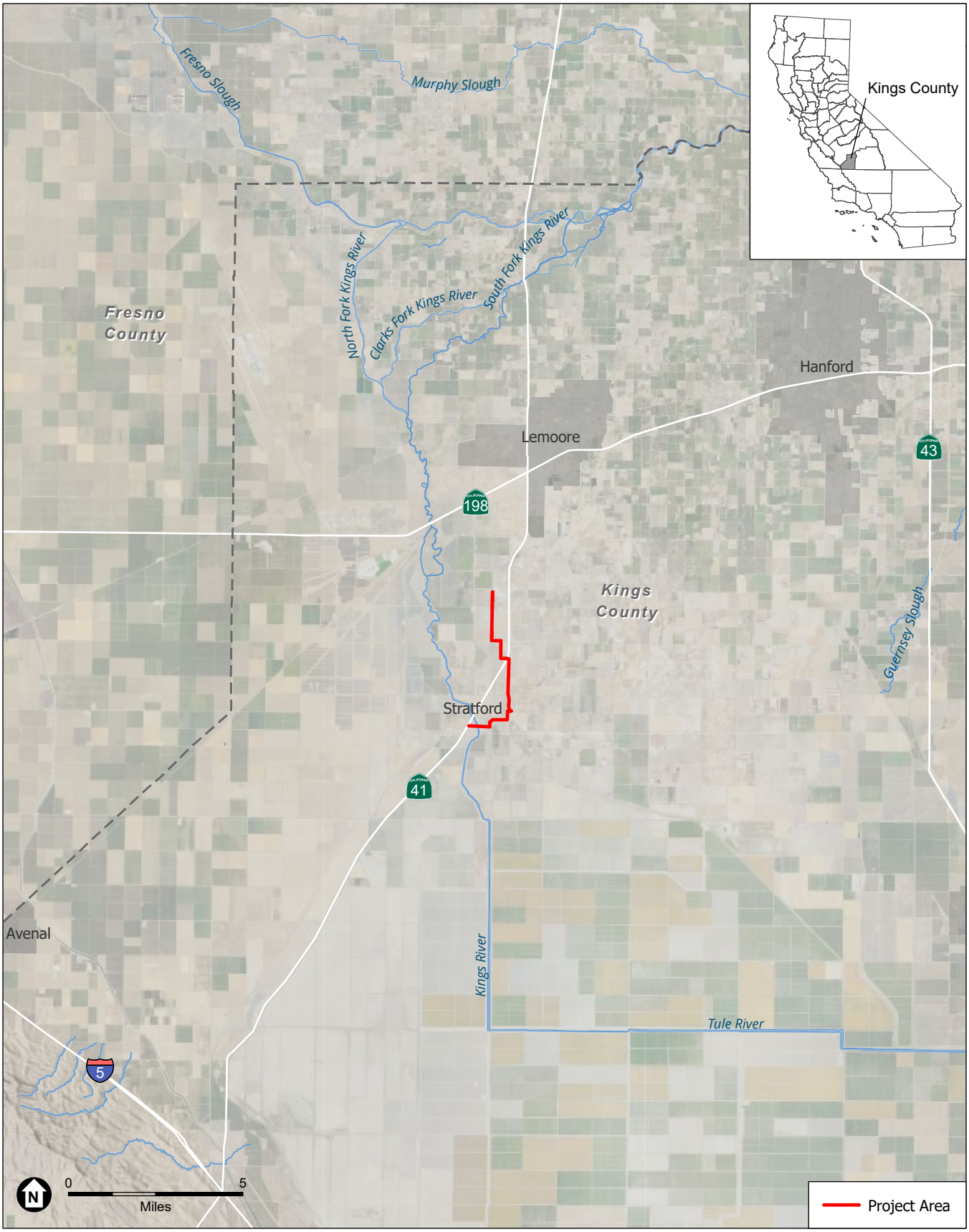
In Fall 2021, Sandridge Partners LP (Sandridge) began construction of an approximately 5.5-mile, 48-inch diameter irrigation water pipeline that would connect to and from existing Sandridge water distribution systems in Kings County, California (**Figure 2-1**). Approximately 2.4 miles of the pipeline between State Route 41 and the north side of the Tulare Lake Canal, as well as approximately 0.8 mile of pipeline from the south side of the Tulare Lake Canal to Blakely Canal were constructed between Fall of 2021 and March 2022. It is estimated that the installation of these pipeline sections had a 10-foot area on either side for staging and construction activities, with a total footprint of approximately 7.7 acres.

Construction required a 320-foot-long by 20-foot-wide right-of-way easement across the southeast corner of property owned by the Stratford Public Utility District (SPUD) (Assessor's Parcel Numbers [APNs] 026-132-013-000 and 026-132-019-000). The SPUD Board of Directors considered the Sandridge easement request at its October 6, 2021, special meeting and at its October 13, 2021, regular meeting. Before each of these meetings, SPUD provided notice of the meeting date, time, and location, as well as a meeting agenda, which included the Sandridge easement request. SPUD granted Sandridge the right-of-way easement in October 2021.

Construction activities were put on hold after a legal challenge to SPUD's grant of the easement was filed by the Tulare Lake Canal Company (TLCC) alleging that SPUD failed to comply with the California Environmental Quality Act (CEQA). TLCC obtained a temporary restraining order preventing further project construction and use in March 2022, which remains in place pending resolution of the CEQA litigation.

2.2 Objectives of the Proposed Project

CEQA requires that an EIR contain a "statement of the objectives sought by the proposed project." Under CEQA, "[a] clearly written statement of objectives will help the Lead Agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations. The statement of objectives should include the underlying fundamental purpose of the project" (CEQA Guidelines Section 15124[b]).



SOURCE: esri, 2024; ESA, 2024

Sandridge Irrigation Pipeline Extension Project

Figure 2-1
Regional Location

ESA

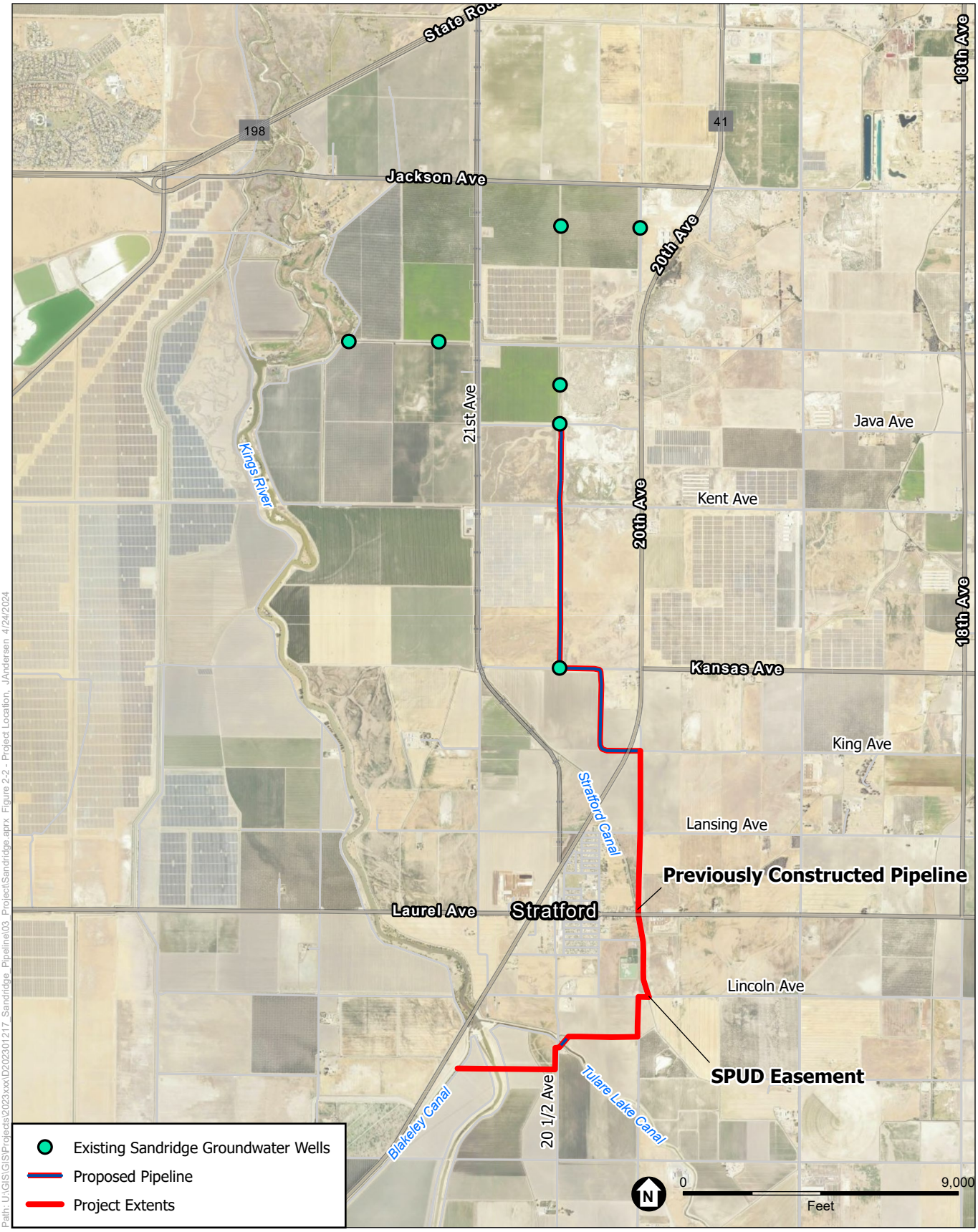
The primary objective of the proposed project is to transport irrigation water to Sandridge's farmland east and southwest of Stratford. The project would also reduce evaporative water losses compared to the current water conveyance methods, thereby improving irrigation efficiency on Sandridge's agricultural lands. Sandridge currently sources its irrigation water via existing Sandridge-owned wells located north of Stratford (the well locations are shown on **Figure 2-2**). These irrigation water supplies are primarily conveyed through canals, as well as existing pipelines located to the east of the approximately 5.5 miles of pipeline associated with the proposed project. The proposed project would use High-Density Polyethylene (HDPE) pipes to convey water from northern to eastern and southwestern areas near Stratford within Kings County and enhance efficiency by reducing water loss due to sandy soil perching and evaporation by 10 to 25 percent. The southern Stratford region, characterized by a layer of sand over clay, poses challenges of water perching in sand streak sections. The new pipeline system would reduce potential pollution risks by preventing the mixing of irrigation water with local salts or sewage water, thereby optimizing water management for Sandridge.

Specific project objectives and benefits of the proposed project include:

- Develop and extend Sandridge irrigation conveyance system to more efficiently transport water from northern farmland wells to eastern and southwestern farmland owned by Sandridge near Stratford.
- Integrate the extended pipeline with Sandridge's existing water transportation infrastructure.
- Deliver irrigation water to Sandridge's fertile soil farmland south of Stratford in Kings County where water is scarce.
- Avoid significant evaporation loss in a canal-based irrigation water transportation system.
- Avoid water perching and prevent the mixing of irrigation water with local salts and/or pollutants.
- Enhance the efficiency of irrigation water transportation.
- Address irrigation and water transportation challenges posed by subsidence in the region.
- Improve overall safety of Sandridge's water conveyance system.

2.3 Project Location

The proposed project is located in northwest Kings County, California (Figure 2-1). The approximately 5.5 miles of pipeline associated with the proposed project begins approximately 2 miles south of the City of Lemoore, in the vicinity of Java Avenue directly west of State Route 41 and includes pipeline that would replace existing ditches that run south for approximately 2 miles before crossing State Route 41 near King Avenue. The pipeline runs east for approximately 450 feet before turning south along 20th Avenue for approximately 1 mile, eventually crossing Laurel Avenue. It then runs south along the Stratford Canal for about 0.5 mile before turning west, crossing the canal, and running along Lincoln Avenue for approximately 280 feet.



SOURCE: CA DWR 2023; ESA, 2024

Sandridge Irrigation Pipeline Extension

Figure 2-2
Project Location

ESA

Subsequently, it turns south, running along 20th Avenue for about 0.25 mile, and further west along an existing canal for around 0.5 mile, where it turns southwest and crosses the Tulare Lake Canal. It continues south for approximately 700 feet before turning west for approximately 0.4 mile, crossing the Kings River Canal, and terminating at Blakely Canal (Figure 2-2).

The entire pipeline route is located on Sandridge properties, with the exception of the State Route 41 crossing, a 320-foot-long by 20-foot-wide easement across SPUD property, and crossings of several Kings County rural streets, the Stratford Canal, the Kings River Canal, and the Tulare Lake Canal easement.

The 320-foot-long by 20-foot-wide right-of-way easement across the southeast corner of SPUD property ("Lot A" and "Lot 107") is located adjacent to Lincoln Avenue and the Stratford Canal. Lot A is approximately 2.9 acres and Lot 107 is approximately 20.3 acres. Lot A and Lot 107 are designated "Public" on the Stratford Community Plan Land Use Map and designated "PF" (Public/Quasi-Public) on the Kings County General Plan Land Use Map. Lot A and Lot 107 are zoned "PF" (Public Facility). Lot A is currently unimproved with no significant grade and is similar in character to adjacent open space land to the south and west. The northern half of Lot 107 is improved with water treatment ponds owned and operated by SPUD. The southern half of Lot 107 is unimproved, other than a monitoring well, with no significant grade and is similar in character to Lot A and adjacent open space land. The easement runs east to west and crosses a portion of Lot 107, Lot A, and vacated Aqua Vista Street (also known as Canal Street), all of which are SPUD property. The easement is in the same general vicinity of an existing 24-inch diameter irrigation pipeline, also owned by Sandridge.

Water from the pipeline would be used to irrigate approximately 3,200 acres of existing Sandridge farmlands located south of SR 198/Jackson Avenue along the SR 41 corridor, east of Kings River and surrounding the Stratford area in Kings County, within the Tulare Lake Subbasin.

2.4 Proposed Project

The proposed project encompasses construction of an approximately 5.5-mile long, underground 48-inch irrigation water pipeline that would connect to and from existing Sandridge water distribution systems and replace existing open irrigation ditches. The proposed project includes segments that are both constructed (approximately 3.2 miles) and yet to be constructed (approximately 2.3 miles); these segments collectively comprise the proposed project (approximately 5.5 total miles of pipeline). The proposed project is designed to integrate with existing Sandridge water conveyance systems (i.e., pipelines and canals).

2.4.1 Construction Activities

New Proposed Construction

New construction would involve the installation of a 48-inch diameter HDPE pipeline approximately 200 feet across the Tulare Lake Canal, controlled by Tulare Lake Canal Company (TLCC) and accessed on Sandridge-owned land with a 120-foot right-of-way held by TLCC for

the canal. The pipeline would be installed approximately 4 feet below the channel of the Tulare Lake Canal (with the pipeline trench approximately 4 feet below the pipeline). The pipeline is designed so that when installation of the pipeline and restoration of the canal is complete, the pipeline would not interfere with the canal's transportation of water or otherwise affect the integrity of the earthen canal.

Proposed activity in the vicinity of Tulare Lake Canal would take place when water flow in the canal is minimal (e.g., the non-irrigation season) and would take approximately five days to complete; therefore, up to a five-day interruption in TLCC services are expected. The minimal flows in Tulare Lake Canal would be diverted across or around the installation activity and routed back to the canal or dammed during the pipe installation process. The canal would be crossed either by using an excavator to dig an approximately six-foot-wide open cut trench across the canal deep enough to lay the pipe and covering the pipe and trench with a slurry topping. The top would be compacted with the dirt/clay removed from the open cut trench.

New construction would also involve the replacement of approximately 2.3 miles of existing canal that experiences significant water loss due to evaporation on Sandridge-owned land located north of Kent Avenue and south of Jersey Avenue near Stratford to State Route 41. Installation of the new pipeline would require crossings under Kent Avenue, Kansas Avenue, and State Route 41. The pipeline would be installed at a depth of approximately 3.5 to 4 feet below the surface and the pipeline trench would be approximately 4 feet below the bottom of the pipe. The pipeline would have an approximately 10-foot area on either side for staging and construction activities and would have a total footprint of approximately 5.6 acres (including approximately 2.2 acres of surface disturbance area).

Construction Equipment for New Proposed Construction

Construction equipment needed for the new construction includes an excavator, a tractor with a bulldozer blade, and a tunnel boring machine (for the bore under State Route 41. Construction equipment would originate approximately 60 miles away and construction equipment would be left at the construction site on Sandridge property overnight.

Construction Timing and Personnel for New Proposed Construction

Approximately six construction employees originating approximately 60 miles away) are needed to complete construction of the approximately 2.3 miles of new pipeline. Construction under the Tulare Lake Canal would take place on a over five working days (minimum 8 hours but may be longer if needed to complete work in five days). Construction for the pipe and replacement of canal north of Kent Avenue and south of Jersey Avenue to State Route 41 would take approximately two weeks to complete. No nighttime work is proposed.

Previously Completed Construction

The previously constructed sections of the proposed project encompass approximately 2.4 miles of underground 48-inch diameter HDPE pipeline installed at a depth of approximately 3.5 to 4 feet below the surface of the existing canal between State Route 41 and the north side of the Tulare Lake Canal, as well as approximately 0.8 mile of 48-inch diameter HDPE pipeline

installed below the existing canal from the south side of the Tulare Lake Canal to Blakely Canal (design details of previously constructed sections are provided in **Appendix B**). This included crossings under Lincoln Avenue, 20 ½ Avenue, 21st Avenue, Laurel Avenue, Lansing Avenue, 20th Avenue, Stratford Canal, and Kings River Canal. It is estimated that the installation of these pipeline sections included a 10-foot area on either side for staging and construction activities, with a total footprint of approximately 7.7 acres.

Construction Equipment for Previously Completed Construction

Construction equipment used for the previously constructed sections included an excavator, tractor with bulldozer blade, a grader, light duty crane. Construction equipment originated in Strathmore and construction equipment was left at the construction site on Sandridge property overnight.

Construction Timing and Personnel for Previously Completed Construction

Construction activities associated with the approximately 3.2 miles of the pipeline occurred between Fall of 2021 and March 2022. Approximately six construction employees originating from Strathmore completed the previous construction activities over the 9-month period.

2.4.2 Operations and Maintenance

Operation of the proposed project would involve the transport of groundwater supplies from seven existing Sandridge groundwater wells located north of Stratford (see Figure 2-2) (in addition to any residual runoff that flows into the open sections of Sandridge irrigation canals) to irrigate approximately 3,200 acres of existing Sandridge-owned farmlands located in the vicinity of Stratford within Kings County. Irrigated crops include alfalfa, cotton, pistachio, raisins, and wheat. Any residual water in the pipeline after the irrigation season would be released into Blakely Canal. The capacity of the pipeline and maximum amount of water that would be pumped is 38 cubic feet per second, or about 20.4 million gallons per day. The proposed project would not result in an increase in groundwater pumping or surface water use and would result in the availability of additional irrigation water supply relative to existing conditions as a result of reduced water loss due to soil percolation and evaporation. It is not proposed that the additional water be used to expand operations for either Sandridge or other farms.

Minimal maintenance activities are anticipated in support of the pipeline. Activities may be similar to or less frequent than existing conditions for canal maintenance (as maintenance of an open canal system requires manpower and equipment annually and conversion of open canals to pipelines results in less maintenance and equipment needs) and may include activities such as inspecting and performing repairs and flushing accumulated sediment as needed to ensure that the pipeline is functioning properly. Underground HDE pipe is expected to have a lifespan of 100 years.

2.5 Anticipated Required Permits and Approvals

As the lead agency, SPUD has principal responsibility for approving and carrying out the proposed project and for ensuring that the requirements of CEQA, the State CEQA Guidelines,

and other applicable regulations are met. The following regulatory agencies may have permitting approval or review authority over portions of the proposed project:

- **Kings County Department of Public Works**: Encroachment permits for the proposed crossings under Kent Avenue and Kansas Avenue; encroachment permits were granted for work that occurred in February and March 2022 within the County right-of-way on Lincoln Avenue (Permit ID# I-01-22 and I-04-22), 20 ½ Avenue (Permit ID# I-02-22), 21st Avenue (Permit ID# I-03-22), Laurel Avenue (Permit ID# I-05-22), Lansing Avenue (Permit ID# I-06-22), and 20th Avenue (Permit ID# I-07-22)
- **Stratford Public Utility District**: A 320-foot-long by 20-foot-wide right-of-way easement was granted to Sandridge across APNs 026-132-013-000 and 026-132-019-000 in October 2021
- **Stratford Irrigation District**: Permission for the past routing of the pipeline under Stratford Canal
- **TLCC**: Permission for the proposed construction of approximately 200 feet of the pipeline under the Tulare Lake Canal, controlled by TLCC and accessed on Sandridge-owned land with a 120-foot canal easement held by TLCC
- **California Department of Transportation (Caltrans)**: Encroachment permit for the routing of the pipeline under State Route 41
- **California Department of Fish and Wildlife**: California Fish and Game Code Section 1602 streambed alteration agreement and California Endangered Species Act consultation
- **California Office of Historic Preservation**: National Historic Preservation Act Section 106 consultation
- **Central Valley Regional Water Quality Control Board**: Clean Water Act Section 401 water quality certification or Report of Waste Discharge
- **U.S. Army Corps of Engineers**: Federal Clean Water Act Section 404 permit

CHAPTER 3
Environmental Setting, Impacts, and Mitigation Measures

3.1 Approach to the Analysis

3.1.1 Introduction and Approach to the Environmental Analysis

As discussed in Chapter 2, *Project Description*, the proposed project includes segments that are both constructed (approximately 3.2 miles) and yet to be constructed (approximately 2.3 miles); these segments collectively comprise the proposed project (approximately 5.5 total miles of pipeline). Operation of the proposed project would involve the transport of groundwater supplies from seven existing Sandridge groundwater wells located north of Stratford (in addition to any residual runoff that flows into the open sections of Sandridge irrigation canals) to irrigate Sandridge-owned farmlands within Kings County. Any residual water in the pipeline after the irrigation season would be released into Blakely Canal.

The environmental setting and regulatory setting descriptions provide a point of reference for assessing the environmental impacts of the proposed project. CEQA Guidelines section 15125 states that an EIR must include a description of the physical environmental conditions in the vicinity of the project, and that generally the lead agency should describe the physical environmental conditions as they exist at the time the NOP is published from a local and regional perspective (existing conditions). Where necessary to provide the most accurate picture practically possible of the project's impacts (for example, for the proposed project, the previously constructed sections), a lead agency may define existing conditions by referencing historic conditions, supported with substantial evidence. In general, the environmental baseline is the same as the existing on-the-ground conditions when environmental review begins. Some segments of the pipeline alignment were constructed between the Fall of 2021 and March 2022. No change in the baseline condition has occurred since the issuance of the temporary restraining order in March 2022; therefore, this Draft EIR uses an environmental baseline date of December 20, 2023 (i.e., the date the NOP is published).

This section discusses the resource topics that would have no effect or less-than-significant effect (without mitigation) from the proposed project. It also presents the structure of the resource topics for which additional analysis is provided.

3.1.2 Environmental Issues Not Requiring Further Analysis

Aesthetics

The proposed project is not located near any designated state scenic highways. The project site is not located on a prominent hillside, on a major or minor ridgeline, or within a scenic vista. Further, the proposed pipeline would be entirely underground, and new construction would only result in minimal above-ground disturbance over approximately 12 days. Therefore, the proposed project would have a less-than-significant impact on scenic vistas, state scenic highways, and the existing visual character or quality of public views of the site and its surroundings. The proposed project would not involve nighttime activity or introduce a new source of substantial light or glare. Therefore, the proposed project would have a **less-than-significant impact** on aesthetics and this resource is not discussed further.

Agriculture and Forestry

The proposed pipeline would reduce evaporative water losses compared to the current water conveyance methods, thereby improving irrigation efficiency on Sandridge's agricultural lands. The underground proposed pipeline would be located on parcels that are zoned General Agricultural District-20 Acre (AG20), General Agricultural District-40 Acre (AG40), Downtown Mixed Use (MU-D), Single-family/Low Density (R-1-20), Specialty Agriculture (A-JR), and the proposed project would not require the removal of agricultural land or convert the project site to nonagricultural use. Therefore, the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract. The project site does not contain forest land, and the proposed project would not convert any forest land to nonforest use. Therefore, the proposed project would have a **less-than-significant impact** on agriculture and forestry resources and this resource is not discussed further.

Energy

Construction activities and corresponding fuel energy consumption associated with construction of the proposed project would be temporary and localized. In addition, the proposed project has no unusual characteristics that would cause equipment or haul vehicles to be less energy efficient than when used at other similar agricultural construction sites in Kings County. Once construction is complete, equipment and energy use would be comparable to existing levels. The proposed project would not include any unusual maintenance activities that would cause a significant difference in energy efficiency compared to the surrounding developed land uses. Thus, the proposed project would not result in wasteful, inefficient, or unnecessary use of energy. The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency or impede progress toward achieving goals and targets. The proposed project would have a **less-than-significant impact** on energy and this resource is not discussed further.

Geology and Soils

The project site is located in a moderately active seismic area; however, the risk of ground failure as a result of fault rupture is considered low because no active faults are known to cross the project site. The majority of the project site is located in a highly disturbed landscape.

Construction of the proposed project would not introduce new structures or features that could result in substantial soil loss or the loss of topsoil; result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse in unstable soils; or directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Construction and operation and maintenance activities would not result in substantial soil erosion or loss of topsoil, and new features would not require extensive construction or soil excavation, given the limited size and scale of the proposed project. The proposed project could be subject to an NPDES permit requiring the preparation and implementation of a SWPPP, which would include BMPs designed to control and reduce soil erosion. In addition, given the small footprint of proposed project, the nearly seismically inactive area, and the fact that the project site is not located in or near areas at risk for landslides, any impacts related to the risk of loss, injury, or death due to fault rupture, strong seismic ground shaking, seismic-related ground failure, or landslides would not be significant. In addition, because the excavation required for the proposed project would be minor, the potential to destroy a unique paleontological resource or a unique geologic feature would be minimal. The proposed project would have a **less-than-significant impact** on geology and soils and this resource is not discussed further.

Hazards and Hazardous Materials

Much of the land adjacent to the project site and in the larger project area is agricultural land. Current and past land use activities are potential indicators of hazardous materials storage and use. Construction and operation of the proposed project would not involve the routine transport, use, or disposal of hazardous materials that, if released, could create a hazard to the public or the environment, or within one-quarter mile of a school; could be located on a hazardous materials site; could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or could expose people or structures to loss, injury, or death involving wildland fires.

Cal/OSHA is responsible for developing and enforcing workplace safety standards, including the handling and use of hazardous materials. Transport of hazardous materials is regulated by the U.S. Department of Transportation and Caltrans. Together, federal and state agencies determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of accidental release of hazardous materials. The use of any hazardous materials would be subject to BMPs and would not result in reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The proposed project would have a **less-than-significant impact** on hazards and hazardous materials and this resource is not discussed further.

Land Use and Planning

The project area comprises primarily agricultural and rural residential land uses. Construction and operation of the proposed project would not introduce new structures and features that could cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The proposed project is consistent with land uses in the project area (primarily agricultural and rural residential) and would serve agricultural interests. The proposed project would have a **less-than-significant impact** on land use and planning and this resource is not discussed further.

Mineral Resources

The project site does not contain mineral resources and is not located in an area identified in the Kings County General Plan as containing mineral resources. Therefore, the proposed project would have **no impact** on mineral resources and this resource is not discussed further.

Noise

The project area comprises primarily agricultural and rural residential communities. Construction of the proposed project would temporarily contribute to the noise environment but would not expose nearby sensitive receptors to noise levels in excess of the applicable noise standards or generate temporary groundborne vibration or groundborne noise levels. The proposed project would have a **less-than-significant impact** on noise and this resource is not discussed further.

Population and Housing

The proposed project includes construction activities; however, these activities would be limited in size and duration and would require nominal construction personnel. Furthermore, operation and maintenance activities would not be anticipated to result in the need for new employees over current conditions. Because of the limited amount of work that would be required during construction, and because the proposed project would not require a substantial workforce, no new homes, businesses, or public roads would be constructed, and the proposed project would not have a significant effect on the local workforce. Furthermore, the proposed project would not result in the demolition of homes or displacement of people, necessitating replacement homes elsewhere.

As stated in Section 2.4.2, *Operations and Maintenance*, operation of the proposed project would involve the transport of water supplies from existing Sandridge water distribution systems to irrigate Sandridge-owned farmlands within Kings County. However, population in the project area would develop consistent with the overall framework for growth and development planned in the existing General Plan for the project area (see Section 5.3, *Growth Inducing Impacts*, for a discussion of potential for direct or indirect unplanned population growth as a result of the proposed project). Therefore, the proposed project would not remove an impediment to growth or result in population beyond that planned by local jurisdictions.

For these reasons, the proposed project would not displace existing people or housing. Therefore, **no impact** related to population and housing would occur and this resource is not discussed further.

Public Services

As discussed in the *Population and Housing* section above, the proposed project would not involve construction of new facilities, housing, or other land uses that could increase the local population that could result in demand for governmental facilities and services, such as fire protection, police protection, schools, or parks over those that currently exist. Therefore, the

proposed project would not affect response times or other performance objectives for public services and would not require construction of new or altered facilities that could result in a significant environmental impact. For these reasons, **no impact** on public services would occur and this resource is not discussed further.

Recreation

As discussed in the *Population and Housing* section above, the proposed project would not involve an increase in population compared to current population. Therefore, there would be no increased use of recreational facilities that could result in a substantial deterioration or the need to construct new or expand existing recreational facilities. For these reasons, **no impact** on recreation would occur and this resource is not discussed further.

Utilities and Service Systems

The proposed project would not create a need to construct new or modified utilities and service systems. Further, the proposed project would not result in the construction or expansion of a water or wastewater treatment facility; the project would not generate wastewater, and the proposed pipeline would carry irrigation water from existing groundwater wells (in addition to any residual runoff that flows into the open sections of Sandridge irrigation canals). The proposed project would not result in an increase in groundwater pumping or surface water use and would result in the availability of additional irrigation water supply relative to existing conditions as a result of reduced water loss due to soil percolation and evaporation. It is not proposed that the additional water be used to expand operations for either Sandridge or other farms. Construction and operation of the proposed project would produce minimal solid waste; therefore, the proposed project would not adversely affect the capacity of the nearest landfill. The proposed project would have a **less-than-significant impact** on utilities and service systems and this resource is not discussed further.

Wildfire

Project construction and operation would not require any road closures, and existing roads would continue to provide adequate emergency access to the project site and project area. The proposed project would not impair an adopted emergency plan or emergency evacuation plan. Project construction would require the presence of some vehicles and heavy equipment that could spark and ignite flammable vegetation. During construction, the risk would be temporary because of the short duration of construction (approximately 7 days for remaining activities). Operations and maintenance activities would be similar to activities already occurring in the project area. There are no buildings or residences on the project site and the proposed project would not construct any buildings or residences; therefore, the project would not expose people or structures to significant wildfire risks.

The project area generally has a low potential for wildfire and the topography in the area is generally level. The project area is not located in a Fire Hazard Severity Zone in State Responsibility Areas. As such, there are no areas in or near very high Fire Hazard Severity Zones, which are the focus of the wildfire analysis in Appendix G of the CEQA Guidelines. Further, the proposed project would not involve the construction or habitation of occupied structures that

could be exposed to wildfire risks. The proposed project would have a **less-than-significant impact** on wildfire and this resource is not discussed further.

See the *Hazards and Hazardous Materials* section above for additional information on exposure of people or structures to potential risk involving fires.

3.1.3 Resource Topics Evaluated in the Draft EIR

This Draft EIR evaluates the physical environmental effects that have the potential to be affected by the proposed project for the following resource topics:

- Section 3.2, *Air Quality and Greenhouse Gas Emissions*
- Section 3.3, *Biological Resources*
- Section 3.4, *Cultural Resources*
- Section 3.5, *Hydrology and Water Quality*
- Section 3.6, *Transportation*
- Section 3.7, *Tribal Cultural Resources*

3.1.4 Resource Section Format

Each of the resource topics addressed in this chapter describes the environmental setting, regulatory setting, methods of analysis, thresholds of significance, and impact analysis. Where required, potentially feasible mitigation measures are identified to lessen or avoid significant impacts.

The manner in which the environmental setting is described varies by resource area. The regulatory setting discussion presents relevant information about federal, State, regional, and/or local laws, regulations, plans, or policies that pertain to the environmental resources addressed in each section. Following the regulatory setting is the discussion of impacts and mitigation measures. Within this discussion, a methods of analysis description presents the analytical methods and key assumptions used in the evaluation of the proposed project. This is followed by the thresholds of significance, which identify the standards used to determine the significance of effects of the proposed project. The thresholds of significance used for this analysis were derived from Appendix G of the CEQA Guidelines.

Any effects for a resource topic determined to not be impacted by the proposed project (i.e., no impact) are discussed under *Impacts Not Evaluated Further*. The impacts and mitigation measures portion of each section includes impact statements, prefaced by a number in **boldfaced** type. An explanation of each impact is followed by a statement of significance. The subsection then includes any applicable mitigation measure(s) that would reduce an impact to a less-than-significant level and a statement of significance after mitigation.

Cumulative impacts are discussed in Chapter 4 of this Draft EIR. Chapter 5, *Other CEQA Considerations*, addresses growth-inducing impacts, significant unavoidable impacts on the

environment, and significant irreversible environmental changes. Chapter 6, *Project Alternatives*, discusses a range of reasonable alternatives to the proposed project.

3.1.5 Definitions of Terms Used in this Draft EIR

This Draft EIR uses a number of terms that have specific meaning under CEQA. Among the most important of the terms used are those that refer to the significance of environmental impacts. The following terms are used to describe environmental effects of the proposed project:

- **Thresholds of Significance:** A set of criteria used by the lead agency to determine the level or threshold at which an impact would be considered significant. Standards of significance used in this Draft EIR include those standards provided in Appendix G of the CEQA Guidelines. In determining the level of significance, the analysis assumes that the proposed project would comply with relevant existing federal, state, and local regulations and ordinances.
- **Potentially Significant Impact:** The level of significance identified for an impact of the proposed project that may cause a substantial adverse change in the environment, depending on certain unknown conditions related to the proposed action or the affected environment. Potentially significant impacts are identified by comparing the evaluation of a project-related physical change to specified significance criteria.
- **Less-than-Significant Impact:** The level of significance identified when the physical change caused by the proposed project would not exceed the applicable significance criterion.
- **Significant and Unavoidable Impact:** The level of significance identified if the proposed project would result in a substantial adverse physical change in the environment that cannot be feasibly avoided or mitigated to a less-than-significant level.
- **Mitigation Measure:** An action that could be taken that would avoid or reduce the magnitude of a significant impact. CEQA Guidelines Section 15370 defines mitigation as:
  - Avoiding the impact altogether by not taking a certain action or parts of an action;
  - Minimizing impacts by limiting the degree of magnitude of the action and its implementation;
  - Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
  - Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
  - Compensating for the impact by replacing or providing substitute resources or environments.

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3.2 Air Quality and Greenhouse Gas Emissions

3.2.1 Introduction

This section addresses air quality and greenhouse gas (GHG) emissions in the project area and potential effects that could occur as a result of the proposed project. The environmental setting and evaluation of impacts on air quality is based on the review of relevant air quality management plans and nonattainment status of criteria pollutants and provides a quantitative assessment of the emissions associated with the proposed project. The environmental setting and evaluation of impacts on GHG emissions and climate change is based on the review of state climate change legislation, relevant air pollution control district programs, and GHG emissions thresholds and provides a quantitative assessment of the emissions associated with the proposed project.

Comments specifically addressing air quality were received from Tulare Lake Canal Company in response to the NOP and request that air quality impacts from construction related emissions be evaluated. See **Appendix A** for NOP comment letters.

3.2.2 Environmental Setting

Air Quality

Air quality in California is regulated by the U.S. Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and locally by the Air Pollution Control Districts (APCD) or Air Quality Management Districts (AQMDs). The San Joaquin Valley Air Pollution Control District (SJVAPCD) regulates air quality within the project area and provides the *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI) (SJVAPCD 2015).

In the San Joaquin Valley Air Basin (SJVAB), ozone (O_3), inhalable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are pollutants of concern because ambient concentrations of these pollutants exceed the California Ambient Air Quality Standards (CAAQS). Additionally, ambient O_3 and $PM_{2.5}$ concentrations exceed the National Ambient Air Quality Standards (NAAQS), while carbon monoxide (CO) and PM_{10} concentrations recently attained the NAAQS and are designated maintenance. **Table 3.2-1** summarizes the attainment status for Kings County.

Sensitive receptors are locations where segments of the population susceptible to poor air quality, including children, elderly, and people with preexisting health problems, may reside or inhabit. Examples of sensitive receptors include residences, schools, daycare centers, and nursing homes. There are no sensitive receptors surrounding or near the project area.

Table 3.2-2 summarizes the health effects associated with criteria air pollutants.

TABLE 3.2-1
STATE AND FEDERAL ATTAINMENT STATUS

County	O_3 CAAQS	$PM_{2.5}$ CAAQS	PM_{10} CAAQS	O_3 NAAQS	$PM_{2.5}$ NAAQS	PM_{10} NAAQS
Kings	N	N	N	N[1]	N[2]	M

NOTES:

1. 8-hour O_3 classification for the San Joaquin Valley, CA = extreme – nonattainment (2015 NAAQS)
2. $PM_{2.5}$ classification for the San Joaquin Valley, CA = moderate - nonattainment (2012 NAAQS)

KEY:

A = attainment (background air quality in the region is less than (has attained) the ambient air quality standards)
CO = carbon monoxide
M = maintenance (area formerly exceeded the ambient air quality standards (i.e., was designated nonattainment), but has since attained the standards)
N = nonattainment (background air quality exceeds the ambient air quality standards)
O_3 = ozone
PM_{10} = inhalable particulate matter
$PM_{2.5}$ = fine particulate matter

SOURCE: CARB 2023a

TABLE 3.2-2
CRITERIA POLLUTANTS AND THEIR EFFECTS ON HEALTH

Pollutant	Characteristics	Health Effects	Major Sources
O_3	Highly reactive photochemical pollutant created by the action of sunshine on O_3 precursors	• Cough and chest tightness pain upon taking a deep breath • Worsening of wheezing and other asthma symptoms • Reduced lung function • Increased hospitalizations for respiratory causes	Pollutants emitted from vehicles, factories, and other industrial sources; fossil fuels combustion; consumer products; and evaporation of paints
NO_2	Reactive, oxidizing gas formed during combustion	• Respiratory symptoms • Episodes of respiratory illness • Impaired lung function	High-temperature combustion processes, such as those occurring in trucks, cars, and power plants
SO_2	Colorless gas with pungent odor	• Wheezing, shortness of breath, and chest tightness • Pulmonary symptoms and disease • Decreased pulmonary function • Increased risk of mortality	Sulfur-containing fuel burned by locomotives, ships, and off-road diesel equipment, or industrial sources like petroleum refining and metal processing
CO	Highly toxic odorless, colorless gas; formed by the incomplete combustion of fuels	• Impairment of oxygen transport in the bloodstream • Aggravation of cardiovascular disease • Fatigue, headache, and dizziness	Carbon-containing fuels like gasoline or wood
PM_{10} and $PM_{2.5}$	Small particles measuring 10 microns or less are termed PM_{10} (fine particles less than 2.5 microns are termed $PM_{2.5}$); solid and liquid particles of dust, soot, aerosols, smoke, ash, and pollen and other matter that is small enough to remain suspended in the air for a long period	• Increased risk of hospitalization for lung and heart-related respiratory illness • Increased risk of premature deaths • Reduced lung function • Increased respiratory symptoms and illness	Burning fuels like gasoline, oil, and diesel or wood ($PM_{2.5}$) and windblown dust (PM_{10})

Pollutant	Characteristics	Health Effects	Major Sources
Pb	Soft resilient metal	• Impaired blood formation and nerve conduction • Fatigue, anxiety, short-term memory loss, depression, weakness in extremities, and learning disabilities in children • Cancer	Various industrial activities

Source: CARB 2023b

Greenhouse Gas Emissions

"Global warming" and "climate change" are terms commonly used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid–20th century. Natural processes and human actions have been identified as affecting the climate. The Intergovernmental Panel on Climate Change (IPCC) has concluded that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and had a small cooling effect afterward (IPCC 2021).

However, increasing GHG concentrations in the atmosphere resulting from human activity since the 19th century, such as fossil fuel combustion, deforestation, and other activities, are believed to be a major factor in climate change. GHGs in the atmosphere naturally trap heat by impeding the exit of solar radiation that has hit the earth and is reflected back into space—a phenomenon referred to as the "greenhouse effect." Some GHGs occur naturally and are necessary for keeping the earth's surface habitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have trapped solar radiation and decreased the amount that is reflected into space, intensifying the natural greenhouse effect and resulting in an increase in global average temperature.

Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons are the principal GHGs. When concentrations of these gases exceed historical concentrations in the atmosphere, the greenhouse effect is intensified. CO_2, methane, and nitrous oxide occur naturally and are also generated by human activity. Emissions of CO_2 are largely byproducts of fossil fuel combustion, while methane results from off-gassing, natural gas leaks from pipelines and industrial processes, and incomplete combustion associated with agricultural practices, landfills, energy providers, and other industrial facilities. Nitrous oxide emissions are also largely attributable to agricultural practices and soil management. CO_2 sinks include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution, and are two of the largest reservoirs of CO_2 sequestration. Other human generated GHGs include fluorinated gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, which have much higher potential for heat absorption than CO_2 and are byproducts of certain industrial processes.

CO_2 is the reference gas for climate change, as it is the GHG emitted in the highest volume. The effect of each GHG on global warming is the product of the mass of their emissions and their global warming potential (GWP). The GWP of a gas indicates how much the gas is predicted to

contribute to global warming relative to the amount of warming that would be predicted to be caused by the same mass of CO_2. In emissions inventories, GHG emissions are typically reported as metric tons of carbon dioxide equivalent ($MTCO_2e$). CO_2e is calculated as the product of the mass emitted of a given GHG and its specific GWP. Methane and nitrous oxide have much higher GWPs than CO_2, but CO_2 is emitted in higher quantities and accounts for the majority of GHG emissions in CO_2e, both from commercial developments and from human activity in general.

Agricultural practices, dominant in the project area, remain a significant source of GHG emissions. CARB estimates that agriculture is responsible for the emissions of 32 million MTCO2e, making it the fifth largest source of California's GHG emissions (LAO 2021). Agricultural emissions represent the sum of emissions from agricultural energy use (from pumping and farm equipment), agricultural residue burning, agricultural soil management (the practice of using fertilizers, soil amendments, and irrigation to optimize crop yield), enteric fermentation (fermentation that takes place in the digestive system of animals), histosols (soils that are composed mainly of organic matter) cultivation, manure management, and rice cultivation. About 70 percent of the emissions from the agricultural sector are methane emissions from livestock (LAO 2021).

3.2.3 Regulatory Setting

Federal and state plans, policies, regulations, and laws and regional or local plans, policies, regulations, and ordinances pertaining to air quality and GHG emissions are discussed in this section.

Federal

Clean Air Act

The USEPA is responsible for implementation of the federal Clean Air Act (CAA). The CAA was enacted in 1955 and was amended in 1963, 1965, 1967, 1970, 1977, 1990, and 1997. Under authority of CAA, USEPA established NAAQS for the following criteria pollutants: CO, lead (Pb), NO_2, O_3, PM_{10}, $PM_{2.5}$, and SO_2.

CAA requires states to classify air basins (or portions thereof) as either "attainment" or "nonattainment" with respect to criteria air pollutants, based on whether the NAAQS have been achieved, and to prepare State Implementation Plans (SIPs) containing emission reduction strategies to maintain the NAAQS for those areas designated as attainment and to attain the NAAQS for those areas designated as nonattainment.

Clean Air Non-Road Diesel Rule

To reduce emissions from off-road diesel equipment, the USEPA has established a series of emissions standards for new engines, in which manufacturers of off-road diesel engines are required to provide engines meeting these emissions standards based on the model year the engine was manufactured in accordance with the following compliance schedule (USEPA 2004):

- Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category.

- Tier 2 standards were phased in from 2001 to 2006.
- Tier 3 standards were phased in from 2006 to 2008.
- Tier 4 standards, which require add-on emissions-control equipment to attain them, were phased in from 2008 to 2015.

Construction equipment used to construct the proposed project would be in compliance with these emissions standards.

U.S. Environmental Protection Agency "Endangerment" and "Cause or Contribute" Findings

The U.S. Supreme Court held that the United States Environmental Protection Agency (USEPA) must consider the regulation of motor vehicle GHG emissions. In *Massachusetts v. Environmental Protection Agency* et al., 12 states and cities, including California, together with several environmental organizations sued to require the USEPA to regulate GHGs as pollutants under the Clean Air Act (CAA) (127 S. Ct. 1438 (2007)). The Supreme Court ruled that GHGs fit within the CAA's definition of a pollutant, and the USEPA had the authority to regulate GHGs.

On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- **Endangerment Finding:** The current and projected concentrations of the six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

These findings did not, by themselves, impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

Vehicle Emissions Standards

In 1975, Congress enacted the Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the USEPA and National Highway Traffic Safety Administration (NHTSA) are responsible for establishing additional vehicle standards. In August 2012, standards were adopted for model years 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve both 54.5 miles per gallon (mpg) (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle (USEPA 2012). Notably, the State of California harmonized its vehicle efficiency standards through 2025 with the federal standards.

In January 2017, USEPA issued its Mid-Term Evaluation of the GHG emissions standards, finding that it would be practical and feasible for automakers to meet the model years 2022–2025

standards through a number of existing technologies. In August 2018, the USEPA revised its 2017 determination, and issued a proposed rule that maintains the 2020 Corporate Average Fuel Economy (CAFE) and CO_2 standards for model years 2021 through 2026. The estimated CAFE and CO_2 standards for model year 2020 are 43.7 mpg and 204 grams of CO_2 per mile for passenger cars and 31.3 mpg and 284 grams of CO_2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. On February 7, 2019, the State of California, joined by 16 other states and the District of Columbia, filed a petition challenging the USEPA's proposed rule to revise the vehicle emissions standards, arguing that the USEPA had reached erroneous conclusions about the feasibility of meeting the existing standards. In August 2020, a decision was made by the Second Circuit Court of Appeals to vacate the rule, and the USEPA's existing CAFE standards will remain unchanged.

State

California Clean Air Act

The California Clean Air Act (CCAA) substantially added to the authority and responsibilities of the state's air pollution control districts. The CCAA establishes an air quality management process that generally parallels the federal process. The CCAA, however, focuses on attainment of the CAAQS that, for certain pollutants and averaging periods, are typically more stringent than the comparable NAAQS. The CCAA requires that the CAAQS be met as expeditiously as practicable but does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards.

The air quality attainment plan requirements established by the CCAA are based on the severity of air pollution problems caused by locally generated emissions. Upwind air pollution control districts are required to establish and implement emission control programs commensurate with the extent of pollutant transport to downwind districts.

CARB is responsible for developing emission standards for on-road motor vehicles and some off-road equipment in the state. In addition, CARB develops guidelines for the local districts to use in establishing air quality permit and emission control requirements for stationary sources subject to the local air district regulations.

California Environmental Quality Act Guidelines—Greenhouse Gas Emissions

On March 18, 2010, the California Natural Resources Agency (CNRA) adopted amendments to the CEQA Guidelines to include provisions for evaluating the significance of GHG emissions. The amended guidelines give the lead agency leeway in determining whether GHG emissions should be evaluated quantitatively or qualitatively but requires that the following factors be considered when assessing the significance of impacts from GHG emissions (Section 15064.4):

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting.
- Whether the project emissions exceed a threshold of significance that the lead agency determines apply to the project.

- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

The amended guidelines also specify that Lead Agencies must analyze potentially significant impacts associated with placing projects in locations susceptible to hazardous conditions (e.g., floodplains, coastlines, and wildfire risk areas), including those that could be affected by climate change (Section 15126.2(a)).

Furthermore, the guidelines also suggest measures to mitigate GHG emissions, including implementing project features to reduce emissions, obtaining carbon offsets to reduce emissions, or sequestering GHG.

Assembly Bill 117 and Senate Bill 790

In 2002, the California Legislature enacted (AB 117, enabling public agencies and joint power authorities to form a community choice aggregation (CCA). SB 790 strengthened the law by creating a "code of conduct" to which the incumbent utilities must adhere in their activities relative to CCAs. A CCA allows a city, county, or group of cities and counties to pool demand for electricity and purchase or generate power on behalf of customers within their jurisdictions to provide local choice. CCAs work with Pacific Gas and Electric Company (PG&E) to deliver power to its service area. The CCA is responsible for the generation of electricity (procuring or developing power) while PG&E is responsible for electric delivery, power line maintenance, and monthly billing.

Senate Bills 1078 and 107

SB 1078 (chapter 516, Statutes of 2002) required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (chapter 464, Statutes of 2006) changed the target date to 2010.

Assembly Bill 32 and Senate Bill 32

In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multi-year program to reduce GHG emissions in California (CARB 2018). AB 32 required the California Air Resources Board (CARB) to develop a Scoping Plan that describes the approach to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by CARB in 2008 and must be updated at least every five years, described in more detail below. This reduction was to be accomplished by enforcing a statewide cap on GHG emissions that would be phased in starting in 2012. The Scoping Plan is described in more detail below.

The California Global Warming Solutions Act of 2016: emissions limit, or SB 32, expanded upon AB 32 to reduce GHG emissions. It established a new climate pollution reduction target of 40 percent below 1990 levels by 2030, and included provisions to ensure that the benefits of state climate policies would reach disadvantaged communities. SB-32 was contingent on the passing of

AB-197, which increases legislative oversight of CARB and is intended to ensure CARB must report to the Legislature. AB-197 also passed and was signed into law in 2016.

Climate Change Scoping Plan

As mentioned, a specific requirement of AB 32 was to prepare a Scoping Plan for achieving the maximum technologically feasible and cost-effective reduction of GHG emissions by 2020. CARB developed and approved the initial Scoping Plan in 2008 (2008 Scoping Plan), outlining the regulations, market-based approaches, voluntary measures, policies, and other emissions reduction programs that would be needed to meet the 2020 statewide GHG emissions limit and initiate the transformations needed to achieve the state's long-range climate objectives (CARB 2008).

CARB approved the Final 2013 Scoping Plan Update in May 2014 that builds upon the initial Scoping Plan with new strategies and recommendations. This update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the initial Scoping Plan and evaluated how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

CARB approved the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan Update) in December 2017. The 2017 Scoping Plan Update outlines the proposed framework of action for achieving the 2030 target of a 40 percent reduction in GHG emissions relative to 1990 levels (CARB 2017). The 2017 Scoping Plan Update builds upon and integrates efforts already underway to reduce the State's GHG, criteria pollutant, and toxic air contaminant emissions, including the Low Carbon Fuel Standard (described further in Section 3.7, *Energy*) and Renewables Portfolio Standard (RPS). The cornerstone of the 2017 Scoping Plan Update is an expansion of the cap-and-trade program to meet the aggressive 2030 GHG emissions goal and ensure the achievement of the 2030 limit set forth by Executive Order B-30-15. Through a combination of data synthesis and modeling, CARB determined that the target statewide 2030 emissions limit is 260 million metric tons of carbon dioxide equivalents ($MMTCO_2e$). In the 2017 Scoping Plan Update, CARB recommends statewide targets of no more than 6 metric tons (MT) CO_2e per capita by 2030 and no more than 2 $MTCO_2e$ per capita by 2050.

CARB acknowledges that because the statewide per-capita targets are based on the statewide GHG emissions inventory that includes all emissions sectors in the state, it is appropriate for local jurisdictions to derive evidence-based local per-capita goals based on local emissions sectors and growth projections. To demonstrate how a local jurisdiction can achieve its long-term GHG goals at the community plan level, CARB recommends developing a geographically specific GHG reduction plan (i.e., climate action plan [CAP]) consistent with the requirements of CEQA Section 15183.5(b). A so-called "CEQA-qualified" GHG reduction plan, once adopted, can provide local governments with a streamlining tool for project-level environmental review of GHG emissions, provided there are adequate performance metrics for determining project consistency with the plan. Absent conformity with such a plan, CARB recommends "that projects incorporate design features and GHG reduction measures, to the degree feasible, to minimize GHG emissions. Achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development." The

recent 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan Update) lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279 (CARB 2022b). The actions and outcomes in the plan will achieve; significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

Renewables Portfolio Standard

The State of California adopted standards to increase the percentage that retail sellers of electricity, including investor-owned utilities and community choice aggregators, must provide from renewable resources. The standards are referred to as the *renewables portfolio standard* (RPS) (CPUC 2023). Qualifying renewables under the RPS include bioenergy such as biogas and biomass, small hydroelectric facilities (30 MW or less), wind, solar, and geothermal energy. The California Public Utilities Commission and the CEC jointly implement the RPS.

Senate Bills 1078 and 107

SB 1078 (chapter 516, Statutes of 2002) required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (chapter 464, Statutes of 2006) changed the target date to 2010.

Senate Bill X 1-2

SB X 1-2, signed by Governor Brown in April 2011, enacted the California Renewable Energy Resources Act. The law obligated all California electricity providers, including investor-owned and publicly owned utilities, to obtain at least 33 percent of their energy from renewable resources by 2020.

Senate Bill 350

SB 350, the Clean Energy and Pollution Reduction Act of 2015 (chapter 547, Statutes of 2015), was signed by Governor Brown on October 7, 2015. SB 350 tightened the standards of the RPS program by requiring that the percentage of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased from 33 percent to 50 percent by December 31, 2030. The law requires the state Energy Resources Conservation and Development Commission (better known as the California Energy Commission) to establish annual targets for statewide energy efficiency savings and demand reduction, to achieve a cumulative doubling of statewide energy efficiency savings by the existing electricity and natural gas final end uses of retail customers by January 1, 2030.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also created new standards for the RPS goals established by SB 350 in 2015. Specifically, the law increased the percentage of energy that both investor-owned and publicly owned utilities must obtain from renewable sources from 50 percent to 60 percent by

2030. Incrementally, these energy providers must also have a renewable energy supply of 33 percent by 2020, 44 percent by 2024, and 52 percent by 2027. The updated RPS goals are considered achievable, because many California energy providers are already meeting or exceeding the RPS goals established by SB 350.

Regional

San Joaquin Valley Air Pollution Control District Air Quality Management Plans

The SJVAB is designated as a non-attainment area for the federal one-hour ozone, federal $PM_{2.5}$, state one-hour ozone, state 8-hour ozone, state PM_{10}, and state $PM_{2.5}$ standards. As a result, the SJVAPCD is required to prepare air quality plans under the federal and California CAA to meet the NAAQS and CAAQS for these pollutants. Maintenance plans are required for attainment areas that had previously been designated non-attainment to ensure continued attainment of the standards.

Current air quality plans for the SJVAB include:

- 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ standards.
- 2007 PM_{10} Maintenance Plan and Request for Redesignation.
- 2020 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan.
- 2016 Plan for the 2008 8-Hour Ozone Standard.
- 2022 Plan for the 2015 8-Hour Ozone Standard.

The air quality plans include emissions inventories that identify sources of air pollutants, evaluations for feasibility of implementing potential opportunities to reduce emissions, sophisticated computer modeling to estimate future levels of pollution, and a strategy for how air pollution will be further reduced.

San Joaquin Valley Air Pollution Control District

CEQA requires lead agencies to establish specific procedures for administering its responsibilities under CEQA, including orderly evaluation of projects and preparation of environmental documents. In part, as a response to this CEQA requirement, in August 2008, SJVAPCD's Governing Board adopted the Climate Change Action Plan (CCAP) (SJVAPCD 2009a). Based on that plan, SJVAPCD created guidance to evaluate GHG significance. The guidance covers projects that include Best Performance Standards (BPS), which are more typical of residential or commercial-type projects, and projects that do not implement BPS (SJVAPCD 2009b).

CEQA reviews for projects implementing BPS would not require quantification of project specific GHG emissions. Consistent with the CEQA Guidelines, such projects would be determined to have less-than-significant individual and cumulative impacts for GHG emissions. For CEQA reviews of projects not implementing BPS, SJVAPCD recommends quantifying project-specific GHG emissions and demonstrating that project-specific GHG emissions would be reduced or mitigated by at least 29 percent, compared to Business-as-Usual (BAU), including

GHG emission reductions achieved since the 2002–2004 baseline period. Projects that would achieve at least a 29 percent GHG emissions reduction compared to BAU are considered consistent with the AB 32 emissions reduction goal for 2020. However, as the State has now adjusted the GHG emission reduction goal for year 2030 through implementation of SB 32, this comparison is no longer relevant in the post-2020 environment.

SJVAPCD's Rule 8021 requires that an owner/operator submit a Dust Control Plan to the Air Pollution Control Officer prior to the start of any construction activity on any site that will include 10 acres or more of disturbed surface area for residential developments, or 5 acres or more of disturbed surface area for non-residential development, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials on at least three days.

Local

The proposed project is located in Kings County and the 2035 General Plan contains the following goals and policies related to air quality, GHG emissions and climate change (County of Kings 2010).

> ***Air Quality (AQ) Policy B1.1.1*:** Minimize air quality and potential climate change impacts through project review, evaluation, and conditions of approval when planning the location and design of land uses and transportation systems needed to accommodate expected County population growth. Integrate decisions on land use and development locations with the SJV Blueprint.

AQ Goal C1: Use Air Quality Assessment and Mitigation programs and resources of the SJVAPCD and other agencies to minimize air pollution, related public health effects, and potential climate change impacts within the County.

> ***AQ Policy C1.1.1:*** Assess and mitigate project air quality impacts using analysis methods and significance thresholds recommended by the SJVAPCD.
>
> ***AQ Policy C1.1.2:*** Assess and mitigate project greenhouse gas/climate change impacts using analysis methods and significance thresholds as defined or recommended by the SJVAPCD, KCAG or California Air Resources Board (ARB) depending on the type of project involved.
>
> ***AQ Policy C1.1.3:*** Ensure that air quality and climate change impacts identified during CEQA review are minimized and consistently and fairly mitigated at a minimum, to levels as required by CEQA.
>
> ***AQ Policy C1.1.5:*** Assess and reduce the air quality and potential climate change impacts of new development projects that may be insignificant by themselves but, taken together, may be cumulatively significant for the County as a whole.
>
> ***AQ Policy C1.1.6:*** Encourage and support the development of innovative and effective mitigation measures and programs to reduce air quality and climate change impacts through proactive coordination with the SJVAPCD, project applicants, and other knowledgeable and interested parties.

AQ Goal E1: Minimize air emissions and potential climate change impacts related to energy consumption in the County.

AQ Goal F1: Minimize exposure of the public to hazardous air pollutant emissions, particulates and noxious odors from freeways, major arterial roadways, industrial, manufacturing, and processing facilities.

AQ Policy F2.1.1: Coordinate with the SJVAPCD to ensure that construction, grading, excavation and demolition activities within County's jurisdiction are regulated and controlled to reduce particulate emissions to the maximum extent feasible.

AQ Goal G1: Reduce Kings County's proportionate contribution of greenhouse gas emissions and the potential impact that may result on climate change from internal governmental operations and land use activities within its authority.

3.2.4 Impacts and Mitigation Measures

Methods of Analysis

Air Quality

The SJVAPCD GAMAQI is an advisory document that provides lead agencies, consultants, and project proponents with procedures for assessing air quality impacts and preparing environmental review documents (SJVAPCD 2015). The document recommends thresholds for use in determining whether projects would have significant adverse environmental impacts, identifies methods for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. The analysis used methodology and guidance from the GAMAQI.

Project-related air quality impacts fall into two categories: short-term impacts due to construction, and long-term impacts due to project operation. Construction of the remaining pipeline is anticipated to take 15 days to complete and involves laying approximately 2.3 miles of pipeline. Five days of activity are anticipated for the Tulare Lake Canal crossing, and an additional two weeks of activity are anticipated to complete the State Route 41 crossing and pipeline construction north of State Route 41.

Construction Impacts

The emissions generated from construction activities include:

- Exhaust emissions from fuel combustion for mobile heavy-duty diesel and gasoline-powered equipment (including construction equipment, haul trucks, and employee vehicles); and
- Particulate matter from soil disturbance and site preparation (also known as fugitive dust).

Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2022.1.1.21 (**Appendix D**). Project-specific inputs for the approximately 2.3 miles of pipeline yet to be constructed include site area, starting year, and duration of construction. The project applicant also provided types of construction equipment and number of workers associated with construction activity of the proposed project. Construction activity was conservatively modeled for continuous use of each piece of equipment throughout the duration of

construction for 8 hours a day. Heavy-duty construction equipment associated with the State Route 41 crossing and pipeline construction include an excavator, a boring machine, and a dozer, while the use of a boring machine was modeled for the Tulare Lake Canal crossing.

Operation and Maintenance Impacts

Operational activities would include routine maintenance involving approximately less than 10 light duty automobiles for workers but would not occur daily. As there will be minimal activity in the operational lifetime of the proposed project, air pollutant emissions resulting from operations of the pipeline would be negligible.

Health Risk Assessment

The proposed project would result in a short-term increase of toxic air contaminant (TAC) emissions over the 15 days of construction. The main TAC of concern for the proposed project is particulate matter from diesel exhaust, a complex mixture of chemicals identified by the CARB as a TAC with potential cancer and chronic non-cancer effects. As diesel particulate matter (DPM) is the predominant TAC associated with diesel fuel combustion, it is the risk driver for construction activities involving diesel equipment and vehicles. PM_{10} exhaust emissions are used as a surrogate for diesel exhaust particulate matter. The operation of off-road construction equipment (e.g., excavators, cranes, graders) and on-road diesel-fueled heavy-duty vehicles would emit DPM.

Due to the short duration of equipment use during construction and the distance from construction activity to sensitive receptors (greater than 2,000 feet), the potential health risk increases are discussed qualitatively.

Greenhouse Gas Emissions

GHG emissions and global climate change represent cumulative impacts from human activities and development projects locally, regionally, statewide, nationally, and worldwide. GHG emissions from all of these sources cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature; instead, the combination of GHG emissions from past, present, and future projects around the world have contributed and will continue to contribute to global climate change and its associated environmental impacts. There are currently no established thresholds for assessing whether the GHG emissions of a project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated on a project-level under CEQA.

The CEQA Guidelines do not prescribe specific methods for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methods and thresholds of significance consistent with various factors prescribed by CEQA Guideline 15064.4. The State of California has not adopted emission-based thresholds for

GHG emissions under CEQA. The Governor's Office of Planning and Research's Technical Advisory, titled *Discussion Draft CEQA and Climate Change Advisory* (OPR 2018), states that:

> *[N]either the CEQA statute nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for perming an impact analysis. This is left to lead agency judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable. Even in the absence of clearly defined thresholds for GHG emissions, such emissions must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact.*

Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice." Section 15064.7(c) of the CEQA Guidelines specifies that "when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

To evaluate GHG emissions impacts, this analysis determines whether the proposed project is qualitatively consistent with SJVAPCD's project-level GHG thresholds. This evaluation is considered in a cumulative context because the analysis of GHG emissions is only relevant in a cumulative context.

GHG emissions generated during the construction period of the proposed project from construction equipment and on-road mobile sources have been evaluated for their potential to contribute to a climate impact. Various agencies, including the Sacramento Metropolitan Air Quality Management District (SMAQMD) and the South Coast Air Quality Management District (SCAQMD), have suggested amortizing construction emissions over the expected life of the project to evaluate project-level impacts. The lifetime of an underground HDPE pipe is assumed to be 100 years. New construction activities associated with the proposed project includes laying approximately 2.3 miles of pipeline, including the State Route 41 crossing and pipe installation below the Tulare Lake Canal and replacing a portion of existing canal. GHG emissions from construction activities would come from the combustion of fuel (e.g., gasoline and diesel) in construction equipment and vehicles, and were estimated using the California Emissions Estimator Model (CalEEMod) (version 2022.1.1.21) with the same assumptions as discussed above. GHG emissions generated by the proposed project would be in the form of CO_2e, (based on global warming potentials of CH_4 and N_2O compared to CO_2) from off-road construction equipment and construction vehicle trips. Emissions were calculated using CalEEMod, as recommended by the SJVAPCD. As there would be minimal maintenance activity in the operational lifetime of the project, GHG emissions resulting from operations would be negligible.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, an impact related to air quality is considered significant if the proposed project would do any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan.
- 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.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

For the evaluation of significance, the GAMAQI has established emissions-based thresholds of significance for criteria air pollutants (SJVAPCD 2015), which are shown in **Table 3.2-3**. The SJVAPCD has the same significance thresholds for construction and operational emissions and recommends evaluating impact significance for these categories separately. These thresholds of significance are based on a calendar-year basis, although construction emissions are assessed on a rolling 12-month period.

TABLE 3.2-3
SJVAPCD AIR QUALITY THRESHOLDS OF SIGNIFICANCE – CRITERIA AIR POLLUTANTS

Pollutant	Construction Emissions (tons per year)	Operational Emissions (tons per year)
NOx	10	10
ROG	10	10
PM_{10}	15	15
$PM_{2.5}$	15	15

SOURCE: SJVAPCD 2015

These thresholds of significance are based on the SJVAPCD's New Source Review (NSR) offset requirements for stationary sources and are applicable to both stationary and non-stationary emissions sources, including project-level sources of criteria air pollutants (SJVAPCD 2015).

In accordance with Appendix G of the CEQA Guidelines, an impact related to GHG emissions is considered significant if the proposed project would do any of the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Impacts and Mitigation Measures

Table 3.2-4 summarizes the impact conclusions presented in this section.

TABLE 3.2-4
SUMMARY OF IMPACT CONCLUSIONS—AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Impact Statement	Impact Conclusion
3.2-1: Construction and operation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan.	LTS
3.2-2: Construction and operation of the proposed project could 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.	LTS
3.2-3: Construction and operation of the proposed project could expose sensitive receptors to substantial pollutant concentrations.	LTS
3.2-4: Construction and operation of the proposed project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LTS
3.2-5: Construction and operation of the proposed project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	LTS
3.2-6: Construction and operation of the proposed project could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	LTS

NOTES: LTS = Less than Significant

Impact 3.2-1: Construction and operation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan.

Construction

As discussed previously, the SJVAB is currently designated as a non-attainment area for federal and state standards with regard to $PM_{2.5}$ and ozone. It is also designated as a non-attainment area for state PM_{10} standards. The SJVAPCD is responsible for implementing programs and regulations required by the federal CAA and the California CAA within the SJVAB. In this capacity, the SJVAPCD has prepared plans to attain federal and state ambient air quality standards for which it has been designated as non-attainment, including the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ standards; 2006 PM_{10} Maintenance Plan and Request for Redesignation; 2020 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan; 2016 Plan for the 2008 8-Hour Ozone Standard; and the 2020 Plan for the 2015 8-Hour Ozone Standard.

Based on the GAMAQI, the proposed project's air quality impacts during construction would be considered significant if emissions generated exceed the thresholds of significance presented in the GAMAQI and listed above. The GAMAQI states that, "the District's [SJVAPCD's] attainment plans demonstrate that project-specific emissions below the District's [SJVAPCD's] offset thresholds would have a less than significant impact on air quality. Thus, the [SJVAPCD's] concludes that use of NSR Offset thresholds as thresholds of significance for criteria air pollutants under CCR section 15064.7 is an appropriate and effective means of promoting consistency in significance determinations within the environmental review process" (SJVAPCD 2015). Therefore, projects with emissions below the thresholds of significance for criteria pollutants would be determined to not conflict with or obstruct implementation of the SJVAPCD's air quality plans. As shown in **Table 3.4-5** under Impact 3.4-2, the total emissions generated from construction activities of the proposed project would not exceed the SJVAPCD's

thresholds for criterial pollutants. Therefore, construction activities would not generate emissions that conflict with or obstruct implementation of the SJVAPCD's air quality plans and this impact would be **less than significant**.

TABLE 3.2-5
EMISSIONS SUMMARY (TONS PER YEAR)

Construction Year	ROG	NOx	PM_{10}	$PM_{2.5}$
2024	0.01	0.07	0.04	0.02
SJVAPCD Thresholds	10	10	15	15
Exceeds threshold?	No	No	No	No

SOURCE: ESA 2024

Operation

Once operational, the proposed project would require minimal maintenance activities such as inspection or repairs on the pipeline. These activities and associated motor vehicle trips from workers would only be required on an intermittent basis with negligible emissions and would be similar to or less than maintenance conducted under existing conditions (as maintenance of an open canal system requires manpower and equipment with emissions annually and conversion of open canals to pipelines results in less maintenance and equipment needs). As a result, the proposed project would not conflict with or obstruct the implementation of the SJVAPCD's air quality plans and the impact would be **less than significant**.

Impact 3.2-2: Construction and operation of the proposed project could 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.

Construction

Emissions from construction activities associated with the proposed project were estimated as described above. Results of the construction emissions modeling are summarized in Table 3.2-5 and compared to the GAMAQI thresholds of significance. Emissions of pollutants would be below the applicable SJVAPCD thresholds of significance for criteria pollutants.

The pipeline would have a total surface disturbance area of approximately 2.2 acres (within a footprint approximately 5.6 acres that includes the pipeline and areas for staging and construction activities) and would disturb up to an estimated 1,998 cubic yards of material per day of construction. Therefore, SJVAPCD's Rule 8021 regarding requirements for preparation of a Dust Control Plan would not apply to the proposed project.

This impact would be less than significant.

Operation

Once operational, the proposed project would require minimal maintenance activities such as inspection or repairs on the pipeline. These activities would only be required on an intermittent basis and would result in a minor increase in motor vehicle trips from workers with negligible

emissions. Operation of the proposed project would not result in a considerable net increase of any criteria pollutant and the impact would be **less than significant**.

Impact 3.2-3: Construction and operation of the proposed project could expose sensitive receptors to substantial pollutant concentrations.

Construction

The use of heavy-duty, diesel-fueled construction equipment would generate TAC emissions in the form of DPM during construction of the proposed project. Due to the temporary nature and short duration of construction and lack of sensitive receptors in the vicinity of the project area, health risk that would result from construction related DPM emissions would be minimal, and impacts would be **less than significant**.

Operation

Once operational, the proposed project would require minimal maintenance activities such as inspection or repairs on the pipeline, and these activities would not involve diesel-powered equipment or heavy diesel vehicles (the main source of DPM, the TAC of concern). These activities and associated motor vehicle trips from workers would only be required on an intermittent basis with negligible TAC emissions and would be similar to or less than maintenance conducted under existing conditions (as maintenance of an open canal system requires manpower and equipment with emissions annually and conversion of open canals to pipelines results in less maintenance and equipment needs). Additionally, there are no sensitive receptors in or near surrounding the project area that would be exposed to substantial pollutant concentrations. Operation of the proposed project would not result in a considerable net increase of any criteria pollutant and the impact would be **less than significant**.

Impact 3.2-4: Construction and operation of the proposed project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Activities associated with the construction of the proposed project may create temporary odors from combustion of diesel fuel in equipment engines; however, these types of odors are in general not offensive. In addition, the proposed project is linear in nature and construction activities would not occur in one location for an extended period of time and would cease at the conclusion of construction. Once operational, the proposed project would require minimal maintenance activities such as inspection or repairs on the pipeline. These activities and associated motor vehicle trips from workers would only be required on an intermittent basis and would be similar to or less than maintenance conducted under existing conditions. Land uses that are commonly identified as odor sources include wastewater treatment facilities, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing, fiberglass manufacturing, painting/coating operations, food processing facilities, feed lots/dairies, and rendering plants. None of these land uses would be developed by the proposed project; therefore, the impact would be **less than significant**.

Impact 3.2-5: Construction and operation of the proposed project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Construction

Emissions from the construction of the proposed project would be generated primarily from heavy-duty equipment, such as excavators and graders, and would cease upon the completion of construction. Project emissions were modeled for construction required to finish the pipeline installation. **Table 3.2-6** summarizes GHG emissions generated during construction activities. Based on the modeling of construction equipment and truck activities, the estimated GHG emissions from combustion activities associated with construction equipment would be approximately 13.2 MT CO_2e/year for the 15-day construction period. Amortized over an assumed 100-year project lifetime, construction emissions would be 0.13 MT CO_2e/year.

TABLE 3.2-6
CONSTRUCTION GREENHOUSE GAS EMISSIONS

Construction Year	GHG Emissions (MT CO_2e/year)	Amortized GHG Emissions (MT CO_2e/year)
2024	13.2	NA
TOTAL[a]	**13.2**	**0.13**

NOTES: CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; MT = metric tons; NA = Not applicable

a. Sum of emissions during the different construction years may not add up to the total due to rounding.

SOURCE: Data compiled by Environmental Science Associates in 2024

Because SJVAPCD does not provide significance thresholds for construction-related GHG emissions, a project's construction emissions are assumed to have a less-than-significant impact, as they represent a very small portion of the project's lifetime GHG emissions.

The 2022 Scoping Plan Update contains one measure on emissions from construction and requires that 25 percent of energy demand from all construction equipment be electrified by 2023 and 75 percent by 2045. However, construction of the proposed project would be completed well before 2030 and therefore would align with the state-level targets. To achieve the statewide GHG targets pursuant to SB 32 and the CARB 2022 Scoping Plan Update, efforts to reduce GHG emissions must focus on operational sources, such as building energy use and vehicle travel. The underlying principle of SJVAPCD goals and targets is that operational emissions must align with state-level targets.

GHG emissions from off-road construction equipment represent a very small portion of overall statewide emissions (0.6 percent), and CARB has identified only limited strategies to control emissions from such equipment. In other words, the state can achieve its 2030 target with very limited emissions reductions in the construction sector. This is a holistic approach in which CARB looks at all emissions sources in California and focuses on reducing the largest emissions sources that the state can influence and control. The 2022 Scoping Plan Update calls for reducing emissions from certain sources substantially (like vehicular emissions and building energy use) while not focusing on emissions for other sources (like construction emissions). Under this

strategy, the state can still achieve its 2030 GHG emissions reduction target. Because SJVAPCD goals and targets are based on consistency with statewide targets, SJVAPCD's conclusion that construction-related emissions are less than significant is warranted.

For these reasons, construction related GHG emissions are not considered cumulatively considerable, and the impact would be **less than significant**.

Operation

Once operational, the proposed project would require minimal maintenance activities such as inspection or repairs on the pipeline. These activities and associated motor vehicle trips from workers would only be required on an intermittent basis with negligible emissions and would be similar to or less than maintenance conducted under existing conditions (as maintenance of an open canal system requires manpower and equipment with emissions annually and conversion of open canals to pipelines results in less maintenance and equipment needs). Groundwater would be transported from existing Sandridge wells to irrigate Sandridge farmlands and would not result in an increase of groundwater pumping or surface water use. Operations of the proposed project would not result in a considerable net increase of GHG emissions from existing conditions and the impact would be **less than significant**.

Impact 3.2-6: Construction and operation of the proposed project could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Construction

The applicable plans adopted for the purpose of reducing GHG emissions are CARB's 2022 Scoping Plan Update and AB 32. The 2022 Scoping Plan Update contains one measure focused on emissions from construction and requires that 25 percent of energy demand from all construction equipment be electrified by 2023 and 75 percent by 2045. However, construction of the proposed project would be complete well before 2030 and therefore would align with the state-level targets. Additionally, the SJVAPCD has not adopted any targets or goals that address construction emissions. Any electrical power required during construction would be supplied from PG&E, which is required to comply with SB 100 and the Renewable Portfolio Standards (RPS). SB 100 requires that the proportion of electricity from renewable sources be 60 percent by 2030 and 100 percent renewable power by 2045. There are no local climate action plans (CAP) that would apply to the proposed project.

The proposed project would be consistent with all applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions and would therefore have a **less-than-significant impact**.

Operation

Once operational, the proposed project would require minimal maintenance activities such as inspection or repairs on the pipeline. These activities and associated motor vehicle trips from workers would only be required on an intermittent basis with negligible emissions and would be similar to or less than maintenance conducted under existing conditions (as maintenance of an open canal system requires manpower and equipment with emissions annually and conversion of

open canals to pipelines results in less maintenance and equipment needs). Groundwater would be transported from existing Sandridge wells to irrigate Sandridge farmlands and would not result in an increase of groundwater pumping or surface water use. Operations of the proposed project would not result in a considerable net increase of GHG emissions from existing conditions and the impact would be **less than significant**.

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3.3 Biological Resources

3.3.1 Introduction

This section describes the terrestrial and aquatic biological resources that are known or have the potential to occur in the project area (see Figure 2-2). Biological resources are common vegetation, wildlife, and fisheries resources; sensitive habitats; plant communities; and special-status plant, wildlife, and fish species. The environmental setting and evaluation of impacts on biological resources is based on a review of existing published documents and data, including the county general plan, aerial photographs, and information sources available from federal and state wildlife agencies, and a reconnaissance survey conducted by ESA biological resources staff on January 10, 2024. One comment specifically addressing biological resources was received in response to the NOP, from the California Department of Fish and Wildlife (CDFW). This letter included a list of plant and wildlife species and sensitive natural communities with potential to occur in the project area and noted the potential for impacts to sensitive aquatic resources. See **Appendix A** for NOP comment letters.

3.3.2 Environmental Setting

The project area encompasses the proposed 2.3-mile, underground 48-inch irrigation water pipeline that would be constructed to connect to existing Sandridge water distribution systems and replace existing open irrigation ditches, and a 10-foot area on either side for staging and construction activities, for a total project footprint of approximately 5.6 acres (including approximately 2.2 acres of surface disturbance area). Selected photos of the proposed pipeline route are included in **Appendix C**.

The project area has an inland Mediterranean climate characterized by hot, dry summers and cool, rainy winters. Daily summer high temperatures often exceed 100 degrees Fahrenheit (ºF); daily summer high temperatures average 95ºF. Average high temperatures in the winter are in the 50s and the average daily low temperature in the winter is 45ºF. The area receives an average of approximately 10 inches of rainfall per year, primarily during the winter.

Vegetation Communities

The primary natural communities in the project area are agricultural land, disturbed land and non-native annual grassland. Non-native grassland includes scattered shrubs such as plant species including tamarisk (*Tamarix* sp.), chamise (*Adenostoma fasciculatum*), coyote brush (*Baccharis pilularis*), California buckwheat (*Eriogonum fasciculatum*), as well as grasses including wild oats (*Avena* spp.), brome (*Bromus* spp.), and wild barley (*Hordeum* spp.). Weedy grassland and scrub vegetation is present along the Tulare Lake Canal channel, including shrubs such as mule fat (*Baccharis salicifolia*), saltbush (*Atriplex lentiformis),* curly dock (*Rumex crispus)* and tamarisk. Non-native grassland may provide suitable nesting habitat for versatile bird species such as house finch (*Haemorhous mexicanus*) and burrowing habitat for small rodents and reptiles. No rare plants are likely in these disturbed areas.

Agricultural areas include irrigated row and field crops, including cotton, pistachio, pomegranate, grape (raisin), wheat and alfalfa fields, which are regularly disked and thus do not provide suitable wildlife burrowing habitat, though some species may forage there. Disturbed lands include roadways, levees, and roadside areas covered with dirt or gravel.

Sensitive Natural Communities

Sensitive natural communities are identified by CDFW based on rankings of rarity of range and distribution, as well as threat evaluation (CDFW 2023a). The sensitive natural community valley sink scrub, which is found in dry lakebed margins, playas or near seeps, and may host rare plants, is located approximately 1 mile east of the project area (CDFW 2023b) but does not overlap the proposed pipeline route.

Sensitive natural communities in the project area include freshwater wetland. Open water is also present in the project area in the agricultural canals. Freshwater wetland occurs within the existing Sandridge drainage canals which hold water long enough to support water-dependent species such as cattail (*Typha* sp.) and river bulrush (*Bolboshoenus* sp.). This community is present within the canals in the northern portion of the project area, where these wetlands likely increase or decrease in size with agricultural water flow.

Many species of birds, mammals, reptiles, and amphibians depend on riparian and wetland habitats. Species that may be found there include belted kingfisher (*Megaceryle alcyon*), great egret (*Ardea alba),* black phoebe (*Sayornis nigricans*), Pacific tree frog (*Pseudacris regilla*), southern alligator lizard (*Elgaria multicarinata*), garter snake (*Thamnophis* sp.), opossum (*Didelphis virginiana*), black-tailed jackrabbit (*Lepus californicus*), river otter (*Lontra canadensis*), raccoon (*Procyon lotor*), and a number of bat species. Wetland communities also support many species of waterfowl, such as mallard (*Anas platyrhynchos*), northern pintail (*A. acuta*), American wigeon (*A. americana*), and Canada goose (*Branta canadensis*), and shorebirds.

Special-Status Species

Special-status species are regulated under the federal Endangered Species Act (FESA) and California Endangered Species Act (CESA) or other regulations or are species that are considered sufficiently rare by the scientific community to qualify for such listing. These species are classified under the following categories:

1. Species listed or proposed for listing as threatened or endangered under the FESA (Code of Federal Regulations [CFR] title 50, Section 17.12 [listed plants] and Section 17.11 [listed animals], and various notices in the *Federal Register* [FR] [proposed species]).
2. Species that are candidates for possible future listing as threatened or endangered under the FESA (*Federal Register* title 61 [61 FR], number 40, February 28, 1996).
3. Species listed or proposed for listing by the State of California as threatened or endangered under the CESA (California Code of Regulations [CCR] title 14, Section 670.5 [14 CCR 670.5]).
4. Plants listed as rare or endangered under the Native Plant Protection Act (NPPA) (California Fish and Game Code, Section 1900 et seq.).

5. Animal species of special concern to the California Department of Fish and Wildlife (CDFW).
6. Animals fully protected under the California Fish and Game Code (Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).
7. Species that meet the definitions of "rare" and "endangered" under CEQA. CEQA Section 15380 provides that a plant or animal species may be treated as rare or endangered even if not on one of the official lists (CEQA Guidelines, Section 15380).
8. Plants considered by California Native Plant Society (CNPS) and CDFW to be "rare, threatened or endangered in California" (California Rare Plant Ranks [CRPRs] 1A, 1B, and 2 in CNPS 2023).

Species recognized under these terms are collectively referred to as "special-status species." A list of special-status plant and wildlife species considered to potentially occur within the project area was developed using information queried from the U.S. Fish and Wildlife Service (USFWS) (USFWS 2023), CNPS (2023), and the California Natural Diversity Database (CNDDB) (CDFW 2023b). The list of species with potential to occur is included in **Appendix C**. This list of species includes those species that can be found or are known to have occurred historically in the project area. These species were ranked by their likelihood of occurrence, as follows:

Not Present: The project area is out of the species' range, or suitable habitat is absent.

Low: The species' required habitat either does not occur or is of very low quality and no current observations have occurred in the project area.

Moderate: The species' required habitat occurs and there may be known occurrences nearby.

High: The species has been documented in the area in the past and suitable habitat is present.

The species discussed below have moderate potential to occur in the project area, or low potential to occur but are federal- or state-listed. The project area does not contain special-status species with high potential to occur and no special-status species were observed during the site survey on January 10, 2024. Vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*) are also discussed below, based on the CDFW NOP comment letter. Valley elderberry longhorn beetle (*Desmocerus californius dimorphus*) is not discussed below because no elderberry shrubs were seen along the proposed pipeline route. Species recorded within 5 miles of the project area are shown on **Figure 3.3-1**.

Invertebrates

Vernal Pool Fairy Shrimp

Vernal pool fairy shrimp (*Branchinecta lynchi*) is federally listed as threatened. It inhabits primarily vernal pools but also alkaline rain-pools, ephemeral drainages, rock outcrop pools, ditches, stream oxbows, stock ponds, vernal swales, and seasonal wetlands. The vernal pool fairy shrimp is threatened primarily by habitat loss and fragmentation from the expansion of agricultural and developed lands. No suitable pools are present along the proposed pipeline route.

Vernal Pool Tadpole Shrimp

Vernal pool tadpole shrimp (*Lepidurus packardi*) is federally listed as endangered. It occurs in a wide variety of seasonal habitats: vernal pools, ponded clay flats, alkaline pools, ephemeral stock

ponds, and roadside ditches. Habitats where vernal pool tadpole shrimp have been observed range in size from small, clear, vegetated vernal pools to highly turbid pools and large winter lakes. The vernal pool tadpole shrimp is threatened primarily by habitat loss and fragmentation from the expansion of agricultural and developed lands. No suitable pools are present along the proposed pipeline route.

Crotch bumble bee

Crotch bumble bee (*Bombus crotchii*), a state candidate endangered species, inhabits grassland and scrubland in hot, dry areas. This native bee nests underground, often in abandoned rodent burrows. It was historically found throughout central California south of Redding but is now rare and thought to be absent from much of its range. It has low potential to occur in the project area due to high levels of agricultural disturbance, and lack of suitable open scrub or sandy grassland habitat.

Amphibians and Reptiles

California Glossy Snake

California glossy snake (*Arizona elegans occidentalis*) is a California species of special concern. It inhabits arid scrubs, rocky washes, grasslands, and chaparral. These snakes are nocturnal and hide underground during the daytime under rocks or in small mammal burrows. Because the proposed pipeline route consists of actively farmed agricultural areas and disturbed areas, it does not provide suitable habitat for this species.

Northwestern Pond Turtle

Northwestern pond turtle (*Actinemys marmorata)*, a federal proposed threatened species and California species of special concern, inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. This species requires basking sites such as logs or rocks, and suitable upland habitat for egg-laying; nest sites are typically gentle slopes with sandy banks and sparse vegetation. This species has moderate potential to be found in the project area. Habitat within the drainage canals is poor quality, but turtles may disperse through these waters from areas of better habitat such as the Kings River channel, where this species was recorded near the project area in 1996 (CDFW 2023b). This species has moderate potential to occur within agricultural drainage canals connected to the river channel.

Birds

Swainson's Hawk

The Swainson's hawk is a state-listed threatened species in California. It nests in the Central Valley, Klamath Basin, and some mountain areas, where it prefers stands of trees in agricultural environments, oak savanna, riparian areas, or juniper-sage flats. In the San Joaquin Valley, it typically nests in tall trees in isolated clusters, often near rural residences or agricultural fields. Swainson's hawk forages in crop fields in the Central Valley, as well as grasslands, rangelands, and fallow agricultural fields. In the project area, few suitable nest trees are present, though foraging habitat is available in the croplands along the route. The nearest records of the species are located approx. 4 miles east (CDFW 2023b); thus, it is moderately likely to occur.

SOURCE: Esri, 2021; ESA, 2023

Sandridge Irrigation Pipeline Extension

Figure 3.3-1
CNDDB

ESA

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Burrowing Owl

The burrowing owl is a California species of special concern. In California's Central Valley, the burrowing owl is a year-round resident of open spaces such as grasslands and agricultural fields. Nests are generally found in the abandoned burrows of small mammals such as ground squirrels; however, they can dig their own burrows in soft soil, and they occasionally use culverts and other artificial structures. Breeding occurs from March to August, peaking in April to May. Burrowing owls forage on insects and small mammals, often ground squirrels, and also consume reptiles, birds, and carrion. Open agricultural fields in the project area are potential habitat for burrowing owls, which is moderately likely to occur, though no sign of this species was observed during the site survey.

Tricolored Blackbird

Tricolored blackbird is state-listed as threatened. It prefers wetland and grassland habitats, although most native habitats have been lost. Within the Central Valley, it nests in colonies within the rice-growing regions of the Sacramento Valley and in the pasturelands of the lower Sacramento Valley and San Joaquin Valley in tall grasses, and forages in agricultural fields. No nesting colonies are present in the project area, though suitable foraging areas exist within cultivated fields.

Western Snowy Plover

The federal threatened western snowy plover (*Charadrius nivosus nivosus)* population breeds along the Pacific coast, from Washington to Baja California, mainly in California, on sandy coastal beaches or alkaline lakes. Plovers feed on crustaceans and beach flies on the beach and lake beds, and nest in colonies in sandy or gravelly areas, often using the same habitat areas every year. This species was recorded nesting in an agricultural evaporation pond area east of the Kings River in the northern portion of the project area in 1987 (CDFW 2023b); however, currently no suitable (alkaline lake or levee) habitat is present for this species.

Mammals

San Joaquin Kit Fox

San Joaquin kit fox (*Vulpes macrotis mutica*) is federally listed as endangered and state listed as threatened. It occurs in open grasslands and scrub and dens in open areas in loose-textured soils. Threats include loss and fragmentation of habitat, and the introduction of barriers to dispersal, such as highways and canals. This species is unlikely to be found within the project area because tilled agricultural fields lack suitable denning habitat, but it may sporadically occur onsite in transit between areas of higher habitat value in the region. There are several kit fox records from 3 miles east from 1988 (CDFW 2023b).

Tipton and Fresno Kangaroo Rats

Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), and Fresno kangaroo rat (*Dipodomys nitratoides exilis*) which are federally- and state-listed as endangered, are found in San Joaquin Valley lowlands, with the Fresno kangaroo rat having a more restricted range. Kangaroo rats live in arid grasslands in underground burrow systems constructed in berms, embankments, along fences or at bases of shrubs. The Tipton kangaroo rat was recorded approximately 1 mile east of the project area in valley sink scrub habitat in 2008 (CDFW 2023b), while the Fresno kangaroo

rat was recorded at Lemoore Air Base in 1993. These species have potential habitat located in levee embankments but have a low likelihood of dwelling on the proposed pipeline route itself due to high levels of human disturbance.

Nelson's antelope squirrel

Nelson's antelope squirrel (*Ammospermophilus nelsoni*) is a state-threatened species, which is found in arid annual grassland or shrubland with rolling hills or sandy washes with fine-textured soils, potentially with shrubs including saltbush (*Atriplex* spp.), California jointfir (*Ephedra californica*), bladderpod (*Physaria* spp.), goldenbush (*Astereae*), snakeweed (*Gutierrezia* spp.). The nearest CNDDB occurrence of this species is 4 miles south from 1951 (CDFW 2023b). It has low potential to occur in the project area due to lack of suitable grassland or shrubland habitat.

Buena Vista Lake Ornate Shrew

Buena Vista Lake Ornate Shrew (*Sorex ornatus relictus)* this federally endangered species was historically found throughout wetlands of the San Joaquin Valley floor, including Tulare Lake, but most of its native habitat is now drained and converted to agricultural land. It requires dense ground cover and moist soils to support prey species, but the project area consists mainly of tilled agricultural fields with little cover. Thus, this species has low potential to occur.

Plants

Four plants identified as rare in California were recorded in the vicinity of the project area (CDFW 2023b, CNPS 2023). Three of these, alkali-sink goldfields (*Lasthenia chrysantha*), San California alkali grass (*Puccinelia simplex*), and San Joaquin woollythreads (*Monolopia congdonii*), which is also a federally endangered species, are specialized to alkali scrub habitat, such as valley sink scrub, which is located 1 mile east of the northern portion of the project area. However, this habitat is not present along the proposed pipeline route, which is in disturbed road edges, agricultural fields, and canals. The fourth plant species, Panoche peppergrass (*Lepidium jaredii* ssp. *album*) is specialized to valley and foothill grassland habitat, which is also not present in the project area. Thus, these species are considered unlikely to occur on the proposed pipeline route. Rare plant surveys have not been conducted within the project area; thus, the potential for these species to occur has been identified based on analysis of habitat suitability, range, and database occurrences.

Fish

The lower Kings River in the project area terminates in an agricultural canal in the Tulare Lake basin. This stretch of river contains a mix of native and introduced fish species, including Sacramento pikeminnow (*Ptychocheilus grandis*), Sacramento sucker (*Catostomus occidentalis*), common carp (*Cyprinus carpio*), channel catfish (*Ictalurus punctatus*), and striped bass (*Morone saxatilis*). Due to isolation from the upper river due to Pine Flat Dam, and from the San Joaquin River and San Francisco Bay, the lower Kings River channel does not host special-status native fish, such as salmonids.

3.3.3 Regulatory Setting

Federal

Endangered Species Act of 1973, as amended

The FESA and subsequent amendments (United States Code [USC] title 16, Sections 1531–1543 [16 USC 1531–1543]) provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. In addition, the FESA defines species as threatened or endangered and provides regulatory protection for listed species. The FESA also provides a program for the conservation and recovery of threatened and endangered species as well as the conservation of designated critical habitat that USFWS determines is required for the survival and recovery of these listed species.

FESA Section 9 lists prohibited actions. The definition of "take" includes to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Although unauthorized take of a listed species is prohibited, take may be allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of "harm" includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. "Harass" is defined as actions that create the likelihood of injury to listed species by disrupting normal behavioral patterns related to breeding, feeding, and shelter significantly.

Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC 703–711) is the domestic law that affirms and implements a commitment by the United States to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. Unless and except as permitted by regulations, the MBTA makes it unlawful at any time, by any means, or in any manner to intentionally pursue, hunt, take, capture, or kill migratory birds anywhere in the United States. The law also applies to disturbance and removal of nests occupied by migratory birds or their eggs during the breeding season, whether intentional or incidental.

Bald and Golden Eagle Protection Act of 1940

The federal Bald and Golden Eagle Protection Act of 1940 (16 USC 668) protects bald eagles and golden eagles (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this act. Take of bald and golden eagles includes to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" (16 USC 668c). "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior (72 FR 31132, June 5, 2007; 50 CFR 22.3]).

Clean Water Act of 1972

The Clean Water Act (CWA) was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the structure for regulating discharges of pollutants to waters of the United States. The CWA is the primary federal law for protecting the quality of the nation's surface waters: lakes, rivers, and coastal wetlands.

Clean Water Act Section 401

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may discharge a pollutant into waters of the United States (defined below under *Clean Water Act Section 404*) must obtain certification from the state in which the discharge would originate. If appropriate, the applicant must obtain certification from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect a state's water quality—including projects that require approval by a federal agency, such as issuance of a Section 404 permit, described below—must also comply with CWA Section 401.

Clean Water Act Section 402

Pursuant to CWA Section 402, the State Water Board has adopted the General Construction Activity Storm Water Permit. This general permit applies to stormwater discharges from any construction activity that would disturb at least one acre of total land area, including clearing, grading, excavation, reconstruction, and dredging and filling activities. The general permit requires the site owner to notify the state, prepare and implement a storm water pollution prevention plan, and monitor the plan's effectiveness.

Minor (i.e., *de minimis*) discharge activities regulated by an individual or general permit under the National Pollutant Discharge Elimination System (NPDES), such as discharges resulting in construction dewatering, also require the General Order for Dewatering and Other Low Threat Discharge to Surface Waters Permit (CWA Section 402). Project applicants/proponents should apply for this permit at the same time they apply for the NPDES permit.

Clean Water Act Section 404

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the United States. The term "waters of the United States" refers to oceans, bays, rivers, streams, lakes, ponds, and wetlands. Before proceeding with proposed activities, applicants must obtain a permit from the U.S. Army Corps of Engineers (USACE) for all discharges of dredged or fill material into waters of the United States, including wetlands. Waters of the United States are under the jurisdiction of USACE and USEPA.

To comply with CWA Section 404, a project must first comply with several other environmental laws and regulations. USACE cannot issue an individual permit or verify the use of a general nationwide permit until the project has met the requirements of the National Environmental Policy Act (NEPA), the FESA, and the National Historic Preservation Act (NHPA). In addition, USACE cannot issue or verify any permit until a water quality certification, or a waiver of certification has been issued under CWA Section 401.

State

California Endangered Species Act

The CESA (Fish and Game Code Section 2050 et seq.) establishes state policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would satisfy the CESA if CDFW determines that the federal incidental take authorization is "consistent" with the CESA under Fish and Game Code Section 2080.1. Before a project results in a take of a species listed under the CESA, a take permit must be issued under Section 2081(b).

Fish and Game Code Section 1600

Section 1600 protects fish and wildlife resources of the state by regulating activities which divert, obstruct, or change rivers, streams or lakes providing habitat for fish and wildlife. The section requires notification to CDFW which may issue a Lake or Streambed Alteration Agreement to the applicant including reasonable measures to protect the affected resources.

Fish and Game Code Sections 2080 and 2081

Pursuant to Section 2081, import, export, take, or possess state-listed endangered, threatened, or candidate species are prohibited unless CDFW authorizes individuals or public agencies through permits or memoranda of understanding. If the take is incidental to an otherwise lawful activity, CDFW makes determination based on available scientific information whether the impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project operator ensures adequate funding to implement the measures required by CDFW.

Fish and Game Code Sections 3503, 3503.5, and 3513

Under these sections of the Fish and Game Code, a project operator is not allowed to conduct activities that would result in the take, possession, or destruction of any birds of prey; the take or possession of any migratory nongame bird; the take, possession, or needless destruction of the nest or eggs of any raptors or nongame birds; or the take of any nongame bird pursuant to Fish and Game Code Section 3800, whether intentional or incidental.

Fully Protected Species

Certain species are considered "fully protected," meaning that the California Fish and Game Code explicitly prohibits all take of individuals of these species except for scientific research.
Section 5050 lists fully protected amphibians and reptiles, Section 5515 lists fully protected fish, Section 3511 lists fully protected birds, and Section 4700 lists fully protected mammals.
A species can be protected under the California Fish and Game Code but not be fully protected. For instance, the mountain lion (*Puma concolor*) is protected under Section 4800 et seq. but is not a fully protected species.

Species of Special Concern

CDFW maintains lists of candidate-endangered species and candidate-threatened species. California candidate species are afforded the same level of protection as listed species. California also designates "species of special concern," which are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species or fully protected species but may be added to official lists in the future. CDFW intends the species of special concern list to be a management tool for consideration in future land use decisions.

California Environmental Quality Act Guidelines Section 15380

In addition to the protections provided by specific federal and state statutes, CEQA Guidelines Section 15380 provides that a species not listed on the federal or state list of protected species nonetheless may be considered rare or endangered for purposes of CEQA if the species can be shown to meet certain specified criteria:

(A) When its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors; or

(B) Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or

(C) The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the FESA.

Native Plant Protection Act

The NPPA (Fish and Game Code Sections 1900–1913) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of endangered or rare plants from the wild and require notifying CDFW at least 10 days in advance of any change in land use in areas that support listed plants.

California Rare Plant Ranking System

CDFW works in collaboration with CNPS to maintain a list of plant species native to California that have low numbers or limited distribution or are otherwise threatened with extinction. These species are categorized by rarity in the California Rare Plant Rank, or CRPR. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts on populations of CRPR species may receive consideration under CEQA review. The system ranks rare plants using the following definitions:

- Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.
- Rank 1B: Plants rare, threatened, or endangered in California and elsewhere.
- Rank 2A: Plants presumed extirpated in California, but more common elsewhere.
- Rank 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.

- Rank 3: Plants about which more information is needed—a review list.
- Rank 4: Plants of limited distribution—a watch list.

In general, plants with CRPR 1A, 1B, or 2 are considered to meet the criteria of CEQA Guidelines Section 15380 (discussed above). In addition, plants with CRPR Rank 1A, 1B, or 2 meet the definitions of California Fish and Game Code Section 1901, Chapter 10 (Native Plant Protection Act) and Sections 2062 and 2067 (CESA).

Local

The project area is located in Kings County and the 2035 General Plan contains the following goals and policies related biological resources (Kings County 2010).

Land Use (LU) Objective A1.2: Protect natural waterways to ensure continued water delivery and recharge to surrounding agricultural uses and related homesites, while maintaining the natural aesthetic appeal of the Kings River and Cross Creek waterway channels.

LU Policy A1.2.1: Water channels and riparian habitat along the Kings River and Cross Creek shall be designated "Natural Resource Conservation" with a minimum parcel size the same as the surrounding agricultural zone. This designation shall include the natural water channel and outer edge of the riparian vegetation, or to the exterior toe of the bank of the channel where absent of vegetation.

LU Policy A1.2.2: Natural Resource Conservation designated areas along waterways shall allow irrigation, flood control and drainage facilities as "Permitted Uses."

Resource Conservation (RC) Objective A2.1: Maintain the existing Kings River water conveyance system as a designated floodway, and encourage the preservation of riparian habitat along the Kings River consistent with state and federally mandated flood control purposes.

RC Policy A2.1.1: Recognize the Kings River Conservation District's responsibility to maintain the Kings River channels and levees for flood control purposes. On land within the floodway, allow farming and other uses that are consistent with the designated floodway regulations and any requirements of the Central Valley Flood Protection Board.

RC Policy A2.1.2: Apply the "Natural Resource Conservation" land use designation along the Kings River, Cross Creek, and in environmentally sensitive areas having existing natural watercourses, drainage basins, sloughs, or other natural water features. Permitted uses within designated floodway channels shall be limited to uses such as flood control channels, water pumping stations and reservoirs, irrigation ditches, water recharge basins, limited open public recreational uses such as passive riverside parks, related incidental structures, and agricultural crop production that does not include permanent structures. Any construction or development in this designation along the Kings River designated floodway channel shall be subject to the encroachment permit process required by the Central Valley Flood Protection Board.

RC Objective D2.1: Maintain compatible land uses in natural wetland habitats designated by state and federal agencies.

RC Policy D2.1.1: Follow state and federal guidelines for the protection of natural wetlands. Require developers to obtain authorization from the appropriate local, state, or federal agency prior to commencement of any wetland fill activities.

RC Policy D2.1.2: Use the California Environmental Quality Act (CEQA) process to assess wetland resources, and require mitigation measures for development which could adversely impact a designated wetland.

RC Objective D3.1: Ensure that, in development decisions affecting riparian environments, the conservation of fish and wildlife habitat and the protection of scenic qualities are balanced with other purposes representing basic health, safety, and economic needs.

RC Policy D3.1.1: Designate the Kings River as a resource conservation area, implemented by use of the Natural Resource Conservation overlay zone district.

RC Policy D3.1.2: Encourage the Kings River Conservation District to avoid substantial alteration of the Kings River channel and its riparian vegetation, consistent with their flood control responsibilities.

RC Policy D3.1.3: Evaluate the potential impact on the riparian environment of proposed development adjacent to the Kings River, beyond the boundaries of the designated floodway. Conservation of fish and wildlife habitat and protection of scenic qualities should be the guiding principle.

RC Policy D3.1.4: Prohibit development within riparian environments over which the County has jurisdiction. However, allow or consider for approval if it is determined that significant disturbance of the riparian environment would not occur, the following passive uses or activities:

- Streamside maintenance and repair for mandated flood control or water delivery purposes, facilities, and equipment;
- Road and utility line crossings;
- Grazing and similar agricultural production activities not involving structures or cultivation;
- Vegetation removal for integrated pest management programs under guidelines;
- Passive recreational uses such as riverside parks and bikeways.

RC Policy D3.1.5: Refer all discretionary permit applications for projects along the Kings River and Cross Creek to the appropriate local, state, and federal agencies for review and approval.

RC Objective E1.1: Require mitigation measures to protect important plant and wildlife habitats.

3.3.4 Impacts and Mitigation Measures

Methods of Analysis

The analysis of environmental impacts on biological resources focuses on the potential for substantial adverse effects on biological resources as a result of implementation of the proposed

project. Impacts were evaluated in terms of how potential construction activities, construction features, and operation of the proposed project could affect existing biological resources.

"Permanent impacts" are those that would continue through the life of a project as a result of the environmental conditions created by that project (e.g., conversion of land due to installation of a structure). "Temporary impacts" are those that would be short term (e.g., disturbance associated with construction equipment that would cease once construction is complete).

The approach to assessing biological resources impacts was qualitative. The impact analysis relies on the use of existing quantitative and qualitative data including but not limited to existing reports, desktop and field surveys, open access databases, and maps. Significance determinations assume that any activities undertaken pursuant to the proposed project would comply with all relevant federal, state, and local ordinances and regulations described in the regulatory setting.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, an impact related to biological resources is considered significant if the proposed project would do any of the following:

- 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 CDFW, USFWS, or the National Marine Fisheries Service (NMFS).
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community or critical habitat identified in local or regional plans, policies, or regulations or by CDFW, USFWS, or NMFS.
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- 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.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted habitat conservation plan (HCP), natural community conservation plan, or other approved local, regional, or state HCP.

Impacts Not Evaluated Further

Result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS. No riparian habitat or other sensitive natural communities are present in the project area, thus there would be **no impact** under this criterion.

The project area may contain wetlands in ditches and streambeds subject to regulatory agency approval for changes or use of material within the top-of-bank of channels or placement of dredged or fill materials below the ordinary high water mark; impacts to waters and wetlands are discussed below under Impact 3.3-2.

Conflict with the provisions of an adopted HCP, natural community conservation plan, or other approved local, regional, or state HCP. No adopted HCP, natural community conservation plan or other approved HCP covers the project area. Therefore, no impact would occur.

Impacts and Mitigation Measures

Table 3.3-1 summarizes the impact conclusions presented in this section.

TABLE 3.3-1
SUMMARY OF IMPACT CONCLUSIONS—BIOLOGICAL RESOURCES

Impact Statement	Impact Conclusion
3.3-1: Construction and operation of the proposed project could result in 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 CDFW or USFWS.	LSM
3.3-2: Construction and operation of the proposed project could result in a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means.	LSM
3.3-3: Construction and operation of the proposed project could 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.	LTS
3.3-4: Construction and operation of the proposed project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	LTS

NOTES: LTS = Less than Significant; LSM = Less than Significant with Mitigation

Impact 3.3-1: Construction and operation of the proposed project could result in 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 CDFW or USFWS.

As shown in Appendix C, the project area has moderate potential to host northwestern pond turtle in suitable aquatic habitat and special-status bird species such as burrowing owl in suitable grassland habitat with small mammal burrows, or Swainson's hawk in suitable nest trees. Kangaroo rats and San Joaquin kit fox also have potential to be present in transit, though they are unlikely to den in the project area due to high levels of human disturbance. In addition, trees, shrubs, or tall grasses in the project area may provide nest sites for a variety of migratory bird species, protected under federal and state law (see Section 3.3.3).

During construction of the proposed pipeline, ground disturbance from trenching may harm special-status species if trenches are placed in aquatic habitat. Installation of the pipeline may require vegetation removal using heavy equipment, which could adversely affect special-status

wildlife species through direct mortality or injury (e.g., from crushing of animals or nests by heavy machinery). Because the pipeline would be buried and the trench backfilled, ground disturbance would be limited to the trench and equipment routes. Construction work may also cause disturbance from excess noise, which could cause nest disturbance or abandonment to migratory birds.

Special-status plants have a low potential to occur in the project area due to widespread agricultural disturbance, roads and levees. There are no native plant areas nor riparian habitats along the proposed pipeline route. Thus, impacts to special-status plants are not expected.

Injury or mortality of special-status wildlife or nest disturbance or abandonment would be a significant impact. Impacts to special-status wildlife species (turtles, mammals, or protected birds) would be reduced to a less-than-significant level through implementation of **Mitigation Measures 3.3-1** and **3.3-2** below.

Mitigation Measures

The following measures to avoid or minimize disturbance of special-status species and nesting birds shall be implemented for the proposed project:

Mitigation Measure 3.3-1: Protection of Special-status Terrestrial Species

- For special status mammals, before the start of construction, a qualified biologist shall conduct a habitat assessment to determine presence of San Joaquin kit fox or kangaroo rat burrows or their signs. If no observations, burrows, or signs (e.g., scat) of special-status mammal species are detected, no further measures will be required.
  - If burrows and signs of kangaroo rat are observed, an approved biologist will conduct protocol-level surveys in accordance with *Survey Protocol for Determining Presence of San Joaquin Kangaroo Rats* (USFWS 2013). If positive signs of these species are detected during the survey, the contractor, under the supervision of the approved biologist, shall establish non-disturbance exclusion zones (using wildlife exclusion fencing [e.g., a silt fence or similar material]).
  - If signs of kit fox are observed, an approved biologist shall conduct pre-construction surveys in accordance with USFWS' *Standardized Recommendations for Protection of the San Joaquin Kit Fox prior to or during Ground Disturbance* (USFWS 2011). If potential dens are observed and avoidance is determined to be feasible by a qualified biologist in consultation with USFWS, buffer distances shall be established prior to construction activities. If avoidance of potential dens is not feasible, the biologist shall excavate these dens by hand with a shovel to prevent them from being used during construction.
- For the northwestern pond turtle, the contractor shall install temporary exclusion fencing around work areas within 200 feet of wetted channels that provide suitable habitat for the species. The fence shall be of a minimum aboveground height of 30 inches, and the bottom shall be buried to a depth of at least 6 inches. The fence shall be installed prior to ground-disturbing activities and monitored by a qualified biologist, who will check the fence alignment before vegetation clearing and fence installation to ensure no northwestern pond turtles are present.

  - If northwestern pond turtle is encountered during construction activities, it will be allowed to move out of harm's way of its own volition, or a qualified biologist shall relocate it to the nearest suitable habitat that is at least 100 feet outside of the construction impact area.

- Prior to moving equipment at the start of a day, construction personnel shall inspect underneath parked vehicles and heavy machinery for special-status terrestrial species. If any are found, they will be allowed to move out of the construction area under their own volition, or a qualified biologist shall relocate the organism(s) to the nearest suitable habitat that is at least 100 feet outside of the work area.

Mitigation Measure 3.3-2: Protection of Migratory Birds

To the extent practicable, vegetation removal shall be scheduled outside the breeding season for nesting raptors and other migratory birds (generally February 1 through August 31). Removal of vegetation outside of the nesting season is intended to minimize the potential for delays in vegetation removal due to active nests.

- If work is to occur during the nesting season, a qualified biologist shall conduct a pre-construction survey for nesting migratory birds and raptors within the project area. The pre-construction survey shall be conducted no more than 15 days prior to the initiation of construction in a given area. If an active nest is found, a construction-free buffer zone (250 feet for migratory birds, 500 feet for raptors) shall be established around the active nest site. If establishment of the construction-free buffer zone is not practicable, appropriate conservation measures (as determined by a qualified biologist and approved by CDFW) shall be implemented. These measures may include establishing a different construction-free buffer zone around the active nest site, conducting daily biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged.

- If occupied western burrowing owl burrows, or other migratory bird nest are detected during the breeding season and maintaining a 250-foot no-disturbance buffer is not practicable, CDFW shall be consulted to determine and approve alternative measures to minimize the potential for disturbance to occupied burrows and nesting activities. Measures may include continuous biological monitoring by a qualified biologist until it has been determined that the young have fledged or construction is complete. No direct disturbance of western burrowing owl burrows with eggs or young of any migratory bird can be conducted without written authorization from CDFW and USFWS.

  - If burrowing owls are detected outside of breeding season and maintaining a 150-foot, no-disturbance buffer from the burrows is not practicable, a qualified biologist shall submit an exclusion and passive-relocation plan to CDFW for approval. The exclusion and passive-relocation plan will generally follow the guidelines outlined in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012).

Significance after Mitigation: Implementing Mitigation Measures 3.3-1 and 3.3-2 would reduce potential impacts on special-status wildlife species by avoiding or minimizing impacts on these species. Therefore, this impact would be **less than significant with mitigation incorporated**.

Impact 3.3-2: Construction and operation of the proposed project could result in a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means.

The proposed pipeline alignment would cross the Tulare Lake Canal, other unnamed channels, and would be routed within existing irrigation canals with wetland vegetation (see Figure 2-2 and Appendix C photos). These waters are potentially subject to federal and/or state jurisdiction; impacts to jurisdictional waters, including wetlands, would require permits from the respective agencies, and impacts within channels may require authorization under the CWA and Fish and Game Code Section 1600.

Specifically, affected waters determined to be jurisdictional would require authorization by regulatory agencies including a Clean Water Act Section 401 certification and/or a USACE permit under Section 404. Compensatory mitigation is not anticipated, because all impacts are anticipated to be temporary; there are no anticipated permanent impacts from underground pipeline installation. Additionally, CDFW may require a Lake or Streambed Alteration Agreement (LSAA) for work within the top-of-bank of streambeds that may adversely affect wildlife resources due to a change or use of material within the bed or channel.

Construction of the proposed pipeline may require removal of wetland vegetation in the existing agricultural channels. Wetland loss would be temporary, as the pipeline would be placed underground and the surface area would be revegetated or allowed to revegetate naturally. Wetlands could also be affected during construction through accidental spills of contaminants (e.g., fuels or lubricants) from machinery, or from erosion and sediment runoff associated with construction-related ground disturbance, which could result in the discharge of fill into wetland features. Thus, the impact of construction on jurisdictional wetlands and other waters would be **potentially significant**. This impact would be reduced to a less-than-significant level through the implementation of **Mitigation Measure 3.3-3**.

Mitigation Measures

Mitigation Measure 3.3-3: Protection of Jurisdictional Wetlands and Other Waters

Prior to construction, an aquatic resources delineation shall be conducted in all aquatic work areas and submitted to the U.S. Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (Regional Water Board) for verification. Wetlands and other waters of the United States, and waters of the state that would be removed, lost, and/or degraded shall be replaced, restored, or enhanced on a "no net loss" basis, in accordance with all permits secured from and related requirements imposed by the USACE and/or Regional Water Board.

Significance after Mitigation: With implementation of **Mitigation Measure 3.3-3**, any temporary impacts on jurisdictional wetlands other and waters would be replaced, restored or enhanced on a "no net loss" basis, in accordance with all permits secured from and related requirements imposed by USACE and Regional Water Board. Therefore, this impact would be **less than significant with mitigation incorporated**.

Impact 3.3-3: Construction and operation of the proposed project could 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.

Construction of the pipeline could temporarily affect the ability of fish or terrestrial wildlife species such as small mammals or reptiles to move between areas of habitat used for foraging, cover or reproduction. However, the proposed pipeline location is within actively farmed agricultural fields and within a channel with vehicle traffic on the adjacent levees; thus, the area's present utility for movement and migration is minor. Because the proposed pipeline would be placed underground and the surface allowed to revegetate, the impact on movement of wildlife would be limited and of short duration. No nursery sites are known to be present along the proposed pipeline route.

Following construction, operational activities necessary to support the functionality of the pipeline would be minimal and similar to existing conditions and would not adversely affect wildlife migration or movement conditions. Thus, project activity would have a **less-than-significant impact** on movement and migration of wildlife.

Impact 3.3-4: Construction and operation of the proposed project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The Kings County General Plan calls for maintaining open space for natural resources, preserving wildlife habitat, and minimizing the removal of vegetation in wetland and riparian areas. The proposed pipeline alignment would adhere to these goals by minimizing disturbance of wetlands and other sensitive areas, and by restoring temporarily disturbed areas post-construction. Therefore, impacts under this criterion would be **less than significant**.

3.4 Cultural Resources

3.4.1 Introduction

This section examines the potential impacts of the proposed project on cultural resources. Although tribal cultural resources are discussed separately in Section 3.7, *Tribal Cultural Resources*, this section provides the associated regulatory context because some of the same mitigation measures for reducing impacts on cultural resources also apply to tribal cultural resources.

Comments addressing cultural resources were received in response to the NOP from the California Native American Heritage Commission (NAHC). The NAHC provided details on some cultural resource regulations pertaining to the proposed project and requested that the NAHC be contacted for a Sacred Lands File search and list of California Native American Tribes for the project site. Comments submitted in response to the NOP were considered in development of the impact analysis. See Appendix A for NOP comment letters.

The CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.) define the term "historical resource" as follows:

- A resource listed in or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register) (Public Resources Code [PRC] Section 5024.1).
- A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k), or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g).
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency's determination is supported by substantial evidence in light of the whole record (14 CCR 15064.5).

If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and PRC Section 15064.5 apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines (PRC Section 15000 et seq.), the site may be treated in accordance with the provisions of PRC Section 21083, pertaining to unique archaeological resources.

The term "indigenous," rather than "prehistoric," is used as a synonym for "Native American–related" (except when quoting). "Pre-contact" is used as a chronological adjective to refer to the period before the arrival of Euroamericans in the subject area. "Indigenous" and "pre-contact" are often but not always synonymous: The former term refers to a cultural affiliation and the latter is chronological.

This section also includes the key terms defined below.

- **Architectural Resource.** This resource type includes historic-era buildings, structures (e.g., bridges, canals, roads, utility lines, railroads), objects (e.g., monuments, boundary markers), and districts. Residences, cabins, barns, lighthouses, military-related features, industrial buildings, and bridges are some examples of architectural resources.
- **Archaeological Resource.** This resource type consists of indigenous, or pre-contact, and historic-era archaeological resources:
  - *Indigenous archaeological resources* consist of village sites, temporary camps, lithic scatters, roasting pits/hearths, milling features, petroglyphs, rock features, and burials. Associated artifacts include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (midden) containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs). Indigenous sites that were occupied into the historic era can have both pre-contact and historic-era artifacts.
  - *Historic-era archaeological resources* consist of townsites, homesteads, agricultural or ranching features, mining-related features, refuse concentrations, and features or artifacts associated with early military and industrial land uses. Associated artifacts include stone, concrete, or adobe footings and walls; artifact-filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. If a resource is considered a ruin (e.g., a building lacking structural elements, a structure lacking a historic configuration), it is classified as an archaeological resource.

3.4.1 Environmental Setting

The following provides a summary of pre-contact setting, ethnographic setting, and historic-era water development resources in the project site.

Pre-contact Period

Categorizing the pre-contact period into cultural stages allows researchers to describe a broad range of archaeological resources with similar cultural patterns and components during a given time frame, thereby creating a regional chronology. Rosenthal et al. (2007) provide a framework for the interpretation of the California Central Valley's pre-contact archaeological record and have divided human history in the region into three basic periods: *Paleo-Indian* (13,550–10,550 years before present [BP]), *Archaic* (10,550–900 BP), and *Emergent* (900–300 BP). The Archaic period is subdivided into three sub-periods: *Lower Archaic* (10,550–7550 BP), *Middle Archaic* (7550–2550 BP), and Upper Archaic (2550–900 BP). Economic patterns, stylistic aspects, and regional phases further subdivide cultural patterns into shorter phases. This scheme uses economic and technological types, socio-politics, trade networks, population density, and variations of artifact types to differentiate between cultural periods.

Ethnographic Setting

The project site is in a location historically attributed to the Yokuts, a Penutian-speaking people (Wallace 1978a, 1978b). At the time of European contact, the Central Valley was occupied by the Yokuts, who spoke a language from the California Penutian family of languages. The Yokuts

entered the San Joaquin Valley sometime before 600 BP, perhaps by force, as indicated by skeletal remains with fatal wounds inflicted by projectile points. Historically, Yokuts have been divided into three cultural-geographical groupings: Northern Valley, Southern Valley, and Foothills (Wallace 1978a, 1978b). The project site is within the territory of the Southern Valley group. The Southern Valley Yokuts territory included Tulare, Buena Vista, and Kern lakes and the lower portions of the Kings, Kaweah, Tule, and Kern rivers (Wallace 1978a).

Historic Setting

Water Development

Water in California and all aspects of its use and management have been of paramount concern since the state's inception. California Surveyor-General John A. Brewster recognized a need for a coordinated state water policy as early as 1856 (Jackson and Pisani 1983). In 1874, USACE Colonel Barton S. Alexander, chief engineer to the Military Division of the Pacific, concluded that large-scale irrigation was possible, and that much land could be reclaimed from swamps in the Sacramento–San Joaquin Delta for use in agriculture. Shortly after the report by the Alexander Commission, in 1878, the California Legislature established the Office of State Engineer with the responsibility for water planning in California.

In 1919, Robert S. Marshall, chief hydrographer of the U.S. Geological Survey, presented a statewide plan, sometimes referred to as the "Marshall Plan." The plan included a huge dam and reservoir on the Sacramento River, two major canals and lesser canals, aqueducts, tunnels, and storage reservoirs, all supplying water from Northern California to the Central Valley and even Southern California. Few people took Marshall's plan seriously and it would be more than a decade before a large-scale water conveyance project would be undertaken at the state level (JRP and Caltrans 2000).

Background Research and Survey

At the request of ESA, staff at the Southern San Joaquin Valley Information Center (SSJVIC) completed a records search of the California Historical Resources Information System for the project on December 18, 2023 (File No. 23-499). The project site for the records search consisted of the pipeline alignment and a 0.5-mile buffer for archaeological resources and the pipeline alignment and immediately adjacent areas for architectural resources. Previous surveys, studies, and cultural resources site records were reviewed. Records were also examined in the Built Environment Resources Directory for Kings County, which contains information on locations of recognized historical significance, including those evaluated for listing in the National Register of Historic Places, the California Register, the California Inventory of Historic Resources, California Historic Landmarks, and California Points of Historical Interest. The purpose of the records search was to 1) determine whether known cultural resources have been recorded within or adjacent to the project site; 2) assess the likelihood for unrecorded cultural resources to be present based on historical references and the distribution of nearby resources; and, 3) develop a context for the identification and evaluation of cultural resources.

The records at the SSJVIC indicate that five cultural resources studies have been previously completed within or immediately adjacent to the project site (**Table 3.4-1**). These studies

included background research as well as pedestrian surveys. No cultural resources were identified within or near the project site during these investigations.

TABLE 3.4-1
PREVIOUS CULTURAL RESOURCES STUDIES IN THE VICINITY OF THE PROJECT SITE

Study No.	Title	Author	Year	Findings
KI-00053	Archaeological Reconnaissance of the South Fork Kings River Watershed Project, Kings County, California. Volume 1: Narrative.	Van Bueren, Thad M. and Moratto, Michael J.	1985	None in Project Site
KI-00056	Wastewater Plant at Stratford, Kings County.	Dudley M. Varner and Kati Cursi	1978	None
KI-00063	Negative Archaeological Survey Report: 06-KIN-41 P.M. 33.0/39.6 06200-281400	Lawrence E. Welgel	1988	None
KI-00092	Negative Archaeological Survey Report: 06-KIN-41 P.M. 28.4/33.0., E.A. 364600, AC Overlay and Widen	Nishimura, Lisa	2000	None
KI-00196	Cultural Resources Inventory of Caltrans District 6 Rural Conventional Highways in Fresno, Western Kern, Kings, Madera, and Tulare Counties, Summary of Methods and Findings Contract No. 06A1106, Expenditure Authorization No. 06-0A7408	Leach-Palm, Laura, Brandy, Paul, King, Jay, Mikkelson, Pat, Seil, Libby, Hartman, Lindsay, and Bradeen, Jill	2010	P-16-000245 (Stratford Canal)

SOURCE: SSJVIC 2023

Three previously recorded cultural resources cross or are adjacent to the project site. These resources include the San Joaquin Valley Railroad [P-16-000122; no longer extant and recommended not eligible for the California Register (CRM Tech 2001)], the Henrietta-Alpaugh Transmission Line [P-16-000137; recommended not eligible for the California Register (URS 2001)], and the Stratford Canal [P-16-000245; not evaluated].

ESA cultural resources staff completed a survey of the project site on January 9, 2024. The survey included the Kings River crossing between the Blakely Canal and the Tulare Lake Canal and followed the pipeline alignment east and north through the town of Stratford. The pedestrian survey was conducted through the fallowed agricultural land (the pipeline would be installed under existing open irrigation canals) as well as along the Stratford Canal, 20th Avenue, and over some proposed portion of the pipeline to the north. Ground surface visibility throughout the survey was excellent at up to 80 percent. No pre-contact cultural resources or other indications of indigenous past use or occupation was identified during the survey effort.

3.4.2 Regulatory Setting

State

California Environmental Quality Act

CEQA (PRC Section 21000 et seq.) is the principal statute governing environmental review of projects occurring in California. CEQA requires lead agencies to determine whether a proposed project would have a significant effect on the environment, including a significant effect on

historical resources or unique archaeological resources. Under CEQA (PRC Section 21084.1), a project that may cause a substantial adverse change in the significance of a historical resource or unique archaeological resource is a project that may have a significant effect on the environment.

The California Office of Historic Preservation (OHP), an office of the California Department of Parks and Recreation, oversees adherence to CEQA regulations and maintains the California Historical Resource Inventory. Typically, a resource must be more than 50 years old to be considered a potential historical resource. OHP advises recording any resource 45 years or older, because there is commonly a five-year lag between identification of a resource and the date that planning decisions are made.

Historical Resources

The CEQA Guidelines (14 CCR 15000 et seq.) recognize that any of the following is a historical resource:

- A resource listed in or eligible for listing in the California Register.
- A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k), or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g).
- Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and 14 CCR 15064.5 apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site may be treated in accordance with the provisions of PRC Section 21083, pertaining to unique archaeological resources.

Unique Archaeological Resources

As defined in PRC Section 21083.2, a "unique archaeological resource" is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

The CEQA Guidelines note that if an archaeological resource is not a unique archaeological resource, historical resource, or tribal cultural resource, the effects of the project on those cultural resources shall not be considered a significant effect on the environment (14 CCR 15064.5[c][4]).

Tribal Cultural Resources

Impacts on tribal cultural resources are also considered under CEQA (PRC Section 21084.2). CEQA recognizes that California Native American Tribes have expertise with regard to their tribal history and practices. PRC Section 21074(a) defines a "tribal cultural resource" as any of the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following:
  - Included or determined to be eligible for inclusion in the California Register.
  - Included in a local register of historical resources, as defined in PRC Section 5020.1(k).
- 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 [PRC] Section 5024.1.

In applying these criteria, the lead agency would consider the significance of the resource to a California Native American Tribe.

A cultural landscape that meets the criteria of PRC Section 21074(a) is also a tribal cultural resource if the landscape is geographically defined in terms of the size and scope. A historical resource as described in PRC Section 21084.1, a unique archaeological resource as defined in PRC Section 21083.2, or a non-unique archaeological resource as defined in PRC Section 21083.2 may also be a tribal cultural resource under CEQA if it meets the criteria identified in PRC Section 21074(a).

CEQA requires lead agencies to analyze the impacts of projects on tribal cultural resources separately from impacts on archaeological resources (PRC Sections 21074 and 21083.09) because tribal cultural resources have cultural values beyond their ability to yield data important to prehistory or history. Tribal consultation pursuant to PRC Section 21080.3.1 applies to projects for which an NOP or notice of negative declaration/mitigated negative declaration was filed on or after July 1, 2015 and for which the CEQA lead agency has received formal requests from California Native American Tribes to be notified of that agency's projects subject to review under CEQA, and such California Native American Tribes respond in writing within 30 days of receiving the project notification from the CEQA lead agency. On April 6, 2022, the Santa Rosa Rancheria Tachi Yokut Tribe provided SPUD with a formal request for consultation pursuant to PRC Section 21080.3.1 for projects which SPUD serves as the CEQA lead agency.

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from

substantial adverse change" (PRC Section 5024.1[a]). The criteria for eligibility for the California Register are based upon the criteria for listing in the National Register (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a cultural resource must be significant at the local, state, and/or federal level under one or more of the following four criteria:

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

A resource eligible for the California Register must be of sufficient age and retain enough of its historic character or appearance (integrity) to convey the reason for its significance. Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed in the National Register (and those formally determined eligible for the National Register).
- California Registered Historical Landmarks from No. 770 onward.
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Resources Commission for inclusion in the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register).
- Individual historic resources.
- Historic resources contributing to historic districts.
- Historic resources designated or listed as local landmarks, or designated under any local ordinance, such as a historic preservation overlay zone.
- Tribal cultural resources.

California Public Resources Code Section 5097

PRC Section 5097.99, as amended, states that no person shall obtain or possess any Native American artifacts or human remains that are taken from a Native American grave or cairn. Any

person who knowingly or willfully obtains or possesses any Native American artifacts or human remains is guilty of a felony, which is punishable by imprisonment. Any person who removes, without authority of law, any such items with an intent to sell or dissect or with malice or wantonness is also guilty of a felony, which is punishable by imprisonment. PRC Section 5097.5 specifies that any unauthorized removal of paleontological remains is a misdemeanor.

California Native American Historic Resource Protection Act

The California Native American Historic Resource Protection Act of 2002 imposes civil penalties, including imprisonment and fines up to $50,000 per violation, for persons who unlawfully and maliciously excavate upon, remove, destroy, injure, or deface a Native American historic, cultural, or sacred site that is listed or may be listed in the California Register.

California Health and Safety Code Section 7050.5

Section 7050.5 of the California Health and Safety Code (HSC) protects human remains by prohibiting the disinterment, disturbance, or removal of human remains from any location other than a dedicated cemetery. PRC Section 5097.98 (reiterated in 14 CCR 15064.59[e]) also identifies steps to follow in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery.

Local

The Kings County 2035 General Plan provides the following relevant goals and policies related to cultural resources:

GOAL I1: Preserve significant historical and archaeological sites and structures that represent the ethnic, cultural, and economic groups that have lived and worked in Kings County.

Objective I1.1: Promote the rehabilitation or adaptation to new uses of historic sites and structures.

Policy I1.1.2: Direct proposed developments that may affect proposed or designated historic sites or County landmarks to the Kings County Museum Advisory Committee or other similarly purposed advisory body under the Kings County Parks and Recreation Advisory Commission for review and comment.

Policy I1.1.3: Encourage the protection of cultural and archaeological sites with potential for placement on the National Register of Historic Places and/or inclusion in the California Inventory of Historic Resources.

Objective I1.2: Identify potential archaeological and historical resources and, where appropriate, protect such resources.

Policy I1.2.1: Participate in and support efforts to identify significant cultural and archaeological resources and protect those resources in accordance to Public Resources Code Section 5097.9 and 5097.993.

Policy I1.2.2: Continue to solicit input from local Native American communities in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.

Policy I1.2.3: Address archaeological and cultural resources in accordance with CEQA for discretionary land use applications.

Policy I1.2.5: The County will respectfully comply with Government Code Section 6254(r) and 6254.10 by protecting confidential information concerning Native American cultural resources. For example, adopting internal procedures such as keeping confidential archaeological reports away from public view or discussion in public meetings.

Policy I1.2.6: The County shall work in good faith with the Santa Rosa Rancheria Tachi Yokut Tribe ("Tribe"), the developer and other parties if the Tribe requests return of certain Native American artifacts from private development projects (e.g. for interpretive or educational value). The developer is expected to act in good faith when considering the Tribe's request for artifacts. Artifacts not desired by the Tribe shall be placed in a qualified repository as established by the California State Historical Resources Commission. If no facility is available, then all artifacts shall be donated to the Tribe.

3.4.3 Impacts and Mitigation Measures

Methods of Analysis

Historical Resources

Impacts on historical resources are assessed by identifying any activities that would affect them, such as new construction, demolition, or substantial alteration. Individual properties and districts identified as historical resources under CEQA include those that are significant because of their association with important events, people, or architectural styles or master architects, or for their informational value (California Register Criteria 1, 2, 3, and 4) and that retain sufficient historic integrity to convey their significance. Criterion 4 is typically applied to the evaluation of archaeological resources and not to architectural resources. Historical resources may include architectural resources and archaeological resources.

Once a resource has been identified as significant, it must be determined whether the impacts of the project would "cause a substantial adverse change in the significance" of the resource (14 CCR 15064.5[b]). A "substantial adverse change in the significance" of a historical resource means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of [the] historical resource would be materially impaired" (14 CCR 15064.5[b][1]). A historical resource is materially impaired through the demolition or alteration of the resource's physical characteristics that convey its historical significance and that justify its inclusion in (or eligibility for inclusion in) the California Register or a qualified local register (14 CCR 15064.5[b][2]). Therefore, material impairment of historical resources constitutes a significant impact.

Archaeological Resources

The significance of most pre-contact and historic-era archaeological sites are often assessed relative to California Register Criterion 4. This criterion stresses the importance of the information potential contained within an archaeological site, rather than the significance of the site as a surviving example of a type or its association with an important person or event.

Increasingly archaeological resources are also evaluated under California Register Criterion 1, 2, and 3, for events associated with pre-contact lifeways, association with important people, and/or construction type/merit. Archaeological resources may also qualify as historical resources under the definition provided in 14 CCR 15064.5(a). Alternatively, they may be assessed under CEQA as unique archaeological resources. "Unique archaeological resources" are defined as archaeological artifacts, objects, or sites that contain information needed to answer important scientific research questions (PRC Section 21083.2).

A substantial adverse change in the significance of an archaeological resource is assessed similarly to such changes to other historical resources; that is, a "substantial adverse change in significance" means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of [the] historical resource would be materially impaired" (14 CCR 15064.5[b][1]). As stated previously, a historical resource is materially impaired when a project demolishes or materially alters the resource's physical characteristics that convey its historical significance and that justify its inclusion (or eligibility for inclusion) in the California Register or a qualified local register (14 CCR 15064.5[b][2]). Therefore, material impairment of archaeological resources that are considered historical resources or unique archaeological resources would be a significant impact.

Human Remains

Human remains, including those buried outside of formal cemeteries, are protected under several state laws, including PRC Section 5097.98 and HSC Section 7050.5. For the purposes of this analysis, intentional disturbance, mutilation, or removal of interred human remains without following the notification and consultation procedures outlined in PRC Section 5097.89 and HSC Section 7050.5 would be a significant impact.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, an impact related to cultural resources is considered significant if the proposed project would do any of the following:

- Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.

The following analysis describes archaeological resources, both as historical resources according to CEQA Guidelines Section 15064.5 and as unique archaeological resources as defined in PRC Section 21083.2(g).

Impacts Not Further Evaluated

Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.

The following discussion focuses on architectural resources. Archaeological resources, including archaeological resources that are potentially historical resources according to CEQA Guidelines Section 15064.5, are addressed under Impact 3.4-1.

Based on the results of the records search, background research, and survey effort there are no historical resources present in the areas of the proposed pipeline alignment where construction would occur. As such, there are no architectural or structural resources in the proposed pipeline alignment where construction would occur that qualify as historical resources, as defined in CEQA Guidelines Section 15064.5, and there would be **no impact** on historical resources.

Impacts and Mitigation Measures

Table 3.4-2 summarizes the impact conclusions presented in this section.

TABLE 3.4-2
SUMMARY OF IMPACT CONCLUSIONS—CULTURAL RESOURCES

Impact Statement	Impact Conclusion
3.4-1: Construction and operation of the proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.	LSM
3.4-2: Construction and operation of the proposed project could disturb human remains, including those interred outside of dedicated cemeteries.	LSM

NOTES: LSM = Less than Significant with Mitigation

Impact 3.4-1: Construction and operation of the proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

CEQA Guidelines Section 15064.5 requires the lead agency to consider the effects of a project on archaeological resources. A significant impact would occur if a project would cause a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource.

As a result of the records search, background research, and survey effort, it was determined that no known archaeological resources are present within the proposed pipeline alignment where construction would occur. Based on the survey results and environmental context, there is a low potential that unknown archaeological resources could be discovered during project implementation.

In the unlikely event that a previously unrecorded archaeological resource is identified during project ground-disturbing activities and found to qualify as a historical resource or a unique

archaeological resource, any impacts on the resource resulting from the project could be potentially significant.

Implementation of **Mitigation Measure 3.4-1: Inadvertent Discovery of Archaeological Resources or Tribal Cultural Resources** would reduce potentially significant impacts to **less than significant**. In the event of an inadvertent discovery of an archaeological or tribal cultural resource, this mitigation will ensure that work is halted in the vicinity until a qualified archaeologist can make an assessment and provide additional recommendations if necessary, including contacting Native American Tribes.

Mitigation Measures

Mitigation Measure 3.4-1: Inadvertent Discovery of Archaeological Resources or Tribal Cultural Resources.

If pre-contact or historic-era archaeological resources are encountered during project implementation, all construction activities within 100 feet shall halt, and a qualified archaeologist shall inspect the find within 24 hours of discovery and notify SPUD of the initial assessment. Pre-contact archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include building or structure footings and walls, and deposits of metal, glass, and/or ceramic refuse.

If SPUD determines, based on recommendations from a qualified archaeologist and a Native American representative (if the resource is pre-contact indigenous related), that the resource may qualify as a historical resource or unique archaeological resource (as defined in CEQA Guidelines Section 15064.5) or a tribal cultural resource (as defined in Public Resources Code [PRC] Section 21080.3), the resource shall be avoided if feasible. Consistent with Section 15126.4(b)(3), this may be accomplished through planning construction to avoid the resource, or incorporating the resource within open space, capping and covering the resource.

If avoidance is not feasible, SPUD shall consult with appropriate Native American Tribes (if the resource is pre-contact indigenous related), and other appropriate interested parties to determine treatment measures to avoid, minimize, or mitigate any potential impacts to the resource pursuant to PRC Section 21083.2, and CEQA Guidelines Section 15126.4. This shall include documentation of the resource and may include data recovery (according to PRC Section 21083.2), if deemed appropriate, or other actions such as treating the resource with culturally appropriate dignity and protecting the cultural character and integrity of the resource (according to PRC Section 21084.3).

Significance After Mitigation: Implementation of **Mitigation Measure 3.4-1** would require implementation of a protocol for assessment and treatment of any archaeological resources identified during construction activities and would reduce any potential impacts on archaeological resources associated with construction. Therefore, this impact would be **less than significant with mitigation incorporated**.

Impact 3.4-2: Construction and operation of the proposed project could disturb human remains, including those interred outside of dedicated cemeteries.

The records search and background research determined that no human remains are known to exist within the proposed pipeline alignment where construction would occur. Therefore, the project is not anticipated to impact human remains, including those interred outside of formal cemeteries.

While unlikely, if any previously unknown human remains were encountered during ground-disturbing activities, impacts on the human remains resulting from the project could be potentially significant.

Implementation of **Mitigation Measure 3.4-2: Inadvertent Discovery of Human Remains** would reduce potentially significant impacts to less than significant. This measure shall comply with applicable state laws, including Section 7050.5 of the Health and Safety Code. This would require work to halt in the vicinity of a find and the immediate notification of the County coroner. If the coroner determines that the human remains are Native American, they will notify the California Native American Heritage Commission, who shall appoint a Most Likely Descendant.

Mitigation Measures

Mitigation Measure 3.4-2: Inadvertent Discovery of Human Remains.

If potential human remains are encountered, all work will halt within 100 feet of the find and SPUD will be contacted by on-site construction crews. SPUD will contact the Kings County coroner in accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission. As provided in PRC Section 5097.98, the Native American Heritage Commission will identify the person or persons believed to be the Most Likely Descendant. The Most Likely Descendent will make recommendations for the means of treating, with appropriate dignity, the human remains and any associated grave goods, as provided in PRC Section 5097.98.

Significance After Mitigation: Implementation of **Mitigation Measure 3.4-2** would require implementation of a protocol for assessment and treatment of any potential human remains identified during construction activities and would reduce any potential impacts on human remains associated with construction. Therefore, this impact would be **less than significant with mitigation incorporated**.

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3.5 Hydrology and Water Quality

3.5.1 Introduction

This section addresses hydrology and water quality in the project area and analyzes the potential effects of implementing the proposed project.

The environmental setting and evaluation of impacts on hydrology and water quality is based on the review of relevant plans (e.g., water quality control plans [basin plans] and groundwater sustainability plans [GSPs]). This section presents a qualitative assessment of potential impacts associated with implementation of the proposed project.

Comments were received from North Fork Kings Groundwater Sustainability Agency, Kings River Water Association, Tulare Lake Canal Company, Tulare Lake Basin Water Storage District and Westlands Water District in response to the NOP that specifically addressed hydrology and water quality. The comments related to proposed project operation, including the source, volume and/or transport of groundwater and surface water supplies, and potential impacts of proposed project operation on groundwater sustainability in underlying and adjacent subbasins (e.g., Tulare Lake Subbasin, Kings River Subbasin). Comments submitted in response to the NOP were considered in the development of the impact analysis. See Appendix A for NOP comment letters.

3.5.2 Environmental Setting

Surface Water

The project area is located in the Tulare Lake Hydrologic Region, an essentially closed basin situated in the topographic horseshoe formed by the Diablo and Temblor ranges to the west, by the San Emigdio and Tehachapi mountains to the south, and by the Sierra Nevada to the east and southeast (Central Valley Regional Water Board 2018). Refer to Figure 2-2 for surface water features (e.g., Kings River) in the vicinity of the proposed project.

The Kings River originates as snowmelt in the Sierra Nevada, flowing approximately 132 miles to the San Joaquin Valley. Pine Flat Dam, located 95 river miles upstream of where the South Fork Kings River joins the Tulare Lakebed, separates the upper and lower reaches of the river. The lower Kings River flows across the gently sloping alluvial plain of the San Joaquin Valley where water is diverted for agricultural irrigation, municipal water uses, and flood control (U.S. Environmental Protection Agency 2007). The Kings River is one of the largest sources of surface water supply to the Tulare Lake Subbasin (described in more detail in the following section).

Extensive water supply delivery systems have been developed to move surface water supplies for irrigation, flood control, and land reclamation (South Fork Kings Groundwater Sustainability Agency 2020). Several surface water conveyance features (canals) are present in the vicinity of the proposed project that convey both surface water from the lower Kings River and pumped groundwater. These include Empire, Stratford, Blakely, and Tulare Lake canals. These manmade canals convey water for irrigation.

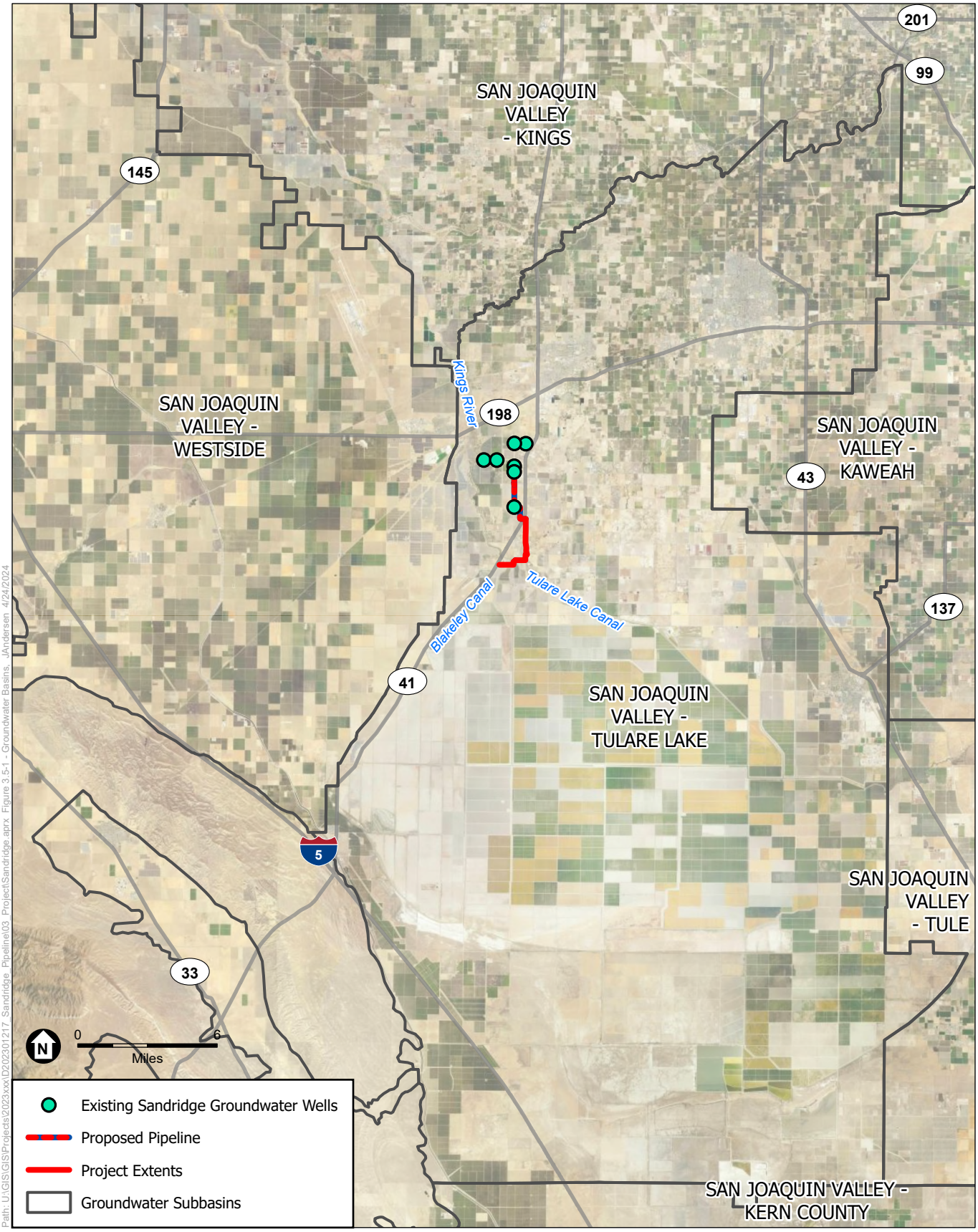
Groundwater

The proposed project is located within the Tulare Lake Subbasin (5-22.12) portion of the San Joaquin Valley Groundwater Basin (**Figure 3.5-1**). The Tulare Lake Subbasin covers an area of approximately 535,689 acres (837 square miles) and is located primarily in Kings County in the Tulare Lake Hydrologic Region of the San Joaquin Valley (South Fork Kings Groundwater Sustainability Agency 2020). The Tulare Lake Subbasin is bounded on the south by the Kings-Kern County line, on the west by the California Aqueduct, the eastern boundary of the Westside Groundwater Subbasin, and the Tertiary marine sediments of the Kettleman Hills. It is bounded on the north by the southern boundary of the Kings Groundwater Subbasin, and on the east by the westly boundaries of the Kaweah and Tule Groundwater subbasins (see Figure 3.5-1). The southern half of the Tulare Lake Subbasin consists of lands in the former Tulare Lakebed in Kings County. Average annual precipitation is seven inches throughout most of the subbasin and nine inches at the northern margin (California Department of Water Resources 2006).

Groundwater recharge in the Tulare Lake Subbasin occurs primarily by direct infiltration of surface water from the Kings River and unlined surface water conveyance features (e.g., canals)[1], and from deep percolation where surface water is applied for agricultural irrigation. Groundwater discharge is predominately by groundwater extraction along the eastern and northern portions of the Tulare Lake Subbasin where water quality and well yields are higher than near Tulare Lake. Some discharge is impacted by direct soil evaporation and evapotranspiration, particularly in areas where groundwater is less than 10 feet below ground surface (bgs). Pumped groundwater may be used for direct irrigation on nearby lands or piped into municipal or agricultural water delivery systems. There also exists subsurface inflows from and outflows to adjacent subbasins. Water is imported into the Tulare Lake Subbasin using facilities of the State Water Project (SWP) located to the west and the Central Valley Project (CVP) (South Fork Kings Groundwater Sustainability Agency 2020).

Historically, groundwater movement in the subbasin was dominated by recharge of surface water on the alluvial fans of the rivers and stream emanating from the Sierra Nevada and by the discharge sinks created by evaporation from Tulare Lake and evapotranspiration created by the swamps and marshes along the periphery of the Lake. By 1952, groundwater development interrupted the flow of groundwater. In 2016, after roughly five years of severe drought, groundwater levels declined by 100 to more than 200 feet bgs. Groundwater pumping and drawdown and consequent land subsidence are anticipated to continue until withdrawals from the deep confined aquifer can be managed so that sustainable groundwater pumping is achieved (South Fork Kings Groundwater Sustainability Agency 2020).

[1] Unlined canals can have significant seepage loss; however, there are no known available seepage tests along the majority of the canal reaches in the Tulare Lake Subbasin (South Fork Kings Groundwater Sustainability Agency 2020).



SOURCE: CA DWR 2023; ESA, 2024

Sandridge Irrigation Pipeline Extension

Figure 3.5-1
Groundwater Basins

ESA

Groundwater Management

The Tulare Lake Subbasin is classified as a high-priority subbasin by the California Department of Water Resources (DWR) and is considered to be in critically-overdrafted condition. In compliance with the Sustainable Groundwater Management Act (SGMA; discussed in more detail in Section 3.5.3), subbasins subject to critical conditions are required to prepare and adopt a Groundwater Sustainability Plan (GSP). The GSP aims to manage groundwater resources to continue to provide an adequate water supply for existing beneficial uses and users in accordance with counties and cities general plans while meeting established measurable objectives to maintain a sustainable yield. The goal aims to continue to provide adequate water supply for existing beneficial uses and users while ensuring the future, sustainable use of groundwater (South Fork Kings Groundwater Sustainability Agency 2020).

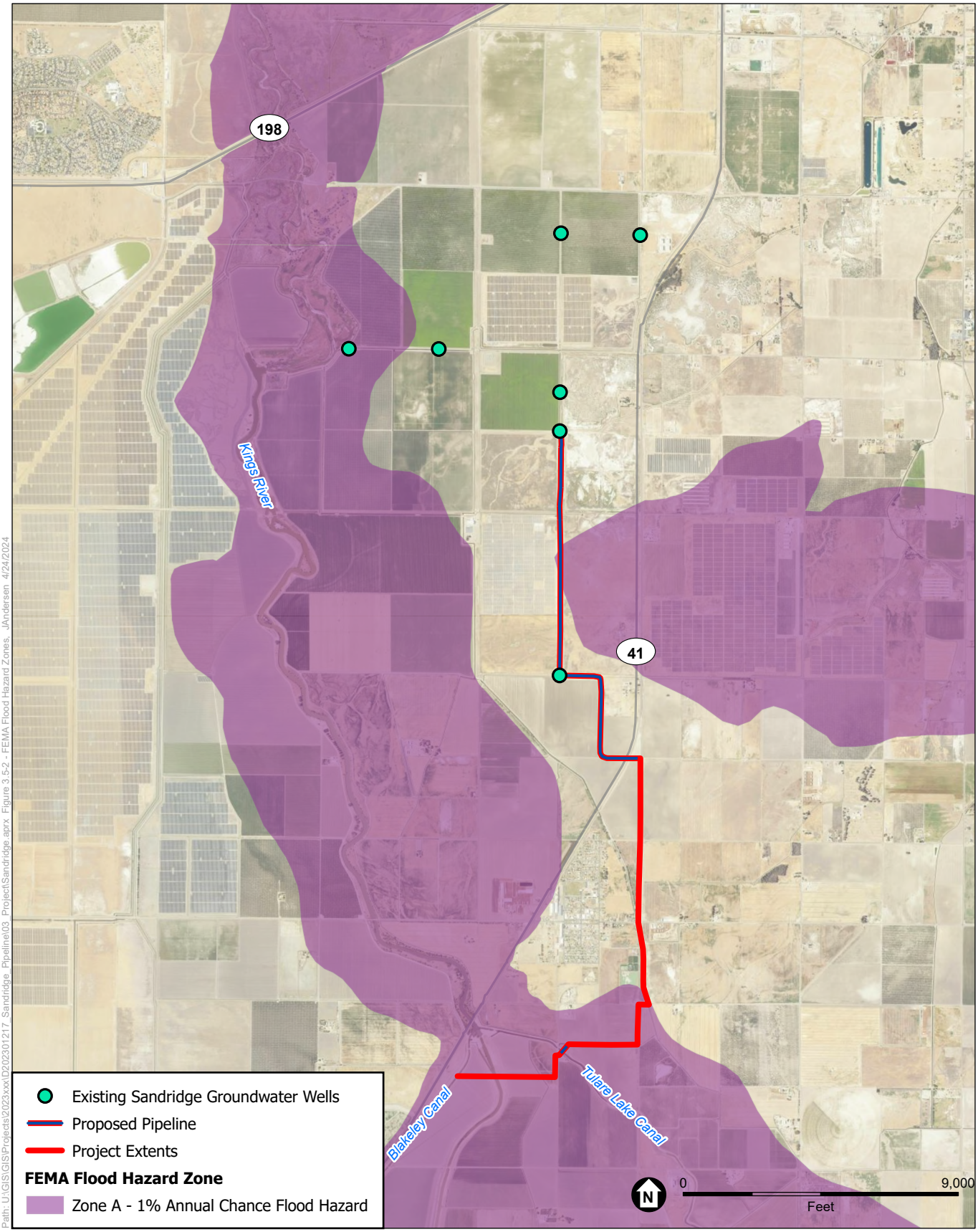
Five participating Groundwater Sustainability Agencies (GSAs) coordinated to develop the Tulare Lake Subbasin GSP (South Fork Kings Groundwater Sustainability Agency 2020; 2022) in compliance with the Sustainable Groundwater Management Act (SGMA). The five GSAs are the Mid-Kings River, South Fork Kings (covering the project area), Southwest Kings, El Rico, and the Tri-County Water Authority.

In March 2023, DWR determined the Tulare Lake Subbasin GSP to be inadequate, citing that the current plan allows substantial impacts to communities who rely on domestic wells and to critical infrastructure. The State Water Resources Control Board (State Water Board) identified specific deficiencies in the Tulare Lake Subbasin GSP (South Kings Groundwater Sustainability Agency 2022) including chronic lowering of groundwater levels with insufficient management criteria, continued land subsidence (sinking), and further degradation of groundwater quality (State Water Resources Control Board 2023). The State Water Board outlined potential corrective actions to address those specific deficiencies including defining and avoiding undesirable results related to chronic lowering of groundwater levels and land subsidence and updating the water quality monitoring plan to be consistent with GSP regulations (State Water Resources Control Board 2023).

To end State Water Board intervention in a groundwater basin, GSAs must demonstrate their ability and willingness to manage groundwater sustainably and address the issues that caused state intervention to occur. Ultimately, the State Water Board will evaluate any updated and adopted GSP as a whole and will determine whether the GSAs have addressed the deficiencies, whether the GSP is consistent with SGMA, and whether the GSAs are implementing the GSP in a manner that the State Water Board finds will likely achieve sustainability in the subbasin (State Water Resources Control Board 2023).

Flooding

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) were viewed on FEMA's Natural Flood Hazard Layer (NFHL) Viewer (FEMA 2024) to identify flood hazard zones in project area (see **Figure 3.5-2**). The majority of the already constructed portions of the project and the portions of the pipeline just to the east of the City of Stratford are designated on FEMA's current FIRM as within Zone X (unshaded), an area determined to be outside the 0.2-percent-annual-chance floodplain. However, portions of the project area south of



SOURCE: FEMA 2023; ESA, 2024

Sandridge Irrigation Pipeline Extension

Figure 3.5-2
FEMA Flood Hazard Zones

ESA

the city of Stratford and crossing Kansas Avenue, and near the Tulare Lake Canal are within designated in Zone A, an area subject to a 1-percent-annual-chance flood (100-year flood event).

3.5.1 Regulatory Setting

Federal and state plans, policies, regulations, and laws and regional or local plans, policies, regulations, and ordinances pertaining to hydrology and water quality are discussed in this section.

Federal

Federal Emergency Management Agency

FEMA establishes and maintains minimum federal standards for floodplain management in the United States and its territories. The agency has a major role in managing and regulating floodplains. FEMA establishes minimum requirements for local communities' management of "floodplain areas," which are defined as lowland and relatively flat areas adjoining inland and coastal waters that are subject to flooding. FEMA also helps develop the FIRMs, which delineate the Special Flood Hazard Areas (SFHA) and the risk premium zones applicable to the community for flood insurance purposes. SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood (FEMA 2020).

Clean Water Act

The Clean Water Act (CWA) is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and wetlands. It consists of the Federal Water Pollution Control Act of 1972 and subsequent amendments. The following are the key sections of the CWA pertaining to water quality regulation, as discussed in more detail below:

- Section 303—listing of impaired water bodies.
- Section 401—water quality certification.
- Section 402—National Pollutant Discharge Elimination System (NPDES) permits for stormwater discharge, including the State Water Board's municipal stormwater permitting system and General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit).
- Section 404—discharge of dredged and fill materials into waters of the United States.

See Section 3.3, *Biological Resources,* for additional information.

Section 303

CWA Section 303(d) requires states to develop lists of water bodies that do not attain water quality objectives after point-source dischargers (municipalities and industries) have implemented the required levels of treatment. Section 303(d) requires that the state develop a "total maximum daily load" (TMDL) for each listed pollutant. The TMDL is the amount of pollutant that the water body can receive and still comply with water quality objectives, and a plan to reduce loading of a specific pollutant from various sources to achieve compliance. USEPA must either approve a TMDL prepared by the state or disapprove the state's TMDL and issue its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the

TMDL. It is anticipated that the problems that led to a given pollutant to be placed on the Section 303(d) list will have been remediated after implementation of the TMDL (USEPA 2023b).

Section 401

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification for the discharge. The certification must be obtained from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over the affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require approval by a federal agency, such as issuance of a Section 404 permit) must also comply with CWA Section 401.

To obtain water quality certification, potential impacts must be evaluated in light of water quality standards and CWA Section 404 criteria governing the discharge of dredged and fill materials into waters of the United States. The federal government delegates authority for water pollution control under CWA Section 401 to the states (and in California, ultimately to the regional water quality control boards [regional water board]).

Section 402

CWA Section 402 establishes the NPDES permit program to regulate discharges of pollutants into waters of the United States. An NPDES permit sets specific discharge limits for point sources that discharge pollutants into waters of the United States and establishes monitoring and reporting requirements, as well as special conditions. The NPDES program controls two types of nonpoint-source discharges: discharges caused by general construction activities and the general quality of stormwater in municipal stormwater systems. The goal of the NPDES nonpoint-source regulations is to improve the quality of stormwater discharged to receiving waters to the maximum extent practicable. Regional water boards in California are responsible for implementing the NPDES permit system (see the discussion of state regulations below).

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act established the State Water Board and divided the state into nine regions, each overseen by a regional water board. The State Water Board holds authority over statewide water resources allocation and water quality protection for both surface waters and groundwaters. The State Water Board allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine regional water boards. The regional water boards have primary responsibility for coordinating and controlling water quality within their respective jurisdictional boundaries. Under the Porter-Cologne Act, "water quality objectives" are limits or levels of water quality constituents or characteristics established for the protection of beneficial uses.

The Porter-Cologne Act requires the regional water boards to establish water quality objectives, while acknowledging that water quality may be changed to some degree without unreasonably

affecting beneficial uses. Designated beneficial uses, together with the corresponding water quality objectives, and an antidegradation policy also constitute water quality standards under the federal CWA. The water quality objectives provide requirements for water quality control. A permit, or waste discharge requirements, would be required for impacts on any waters of the state. The waste discharge requirements would be issued by the Central Valley Regional Water Board. Under the Porter-Cologne Act, discharges to all waters of the state, including all wetlands and other waters of the state (including but not limited to isolated wetlands), are subject to state regulation.

A discharger whose project would disturb one or more acres of soil, or would disturb less than one acre but would be part of a larger common plan of development that in total would disturb one or more acres, must obtain coverage under the Construction General Permit (Order No. 2009-009-DWQ). Construction activity subject to this permit includes clearing, grading, grubbing, and disturbances to the ground such as stockpiling or excavation; however, it does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a SWPPP.

Limited Threat General Order No. R5-2022-0006 applies to discharges of limited-threat wastewater to waters of the United States for clean or relatively pollutant-free wastewaters that pose little or no threat to water quality, such as well development water, construction dewatering (e.g., of shallow groundwater), pipeline/well testing, and water supply systems.

Water Quality Control Plans

Under the Porter-Cologne Act, waters of the state fall under jurisdiction of the State Water Board and the nine regional water boards. “Waters of the state” means any surface water or groundwater, including saline waters, within the boundaries of the state (Water Code Section 13050[e]). The State Water Board and regional water boards have been delegated federal authority to implement the requirements of the federal CWA in California—including issuing NPDES permits—under the Porter-Cologne Act.

However, the requirements of the Porter-Cologne Act are even broader than those of the CWA. The Porter-Cologne Act requires the regional water boards to prepare and periodically update water quality control plans, also known as “basin plans.” Each basin plan establishes water quality objectives sufficient to ensure that the designated beneficial uses of surface water and groundwater are reasonably protected and identifies actions to control nonpoint and point sources of pollution.

Any person who discharges or proposes to discharge any waste that could affect the quality of the waters of the state must file a “report of waste discharge” with the appropriate regional water board. “Waste” includes any and all waste substances associated with human habitation, of human or animal origin, or from any producing, manufacturing, or processing operation (Water Code Section 13050[d]). Upon receipt of a report of waste discharge, the regional water board may issue “waste discharge requirements,” which are designed to ensure compliance with applicable water quality objectives and other requirements of the basin plan.

A public review process is conducted every three years to identify and prioritize the actions needed to address water quality concerns and maintain the effectiveness of the basin plan. Amendments to basin plans may include site-specific water quality objectives for a single constituent, basin-wide control programs for a suite of potential pollutants, and/or policy recommendations and strategies for addressing emerging contaminants and/or climate change.

Water Quality Control Plan for the Tulare Lake Basin

The applicable basin plan for the project area is the Tulare Lake Basin Plan (Central Valley Regional Water Board 2018). "Water quality concerns" are defined in this basin plan as existing or potential water quality problems (i.e., impairments of beneficial uses or degradations of water quality) associated with typical Basin discharge activities that include agricultural irrigation and associated support activities, municipal and industrial point-source discharges, and runoff from residential and industrial areas. Select water quality objectives established for the Tulare Lake Basin Plan to protect the beneficial uses of surface and groundwater are summarized in **Table 3.5-1** and **Table 3.5-2**, respectively.

TABLE 3.5-1
TULARE LAKE BASIN PLAN PARAMETERS AND SURFACE WATER QUALITY OBJECTIVES

Parameter	Water Quality Objective
Chemical constituents	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
Oil and grease	Waters shall not contain oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
Sediment	The suspended sediment load and suspended sediment discharge rate of waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Settleable material	Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
Suspended material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
Turbidity	Where natural turbidity is between 0 and 5 NTU, increases shall not exceed 1 NTU. Where natural turbidity is between 5 and 50 NTU, increases shall not exceed 20 percent. Where natural turbidity is equal to or between 50 and 100 NTU, increases shall not exceed 10 NTU. Where natural turbidity is greater than 100 NTU, increases shall not exceed 10 percent.

NOTES:
NTU = nephelometric turbidity units
Refer to the Tulare Lake Basin Plan for other parameters and objectives.
SOURCE: Central Valley Regional Water Board 2018

TABLE 3.5-2
TULARE LAKE BASIN PLAN PARAMETERS AND GROUNDWATER QUALITY OBJECTIVES

Parameter	Water Quality Objective
Bacteria	In groundwater designated for the municipal and domestic supply (MUN) beneficial use, the concentration of total coliform organisms over any 7-day period shall be less than 2.2/100 mL.
Chemical constituents	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.
Pesticides	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.
Radioactivity	Radionuclides shall not be present in ground waters in concentrations that are deleterious to human, plant, animal, or aquatic life, or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life.
Nitrate	Development and implementation of a Nitrate Control Program is proposed for the control and permitting of nitrate discharges to groundwater in the Tulare Lake Basin and applies to all groundwater basins that are designated with the municipal and domestic supply (MUN) beneficial use. For implementation of the Nitrate Control Plan, the Tule Groundwater Subbasin is Priority 1; the Kern County Groundwater Subbasin is Priority 2.
Salinity	Limitations are proposed based on the applicable water quality objective that protects the most sensitive beneficial use and based on the application of the Antidegradation Policy. The Central Valley Regional Water Board may use its discretion to continue to authorize previously allocated use of assimilative capacity in groundwater subject to the following provisions: The Central Valley Regional Water Board will limit new or expanded allocations of salinity related assimilative capacity. If a permittee has previously received an allocation of assimilative capacity, and the allocation was granted with the support of an antidegradation study or analysis, then the Regional Water Board may consider continuing the previously approved allocation of assimilative capacity. When the most salinity sensitive beneficial use is agricultural supply (AGR) or municipal and domestic supply (MUN), the Central Valley Regional Water Board will apply the associated narrative and range in numeric objectives. A conservative, numeric value of 700 µS/cm EC (as a monthly average) for EC is proposed to protect the AGR beneficial use. This value is for use only as indicated here for the Conservative Permitting Approach and shall not be considered a water quality objective. For protection of a MUN beneficial use, the Central Valley Water Board recommends a numerical value of 900 µS/cm EC (as an annual average).
Tastes and Odors	Ground waters shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.
Toxicity	Ground waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial use(s).

NOTES: µS/cm = microsiemens per centimeter; Central Valley Regional Water Board = Central Valley Regional Water Quality Control Board; EC = electrical conductivity; mL = milliliters

Refer to the Tulare Lake Basin Plan for other parameters and objectives.

SOURCE: Central Valley Regional Water Board 2018

Sustainable Groundwater Management Act

The historic passage of SGMA in 2014 set forth a statewide framework to help protect groundwater resources over the long-term. SGMA is comprised from a three-bill legislative package, including Assembly Bill 1739 (Dickinson), Senate Bill 1168 (Pavley), and Senate Bill 1319 (Pavley), and subsequent statewide regulations. In signing SGMA, then-Governor Jerry Brown emphasized that "groundwater management in California is best accomplished locally" (California Department of Water Resources 2024).

SGMA requires local agencies to form GSAs for the high and medium priority basins. GSAs develop and implement GSPs to avoid undesirable results and mitigate overdraft within 20 years. The State Water Board and DWR oversee implementation of the SGMA. DWR acts as a facilitator and evaluator, assisting with groundwater data management, supporting local GSAs with GSP development, and evaluating GSPs once they are developed. The State Water Board is authorized to enforce the SGMA and ensure that basins comply with the law's requirements (California Department of Water Resources 2024).

Local

The proposed project is located in Kings County and the 2035 General Plan contains the following goals and policies related to hydrology and water quality, specifically in the Resource Conservation Element (County of Kings 2010a) and the Health and Safety Element (County of Kings 2010b).

Resource Conservation (RC) Goal A1: Beneficially use, efficiently manage, and protect water resources while developing strategies to capture additional water sources that may become available to ensure long-term sustainable water supplies for the region.

RC Policy A1.1.1: Cooperate with water purveyors and water management agencies to manage groundwater resources within the County to assure an adequate, safe and reliable groundwater supply for existing and future water users.

RC Policy A1.1.2: Review new discretionary development proposals, including new or expanded uses within agricultural zone districts, to ensure that there are adequate water supplies to accommodate such uses. Projects should provide evidence of adequate and sustainable water availability prior to approval of a tentative map or other land use approval.

RC Policy A1.1.3: Discourage the net export of groundwater and surface water resources currently allocated to water users within Kings County.

RC Policy A1.1.4: Work cooperatively with state and federal land managers to coordinate watershed management on public land.

RC Policy A1.1.5: Encourage and support regional groundwater management strategies such as an Integrated Regional Water Management Plan.

RC Policy A1.1.6: Support expansion of joint management of surface water and groundwater supplies that contributes to the protection, reliability and sustainability of local and regional water supplies.

RC Policy A1.4.1: Evaluate proposed land uses and development projects for their potential to create surface and groundwater contamination from point and non-point sources. Confer with other appropriate agencies, as necessary, to assure adequate water quality review to prevent soil erosion; direct discharge of potentially harmful substances; ground leaching from storage of raw materials, petroleum products or waste; floating debris; and runoff from the site.

RC Policy A1.4.2: Monitor and enforce provisions to control water pollution contained in the U.S. EPA National Pollutant Discharge Elimination System (NPDES) program as implemented by the California Water Quality Control Board, Central Valley Region.

RC Policy A1.4.3: Require the use of feasible and cost-effective Best Management Practices (BMPs) and other measures designed to protect surface water and groundwater from the adverse effects of construction activities and urban and agricultural runoff in coordination with the California Water Quality Control Board, Central Valley Region.

RC Policy A1.4.4: Encourage and support the identification of degraded surface water and groundwater resources and promote restoration where appropriate.

RC Policy A1.5.1: Cooperate with local agencies in the preservation and purchase of natural sloughs for use as water recharge and drainage basins.

RC Policy A1.6.2: Support measures to ensure that water users do not unreasonably use groundwater resources.

RC Policy A1.6.3: Protect groundwater by enforcing the requirements for installation of wells in conformity with the California Water Code, the Kings County Well Ordinance, and other pertinent state and local requirements.

Health and Safety (HS) Goal A4: Prevent unnecessary exposure of people and property to flood damage.

HS Policy A4.1.1: Review new development proposals against current Federal Emergency Management Agency (FEMA) digital flood insurance rate maps and California Department of Water Resource special flood hazard maps to determine project site susceptibility to flood hazard.

HS Policy A4.1.2: Reserve FEMA designated flood hazard areas for agricultural and natural resource conservation uses along the floodway channels and Tulare Lake Basin.

HS Policy A4.1.5: Regulate development, water diversion, vegetation removal, and grading to minimize any increase in flood damage to people and property.

HS Policy A4.1.6: New development shall provide onsite drainage or contribute towards their fair share cost of off-site drainage facilities to handle surface runoff.

3.5.3 Impacts and Mitigation Measures

Methods of Analysis

This impact analysis evaluates the potential for construction and operation of the proposed project to affect hydrology and water quality. The analysis considers how construction (short-term, temporary) and operation and maintenance (long-term, permanent) activities would result in changes to existing hydrologic and water quality conditions. The proposed project would be regulated by the laws, regulations, plans, and policies summarized in subsection 3.5.3, *Regulatory Setting*. Therefore, existing appliable regulatory and permitting requirements are summarized in this section and the impact analysis assumes that the proposed project would comply with existing applicable regulatory and permitting requirements. See Section 3.1, *Approach to the Environmental Analysis* for further discussion of the approach to the analysis used for evaluating impacts of the proposed project.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, an impact related to hydrology and water quality is considered significant if the proposed project would do any of the following:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  - Result in substantial erosion or siltation on- or off-site.
  - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
  - 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.
  - Impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk releases of pollutants due to project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Impacts Not Further Evaluated

Risk of release of pollutants due to project location because of being located in a tsunami or seiche zone.

As described in subsection 3.5.2, *Environmental Setting*, the proposed project area is located far from the Pacific Ocean and other large bodies of water that historically have not been affected by tsunamis. The proposed project is not located in a seiche zone. Therefore, **no impact** would occur and risk of release of pollutants due to the proposed project being located in a tsunami or seiche zone are not further evaluated in this EIR.

Impacts and Mitigation Measures

Table 3.5-3 summarizes the impact conclusions presented in this section.

TABLE 3.5-3
SUMMARY OF IMPACT CONCLUSIONS—HYDROLOGY AND WATER QUALITY

Impact Statement	Impact Conclusion
3.5-1: Construction and operation of the proposed project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	LTS
3.5-2: Construction and operation of the proposed project could substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	LTS
3.5-3: Construction and operation of the proposed project could alter existing drainage patterns.	LTS
3.5-4: Construction and operation of the proposed project in a flood hazard zone could risk releases of pollutants due to project inundation.	LTS
3.5-5: Construction and operation of the proposed project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LTS

NOTES: LTS = Less than Significant

Impact 3.5-1: Construction and operation of the proposed project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Construction

As described in Chapter 2, *Project Description*, new construction would involve the replacement of approximately 2.3 miles of existing canal on Sandridge-owned land located north of Kent Avenue and south of Jersey Avenue near Stratford to State Route 41. Installation of the new pipeline would require crossings under Kent Avenue, Kansas Avenue, and State Route 41. The pipeline would be installed at a depth of approximately 3.5 to 4 feet below the surface (with the pipeline trench approximately 4 feet below the pipeline). The pipeline would have an approximately 10-foot area on either side for staging and construction activities and would have a total footprint of approximately 5.6 acres. Construction for the pipe and replacement of canal north of Kent Avenue and south of Jersey Avenue to State Route 41 would take approximately two weeks to complete.

New construction would also involve the installation of a 48-inch diameter High-Density Polyethylene (HDPE) pipeline approximately 200 feet across the Tulare Lake Canal. The pipeline would be installed approximately 4 feet below the channel of the Tulare Lake Canal (with the pipeline trench approximately 4 feet below the pipeline). The Tulare Lake Canal would be crossed by using an excavator to dig an approximately 6-foot-wide open cut trench across the canal deep enough to lay the pipe down and cover the pipe and trench with a slurry topping. The top would be compacted with the dirt/clay removed from the open cut trench. Following installation of the pipeline and restoration of the Tulare Lake Canal, the pipeline would not interfere with the canal's transportation of water or otherwise affect the integrity of the earthen canal.

Proposed construction activities in the vicinity of Tulare Lake Canal would take place when water flow in the canal is minimal (e.g., the non-irrigation season) and would take approximately five days to complete. The minimal flows in Tulare Lake Canal would be temporarily diverted across

or around the installation activity and routed back to the canal or dammed during the pipe installation process.

Temporary construction activities would include establishment and use of staging areas, excavation and trenching to lay the pipeline, and compaction to cover the pipeline once constructed. Installation of the new pipeline would require excavation that could reach a maximum depth of 8 feet. Depending on the antecedent conditions, dewatering of shallow groundwater that measures up to 8 feet below ground surface could be required. Hazardous materials would also be used for construction equipment (e.g., fuels, oils, antifreeze, coolants, and other substances) and construction activities (e.g., slurry materials).

The earth-disturbing construction activities (e.g., excavation, trenching, compaction) could expose and disturb soils that could otherwise degrade surface water quality. Additionally, excavation to the depth of shallow groundwater levels (up to 8 feet) could degrade groundwater quality. The use of hazardous materials could also result in discharges of construction-related pollutants that degrade existing surface water or groundwater quality if released. While construction would be temporary, on- or off-site soil erosion, siltation, and discharges of construction-related hazards could result in impacts to surface and groundwater that could violate water quality standards and/or waste discharge requirements.

In accordance with NPDES regulations, to minimize the potential effects of construction runoff on receiving water quality, the state requires that any construction activity affecting one acre or more obtain coverage under the CGP (Order No. 2022-0057-DWQ, effective September 1, 2023). Given a total disturbance of more than one acre (2.2 acres of surface area disturbance within 5.6-acre footprint), Sandridge would obtain coverage under the CGP and require contractors to comply with the permit's conditions. Compliance with the CGP would require the development and implementation of a SWPPP. The SWPPP would be prepared by a Qualified SWPPP Developer (QSD) and, along with the required permit registration documents, would be submitted electronically to the State Water Board before implementation. The SWPPP would include standard BMPs required for all projects and any additional measures determined necessary by the QSD to control stormwater run-on/runoff and sediment. These BMPs are designed to avoid or reduce stormwater and water quality effects caused by construction site runoff and would be implemented during construction.

For any dewatering activities that may be necessary, Sandridge would be required to implement dewatering requirements presented in the CGP (Attachment J), which include:

- pH and turbidity monitoring of discharge, with discharge ceasing if a single sample exceeds water quality numeric action levels.
- The use of outlet structures that withdraw water from the surface of impoundments, as feasible.
- Work to prevent dewatering discharge from contacting construction materials or equipment.
- BMPs that reduce the velocity of dewatering discharge (such as check dams and sediment traps).
- Immediate corrective actions identified and implemented by a qualified SWPPP developer to prevent exceedances if any occur.

Given compliance with existing regulations (e.g., CGP, dewatering permits) and the incorporation of BMPs, construction of the proposed project would not violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface water or groundwater quality.

Operation

Operation of the proposed project would involve the transport of groundwater supplies from seven existing Sandridge groundwater wells (in addition to any residual runoff that flows into the open sections of Sandridge irrigation canals) through the constructed underground pipeline, and delivered to irrigate approximately 3,200 acres of existing Sandridge-owned farmlands located in the vicinity of Stratford within Kings County. The proposed project would not result in an increase in agricultural activities. Any residual water in the pipeline after the irrigation season would be released into Blakely Canal; residual water quality would not be anticipated to be of lesser quality than the existing conditions. The proposed project would not result in an increase in groundwater pumping or surface water use. Minimal maintenance activities are anticipated in support of the pipeline. Activities may be similar to or less frequent than existing conditions for canal maintenance and may include activities such as inspecting and performing repairs and flushing accumulated sediment as needed to ensure that the pipeline is functioning properly.

Given that operation and maintenance of the proposed project would be similar to existing conditions, operation of the proposed project would not violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface water or groundwater quality.

Therefore, this impact would be **less than significant**.

Impact 3.5-2: Construction and operation of the proposed project could substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

Construction

As described above, temporary construction activities associated with the proposed project would include establishment and use of staging areas, excavation and trenching to lay the pipeline, and compaction to cover the pipeline once constructed. Installation of the new pipeline would require excavation that could reach a maximum depth of 8 feet and potentially require dewatering activities. However, dewatering would be temporary and would not be anticipated to decrease groundwater supplies such that current groundwater conditions would be exacerbated compared to existing conditions. Therefore, construction of the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project would impede sustainable groundwater management of the basin.

Operation

As described above, operation of the proposed project would involve the transport of groundwater supplies from seven existing Sandridge groundwater wells located north of Stratford in the Tulare Lake Subbasin through an underground 48-inch water pipeline. The proposed project would not result in an increase in groundwater pumping, and therefore would not decrease groundwater supplies in the Tulare Lake Subbasin or adjacent subbasins compared to existing conditions.

The pipeline would connect to and from existing Sandridge water distribution systems and replace existing open irrigation ditches. The proposed project would reduce evaporative water losses compared to the current water conveyance methods, thereby improving irrigation efficiency on Sandridge's agricultural lands in the Tulare Lake Subbasin. The proposed project would not introduce new impervious surfaces.

As described in Section 3.5.2, *Environmental Setting,* groundwater recharge in the Tulare Lake Subbasin occurs primarily by direct infiltration of surface water from the Kings River and unlined surface water conveyance features (e.g., seepage from canals), and from deep percolation where surface water is applied for agricultural irrigation. Replacement of the existing open irrigation ditches with a pipeline could contribute to a decrease in recharge to the groundwater system. However, given the length of the pipeline segment yet to be constructed (approximately 2.3 miles), the estimated volume of reduced water loss due to soil percolation in earthen irrigation ditches would be minimal compared to the continued water losses occurring at the sub-basin scale. Additionally, under existing conditions, the water lost from the canals is unrecoverable groundwater as it is lost to a salt sink.

Converting the open irrigation canals to pipeline would result in water savings and improved irrigation efficiency, potentially providing a net benefit to the groundwater system at the sub-basin scale. The water "saved" from evaporative losses would be applied to existing farmlands in the Tulare Lake Subbasin, contributing to deep percolation where surface water is applied for agricultural irrigation. Therefore, there would not be a substantial change in groundwater recharge compared to existing conditions. Groundwater conditions would continue to be monitored to avoid undesirable results[2] as described in the Tulare Lake Subbasin GSP (South Fork Kings Groundwater Sustainability Agency 2022).

Therefore, operation of the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge to impede sustainable groundwater management of the basin.

This impact would be **less than significant.**

Impact 3.5-3: Construction and operation of the proposed project could alter existing drainage patterns.

Construction

As discussed in Impact 3.5-1, temporary construction activities would include establishment and use of staging areas, excavation and trenching to lay the pipeline, and compaction to cover the pipeline once constructed. Following installation of the pipeline, areas would be restored to pre-construction conditions. Construction activities could temporarily alter the existing drainage patterns of the site or area.

[2] Undesirable results include chronic lowering of groundwater levels, reduction of groundwater storage, degraded water quality, and land subsidence.

As described in Impact 3.5-1, Sandridge would obtain coverage under the CGP and require contractors to comply with the permit conditions, including development and implementation of a SWPPP that includes standard BMPs required for all projects and any additional measures determined necessary by the QSD to control stormwater run-on/runoff and sediment. BMPs could also require the use of erosion control measures to reduce impacts of temporary erosion or siltation on- or off-site as a result of construction.

Given compliance with existing regulations (e.g., CGP) and the incorporation of BMPs, construction activities would not substantially alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation on- or off-site, increase the rate or amount of surface runoff, create or contribute runoff water, or impede or redirect flood flows.

Operation

Operation of the proposed project would involve the transport of groundwater supplies from seven existing Sandridge groundwater wells (in addition to any residual runoff that flows into the open sections of Sandridge irrigation canals) through the constructed underground pipeline, and delivered to irrigate approximately 3,200 acres of existing Sandridge-owned farmlands located in the vicinity of Stratford within Kings County. As mentioned above, following installation of the pipeline, areas would be restored to pre-construction conditions. The proposed project would not introduce new impervious surfaces. As discussed above, maintenance activities may be similar to or less frequent than existing conditions.

Given that operation of proposed project would not alter the course of a stream or river, or introduce new impervious surfaces, existing drainage patterns of the site or area would not be altered in a manner which would result in substantial erosion or siltation on- or off-site, increase the rate or amount of surface runoff, create or contribute runoff water, or impede or redirect flood flows.

Therefore, this impact would be **less than significant**.

Impact 3.5-4: Construction and operation of the proposed project in a flood hazard zone could risk releases of pollutants due to project inundation.

Construction

The proposed project is located in areas designated on FEMA's current FIRM as being within Zone A (100-year flood zone, high risk) and Zone X unshaded (outside the 100-year flood hazard area) (see Figure 3.5-2). During construction, hazardous materials may also be used in the project area for construction equipment (e.g., fuels, oils, antifreeze, coolants, and other substances) and specific construction activities (e.g., top the pipeline with slurry materials). Temporary use and storage of these pollutants, particularly in the 100-year flood zone, could risk releases due to project inundation.

As described in Impact 3.5-1, in accordance with NPDES regulations, to minimize the potential effects of construction runoff on receiving water quality, the state requires that any construction activity affecting one acre or more obtain coverage under the CGP. Sandridge would obtain coverage under the CGP and require contractors to comply with the permit's conditions, including

identifying required BMPs described in a SWPPP to properly store pollutants to protect from stormwater and inundation from potential flooding.

Compliance with existing regulations (CGP) and the incorporation of BMPs would ensure that pollutants associated with construction equipment and activities are properly stored such that releases due to project inundation are avoided to the extent possible.

Operation

Operation of the proposed project would involve the transport of groundwater supplies from seven existing Sandridge groundwater wells located north of Stratford (in addition to any residual runoff that flows into the open sections of Sandridge irrigation canals) through the constructed pipeline; the pipeline would be underground and therefore is not at risk of inundation. Minimal maintenance activities are anticipated in support of the pipeline. Activities may be similar to or less frequent than existing conditions for canal maintenance and may include activities such as inspecting and performing repairs and flushing accumulated sediment as needed to ensure that the pipeline is functioning properly. Therefore, operation and maintenance of the proposed project would not likely result in substantial changes in the type or volume of pollutants compared to existing conditions. Given that operation and maintenance of the proposed project would be similar to existing conditions, operation of the proposed project in a flood hazard zone would not risk releases of pollutants due to project inundation.

Therefore, this impact would be **less than significant**.

Impact 3.5-5: Construction and operation of the proposed project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Construction and Operation

As discussed in Impacts 3.5-1 and 3.5-2, construction and operation of proposed project is not anticipated to violate any water quality standards that would otherwise degrade surface and groundwater quality or impede sustainable groundwater management of the basin. Therefore, implementation of the proposed project would not conflict with or obstruct implementation of the applicable water quality control plans (i.e., the Tulare Lake Basin Plan) or sustainable groundwater management plans (i.e., Tulare Lake Subbasin GSP). This impact would be **less than significant**.

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3.6 Transportation

3.6.1 Introduction

This section discusses transportation, traffic, and circulation (referred to herein as "transportation") in the project area and the changes that could occur as a result of implementing the proposed project. It discusses the potential for disruption to transportation, such as disruption of vehicle movement and circulation as a result of construction activities. It also discusses potential long-term changes to the operability and function of transportation facilities.

3.6.2 Environmental Setting

State Highways

The project area is in the vicinity of State Route (SR) 41, which traverses through Stratford and Lemoore and intersects a segment of the proposed project near the western terminus of King Avenue and provides regional access to the project area. SR 41 is a north-south, two-lane rural or four-lane divided state highway with a northern terminus at SR 140 at Yosemite National Park and a southern terminus at the SR 1/Cabrillo Highway at Morro Bay. SR 41 has a posted speed limit of 55 miles per hour (mph).

Local Roadways

The proposed pipeline alignment is accessible by local two-lane arterial roadways, which also generally bound the project area. The project area is surrounded by Jersey Avenue to the north, Madison Avenue to the south, SR 41 and 20th Avenue to the east, and 21st Avenue to the west.

As shown in **Figure 2-2**, *Project Location*, the proposed pipeline alignment would be on Sandridge property adjacent to some of these local arterial roadways, which include 20th Avenue, for approximately 1 mile heading south (with a crossing under Kent Avenue), Kansas Avenue for approximately 280 feet heading east (including a crossing under Kansas Avenue), then adjacent to 20th Avenue south and east for approximately 0.25 mile near SR 41.

Bicycle Facilities, Public Transit Facilities, and Airports

There are no pedestrian facilities, such as paved sidewalks and walkways, in the proposed project's immediate vicinity. Also, there are no designated bicycle facilities or airports in the project's vicinity.

The Kings Area Regional Transit provides an "out-of-town" north-south bus route, Route 12 – Avenal, which begins at City of Hanford and loops at the City of Avenal. Within Stratford, Route 12 – Avenal, in either direction, includes up to five bus stops along 1st Street, Empire Street, and Laurel Avenue. The proposed pipeline alignment would not be in the immediate vicinity of this bus route.

The nearest heavy rail transit service is the Amtrak train service, located approximately 16.5 miles northeast of Stratford, in the City of Hanford.

3.6.3 Regulatory Setting

Federal and state plans, policies, regulations, and laws and regional or local plans, policies, regulations, and ordinances pertaining to transportation, traffic, and circulation are discussed in this section.

Federal

U.S. Department of Transportation

The U.S. Department of Transportation administers numerous laws and regulations that regulate California roads and interstate commerce. The department is responsible for planning and coordinating federal restoration projects while setting safety regulations for all major modes of transportation. There are no federal laws, regulations, or policies that would be applicable to transportation, traffic, and circulation for the proposed project.

State

California Department of Transportation

The California Department of Transportation (Caltrans) is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways, and for implementing federal highway standards for interstate highways. An encroachment permit must be obtained from Caltrans for all proposed activities related to the placement of encroachments within, under, or over the State highway rights of way.

Senate Bill 743 and CEQA Guidelines Section 15064.3

SB 743 was enacted by the California Legislature and signed into law in the fall of 2013. This legislation led to a significant change in the way that transportation impacts are measured under miles traveled (VMT), which refers to the amount and distance of automobile travel attributable to a project, is the methodology that shall be used to determine the transportation impacts of land development projects under CEQA. VMT is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person.

In accordance with Senate Bill 743, CEQA Guidelines Section 15064.3(b) indicates that vehicle miles traveled is the most appropriate measure for identifying transportation impacts. In December 2018, the Governor's Office of Planning and Research (OPR) updated the technical advisory, Technical Advisory on Evaluating Transportation Impacts in CEQA, to provide guidance on evaluating transportation impacts under CEQA. The thresholds set forth in the updated technical advisory may be used if a County has not yet adopted VMT screening criteria. In particular, the technical advisory screening threshold for projects generating or attracting fewer than 110 one-way automobile trips per day may generally be assumed to cause a less-than-significant transportation impact (OPR 2018).

Local

2035 Kings County General Plan

The Circulation Element of the 2035 Kings County General Plan (General Plan) determines a baseline of existing transportation and circulation conditions in Kings County, establishes project future circulation needs through 2035, and provides policy direction and implementation efforts to ensure the continued efficient movement of people and goods while simultaneously striving towards reduced vehicle emissions and associated greenhouse gases (Kings County 2010). The Circulation Element's policies and implementation are designed to promote enhanced compatibility between transportation modes and land use, while serving to reduce the adverse air quality impacts of transportation. Applicable policies from the Circulation Element of the General Plan to the proposed project are listed below.

> ***C Policy A1.3.5:*** Require new development to pay its fair share of costs for street and traffic improvements based on traffic generated and its impact to traffic levels of service.
>
> ***C Policy A1.3.6:*** Require dedication right of way to county standards for all new development projects.
>
> ***C Policy A1.3.7:*** Require new development to respect existing precise plan lines or ultimate right of way lines dedication of right of way as a condition of development approval.

Kings County 2022 Regional Transportation Plan and Sustainable Community Strategy

The 2022 Regional Transportation Plan and Sustainable Community Strategy (RTP/SCS) presents the overall goal of developing a transportation system that encourages and promotes the safe and efficient development, management, and operation of surface transportation system to equitably, and safely serve the mobility and accessibility needs of people and freight (including meeting the Americans with Disabilities Act requirements, accessible pedestrian walkways, and bicycle transportation facilities) and foster economic growth and development, while minimizing transportation-related fuel consumption, air pollution, and greenhouse gas emission. The RTP/SCS was developed in support of King County's general plans (for example, the General Plan) for the cities and the county as a whole. (Kings County Association of Governments 2022)

Kings County Regional Active Transportation Plan

In considering the benefits of active transportation and its contribution to a more balanced transportation system for Kings County, the Kings County Regional Active Transportation Plan (RATP) (also referred to as *Kings County Regional Walk and Bike Plan*) present three main objectives:

- Identify high-priority projects that will make walking and biking throughout Kings County safer and more convenient, more pleasant and more popular.

- Support the goals under the Kings County RTP/SCS of a more balanced transportation system and serve as the foundation for the non-motorized transportation chapter of the 2018 update[1] of the RTP/SCS.
- Position the high-priority projects, and equip the jurisdictions in Kings County, to better compete for federal, state and regional grant funds.

The RTAP supports and integrates policies and goals from the General Plan related to bicycle and pedestrian facilities and incorporates specific "community plans" for unincorporated communities (notably, Stratford). (Kings County Association of Governments 2019)

3.6.4 Impacts and Mitigation Measures

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, an impact related to transportation is considered significant if the proposed project would do any of the following:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

Impacts Not Evaluated Further

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

As discussed in Section 2.4.1, *Construction Activities*, new construction activities would take place on either Sandridge-owned land or Tulare Lake Canal Company (TLCC) property. Construction and operation of the proposed project is not anticipated to conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

The proposed project would not involve any new or modified land uses that would generate long-term vehicle trips or other features that may affect the local or regional transportation system. All new construction would be conducted outside of the local or regional transportation system.

Project construction would only temporarily increase local roadway traffic due to the transport and delivery of construction equipment and materials, as well as daily worker trips. At any point of construction phasing, site access for construction employees would be accessible using regional and local roads.

[1] The Kings County Association of Governments (KCAG) has since updated the RTP/SCS and adopted the 2022 RTP/SCS.

In the long term, the proposed project would operate in a similar manner to existing conditions and would continue to comply with existing programs, plans, ordinances, and policies related to transportation. The proposed project would neither directly nor indirectly eliminate existing or planned alternative transportation corridors or facilities (e.g., bike paths, lanes, etc.), including changes in polices or programs that support alternative transportation; **no impact** would occur.

Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Construction and operation of the proposed project is not anticipated to substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). The proposed pipeline would have an approximately 10-foot area on either side for staging and construction activities. During project construction, temporary staging and all construction activities would be on Sandridge or TLCC properties, except for the crossings under Kent Avenue, Kansas Avenue and Tulare Lake Canal. Prior to construction, encroachment permits would be obtained from Kings County Department of Public Works for the crossings under Kent Avenue and Kansas Avenue. Therefore, project construction and operations would not introduce any new intersections or adjust roadway geometry that would have the potential to introduce hazardous driving conditions; **no impact** would occur.

Impacts

Table 3.6-1 summarizes the impact conclusions presented in this section.

TABLE 3.6-1
SUMMARY OF IMPACT CONCLUSIONS—TRANSPORTATION

Impact Statement	Impact Conclusion
3.6-1: Construction and operation of the proposed project could conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	LTS
3.6-2: Construction and operation of the proposed project could result in inadequate emergency access.	LTS

NOTE: LTS = Less than Significant

Impact 3.6-1: Construction and operation of the proposed project could conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

Construction and Operation

As discussed above, in accordance with Senate Bill 743, CEQA Guidelines Section 15064.3(b) indicates that vehicle miles traveled (VMT) is the most appropriate measure for identifying transportation impacts. Kings County has not yet adopted VMT screening criteria, therefore, statewide guidance would apply to the proposed project.

Construction under the Tulare Lake Canal would take place over five working days. Construction for the pipe and replacement of the canal north of Kent Avenue and south of Jersey Avenue to SR 41 would take approximately two weeks to complete. It is anticipated that there would be

approximately six construction employees originating from approximately 60 miles from the project area on any given day during project construction. As such, project construction is anticipated to have approximately 12 one-way trips per day (assuming no carpooling); temporary construction VMT is not part of this analysis.

Upon completion of project construction, the proposed project would not generate any new trips, except for occasional maintenance similar to or less than that conducted under existing conditions (as maintenance of an open canal system requires manpower and equipment annually and conversion of open canals to pipelines results in less maintenance and equipment needs). Project operations may include activities such as inspecting and performing repairs and flushing accumulated sediment as needed. Therefore, VMT resulting from project operations would not differ from existing VMT.

The proposed project would not require the closure of any roadways and would not generate significant or noticeable traffic delays. The proposed project's land uses would essentially operate in the same manner that it operated prior to project construction and the number of peak trips occurring on any one day would be significantly less than the 110 one-way automobile trips per day identified in the technical advisory's guidance. Therefore, considering the information presented above, the proposed project's construction and operations would not conflict with or be inconsistent with CEQA Guidelines 15064.3 (b). This impact would be **less than significant**.

Impact 3.6-2: Construction and operation of the proposed project could result in inadequate emergency access.

Construction and Operation

Project construction and operations would not require lane closures and would not change the configuration of the project area's road network. While slow-moving construction-related vehicles could be operating in the path of emergency vehicles, they would not be anticipated to interfere with emergency response to the project area (for example, emergency service vehicles traveling behind a slow-moving truck), all vehicles are required by law to yield to responding emergency vehicles. And as mentioned, staging and construction equipment would be staged and used on Sandridge property during all construction activities, except for the crossings under Kent Avenue, Kansas Avenue and Tulare Lake Canal.

The proposed project would not result in long-term impairment of or interference with emergency access to local roads and waterways and would not substantially increase emergency response times or reduce emergency vehicle access in the long term. Therefore, this impact would be **less than significant**.

3.7 Tribal Cultural Resources

3.7.1 Introduction

This section examines the potential impacts of the proposed project on tribal cultural resources. Cultural resources are discussed separately in Section 3.4, *Cultural Resources*, although tribal cultural resources are included in the cultural resources section because some of the same mitigation measures for reducing impacts on cultural resources also apply to tribal cultural resources.

Comments addressing tribal cultural resources were received in response to the NOP from the California Native American Heritage Commission (NAHC). The NAHC provided details on some tribal cultural resource regulations pertaining to the proposed project and requested that the NAHC be contacted for a Sacred Lands File search and list of California Native American Tribes for the study area. Comments submitted in response to the NOP were considered in the development of the impact analysis. See Appendix A for NOP comment letters.

This section includes the key term defined below.

- **Tribal Cultural Resource.** This resource type consists of sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are listed, or determined to be eligible for listing, in the National Register, the California Register, or a local register of historical resources.

3.7.2 Environmental Setting

The following provides a summary of ethnographic setting and indigenous resources in the study area. The pre-contact setting is summarized in Section 3.4, *Cultural Resources*.

Ethnographic Setting

The project site is in a location historically attributed to the Yokuts, a Penutian-speaking people (Heizer and Elsasser 1980). At the time of European contact, the Central Valley was occupied by the Yokuts, who spoke a language from the California Penutian family of languages. The Yokuts entered the San Joaquin Valley sometime before 600 BP, perhaps by force, as indicated by skeletal remains with fatal wounds inflicted by projectile points. Historically, Yokuts have been divided into three cultural-geographical groupings: Northern Valley, Southern Valley, and Foothills (Wallace 1978a, 1978b). The project site is within the territory of the Southern Valley group.

The Southern Valley Yokuts territory included Tulare, Buena Vista, and Kern lakes and the lower portions of the Kings, Kaweah, Tule, and Kern rivers (Wallace 1978a).

Yokuts were organized into distinct groups, each of which had its own name, dialect, and territory. Each group averaged about 350 people (Wallace 1978a, 1978b). Yokuts were uniquely egalitarian in their political organization. Local groups were self-governing, and all members received equal ownership and access to most resources (Arkush 1993). Southern Valley Yokuts

established permanent settlements on high ground near larger bodies of water, above flood levels. Housing consisted of small round or oval-shaped structures framed by light wooden poles tied together and topped with tule mats.

Southern Valley Yokuts relied heavily on tule reeds for basketry and making floor mats. Basketry tools, such as awls, were manufactured primarily from large mammal bones. Cordage was constructed from milkweed. Stone was less abundant in the Southern Valley Yokuts territory and lithic material and milling implements were generally obtained through trade. Other items acquired through trade with neighboring groups include *Olivella* and abalone shells, as well as clam disk monetary beads (Wallace 1978a). Southern Valley Yokuts used tule to construct watercraft.

Diets consisted mainly of fish, waterfowl, shellfish, roots, and seeds. Preferred fish included lake trout and, when available, steelhead, salmon, and sturgeon. Chub, perch, and suckers were less desirable and caught in smaller numbers. Fish were caught by trolling with nets, diving with hand nets, spearing, or capturing fish via basketry traps, with bare hands, or with a bow and arrow. Available waterfowl included geese, ducks, and mud hens. Methods for capturing birds included using snares, nets, and bows and arrows and throwing tule mats over their prey. Stuffed decoys were employed to assist in capture. The Yokuts also acquired eggs from nests (Wallace 1978a, 1978b).

Other foodstuffs included freshwater mussels, turtles, wild seeds, and roots, which were all consumed in large quantities. Grass roots were roasted whole or made into a paste. For the Southern Valley Yokuts, the absence of oak trees in the valley floor meant that acorns were available only through travel or trade. Land mammals composed an insignificant percentage of the Yokuts diet. On occasion, wild pigeons, jackrabbits, ground squirrels, and burrowing rodents were acquired. Larger game, such as antelope and elk, were rarely hunted (Wallace 1978a, 1978b).

The population of the Yokuts collapsed during the contact period. First contact probably occurred during the first decades of the 19th century, with sporadic forays by the Spanish into the Central Valley. By 1805, missionaries with the support of Spanish soldiers began making forays into the Central Valley to gather Native Americans to bring back to the coastal missions. This continued for nearly two decades, and neophytes were taken to nearby missions. More active missionary "recruitment" occurred after 1810. Milliken (2002:59) documents the draining of Native population into the Mission system: "All of the San Joaquin River people were at the Mission by the end of 1820, with the exception of a few individuals…"

Further intrusions into Native American lands came in the form of *ranchos*, expanses of land granted to individuals by the Spanish and Mexican governments. What developed was a complex interchange between the Native Americans and their new Spanish neighbors. Missionaries and soldiers made more, and farther-reaching, excursions to gather up Native Americans. Many Native Americans tired of life at the missions and escaped, returning to their homelands. Simultaneously, many Native Americans attained a taste for the Spanish horse and cattle and began raiding the stocks of the missions and ranchos. The result was punitive raids by the Spanish to punish the Native Americans and bring captors back to the missions and ranchos. In 1822,

control passed from Spain to Mexico, and the missions were eventually secularized, leaving many Native Americans free to return to their homes. By this time, Native American populations were greatly reduced, they had been mixed and intermarried at the mission, ties had been broken with their former tribes, and many did not return (Wallace 1978b).

Several major episodes of overt resistance to Spanish and Mexican colonization of the area were undertaken by Yokuts, among other tribes. Of note are those led by the Northern Valley Yokuts *Cucunuchi*, who was born near the present-day Stanislaus River in the early 1790s. In 1821, Cucunuchi and his family moved to Mission San José, and soon thereafter he was baptized and given the Christian name *Estanislao*. Estanislao is described in historical accounts as being highly intelligent and educated (Tinkham 1921). In 1827 or 1828, Estanislao left Mission San José with around 400 followers and soon thereafter began a campaign of raids against missions (San José, Santa Clara, Santa Cruz) and Mexican settlers in the area. The Mexican army sent several military expeditions from San Francisco, Monterey, and San José to subdue Estanislao and his followers, resulting in notable battles on the Stanislaus River between in 1828 and 1829. Estanislao and his group were victorious on multiple occasions, inspiring Native Americans throughout the region (and from multiple tribes) to join Estanislao in his resistance to the Mexicans (Santis 2014). At the end of May 1829, a large Mexican force led by Mariano Vallejo defeated Estanislao and his group on the banks of the Stanislaus River near its confluence with the San Joaquin River, in one of the most notable battles between Native Americans and Euroamericans in California history. Estanislao escaped, although he soon surrendered at Mission San José, remaining there until his death from smallpox in 1838 (Santis 2014; Mora-Torres, 2005). Estanislao inspired resistance to Mexican colonizers that continued even after his death (Santis 2014).

Disease was another major disruptive factor in the lives of Native Americans after Euroamerican contact; influenza, smallpox, venereal disease, and malaria were all major contributors to the decline of Native American populations in California. Even before contact, old-world diseases were wreaking havoc on Native populations. In 1833, a major epidemic swept the Central Valley of California. What has since been surmised to be malaria was responsible for the deaths of up to 75 percent of the remaining Native American population in the Central Valley. The result was that by the 1840s, the Yokuts had nearly vanished as a coherent group. The few who remained were pushed aside by the onslaught of immigrants who flooded in during the American period (Kroeber 1925).

As with other California Native American groups, the Gold Rush of 1849 had a devastating effect on the Yokuts. The flood of miners who came to the area in search of gold brought diseases with them that decimated the populations. Those who survived were subjected to violence and prejudice at the hands of the miners, and the groups were eventually pushed out of their ancestral territory. Although this contact with settlers had a profound negative impact on the groups' populations through disease and violent actions, the Yokuts survived and maintained strong communities and action-oriented organizations (Castillo 1978). The Yokuts find membership amongst a number of state- and federally recognized Tribes and continue to maintain their cultures.

Tribal Consultation

According to the requirements of Public Resources Code Section (PRC) 21080.3.1(d), SPUD sent a certified letter to the Santa Rosa Rancheria Tachi Yokut Tribe on December 18, 2023, and emailed the letter to the Tribe's representative on December 20, 2023. The letter included details of the project, a map showing the project location, and an invitation to consult with SPUD on the project. No response was received within the 30-day time frame set forth by PRC Section 21080.3.1 (b). According to PRC Section 21082.3 (d)(3), consultation is considered complete.

3.7.3 Regulatory Setting

State

California Environmental Quality Act

CEQA (PRC Section 21000 et seq.) is the principal statute governing environmental review of projects occurring in California. CEQA requires lead agencies to determine whether a proposed project would have a significant effect on the environment, including significant effects on historical and tribal cultural resources. Under CEQA (PRC Section 21084.2), a project that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment.

Tribal Cultural Resources

CEQA recognizes that California Native American Tribes have expertise with regard to their tribal history and practices. PRC Section 21074(a) defines a "tribal cultural resource" as any of the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following:
  - Included or determined to be eligible for inclusion in the California Register.
  - Included in a local register of historical resources, as defined in PRC Section 5020.1(k).
- 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 [PRC] Section 5024.1.

In applying these criteria, the lead agency would consider the significance of the resource to a California Native American Tribe.

A cultural landscape that meets the criteria of PRC Section 21074(a) is also a tribal cultural resource if the landscape is geographically defined in terms of the size and scope. A historical resource as described in PRC Section 21084.1, a unique archaeological resource as defined in PRC Section 21083.2, or a non-unique archaeological resource as defined in PRC Section 21083.2 may also be a tribal cultural resource under CEQA if it meets the criteria identified in PRC Section 21074(a).

CEQA requires lead agencies to analyze the impacts of projects on tribal cultural resources separately from impacts on archaeological resources (PRC Sections 21074 and 21083.09) because

tribal cultural resources have cultural values beyond their ability to yield data important to prehistory or history. Tribal consultation pursuant to PRC Section 21080.3.1 applies to projects for which an NOP or notice of negative declaration/mitigated negative declaration was filed on or after July 1, 2015 and for which the CEQA lead agency has received formal requests from California Native American Tribes to be notified of that agency's projects subject to review under CEQA, and such California Native American Tribes respond in writing within 30 days of receiving the project notification from the CEQA lead agency. On April 6, 2022, the Santa Rosa Rancheria Tachi Yokut Tribe provided SPUD with a formal request for consultation pursuant to PRC Section 21080.3.1 for projects which SPUD serves as the CEQA lead agency.

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for eligibility for the California Register are based upon the criteria for listing in the National Register (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a cultural resource must be significant at the local, state, and/or federal level under one or more of the following four criteria:

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

A resource eligible for the California Register must be of sufficient age and retain enough of its historic character or appearance (integrity) to convey the reason for its significance. Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed in the National Register (and those formally determined eligible for the National Register).
- California Registered Historical Landmarks from No. 770 onward.
- Those California Points of Historical Interest that have been evaluated by the California Office of Historic Preservation and have been recommended to the State Historical Resources Commission for inclusion in the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register).
- Individual historic resources.
- Historic resources contributing to historic districts.
- Historic resources designated or listed as local landmarks, or designated under any local ordinance, such as a historic preservation overlay zone.
- Tribal cultural resources.

California Public Resources Code Section 5097

PRC Section 5097.99, as amended, states that no person shall obtain or possess any Native American artifacts or human remains that are taken from a Native American grave or cairn. Any person who knowingly or willfully obtains or possesses any Native American artifacts or human remains is guilty of a felony, which is punishable by imprisonment. Any person who removes, without authority of law, any such items with an intent to sell or dissect or with malice or wantonness is also guilty of a felony, which is punishable by imprisonment. PRC Section 5097.5 specifies that any unauthorized removal of paleontological remains is a misdemeanor.

California Native American Historic Resource Protection Act

The California Native American Historic Resource Protection Act of 2002 imposes civil penalties, including imprisonment and fines up to $50,000 per violation, for persons who unlawfully and maliciously excavate upon, remove, destroy, injure, or deface a Native American historic, cultural, or sacred site that is listed or may be listed in the California Register.

California Health and Safety Code Section 7050.5

HSC Section 7050.5 protects human remains by prohibiting the disinterment, disturbance, or removal of human remains from any location other than a dedicated cemetery. PRC Section 5097.98 (reiterated in 14 California Code of Regulations [CCR] 15064.59[e]) also identifies steps to follow in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery.

Local

The Kings County 2035 General Plan provides the following relevant goals and policies related to tribal cultural resources:

> **GOAL I1:** Preserve significant historical and archaeological sites and structures that represent the ethnic, cultural, and economic groups that have lived and worked in Kings County.
>
> > **Objective I1.1:** Promote the rehabilitation or adaptation to new uses of historic sites and structures.

Policy I1.1.2: Direct proposed developments that may affect proposed or designated historic sites or County landmarks to the Kings County Museum Advisory Committee or other similarly purposed advisory body under the Kings County Parks and Recreation Advisory Commission for review and comment.

Policy I1.1.3: Encourage the protection of cultural and archaeological sites with potential for placement on the National Register of Historic Places and/or inclusion in the California Inventory of Historic Resources.

Objective I1.2: Identify potential archaeological and historical resources and, where appropriate, protect such resources.

Policy I1.2.1: Participate in and support efforts to identify significant cultural and archaeological resources and protect those resources in accordance to Public Resources Code Section 5097.9 and 5097.993.

Policy I1.2.2: Continue to solicit input from local Native American communities in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.

Policy I1.2.3: Address archaeological and cultural resources in accordance with the California Environmental Quality Act (CEQA) for discretionary land use applications.

Policy I1.2.5: The County will respectfully comply with Government Code Section 6254.(r) and 6254.10 by protecting confidential information concerning Native American cultural resources. For example, adopting internal procedures such as keeping confidential archaeological reports away from public view or discussion in public meetings.

Policy I1.2.6: The County shall work in good faith with the Santa Rosa Rancheria Tachi Yokut Tribe ("Tribe"), the developer and other parties if the Tribe requests return of certain Native American artifacts from private development projects (e.g. for interpretive or educational value). The developer is expected to act in good faith when considering the Tribe's request for artifacts. Artifacts not desired by the Tribe shall be placed in a qualified repository as established by the California State Historical Resources Commission (see Guidelines for the Curation of Archaeological Collections, May 1993). If no facility is available, then all artifacts shall be donated to the Tribe.

3.7.4 Impacts and Mitigation Measures

Methods of Analysis

Effective for projects for which an NOP or a notice of negative declaration/mitigated negative declaration was filed on or after July 1, 2015, CEQA requires that a project's impacts on tribal cultural resources be considered as part of the overall analysis of project impacts (PRC Sections 21080.3.1, 21084.2, and 21084.3). The significance of a resource as a tribal cultural resource is assessed by evaluating all of the following:

- Its eligibility for listing in the California Register.
- Its eligibility as a unique archaeological resource pursuant to PRC Section 21083.2.
- Its listing status in the NAHC's Sacred Lands File.

In addition, a lead agency can independently determine a resource to be a tribal cultural resource. California Native American Tribes are considered experts with respect to tribal cultural resources.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, an impact related to tribal cultural resources is considered significant if the proposed project would do any of the following:

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:
  - Listed or eligible for listing in the California Register, or in a local register of historical resources as defined in PRC Section 5020.1(k). OR
  - 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

Impacts and Mitigation Measures

Table 3.7-1 summarizes the impact conclusions presented in this section.

TABLE 3.7-1
SUMMARY OF IMPACT CONCLUSIONS—TRIBAL CULTURAL RESOURCES

Impact Statement	Impact Conclusion
3.7-1: Construction and operation of the proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074.	LSM

NOTE: LSM = Less than Significant with Mitigation

Impact 3.15-1: Construction and operation of the proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074.

As a result of the records search, background research, and survey effort, it was determined that no known archaeological resources are present within the proposed pipeline alignment where construction would occur. Based on the survey results and environmental context, there is a low potential that unknown archaeological resources could be discovered during project implementation.

In the unlikely event that a previously unrecorded archaeological resource is identified during project ground-disturbing activities and found to qualify as a historical resource or a unique archaeological resource, any impacts on the resource resulting from the project could be potentially significant.

Implementation of **Mitigation Measure 3.4-1: Inadvertent Discovery of Archaeological Resources or Tribal Cultural Resources** would reduce potentially significant impacts to **less than significant**. In the event of an inadvertent discovery of an archaeological or tribal cultural resource, this mitigation will ensure that work is halted in the vicinity until a qualified archaeologist can make an assessment and provide additional recommendations if necessary, including contacting Native American Tribes. In addition, implementation of **Mitigation Measure 3.4-2: Inadvertent Discovery of Human Remains** would reduce potentially significant impacts to less than significant. This measure shall comply with applicable state laws, including Section 7050.5 of the Health and Safety Code. This would require work to halt in the vicinity of a find and the immediate notification of the County coroner. If the coroner determines that the human remains are Native American, they will notify the California Native American Heritage Commission, who shall appoint a Most Likely Descendant.

Mitigation Measures

Implement Mitigation Measures 3.4-1 and 3.4-2. (See Section 3.4, *Cultural Resources*.)

Significance After Mitigation: Implementation of Mitigation Measure 3.4-1 would require implementation of a protocol for assessment and treatment of any archaeological resources identified during construction activities and would reduce any potential impacts on archaeological resources associated with construction. Implementation of Mitigation Measure 3.4-2 would require implementation of a protocol for assessment and treatment of any potential human remains identified during construction activities and would reduce any potential impacts on human remains associated with construction. Therefore, this impact would be **less than significant with mitigation incorporated**.

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CHAPTER 4
Cumulative Impacts

4.1 Introduction

This chapter describes the CEQA requirements for the analysis of cumulative impacts, the geographic scope and time frame for cumulative analysis, the existing-conditions context for past activities, related projects, and the potential cumulative impacts of the proposed project.

The CEQA Guidelines require that an EIR assess the cumulative environmental impacts of a project when the project's incremental effect is "cumulatively considerable." An EIR must assess the cumulative impacts of a project with respect to past, current, and probable future projects in the region. Section 15355 of the CEQA Guidelines defines "cumulative effects" as "two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts." According to CEQA Guidelines Section 15130(b), the purpose of the cumulative impacts discussion is to reflect "the severity of the impacts and their likelihood of occurrence," and the discussion shall "be guided by the standards of practicality and reasonableness."

The CEQA Guidelines further indicate that the discussion of cumulative impacts should include all of the following information:

- Either (a) a list of past, present, and probable future projects producing related cumulative impacts or (b) a summary of projections in an adopted general plan or similar document, or an adopted or certified environmental document, that described or evaluated conditions contributing to a cumulative impact.
- A discussion of the geographic scope of the area affected by the cumulative effect.
- A summary of the environmental effects expected to be produced by these projects.
- Reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

4.2 Cumulative Context and Approach

4.2.1 Geographic Scope

The cumulative context considers both the geographical scope and the timing of projects related to the proposed project. To evaluate the cumulative impacts of implementation of the proposed project, the geographic scope is defined in Chapter 2, *Project Description*, and shown in Figures 2-2 and 2-3 as the approximately 5.5 miles of pipeline associated with the proposed project and

the approximately 3,200 acres of existing Sandridge farmlands that would receive the irrigation water (i.e., project area). The evaluation of cumulative impacts considers the locations of potential impacts of the proposed project relative to the geographic extent of other projects with which it may be combined. Some impacts would be site specific or localized.

4.2.2 Criteria for Identifying Related Projects in the Project Area

Past, present, and reasonably foreseeable future projects were considered for inclusion in the cumulative impact analysis based on whether they could affect resources in the project area that implementation of the proposed project could also affect, based on the following criteria:

(1) The project would affect a portion of the physical environment that could also be affected by implementation of the proposed project.

(2) Sufficiently detailed information about the project is available to allow meaningful analysis without undue speculation.

(3) The project meets all of the following criteria:

- The project is actively under development (i.e., an identified sponsor is actively pursuing project development or construction).
- An NOP or a notice of intent has been released and/or environmental clearance documentation has been completed, or substantial progress has been made toward completion.
- The project is "reasonably foreseeable" given other considerations, such as site suitability, funding availability and economic viability, and regulatory limitations (e.g., the project has required regulatory permits).

(4) The project is not considered part of the proposed action.

This cumulative impact discussion considers projects and plans identified under existing conditions (which include the current effects of past projects) and reasonably foreseeable and probable future projects. The criterion used by this Draft EIR analysis for considering whether a project is reasonably foreseeable and probable is whether the project has been defined in adequate detail to assess potential impacts, through the completion of either publicly available preliminary evaluations, feasibility studies, or draft environmental and engineering documents. The availability of funding and regulatory permits are also considerations for whether a project is reasonably foreseeable. Projects that were only in the development phase without detailed descriptions, operations criteria, or general locations, or that were not funded or permitted at the time that this cumulative impact assessment was written, are considered speculative. Thus, those projects are not considered further in this evaluation.

4.3 Cumulative Projects

The Stratford Kings River Bridge Replacement Project implemented by the State of California, Department of Transportation[1] to replace the Kings River Bridge (Number 45-0007) on State Route 41 southwest of Stratford in Kings County (approximately 0.5 mile from the proposed Tulare Lake Canal crossing) is the one project in the project area determined to meet the four criteria listed in subsection 4.2.2 for past, present, and reasonably foreseeable future projects and was selected for inclusion in the cumulative impact analysis.

4.4 Approach to the Cumulative Impact Analysis

To determine the significance of the proposed project's cumulative impacts, a three-step process was followed:

- First, the extent of the cumulative impacts without the proposed project was evaluated to determine whether a significant cumulative impact on a resource would exist in the future. To do so, the effects of the Stratford Kings River Bridge Replacement Project was evaluated to determine whether there would be a significant cumulative impact.
- Second, a determination was made regarding whether the proposed project's incremental contribution to any significant cumulative impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past, current, and probable future projects (CEQA Guidelines Section 21083).
- Third, a determination was made as to whether mitigation measures would be required to reduce the proposed project's contribution to the cumulative impact to a less-than-considerable level, thus resulting in a less-than-significant cumulative impact. If not, then the cumulative impact would remain significant and unavoidable.

4.5 Cumulative Impact Analysis

The cumulative impact analysis is presented by resource section and in the same order as the technical resource sections in Chapter 3, *Environmental Settings, Impacts, and Mitigation Measures*. All impacts of the proposed project discussed in this chapter are described in detail in Chapter 3, Sections 3.2 through 3.7. For each issue area addressed in this Draft EIR, the criteria applied to evaluate the significance of the overall cumulative effect are the same criteria used to evaluate direct and indirect impacts for that issue area.

4.5.1 Air Quality and Greenhouse Gas Emissions

The geographic scope for cumulative impacts associated with air quality and GHG emissions includes the SJVAB, the air basin for the project area. SJVAPCD regulates air quality within the SJVAB and project area. In developing thresholds of significance for air pollutants, air districts consider the emissions levels at which a project's individual emissions would be cumulatively considerable. Construction and operation of past, present, and future projects in the project area

[1] Available: https://files.ceqanet.opr.ca.gov/261343-4/attachment/m9NoYKKqvf9H_otEYJZOBt5dflcf5Y9gpCASNVek7CAxEYTOe_dmF8OCDhixe7f88iKMjvyJULZDB7uC0.

would introduce new structures and features that could result in emissions of criteria air pollutants currently designated nonattainment (e.g., O_3, PM_{10}, and $PM_{2.5}$ relative to the NAAQS and CAAQS), or other emissions that create odors that would exceed the identified significance thresholds and could result in significant adverse impacts on the region's existing air quality. This could result in a cumulatively significant impact.

As shown in Table 3.4-5 under Impact 3.4-2, the total emissions generated from construction activities associated with the proposed project would not exceed the SJVAPCD's thresholds for criterial pollutants and operation of the proposed project would not conflict with or obstruct the implementation of the SJVAPCD's air quality plans or result in a considerable net increase of any criteria pollutant. Due to the temporary nature and short duration of construction and lack of sensitive receptors in the vicinity of the project area, health risk that would result from construction and operation related diesel particulate matter emissions would be minimal. Therefore, the proposed project's contribution to this potentially significant cumulative impact would not be considerable and this would be a **less-than-significant** cumulative impact.

Climate change is a global problem and the effects of GHG emissions are experienced globally. Therefore, in the context of CEQA, impacts of GHG emissions on global climate change are inherently cumulative. No single project could generate enough GHG emissions to contribute noticeably to a change in the global average temperature. However, GHG emissions from past, present, and future projects in the project area may combine to contribute substantially to the phenomenon of global climate change and its associated environmental impacts.

The proposed project would not result in a considerable net increase of GHG emissions from existing conditions and would not conflict with the applicable GHG plan, policy, or regulation, or GHG reduction goals. Therefore, the proposed project's contribution to the global cumulative impact would not be considerable and this would be a **less-than-significant** cumulative impact.

4.5.2 Biological Resources

The geographic scope for cumulative impacts associated with biological resources includes the local project area. Construction and operation of past, present, and future projects in the project area would require ground disturbance that may significantly impact wetlands, waters, and special-status species such as northwestern pond turtle, and their habitat. This could result in a cumulatively significant impact.

The proposed project would occur north of the Tulare Lake Basin in an area disturbed by intensive agricultural practices, reducing its biological resource value. However, special-status wildlife and migratory birds may inhabit or transit through the uplands, wetlands, or channels of the project area. Construction of the proposed pipeline could affect sensitive waters or wetlands and special-status species. Trenching, pipeline installation, and backfilling activities could have a potentially significant effect on sensitive habitats and special-status species. Implementation of Mitigation Measures 3.3-1 through 3.3-3 for the proposed project would impose measures to avoid, minimize, and/or restore habitats following temporary impacts, and ensure compliance with relevant federal, state, and local requirements. Therefore, implementing these mitigation measures would reduce the contribution of the proposed project to cumulative impacts on

biological resources to less than cumulatively considerable, and this cumulative impact would be **less than significant**.

4.5.3 Cultural Resources

The geographic scope for cumulative impacts associated with cultural resources includes the local project area, considering the traditional territory of the local Native American community. Based on the results of the records search, background research, and survey effort (see Section 3.4, *Cultural Resources*) there are no known archaeological resources within the proposed pipeline alignment where construction would occur. Continued development in the region runs the inherent risk of damaging or destroying unknown significant cultural resources that could yield information important to history or prehistory or previously unidentified human remains, resulting in a significant cumulative impact. Construction and operation of past, present, and future projects in the project area would introduce new structures and features that could potentially affect architectural resources that qualify as historical resources and/or archaeological resources, as defined in CEQA Guidelines Section 15064.5, or disturb or damage any human remains. This could result in a potentially cumulatively significant impact.

In the unlikely event that a previously unrecorded archaeological resource is identified during project ground-disturbing activities and found to qualify as a historical resource or a unique archaeological resource, any impacts on the resource resulting from the project could be potentially significant. Implementation of Mitigation Measures 3.4-1 and 3.4-2 would require halting work in the vicinity, identification and treatment of archaeological and/or cultural resources discovered and adherence to state laws regarding human remains. Therefore, implementing these mitigation measures would reduce the contribution of the proposed project to cumulative impacts on cultural resources to less than cumulatively considerable, and this cumulative impact would be **less than significant**.

4.5.4 Hydrology and Water Quality

The geographic scope for cumulative impacts associated with hydrology and water quality includes the Tulare Lake Hydrologic Region (the hydrologic region for the project area), which coincides with a portion of the San Joaquin Valley Groundwater Basin and multiple subbasins identified to be in a critically overdrafted condition by DWR as part of the SGMA basin prioritization. Construction and operation of past, present, and future projects in the project area would introduce new structures and features and/or alter existing operations, which could: violate surface and groundwater quality standards; degrade surface or groundwater quality; alter existing drainage patterns (e.g., resulting in substantial erosion or siltation on- or off-site, increasing the rate or amount of surface runoff, creating or contributing runoff water, or impeding or redirecting flood flows); risk releases of pollutants due to project inundation; or conflict with or obstruct implementation of a water quality control and/or sustainable groundwater management plan. This could result in cumulatively significant impacts.

Given compliance with existing regulations (e.g., CGP, dewatering permits) and the incorporation of BMPs, construction and operation of the proposed project would not violate surface and groundwater quality standards, degrade surface or groundwater quality, alter existing drainage

patterns, risk releases of pollutants due to project inundation, or conflict or obstruct implementation of a water quality control and/or sustainable groundwater management plan. Sandridge would be subject to the NPDES and Construction General Permit, requiring implementation of temporary and/or permanent stormwater and erosion control BMPs described in a SWPPP. The proposed project's contribution to this potentially significant cumulative impact would not be considerable and this would be a **less-than-significant** cumulative impact.

4.5.5 Transportation

The geographic scope for cumulative impacts associated with transportation includes the local project area. Roads in the project area include local two-lane arterial roadways and State Route 41. Because of the rural nature of the area, bicycle and pedestrian use of local and arterial roads is often shared with motor vehicle traffic. Construction and operation of past, present, and future projects in the project area would introduce new structures and features that could degrade conditions for transit, roadway, bicycle, or pedestrian facilities such that they would conflict with applicable programs, plans, ordinances, or policies addressing the circulation system for those areas or result in inadequate emergency access. This could result in a cumulatively significant impact.

Temporary, limited construction traffic associated with construction of the proposed project would not conflict with conflict with or be inconsistent with CEQA Guidelines 15064.3 (b) or result in inadequate emergency access. Therefore, the proposed project's contribution to this potentially significant cumulative impact would not be considerable and this would be a **less-than-significant** cumulative impact.

4.5.6 Tribal Cultural Resources

The geographic scope for cumulative impacts associated with tribal cultural resources includes the local project area, considering the traditional territory of the local Native American community. Although not likely, the project area may contain previously unrecorded archaeological resources that have value independent of the scientific information they can provide and that may qualify as tribal cultural resources. Therefore, the potential exists for construction and operation of past, present, and future projects in the project area to disturb landscapes and archeological resources that may qualify as tribal cultural resources, as defined in Public Resources Code Section 21074. This would result in a potentially significant cumulative impact on those tribal cultural resources.

In the unlikely event that a previously unrecorded archaeological resource is identified during project ground-disturbing activities for the proposed project and found to qualify as a historical resource or a unique archaeological resource, any impacts on the resource resulting from the project could be potentially significant and result in a considerable contribution to the potential significant cumulative impact. Implementation of Mitigation Measures 3.4-1 and 3.4-2 would require halting work in the vicinity, identification and treatment of tribal cultural resources discovered and adherence to state laws regarding human remains and would reduce the proposed project's contribution to cumulative impacts on tribal cultural resources. Therefore, implementing these mitigation measures would reduce the contribution of the proposed project to cumulative impacts on tribal cultural resources to less than cumulatively considerable, and the cumulative impact would be **less than significant**.

CHAPTER 5
Other CEQA Considerations

CEQA Guidelines Section 15126 requires that all phases of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development and operation. As part of this analysis, an EIR must also identify: (1) significant environmental effects of the proposed project; (2) significant environmental effects that cannot be avoided if the proposed project is implemented; (3) significant irreversible environmental changes that would result from implementation of the proposed project; and (4) growth-inducing impacts of the proposed project.

Specifically, CEQA Guidelines include the following requirements:

- *Section 15126:* An evaluation of environmental impacts must consider all aspects of a project, including planning, acquisition, development, and operation. As part of this analysis, the EIR must also identify all of the following elements:
  - Significant environmental effects of the proposed project.
  - Significant environmental effects that cannot be avoided if the proposed project is implemented.
  - Significant irreversible environmental changes that would result from implementation of the proposed project.
  - Growth-inducing impacts of the proposed project.
- *Section 15126.2(b):* An EIR must mitigate energy use if analysis of the project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources. The discussion of the proposed project's energy use is contained in Section 3.1.2, *Environmental Issues Not Requiring Further Analysis*.
- *Section 15126.2(c):* An EIR must describe any significant impacts that cannot be avoided, even with implementation of feasible mitigation measures. Chapter 3 of this Draft EIR presents the effects of the proposed project on various aspects of the environment. Section 5.1 identifies any significant and unavoidable impacts identified in Chapter 3.
- *Section 15126.2(d):* An EIR must discuss any significant and irreversible environmental changes that would be caused by the proposed project. This analysis is included in Section 5.2 of this Draft EIR.
- *Section 15126.2(e):* An EIR must evaluate the growth-inducing impacts of a project. This analysis is presented in Section 5.3 of this Draft EIR.
- *Section 15130(a):* An EIR must assess the cumulative impacts that could be associated with project implementation. This assessment is included in Chapter 4 of this Draft EIR.

5.1 Significant and Unavoidable Impacts

CEQA Guidelines Section 15126.2(c) states that an EIR must describe the impacts identified as significant and unavoidable should a proposed project be implemented. Impacts are determined to be significant and unavoidable when either no mitigation, or only partial mitigation, is feasible to reduce impacts to less-than-significant levels. SPUD will make the final determination of impact significance and of the feasibility of mitigation measures as part of the certification action. The environmental impacts that would result from implementation of the proposed project are presented in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, and are summarized in the *Executive Summary*. All impacts can be feasibly mitigated to less-than-significant levels. Therefore, there would be no significant and unavoidable adverse impacts.

5.2 Significant Irreversible Environmental Changes

CEQA Guidelines (Section 15126.2[d]) require an evaluation of the significant irreversible environmental changes that would be caused by a project if implemented, as described below:

> *Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse there after unlikely. Primary impacts, and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*

In general, CEQA Guidelines refer to the need to evaluate and justify the consumption of nonrenewable resources and the extent to which a project would commit future generations to similar uses of nonrenewable resources. In addition, CEQA requires the evaluation of irreversible damage resulting from an environmental accident associated with the project.

The proposed project would indirectly result in the commitment of nonrenewable natural resources used in the construction process and during operation and maintenance activities, including petroleum products and other materials. The proposed project would not result in the commitment of slowly renewable resources, such as wood products. The proposed project would not generate large amounts of construction waste.

The proposed project would also result in the commitment of energy resources such as fossil fuels. Construction activities and corresponding fuel energy consumption associated with construction of the proposed project would be temporary and localized. Once construction is complete, equipment and energy use would be comparable to existing levels.

Compliance with all applicable state, county, and local plans, policies, and regulations pertaining to energy standards would ensure that natural resources are conserved to the maximum extent possible. It is therefore concluded that the rate and amount of energy consumed during construction or operation activities would not result in the unnecessary, inefficient, or wasteful

use of resources, and that energy use would be accomplished in a manner consistent with applicable laws and regulations.

5.3 Growth-Inducing Impacts

CEQA Guidelines require that an EIR evaluate the growth-inducing impacts of a proposed project (Section 15126.2[e]). A growth-inducing impact is described by the CEQA Guidelines as:

> *[T]he way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project resulted in establishing a new demand for public services, facilities, or infrastructure, such as construction of new housing. A project would have indirect or secondary growth inducement potential if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand. Similarly, as explained in the CEQA Guidelines, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint or increasing the capacity of a required public service, such as increased water supply capacity.

As identified in CEQA Section 15126.2(e), growth inducement is not in and of itself an "environmental impact"; however, growth can result in adverse environmental consequences. Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and policies for the affected area. Local land use plans, typically general plans, provide for land use development patterns and growth policies that allow for the "orderly" expansion of urban development supported by adequate urban public services, such as water supply, sewer service, and new roadway infrastructure. A project that would induce "disorderly" growth (i.e., a project conflicting with local land use plans) could indirectly cause adverse environmental impacts: for example, the loss of agricultural land that has not been addressed in the planning process. To assess whether a project with the potential to induce growth is expected to result in significant impacts, it is important to assess the degree to which the growth associated with a project would or would not be consistent with applicable land use plans.

5.3.1 Direct Growth Inducement

The proposed project would not directly induce growth because it would not involve the development of new housing or job centers that would attract an additional population. Although implementation of the proposed project would include minor construction activities, those activities would be of limited size and duration and would require nominal numbers of construction workers. Because of the limited amount of work that would be required, and because the proposed project would not require a substantial workforce, no new homes, businesses, or public roads would be constructed, and the proposed project would not require construction workers to relocate to the area or result in the need for additional operations or maintenance employees. The proposed project also would not increase the area available for development of housing or include infrastructure that could indirectly induce growth. Therefore, the proposed project would not directly induce growth.

5.3.2 Indirect Growth Inducement

A project that would generate substantial new permanent employment could indirectly generate growth by creating demand for homes and services and fostering economic and population growth. Similarly, population growth induced by a short- or long-term construction effort with substantial employment opportunities could indirectly stimulate the need for additional housing and services to support the new temporary employment demand. Construction activities associated with implementing the proposed project would be of limited size and duration and would not require a substantial workforce. No new homes or businesses would be constructed, and the proposed project would not require construction employees to relocate to the area or result in the need for additional operations or maintenance employees.

The proposed project would not result in an increase in groundwater pumping or surface water use and would result in the availability of additional irrigation water supply relative to existing conditions as a result of reduced water loss due to soil percolation and evaporation. It is not proposed that the additional water be used to expand operations for either Sandridge or other farms. However, population in the project area would develop consistent with the overall framework for growth and development planned in the existing General Plan for the project area.

The proposed project would not remove an impediment to growth or result in indirect population growth because construction of new residences and commercial development would not occur as a result of implementation of the proposed project.

CHAPTER 6
Project Alternatives

6.1 Introduction

This chapter describes alternatives to the proposed project and compares the environmental impacts of those alternatives. This chapter also describes alternatives that were considered for further consideration but rejected.

The principles used to guide selection of the alternatives analyzed in this Draft EIR are provided by Section 15126.6 of the CEQA Guidelines, which specifies that an EIR must do all of the following:

- Describe a reasonable range of potentially feasible alternatives to the project that could feasibly attain most of the basic objectives of the project.
- Consider alternatives that could reduce or eliminate any significant environmental impacts of the proposed project (in this case, the proposed Guidelines), including alternatives that may be costlier or could otherwise impede the project's objectives.
- Evaluate the comparative merits of the alternatives.

The focus and definition of the alternatives evaluated in this Draft EIR are governed by the "rule of reason," in accordance with CEQA Guidelines Section 15126.6(f). That is, the range of alternatives presented in this Draft EIR must permit a reasoned choice by SPUD. The CEQA Guidelines (Section 15126.6) require that an EIR evaluate at least one "No-Project Alternative," evaluate a reasonable range of alternatives to the project, identify alternatives that were considered during the scoping process but eliminated from detailed consideration, and identify the "environmentally superior alternative."

Although the CEQA Guidelines (Section 15126.6[d]) require that alternatives be evaluated, they permit the evaluation to be conducted in less detail than for the proposed project (i.e., proposed Guidelines). Consistent with CEQA Guidelines Section 15126.6(d), the information provided in this Draft EIR about each alternative is sufficient to allow for a meaningful evaluation, analysis, and comparison of the alternatives with the proposed project.

The alternatives considered but rejected are discussed in subsection 6.3.3, *Alternatives Considered but Rejected*. The alternatives carried forward for analysis are discussed in Section 6.4, *Alternatives to the Proposed Guidelines*. The CEQA Guidelines also require that the EIR identify the environmentally superior alternative. Section 6.5, *Environmentally Superior Alternative*, identifies the environmentally superior alternative and summarizes the impacts of the alternatives, and its ability to meet project objectives, as compared to the proposed project.

6.2 Objectives

As presented in Chapter 2, *Project Description*, Section 2.2.1, *Project Objectives and Benefits*, the objectives of the proposed Guidelines are to:

- Develop and extend Sandridge irrigation conveyance system to more efficiently transport water from northern farmland wells to eastern and southwestern farmland owned by Sandridge near Stratford.
- Integrate the extended pipeline with Sandridge's existing water transportation infrastructure.
- Deliver irrigation water to fertile soil farmland south of Stratford in Kings County where water is scarce.
- Avoid significant evaporation loss in a canal-based irrigation water transportation system.
- Avoid water perching and prevent the mixing of irrigation water with local salts and/or pollutants.
- Enhance the efficiency of irrigation water transportation.
- Address irrigation and water transportation challenges posed by subsidence in the region.
- Improve overall safety of Sandridge's water conveyance system.

6.3 Alternatives Considered and Screening Criteria

This section describes the development of a reasonable range of alternatives to the proposed project, the method used to screen the alternatives, and the alternatives considered but eliminated from detailed consideration in this document.

6.3.1 Development of a Reasonable Range of Alternatives

CEQA requires that an EIR describe and evaluate a reasonable range of alternatives to a project or to the location of a project that would feasibly attain most of the basic project objectives and avoid or substantially lessen significant project impacts.

6.3.2 Method Used to Screen Alternatives

Potential alternatives were screened based on their ability to feasibly attain most of the basic project objectives, their feasibility, and their ability to reduce or eliminate any significant environmental impacts of the proposed project.

- **Meeting project objectives—**The project objectives are listed above in Section 6.2. The CEQA Guidelines state that alternatives must feasibly attain most of the basic objectives of the project. Alternatives that do not meet the majority of the objectives of the proposed project were screened out and not carried forward for further evaluation in the Draft EIR.
- **Feasibility—**Alternatives that do not meet the requirements of applicable laws and regulations were not carried forward for further evaluation in the Draft EIR.
- **Avoiding or lessening any potentially adverse environmental effect of the proposed Project—**Consistent with the CEQA Guidelines, alternatives should avoid or substantially

lessen one or more of the significant environmental effects of the proposed project. Alternatives that would not lessen or avoid a potentially significant environmental impact may be eliminated from detailed evaluation in the Draft EIR.

6.3.3 Alternatives Considered but Rejected

The CEQA Guidelines require an EIR to identify any alternatives that were considered by the lead agency but were rejected as infeasible, and to briefly explain the reasons underlying the lead agency's determination. Section 15126.6(c) of the CEQA Guidelines states the following:

> *The EIR should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination…Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.*

One alternative considered but rejected was to change the route of the existing pipeline. Currently, the pipeline travels south along the eastern boundary of the community of Stratford before turning west and southwest and ending at the Tulare Lake Canal. One potential alternative route would be for the pipeline to travel west along Kansas Avenue and then turn south at 21st Avenue, cross the Stratford Canal and travel along the western boundary of Stratford before crossing the Kings River, Highway 41, and the Blakeley Canal to reach Sandridge's southwestern farmlands. The alternative route would meet project objectives to develop and extend the Sandridge irrigation conveyance system, connecting Sandridge's water and farmland in the north, southwest, and east near Stratford. The alternative would also reduce the amount of evaporation in a canal-based irrigation water transportation system. The pipeline would integrate into the existing water transportation infrastructure without needing to cross the Tulare Lake Canal, avoiding potential service interruptions. More of Sandridge's farmland southwestern of Stratford in King's County would be connected to the pipeline.

However, the alternative route would have increased construction impacts as well as increased costs from rerouting the pipeline to the west of Stratford. While the Tulare Lake Canal would not experience service interruptions, crossing the Stratford Canal, Blakeley Canal, and Kings River could potentially experience service interruptions with the alternative route. Furthermore, the feasibility of crossing the Kings River north of Highway 41 is uncertain. Other pipeline routes would require the irrigation water to travel greater distances, reducing efficiency. The alternative route would therefore not efficiently convey water from the northern to eastern and southern farmland owned by Sandridge near Stratford and vice versa. The alternative route would not prioritize the irrigation of the most fertile soils, would not avoid water perching or the mixing of irrigation water, and would not address irrigation and water transportation challenges posed by subsidence in the region.

Another project alternative considered but rejected was to operate the pipeline as it currently exists (with approximately 3.2 miles already constructed). No additional construction of the pipeline to the southwest would occur and the Tulare Lake Canal would not be crossed. The sections of the pipeline already constructed, however, would be used to transport water from the

north to Sandridge's farmland in the east. Benefits of this project would include some reduction in construction-related impacts and the avoidance of any potential service interruptions at the Tulare Lake Canal. Water transportation efficiency would be increased due to reduced evaporation, and there would be partial connectivity between Sandridge's water and farmland in the north and east.

Currently, the pipeline terminates just north of the Tulare Lake Canal and does not reach Sandridge's farmlands on the other side of the canal. In its current state, there is nowhere for tailwater to drain. Irrigation water would not be delivered to approximately 3,200 acres of fertile farmland southwest of Stratford. The pipeline as currently constructed would not meet or fully meet project objectives such as the ability to increase the efficiency of irrigation water transportation. The current pipeline does not address irrigation and water transportation challenges posed by subsidence in the region, nor does it convey water to northern and eastern farmland owned by Sandridge near Stratford, which does not prioritize the irrigation of the most fertile soils in the area. Given that the current pipeline as it exists does not allow for the proper drainage of tailwater, there is potential for irrigation water to mix with local salts and/or pollutants.

6.4 Alternatives to the Proposed Project

This section presents the alternatives that were selected for an analysis based on their ability to achieve the project objectives (presented in Chapter 2, "*Project Description*," and repeated in Section 6.2.2, "Method Used to Screen CEQA Alternatives") and to avoid or lessen one or more of the potentially significant effects of the proposed alternative.

This section presents a comparison of the following alternatives to the proposed project:

- No Project Alternative
- New Well(s) Alternative

The following subsections describe each alternative considered in the analysis.

6.4.1 No Project Alternative

Description of Alternative

CEQA Guidelines Section 15126.6(e) requires consideration of a "no project" alternative. The purpose of this alternative is to allow the decision makers to compare the impacts of the proposed project with the impacts of not approving the proposed project. The No Project Alternative consists of existing conditions at the time the NOP is published, and what would be reasonably expected to occur in the foreseeable future if the proposed project were not approved, based on current plans and consistent with available infrastructure. The 'no project' alternative is the circumstances under which the project does not proceed.

Approximately 60 percent of the pipeline is already constructed, with approximately 2.3 miles of pipeline still needing to be constructed. Further construction and use of the pipeline have been halted as a result of a temporary restraining order put in place in March 2022. Thus, the existing

conditions include 3.2 miles of the pipeline that are already constructed but does not include the use of the existing pipeline to transport irrigation water. Therefore, under the No Project Alternative, the portion of the pipeline that is already constructed would remain but would not be used to transport water.

Ability to Meet the Project Objectives

The No Project Alternative would not deliver irrigation water through the existing pipeline and the remaining sections would not be completed. Approximately 3,200 acres of farmland near Stratford would therefore not receive irrigation water, inhibiting the productive use of some of the most fertile soils in the region. Sandridge's existing water conveyance system is not as efficient and loses significant amounts of water due to evaporation. Problems with Sandridge's existing water conveyance system of open ditches also include water perching and pollution contamination. Therefore, the No Project Alternative does not meet the project objectives of the proposed project.

Comparison of the No Project Alternative to the Proposed Project

The No Project Alternative would not result in the use of construction equipment and materials, vehicles, and workers. There would be no impacts related to construction (including associated air quality and greenhouse gas emissions, biological resources, cultural and tribal cultural resources, hydrology and water quality, and transportation) for the No Project Alternative, whereas the proposed project would continue the construction of the existing pipeline.

Compared to the proposed project, the No Project Alternative could result in less-than-significant but more severe impacts related to water quality and groundwater supply. The No Project Alternative, which involves the use of Sandridge's existing water conveyance system, is not efficient as it loses significant amounts of water due to evaporation. Water perching and pollution contamination are both existing issues with the use of Sandridge's existing water conveyance system. Under the No Project Alternative, the water quality used by Sandridge would continue to degrade. Furthermore, the No Project Alternative would not deliver water to the southwestern farmland near Stratford, potentially impacting the productive use of 3,200 acres of Sandridge farmland.

6.4.2 New Well(s) Alternative

Description of Alternative

Instead of connecting Sandridge's eastern and southwest farmland near Stratford in Kings County to Sandridge's existing wells to the north, new wells would be developed to irrigate Sandridge's farmland in these areas of the County. Therefore, the construction of the existing pipeline would not need to be completed in the southwest. In addition, there would be no need to cross the Tulare Lake Canal, which would avoid potential service interruptions.

However, given that the Tulare Lake Subbasin Groundwater Sustainability Plan was determined as inadequate by the California Department of Water Resources, there are significant restrictions on developing new wells in the subbasin. These restrictions could hamper construction or

development of the wells. Furthermore, limited groundwater availability in the southwestern area near Stratford would not provide enough water to irrigate the farmland and it is uncertain whether new and/or deeper wells would do so sustainably.

Ability to Meet the Project Objectives

Given the uncertainty of the ability for new wells to be constructed, the New Well(s) Alternative would not be insured to meet the objectives of the proposed project. The efficiency and safety of irrigation water transportation, the efficient conveyance of water from northern to eastern and southwestern farmland near Stratford, and the prioritization of the most fertile land in the region would not be adequately met. Irrigation and water challenges posed by subsidence in the region would also not be addressed and may in fact be exacerbated by increased wells or deeper wells in the region.

Comparison of the New Well(s) Alternative to the Proposed Project

The New Well(s) Alternative would have some reduction in construction related impacts compared to the proposed project given that the footprint ground-disturbing activities would be less than the proposed project. However, because ground-disturbing activities would occur under the New Well(s) Alternative, the potential impacts on air quality and greenhouse gas emissions, biological resources, cultural and tribal cultural resources, hydrology and water quality, and transportation would be similar to those associated with the proposed project.

Given that the Tulare Lake Subbasin Groundwater Sustainability Plan was determined as inadequate by the California Department of Water Resources, constructing additional wells may impact groundwater supply or groundwater quality in the region compared to the proposed project.

6.5 Environmentally Superior Alternative

CEQA requires identification of the environmentally superior alternative—that is, the alternative that would have the least significant impacts on the environment. CEQA Guidelines Section 15126.6(e)(2) states: “If the environmentally superior alternative is the ‘no project’ alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.”

Table 6-1 presents a comparison of impacts by resource issue area for the proposed project, the New Well(s) Alternative and the No Project Alternative.

As shown in Table 6-1, and as discussed in the alternatives analysis above, the New Well(s) Alternative would result in construction-related impacts similar to those of the proposed project, given that ground-disturbing activities may occur. The No Project Alternative would not result in any construction impacts. However, both the No Project Alternative and the New Well(s) Alternative could result in greater water quality impacts, and potentially greater impacts on agricultural resources and water supply (including groundwater demand), than the proposed project because water efficiency would not be increased and groundwater demand may increase. The No Project Alternative is considered the environmentally superior alternative because it would result in potential impacts on fewer environmental resources than the proposed project. The proposed project is the environmentally superior alternative among the other alternatives.

Implementation of the mitigation measures identified in Chapter 3 would minimize the potential for significant impacts from the proposed project.

TABLE 6-1
SUMMARY COMPARISON OF THE ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT, NO PROJECT ALTERNATIVE AND THE NEW WELL(S) ALTERNATIVE

Resource Topic		Proposed Project	New Well(s) Alternative	No Project Alternative
3.2 Air Quality and Greenhouse Gas Emissions	**3.2-1:** Construction and operation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan.	LTS	LTS	NI
	3.2-2: Construction and operation of the proposed project could 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.	LTS	LTS	NI
	3.2-3: Construction and operation of the proposed project could expose sensitive receptors to substantial pollutant concentrations.	LTS	LTS	NI
	3.2-4: Construction and operation of the proposed project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LTS	LTS	NI
	3.2-5: Construction and operation of the proposed project could generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	LTS	LTS	NI
	3.2-6: Construction and operation of the proposed project could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	LTS	LTS	NI
3.3 Biological Resources	**3.3-1:** Construction and operation of the proposed project could result in 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 CDFW or USFWS.	LSM	LSM	NI
	3.3-2: Construction and operation of the proposed project could result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means.	LSM	LSM	NI
	3.3-3: Construction and operation of the proposed project could 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.	LTS	LTS	NI
	3.3-4: Construction and operation of the proposed project could conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	LTS	LTS	NI

Resource Topic		Proposed Project	New Well(s) Alternative	No Project Alternative
3.4 Cultural Resources	**3.4-1:** Construction and operation of the proposed project could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.	LSM	LSM	NI
	3.4-2: Construction and operation of the proposed project could disturb human remains, including those interred outside of dedicated cemeteries.	LSM	LSM	NI
3.5 Hydrology and Water Quality	**3.5-1:** Construction and operation of the proposed project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	LTS	LTS+	LTS+
	3.5-2: Construction and operation of the proposed project could substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	LTS	LTS+	LTS+
	3.5-3: Construction and operation of the proposed project could alter existing drainage patterns.	LTS	LTS	NI
	3.5-4: Construction and operation of the proposed project in a flood hazard zone could risk releases of pollutants due to project inundation.	LTS	LTS	NI
	3.5-5: Construction and operation of the proposed project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LTS	LTS+	LTS+
3.6 Transportation	**3.6-1:** Construction and operation of the proposed project could conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	LTS	LTS	LTS-
	3.6-2: Construction and operation of the proposed project could result in inadequate emergency access.	LTS	LTS	NI
3.7 Tribal Cultural Resources	**3.7-1:** Construction and operation of the proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074.	LSM	LSM	NI

NOTES: NI—No impact; LTS—Less than significant; LSM—Less than significant after application of feasible mitigation measure(s); + = Impact is more severe than under the proposed project.

SOURCE: Data compiled by Environmental Science Associates in 2024.

CHAPTER 7
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CHAPTER 8
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Chapter 1, Introduction

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Chapter 2, Project Description

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Chapter 3, Environmental Setting, Impacts, and Mitigation Measures

Section 3.1, Approach to Analysis

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Chapter 4, Cumulative Impacts

No references cited in this chapter.

Chapter 5, Other CEQA Considerations

No references cited in this chapter.

Chapter 6, Alternatives

No references cited in this chapter.

Chapter 7, List of Preparers

No references cited in this chapter.

Appendix A

Notice of Preparation (NOP) and NOP Comment Letters

DATE:	December 20, 2023
TO:	State Clearinghouse; Responsible and Trustee Agencies; and Other Interested Parties
SUBJECT:	Notice of Preparation of an Environmental Impact Report
PROJECT:	Sandridge Irrigation Pipeline Extension Project
LEAD AGENCY:	Stratford Public Utility District 19681 Railroad Street Stratford, CA 93266

The Stratford Public Utility District (SPUD) intends to prepare an Environmental Impact Report (EIR) for the Sandridge Irrigation Pipeline Extension Project (proposed project). The proposed project encompasses a 3.7-mile pipeline that would convey irrigation water and connect to and from existing Sandridge Partners LP (Sandridge) water distribution systems within Kings County, California. SPUD is the Lead Agency under the California Environmental Quality Act (CEQA). SPUD invites written comments on the scope of the environmental analysis and identification of potential environmental issues to be included in the EIR.

Notice of Preparation: This Notice of Preparation (NOP) has been sent to the Office of Planning and Research, responsible and trustee agencies, other public agencies, and interested members of the public to inform them that SPUD is preparing an EIR to analyze the proposed project and to solicit information that will be helpful in the environmental review process. This notice includes a description of the proposed project and information regarding how to provide comments to SPUD.

Comment Period: SPUD is requesting input from responsible and trustee agencies, other public agencies, and interested members of the public regarding the scope and content of the environmental information to be included in the EIR. Responsible and trustee agency responses should provide specific detail about the scope and content of the environmental information related to the responsible or trustee agency's area of statutory responsibility that they believe should be included in the EIR and other pertinent information consistent with CEQA Guidelines Section 15082(b).

State law mandates that responses must be sent at the earliest possible date but postmarked within 30 days from this notice. The CEQA Guidelines state that if a responsible or trustee agency fails to respond (with comments or a well-justified request for additional time) SPUD may presume that none of those entities have a response to make. The 30-day public review period for this NOP extends from **Wednesday, December 20, 2023,** to **Friday, January 19, 2024**. Please provide any written comments (either by mail or electronically) no later than **5:00 pm on January 19, 2024**. Please direct all comments to the following address:

Stratford Public Utility District, 19681 Railroad Street, Stratford, CA 93266
Email: stratfordpud@gmail.com

Document Availability. This NOP is available for review on the Office of Planning and Research's State Clearinghouse website, at the Kings County Clerk's office, at the Stratford Post Office at 20340 Main Street, Stratford, CA 93266, and at the SPUD office at 19681 Railroad Street, Stratford, CA 93266.

Project Location: The proposed project is located in northwest Kings County, California. The

proposed pipeline begins approximately 2 miles south of the City of Lemoore, in the vicinity of Java Avenue directly west of Highway 41, and includes pipeline sections connecting to existing ditches that run south for approximately 2 miles before crossing Highway 41 near King Avenue. The pipeline runs east for approximately 450 feet before turning south along 20th Avenue for approximately 1 mile, eventually crossing Laurel Avenue. It then runs south along Stratford Canal for about 0.5 mile before turning west and running along Lincoln Avenue for approximately 280 feet. Subsequently, it turns south, running along 20th Avenue for about 0.25 mile, and further west along an existing canal for around 0.5 mile, where it turns southwest and crosses the Tulare Lake Canal. It continues south for approximately 700 feet before turning west for approximately 0.4 mile, crossing the Kings River, and terminating at Blakely Canal (**Figure 1**).

Project Description: The proposed project encompasses a 3.7-mile irrigation water pipeline that would connect to and from existing Sandridge water distribution systems. The project includes segments that are both constructed (approximately 3.2 miles) and yet to be constructed (approximately 0.5 mile); these segments collectively comprise the proposed project (approximately 3.7 total miles of pipeline). Construction of the pipeline originally began in 2021 and required a 320-foot easement across SPUD's property, which SPUD granted in October 2021. Construction activities were put on hold after a legal challenge to SPUD's grant of the easement was filed by the Tulare Lake Canal Company alleging that SPUD failed to comply with CEQA. TLCC obtained a temporary restraining order preventing further project construction and use in March 2022, which remains in place pending resolution of the CEQA litigation.

Sandridge currently sources its irrigation water via Sandridge-owned wells located north of Stratford, as well as surface water. These irrigation water supplies are primarily conveyed through canals, as well as existing pipelines located to the east of the project site. The proposed pipeline would convey water from northern to eastern and southwestern areas near Stratford and vice versa, as needed, within Kings County. The primary goal of the proposed project is to reduce evaporative water losses compared to the current water conveyance methods, thereby improving irrigation efficiency on Sandridge's agricultural lands.

New construction would involve the installation of a 48-inch diameter high-density polyethylene (HDPE) pipeline approximately 200 feet across the Tulare Lake Canal, owned by Tulare Lake Canal Company (TLCC) and accessed on Sandridge-owned land with a 120-foot right-of-way held by TLCC, and the reconstruction of approximately 0.5 mile of existing canal on Sandridge-owned land and replacement of this section with the HDPE pipeline. The pipeline would have an approximately 10-foot disturbance area on either side for construction activities and would have a total disturbance area of approximately 1.3 acres.

The previously constructed sections encompass approximately 2.4 miles of 48-inch diameter HDPE pipeline between Highway 41 and the north side of the Tulare Lake Canal, as well as approximately 0.8 mile of 48-inch diameter HDPE pipeline from the south side of the Tulare Lake Canal to Blakely Canal. It is estimated that the installation of these pipeline sections disturbed a 10-foot area on either side, with a total disturbance area of approximately 7.7 acres.

Operation of the proposed project would involve the transport of groundwater and surface water supplies from existing Sandridge sources located north of Stratford to irrigate Sandridge-owned farmlands within Kings County, with residual tailwater discharged into Blakely Canal. During flood events, the pipeline would transport water in the opposite direction, from Blakely Canal to the north, in order to efficiently facilitate the utilization of flood waters.

Environmental Baseline: CEQA Guidelines section 15125 states that an EIR must include a description of the physical environmental conditions in the vicinity of the project, and that

generally the lead agency should describe the physical environmental conditions as they exist at the time the NOP is published from a local and regional perspective (existing conditions). Where necessary to provide the most accurate picture practically possible of the project's impacts (for example, for the proposed project, the previously constructed sections), a lead agency may define existing conditions by referencing historic conditions, supported with substantial evidence. The environmental setting will constitute the baseline physical conditions that SPUD, the Lead Agency, will use to determine if an impact is significant.

In general, the environmental baseline is the same as the existing on-the-ground conditions when environmental review begins. Some segments of the pipeline alignment were constructed between the Summer of 2021 and March 2022. No change in the baseline condition has occurred since the issuance of the temporary restraining order in March 2022; therefore, the EIR will use an environmental baseline date of December 20, 2023 (i.e., the date the NOP is published).

Project Alternatives: In preparing the EIR, SPUD will consider a reasonable range of project alternatives, including the no project alternative, as well as others that may be identified in comments received in response to this NOP.

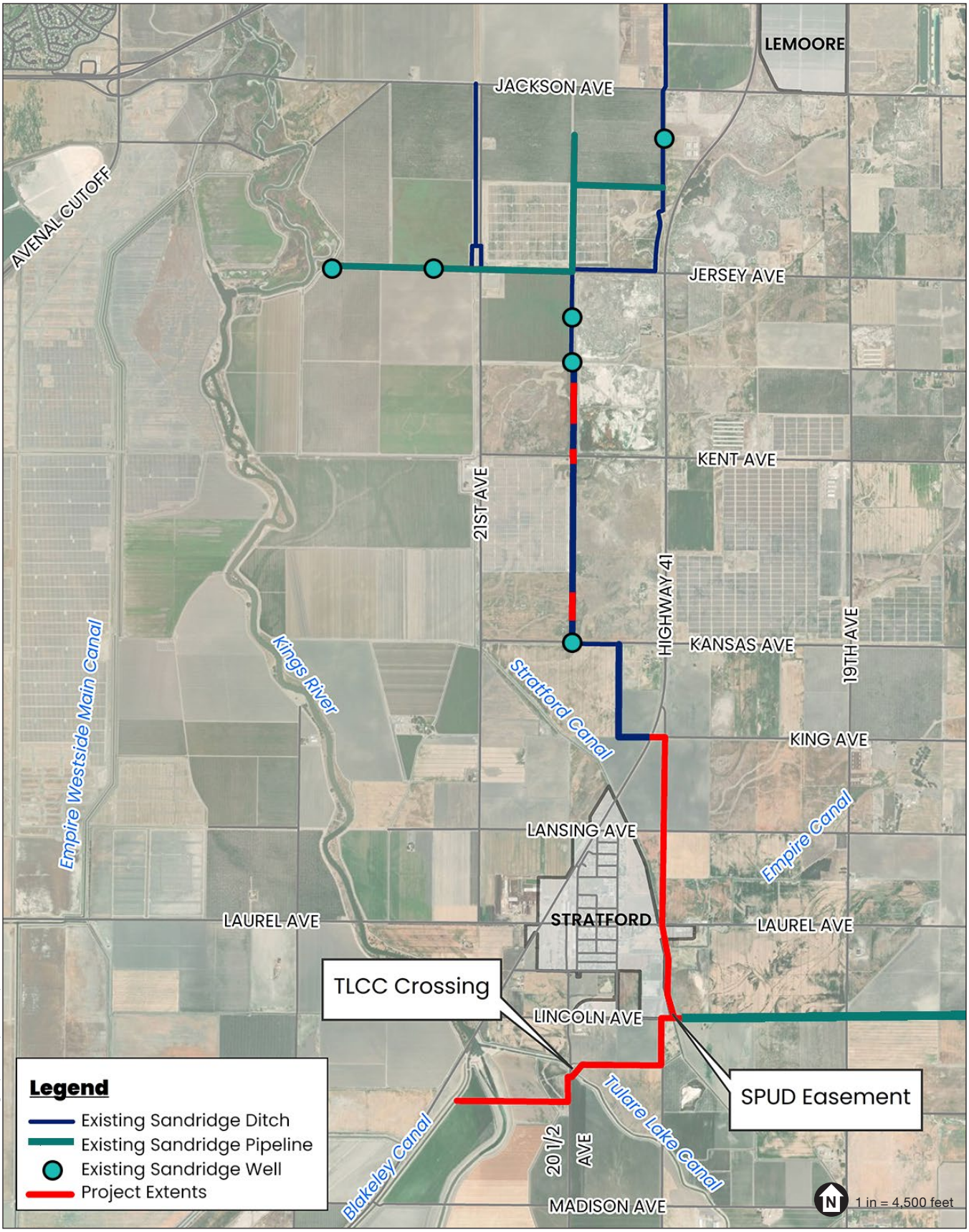
Environmental Effects and Scope of the EIR: The EIR will analyze potentially significant impacts that may result from implementation of the proposed project.

Pursuant to section 15063(a) of the CEQA Guidelines, an Initial Study has not been prepared for the proposed project. The EIR will evaluate the resource areas that may have impacts from the proposed project, including:

- Air Quality/Greenhouse Gas Emissions
- Biological Resources
- Cultural Resources
- Hydrology and Water Quality
- Transportation
- Tribal Cultural Resources
- Cumulative Impacts

Environmental resource areas that are anticipated to have no impact or less-than-significant impacts (without mitigation) from the proposed project will be addressed briefly in the EIR, including:

- Aesthetics
- Agriculture and Forestry
- Energy
- Geology and Soils
- Hazards and Hazardous Materials
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems
- Wildfire



Sandridge Irrigation Pipeline Extension Project

Figure 1
Project Location

ESA

NATIVE AMERICAN HERITAGE COMMISSION

January 3, 2024

Caryn Larson
Stratford Public Utility District
19681 Railroad Street
Stratford, CA 93266

Re: 2023120577, Sandridge Irrigation Pipeline Extension Project, Kings County

Dear Ms. Larson:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Cameron.Vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

cc: State Clearinghouse

North Fork Kings
Groundwater Sustainability Agency

January 17, 2024

Stratford Public Utility District
19681 Railroad Street
Stratford, CA 93266
Email: stratfordpud@gmail.com

Re: NOP Sandridge Irrigation Pipeline Extension Project

North Fork Kings Groundwater Sustainability Agency (NFKGSA) received a NOP from Stratford Public Utility District (SPUD) for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines. NFKGSA offers the following comments and recommendations to assist SPUD in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on a variety of environmental resources.

NFKGSA Background

NFKGSA was formed under Senate Bill 56 in 2017 and located within the Kings Subbasin which is classified as a Critically Overdrafted Basin by the California Department of Water Resources (DWR) Bulletin 118. The NFKGSA shares its southern boundary with South Fork Kings Groundwater Sustainability Agency where the Project appears to be located. Subsidence has been observed along this boundary and should it continue would be categorized as an undesirable result and could deter NFKGSA from reaching sustainability.

Project Description

The NOP Project Descriptions describes the proposed Project's transportation of groundwater, but lacks any details as to the location of proposed extraction, water rights analysis, quantity of groundwater sought to be exported, or ultimate location of where such water would be put to beneficial use. There is no description whatsoever on the extraction well depth, location, casing or any other details, in addition to no information on the recovery wells.

The NFKGSA is located entirely within the Kings Subbasin. It is unclear based on the Project Description whether groundwater is sought to be exported from the Kings Subbasin, and more specifically the NFKGSA boundaries to unknown locations. The NOP fails to describe any approval process from any applicable groundwater sustainability agency with clear oversight over groundwater and such proposed activities as described in the NOP. Failing to adequately disclose these facts and seek proper approval jeopardizes the ability of the NFKGSA to achieve its sustainability goals on the timeline outlined in its Groundwater Sustainability Plan (GSP). As a result of the foregoing, NFKGSA recommends revising the Project Description to adequately address the scope of the Project.

The Project's Probable Environmental Impacts

Because the Project Description does not adequately define the source, location and quantity of groundwater sought to be exported and transported to unknown locations, the probable environmental impacts from the Project cannot be fully analyzed. It is clear any increased groundwater extractions, and certainly additional new groundwater extraction exports out of the NFKGSA boundary, will only exacerbate overdraft conditions, severely jeopardizing the ability of the NFKGSA to achieve its sustainability goals. This of course means the risk of increased land subsidence on a regional scale, impacts to water quality, impacts to drinking water wells, and the balance of the undesirable results defined within the Sustainable Groundwater Management Act. Moreover, given that subsidence is already occurring within NFKGSA's boundaries, an increase in groundwater extraction levels can only be expected to contribute to that subsidence.

Conclusion

NFKGSA requests the NOP be revised to accurately reflect the Project's scope and adequately address the Project's environmental impacts. Transparency with this Project is critical to the successful implementation of the NFKGSA GSP.

Very truly yours,

Justin Mendes

Justin Mendes
General Manager

KINGS RIVER WATER ASSOCIATION

4888 E. JENSEN AVENUE
FRESNO, CA 93725
TELEPHONE: (559) 266-0767
FAX: (559) 266-3918

January 18, 2024

Board of Directors
Stratford Public Utility District
19681 Railroad Street
Stratford, CA 93266
Email: stratfordpud@gmail.com

Re: Notice of Preparation of Environmental Impact Report;
Sandridge Irrigation Pipeline Extension Project

Dear Members of the Board:

The purpose of this letter is to provide the comments of Kings River Water Association (KRWA) to the Notice of Preparation dated December 20, 2023 (NOP) prepared by Stratford Public Utility District (District) for the subject project (Project).

The NOP provides that:

> "Operation of the proposed project would involve the transport of groundwater and *surface water* supplies from existing Sandridge sources located north of Stratford to irrigate *Sandridge-owned farmlands within Kings County*, with residual tailwater discharged into Blakely Canal."

(NOP, p. 2, emphasis added.) However, the District does not identify the source of that surface water the Project would transport. The NOP also does not identify the location where the intended surface water supply would be put to use. While the NOP refers to "Sandridge-owned farmlands within Kings County," there is no description of any kind where those lands are located.

The District should identify in its Environmental Impact Report for the Project (EIR) all sources of surface water that would be transported using the Project as well as the specific locations where that water would be put to use. Without that information, the EIR will necessarily fail to consider all of the environmental impacts from the Project.

Please include KRWA on all future notices regarding the Project.

Very truly yours,

Steve Haugen,
Watermaster

cc: Joseph D. Hughes, Esq.

Tulare Lake Canal Company
P.O. Box 877
Corcoran, CA 93212

January 18, 2024

Stratford Public Utility District
19681 Railroad Street
Stratford, CA 93266
Email: stratfordpud@gmail.com

Re: NOP Sandridge Irrigation Pipeline Extension Project

The Tulare Lake Canal Company (TLCC) received a NOP from Stratford Public Utility District (SPUD) for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines. Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project. As you know this project has received extensive review and comments by both trial and appellate courts. It is within that context, TLCC offers the following comments and recommendations to assist SPUD in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on a variety of environmental resources.

Failure to Provide CEQA Notice

On February 15, 2022, counsel for TLCC, requested copies of all CEQA notices related to the Project. Attached hereto as Exhibit A is a copy of the request. Despite its request, counsel for TLCC was not notified nor sent a copy of the NOP until it again requested a status update of SPUD's activities on January 5, 2024. The NOP is dated December 20, 2023. TLCC was not provided a timely copy of the NOP and as a result was not afforded adequate time to respond to the NOP. This lack of notice is particularly problematic because TLCC relied on SPUD providing timely notice.

Project Description

An EIR must include an adequate Project description, which encompasses the whole project and not simply a segment or piece of an overall project. The proposed Project Description, and accompanying map, limits the northern portion of the Project to Jackson Avenue. The scope of the Project extends at minimum to the north of Highway 198, as testified to by Craig Andrew, in *Tulare Lake Canal Company v. Sandridge Partners* (Kings County Superior Court Case No. 22C-0019). The Project description must adequately describe the relationship to other proposed projects by the Project Proponent, Sandridge Partners, including but not limited

to the Tulare Lake Storage and Floodwater Protection Project, Semitropic Water Storage District as lead agency; a 36-inch irrigation supply pipeline crossing of the Kings River next to the proposed Project by Empire West Side Irrigation District; Sandridge's crossing of Tulare

Lake Basin Water Storage District's Lateral A and further installation of irrigation pipelines from Lateral A to Quail Avenue, in Kings County; and Reclamation District 761's continual movement of Kings River water outside the Kings River Service Area as testified to in *Kings River Water Association, et al. v. Reclamation District 761, et al.* (Kern County Superior Court Case No. BCV-19-100523-BCB). It appears all of the foregoing activities are connected and must be fully analyzed under one EIR to fully assess the environmental impacts caused by the proposed activities.

The Project Description in the NOP is limited to describing part of the pipeline's physical location and vague descriptions as to the physical size of the pipeline. Despite the entire Project as proposed being constructed for the movement of water, the Project Description is wholly devoid of any description as to the source of the water moved, the basis of the water right, and the proposed quantity of water moved. The purpose of the Project is clearly to transport and move water from various locations, but without further description on the source, supply and quantity of said water supply, an EIR cannot fully evaluate the combined environmental impacts from the Project.

The Project Description also fails to describe future activities that are foreseeable consequences of Project approval. The location of the Project is undoubtedly in a critically overdrafted basin as defined in the Department of Water Resources Bulletin 118, and potentially multiple critically overdrafted subbasins. Groundwater Sustainability Agencies located in critically overdrafted basins are required to sustainably manage groundwater to overcome decades of overdraft conditions. The Project Description fails to articulate how the sought-after movement of groundwater is approved by the applicable Groundwater Sustainability Agency(s) (GSA) and that such export is compliant with the relevant Groundwater Sustainability Plan(s) (GSP) as currently implemented by the relevant GSA(s). The Project Description also fails to describe how the movement of groundwater is consistent with the County of Kings and Fresno County Groundwater Export Ordinances. In addition, it is entirely unknown what permission may be required for the movement of surface water given the lack of description of the source and quantity of such supply.

The Project Description fails to state the objectives sought by the Project. The title of the Project is for an irrigation pipeline. Clearly, the main objective is for irrigation of agricultural crops. The Project Description fails to describe the water supply, how the proposed Project benefits water supply (if at all), the location of crops and overall demand for water.

The Project Description fails to discuss or identify any uses of the pipeline for the transportation and movement of sewage. SPUD's participation in the Project was for its own potential use and purposes of water treatment facilities and wastewater disposal. Despite this, there is no mention in the NOP whatsoever of SPUD's utilization of the existing or proposed pipeline(s).

The lead agency should revise the Project Description to accurately describe the entire scope of the Project as described above.

The Project's Probable Environmental Impacts

According to the NOP, "[p]ursuant to section 15063(a) of the CEQA Guidelines, an Initial Study has not been prepared for the proposed project." Counsel for Sandridge has confirmed an Initial Study was not prepared as "it was determined that an EIR is clearly required for the project". (January 10, 2024, email correspondence from N. George to A. Mauritson.)

A NOP must describe the probable environmental effects of the project. (*CEQA Guidelines* Section 15082(a)(1)(C).) Despite no Initial Study being prepared because the impacts are so obvious, the NOP does not articulate the probable environmental effects of the Project, and instead only outlines the "resource areas that may have impacts" from the proposed project. There is also no description or detail as to why other resource areas are anticipated to have no impact or less-than-significant impacts (without mitigation). For example, the resource area of agriculture is identified as having no impact or less-than-significant impact, yet the Project title is for a large-scale irrigation pipeline and thus clear implications to agriculture. In addition, no mitigation measures of any kind are discussed or proposed in the NOP.

The EIR of course must describe significant environmental impacts. The proposed Project seeks to move irrigation water supply from one location to another, presumably resulting in the fallowing of existing crops. Water in the Project location is not an infinite supply. Here, the impact from the exportation of groundwater must be analyzed to determine the effects from the exportation including land subsidence, groundwater quality, economic impacts from land fallowing, air quality impacts from land fallowing, land use and planning implications from the shift in water supply, energy impacts from the cost of pumping a significant water supply miles in multiple directions, and cumulative impacts from the exportation of groundwater. A similar analysis must be completed for the surface water sought to be moved, with appropriate analysis on the ability or inability to mitigate such impacts. Without adequate description of the water sources, quantity, supply and locations, the environmental impacts are entirely unknown.

The physical construction of the pipeline itself must also address the significant environmental impacts, which includes the movement and transport of significant amounts of dirt and earthwork, affecting geology and soils, mineral resources, potentially aesthetics, potentially utilities and service systems if the construction impairs or causes impacts to existing and potentially new utility facilities, and noise from the physical construction activities. Air quality impacts from the significant earthwork both from the equipment utilized for construction and airborne particulates from the activity itself must be assessed and mitigated.

In addition to the movement of water, environmental impacts from the movement of sewage by SPUD must also be evaluated.

Baseline Conditions

The NOP provides a baseline condition of December 2023, despite clear acknowledgment construction of portions of the Project occurred years prior. Although it is true the CEQA Guidelines normally limit examination to the existing physical conditions in the affected area at the same stage of the CEQA process (Guidelines 15126.2), where here, the CEQA process was entirely ignored for years until a Temporary Restraining Order ceased construction until the proper CEQA analysis could ensue, utilizing the date of the NOP is entirely inappropriate. The NOP should be revised to articulate an appropriate baseline condition of pre-Project activities.

Conclusion

This Project will have an impact on the environment. The nature and extent of that impact is not known. Inexplicably, considerable effort has been expended to hide this critical information from public view. The NOP should be revised and recirculated as it was not provided to TLCC as requested and for the foregoing reasons is deficient.

Sincerely,

TULARE LAKE CANAL COMPANY

By _____
Mark Unruh
President

Exhibit A

HERR
PEDERSEN
BERGLUND
ATTORNEYS AT LAW LLP

February 15, 2022

VIA U.S. STANDARD MAIL ONLY

Kelly Granger, General Manager
Stratford Public Utility District
19681 Railroad St.
Stratford, California 93266

Re: PRA Request

Dear Ms. Granger:

My client Tulare Lake Canal Company respectfully requests under Public Resources Code section 21092.2 to be placed on the service list for any CEQA notices concerning projects or actions under consideration by Stratford Public Utility District that involve or may involve the moving of water, wastewater, sewage, effluent, or other material through ditches or pipelines, whether those pipelines or ditches be newly-laid or (in the case of pipelines) placed in sleeves already in place or to be placed at a later time.

Tulare Lake Canal Company further requests under Public Resources Code section 21092.2 to be placed on the service list for any CEQA notices concerning projects or actions under consideration by Stratford Public Utility District that involve or may involve the treatment of water, wastewater, sewage, effluent, or other human waste be it planned for treatment in- or out-side the boundaries of the Stratford Public Utility District. We ask that they be delivered in a searchable electronic format, if possible.

Please deliver the requested documents to my assistant, paralegal Alma Nanez at: ananez@hpblaw.net

If the volume of data is too great to be delivered via email, please contact Ms. Nanez to make arrangements for a different mode of delivery; perhaps Dropbox or a similar format will serve well.

Very truly yours,

HERR PEDERSEN & BERGLUND LLP

Leonard C. Herr

LCH/akt
LCH ltr to Stratford re Notice of PRA Request 2-14-22

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100 WILLOW PLAZA, SUITE 300
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TULARE LAKE BASIN
WATER STORAGE DISTRICT
ESTABLISHED SEPTEMBER 1926
1001 CHASE AVENUE, CORCORAN, CALIFORNIA 93212
PHONE (559) 992-4127 • FAX (559) 992-3891

January 19, 2024

Stratford Public Utility District
19681 Railroad Street
Stratford, CA 93266
Email: stratfordpud@gmail.com

Re: NOP Sandridge Irrigation Pipeline Extension Project

Tulare Lake Basin Water Storage District (TLBWSD) received a NOP from Stratford Public Utilities District for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines. Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project. TLBWSD offers the following comments and recommendations to assist SPUD in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on a variety of environmental resources.

Project Description

The EIR must include an adequate Project description, which encompasses the whole project and not simply a segment or piece of an overall project. The proposed Project Description and accompanying map limits the Project's eastern boundary to the Blakeley Canal. TLBWSD understands, based on Sandridge Partners' surreptitious installation of a pipeline underneath TLBWSD's Lateral A during the construction of the Sandridge Irrigation Pipeline in 2021, that the Project extends easterly to the District's Lateral A canal and then northerly towards Quail Avenue. As a result, TLBWSD's recommends revising the Project Description to encompass the "whole" Project area and all integral parts thereof.

The Project's Probable Environmental Impacts

A NOP must describe the probable environmental effects of the project. (*CEQA Guidelines* Section 15082(a)(1)(C).) The NOP's probable environmental effects of the project should be reevaluated in light of the need to revise to the Project Description.

Baseline Conditions

The NOP baseline condition should be revised to accurately reflect the conditions which existed before construction of the Project began, which was years in advance of the publication of the NOP in December 2023.

Conclusion

TLBWSD requests the NOP be revised and recirculated as described above.

Very truly yours,

TULARE LAKE BASIN
WATER STORAGE DISTRICT

By _____
Jeof Wyrick, President

Westlands Water District

Friday, January 19, 2024

Via Electronic Mail
Stratford Public Utility District
19681 Railroad Street, Stratford, CA 93266
Email: stratfordpud@gmail.com

Subject: Comments – Notice of Preparation of an Environmental Impact Report (EIR) for the Sandridge Irrigation Pipeline Extension Project

Dear Stratford Public Utility District:

This letter was written on behalf of Westlands Water District Groundwater Sustainability Agency ("Westlands"), which serves as the groundwater sustainability agency ("GSA") for the Westside Subbasin of the San Joaquin Valley Groundwater Basin (Department of Water Resources ("DWR")) Groundwater Subbasin Number 5-22.09) ("Westside Subbasin"). Westlands respectfully submits these comments on the Notice of Preparation of an Environmental Impact Report ("EIR") for the Sandridge Irrigation Pipeline Extension Project (the "Project").

As a foundational matter, Westlands is pleased that the Stratford Public Utility District ("SPUD") is preparing an EIR for the Project but has some significant concerns regarding the Project given that:

- Much of the Project construction (approximately 3.2 miles of the 3.7-mile Project) was already completed prior to CEQA environmental review which led to a lawsuit and injunction halting Project construction (see the Notice of Preparation for the Project EIR [the "NOP"] at p. 2);

- This proposed Project is located in the Tulare Lake Subbasin, which is listed as high-priority by DWR and is critically overdrafted[1].

- The Tulare Lake Subbasin does not have an approved groundwater sustainability plan ("GSP") and therefore the State is considering putting the subbasin on probation status[2]; and

[1] See July 2022 Tulare Lake Subbasin Groundwater Sustainability Plan – Amended at p. ES-1.
[2] See probationary hearing information located at: https://www.waterboards.ca.gov/water_issues/programs/sgma/groundwater_basins/tulare_lake_subbasin.html.

- The Tulare Subbasin GSP was deemed inadequate for, among other things, failing to adequately address "[c]ontinued land subsidence (sinking),"[3] including potential subsidence on the San Luis Canals (or other canals).

These concerns are further outlined below.

I. Overview of Westside Subbasin Groundwater Sustainability Plan

Under the Sustainable Groundwater Management Act ("SGMA"), a GSP is required to address undesirable results existing and/or occurring after January 1, 2015—the effective date of SGMA. (Wat. Code, § 10727.2(b)(4).) Westlands honored this requirement with the adoption of a GSP (the "Westside GSP") that included Minimum Thresholds ("MTs") and Measurable Objectives ("MOs") that were calculated to maintain 2015 subsurface inflows and outflows—reflecting current land use and agricultural practices—between the Westside Subbasin and adjacent subbasins. In other words, the Westside GSP was predicated upon a reciprocal principle of "due no harm" and, inclusive of its MTs and MOs, contemplates stabilizing 2015 boundary flow conditions in order to facilitate successful sustainable groundwater management across not only the Westside Subbasin, but across the entire San Joaquin Groundwater Basin.

The Westside GSP was approved by the California Department of Water Resources (DWR) on August 7, 2023, which found it conformed to the requirements of the SGMA. Westlands is concerned that this Project could jeopardize its sustainable management of the Westside Basin.

II. CEQA EIR Considerations

A. EIR Must Analyze Impacts to Adjacent Basins to Determine Any Undesirable Results Under SGMA

The California Environmental Quality Act ("CEQA") requires an EIR to identify and discuss all significant impacts of the proposed Project. (Cal. Code Regs., tit. 14 ("CEQA Guidelines") §§ 15123, 15126, 15126.2.) As part of the regulatory setting for the proposed Project, SGMA requirements must be complied with and considered throughout the EIR. (See e.g., CEQA Guidelines, Appendix G, Sections X(b), X(e.).) SGMA not only requires a GSA to develop a GSP to ensure long-term sustainability in its basin, but also mandates that the consideration of impacts on *adjacent basins' ability to reach sustainability goals*. (See Wat. Code § 10733(c).) SGMA also identifies six "undesirable results" to be avoided. (See Water Code § 10721(x).)

Based on the Project location described in the NOP, the Project wells are located in the Tulare Lake Subbasin with the closest well sited approximately 1.35 miles from the boundary of the Westside Subbasin. As an introductory matter, it is unclear whether this Project will result in increased pumping from the Tulare Lake Subbasin. This matter is important to Westlands

[3] See October 2023 Tulare Lake Subbasin Probationary Hearing Draft Staff Report at p. 14, located at: https://www.waterboards.ca.gov/water_issues/programs/sgma/docs/groundwater_basins/202310-tulare-lake-pbh-draft-staff-report.pdf.

because continued lowering of groundwater levels in the Tulare Lake Subbasin would adversely affect Westlands' ability to implement its GSP and to achieve its sustainability goal for the Westside Subbasin. As noted above, DWR deemed the Tulare Lake Subbasin GSP inadequate and thus the State Water Board has scheduled an April 2024 public hearing to consider designating the Tulare Lake Subbasin as a probationary basin[4] under SGMA.[5] The EIR for the Project must consider and discuss any possible impacts on the Tulare Lake Subbasin and adjacent basins, including the Westside Subbasin.

For example, land subsidence is a concern in the Westside Subbasin and the San Joaquin Groundwater Basin in general (see Attachment A – Subsidence Mapping). The Tulare Lake Subbasin was deemed inadequate for, among other things, failing to adequately address "[c]ontinued land subsidence (sinking)."[6] For Westlands' GSP implementation to be successful, Westlands and its neighbors need to protect groundwater levels, reduce subsidence, and avoid undesirable results. SPUD must analyze these issues in the EIR and ensure that the proposed Project is consistent will not impact adjacent subbasins. (Wat. Code, § 10735.6(a); Cal. Code Regs., tit. 23, §§ 350.4(f), 354.28(b)(3), 355.4(b)(7).) Any identified "undesirable results" (defined by SGMA) within the EIR should be considered a significant impact. As required by CEQA, SPUD must implement feasible mitigation measures to address these impacts (CEQA Guidelines § 15126.4(a)(1) ["[a]n EIR shall describe feasible measures which could minimize significant adverse impacts."]) or consider a less impactful project alternative, as described below in section C.

B. EIR Must Provide an Adequate Project Description

An EIR is an informational document where "[a]n accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR." (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.) Per the CEQA Guidelines, an EIR's project description must contain (1) the precise location and boundaries of the proposed project, (2) a statement of the objectives sought by the proposed project, (3) a general description of the project's technical, economic, and environmental characteristics, and (4) a statement briefly describing the intended uses of the EIR. (CEQA Guidelines, § 15124.) Importantly, a project description must account for "the entirety of the project" rather than "some smaller portion of it." (*South of Market Community Action Network v. City and County of San Francisco* (2019) 33 Cal.App.5th 321, 332.)

While the project description discusses planned construction and pre-CEQA review constructed parts of the Project, the project description lacks the following key details: (1) how much water will be extracted from the Tulare Lake Subbasin; (2) how much water will be transported through

[4] We expect the SWRCB to determine that the Tulare Lake Subbasin GSP must adopt Minimum Thresholds and Measurable Objectives that are consistent with neighboring approved GSPs to ensure no impacts to the adjacent subbasins. (Wat. Code, § 10735.6(a); Cal. Code Regs., tit. 23, §§ 354.28(b)(3), 355.4(b)(7).)

[5] https://www.waterboards.ca.gov/water_issues/programs/sgma/groundwater_basins/tulare_lake_subbasin.html.

[6] See October 2023 Tulare Lake Subbasin Probationary Hearing Draft Staff Report at p. 14, located at: https://www.waterboards.ca.gov/water_issues/programs/sgma/docs/groundwater_basins/202310-tulare-lake-pbh-draft-staff-report.pdf.

the pipeline, (3) the specific location of the ground- and surface water supplies (aside from mentioning that they are located in "existing Sandridge sources located north of Stratford"), and (4) other essential details. This level of detail is essential to understanding and fully analyzing what the Project intends to do. In order to fully inform the decision-makers and the public of the impacts of the "entirety of the project," the project description should be revised to provide full details about the proposed Project.

C. EIR Must Include an Adequate List of Alternatives

CEQA requires an EIR to describe a range of reasonable alternatives to a project that "would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives." (CEQA Guidelines § 15126.6(a).) The NOP states that the "The primary goal of the proposed project is to reduce evaporative water losses compared to the current water conveyance methods, thereby improving irrigation efficiency on Sandridge's agricultural lands." (See NOP at p. 2.) SPUD should consider other feasible alternatives to achieving this purpose.

D. EIR Analysis Must Otherwise Fully Evaluate the Full Scope of the Proposed Project

In addition to evaluating the impacts of constructing and operating the proposed Project, the EIR must examine the impacts associated with replacement or removal of the pipeline at the end of its design life. Analysis of these impacts is required to provide the public and decision-makers with a complete understanding of the impacts involved with the proposed Project.

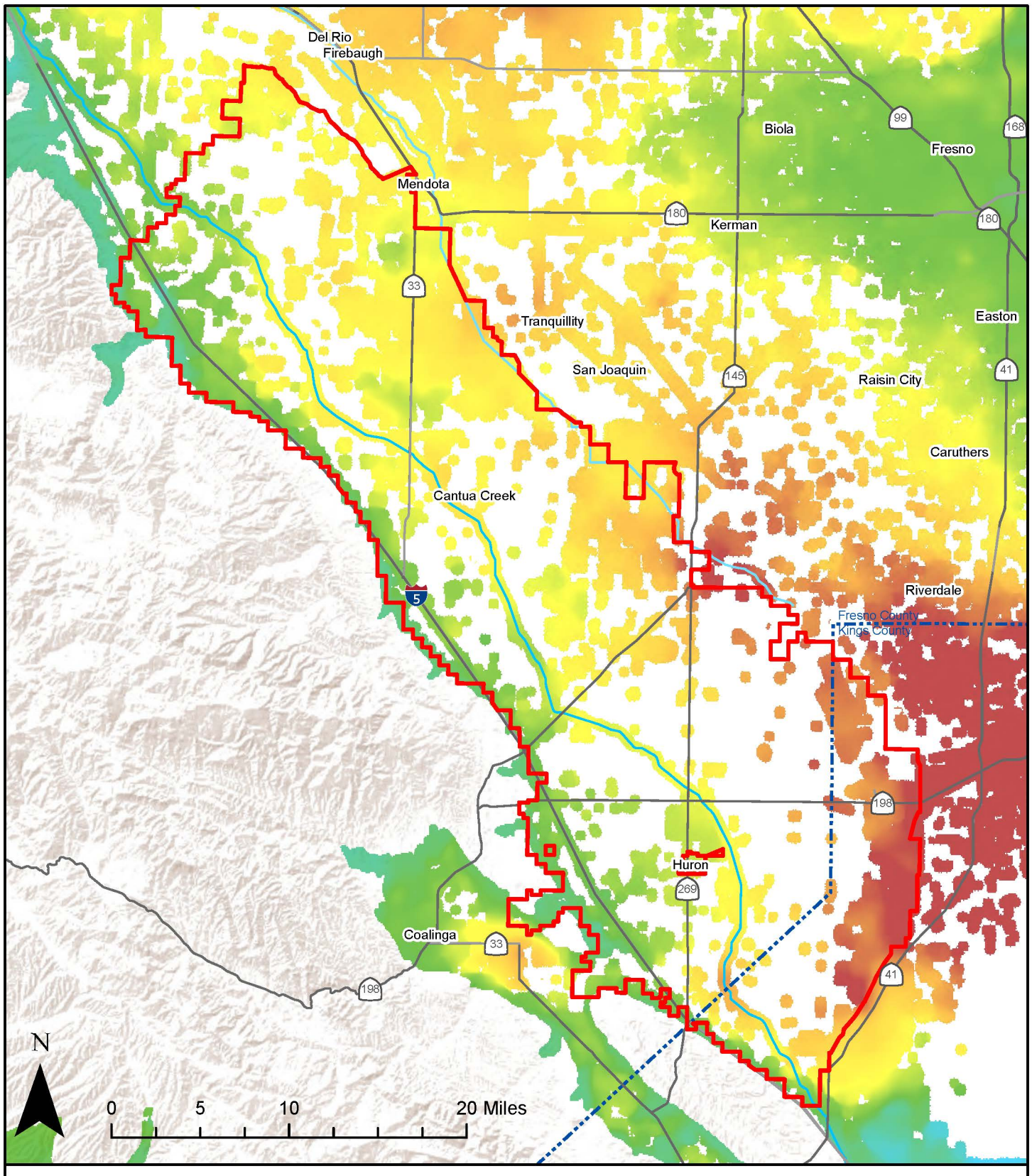
Thank you for your careful consideration of these comments.

Sincerely,

Russ Freeman

Russ Freeman, P.E.
Deputy General Manager- Resources

ATTACHMENT A – SUBSIDENCE MAPPING



Westlands Boundary Total Subsidence Jan 2016 - Jan 2023

San Luis Canal

+0.25

0

-0.5

-1.5

-2.5

Figure 7
Total Subsidence in WWD from inSAR Data Jan 2016 - Jan 2023

WESTLANDS WATER DISTRICT
3130 N. FRESNO ST.
FRESNO, CALIFORNIA 93703
559.224.1523 FAX 559.241.6277

Date: 3/29/2023

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

January 23, 2024

Caryn Larson
Stratford Public Utility District
19681 Railroad Street
Stratford, California 93266

Subject: Sandridge Irrigation Pipeline Project (Project)
Notice of Preparation (NOP)
State Clearinghouse No. 2023120577

Dear Caryn Larson:

The California Department of Fish and Wildlife (CDFW) received a NOP for an Environmental Impact Report (EIR) from the Stratford Public Utility District, as Lead Agency for the Project pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code. While the comment period may have ended, CDFW respectfully requests that Stratford Public Utility District still consider our comments.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources. CDFW is also submitting comments as a **Responsible Agency** under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

Nesting Birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs, and nests include section 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), section 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and section 3513 (regarding unlawful take of any migratory nongame bird).

Water Rights: CDFW, as Trustee Agency, is consulted by the State Water Resources Control Board (SWRCB) during the water rights change petition process to provide terms and conditions designed to protect fish and wildlife prior to appropriation of the State's water resources. Certain fish and wildlife are reliant upon aquatic and riparian ecosystems, which in turn are reliant upon adequate flows of water. CDFW therefore has a material interest in assuring that adequate water flows within streams for the protection, maintenance, and proper stewardship of those resources. CDFW provides biological expertise to review and comment on environmental documents and impacts arising from Project activities.

PROJECT DESCRIPTION SUMMARY.

The Project is located in northwest Kings County. The pipeline begins approximately two miles south of the City of Lemoore and continues south before proceeding west across the Tulare Lake Canal and Kings River until reaching its terminus at the Blakely Canal. The Project boundary encompasses a 3.7-mile irrigation water pipeline that would connect to and from existing Sandridge Partners LP (Sandridge) water distribution systems. The Project includes segments that are both constructed (approximately 3.2 miles) and yet to be constructed (approximately 0.5 mile); together these segments comprise a total of 3.7 miles of pipeline. Activities began in 2021 and have been paused to address CEQA-related litigation.

The previously completed activities included installation of 2.4 miles of 48-inch diameter pipeline between Highway 41 and the north side of the Tulare Lake Canal, and also 0.8 miles of 48-inch diameter pipeline from the south side of the Tulare Lake Canal to the Blakeley Canal. The installation of these pipeline sections are estimated to have disturbed a 10-foot area on either side of the alignment to bury the pipe to an undisclosed depth, with a disturbance area of 7.7 acres for an undisclosed volume of displaced soil.

New construction would involve the installation of a 48-inch diameter pipeline approximately 200 feet across the Tulare Lake Canal, and the reconstruction and replacement of approximately 0.5 mile of existing canal. The pipeline construction would have an approximately 10-foot disturbance area on either side of the pipe alignment for construction activities and would have a disturbance area of approximately 1.3 acres.

Project operation following construction would transport groundwater and surface water supplies from existing Sandridge sources located north of the community of Stratford to irrigate Sandridge-owned farmlands within Kings County, with residual tailwater discharged into the Blakeley Canal. During flood events, the pipeline would transport water in the opposite direction from the 1Blakeley Canal to the north, in order to facilitate the utilization of flood waters.

COMMENTS AND RECOMMENDATIONS

Biological Resources: Special-status species are known to exist in the vicinity of the Project, and the Project could potentially impact and may have already impacted State and federally listed species. Records from the California Natural Diversity Database (CNDDB) document species and habitat that could potentially be impacted by Project activities. The CNDDB and aerial imagery of the Project boundary and its surroundings also confirms that portions of the Project area support Valley sink scrub habitat. Special-status animal species that could be impacted include the State threatened and federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*); the State candidate endangered Crotch's bumble bee (*Bombus crotchii*); the State threatened Swainson's hawk (*Buteo swainsoni*); the State threatened tricolored blackbird (*Agelaius tricolor*); the federally threatened and State species of special concern western snowy plover (*Charadrius nivosus nivosus*); the federally and State endangered Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*); the federally proposed threatened and State species of special concern western spadefoot (*Spea hammondii*); the State threatened Nelson's antelope squirrel (*Ammospermophilus 3elson*); the federally proposed and State species of special concern western pond turtle (*Emys marmorata*); and the State species of special concern American badger (*Taxidea taxus*), Tulare grasshopper mouse (*Onychomys torridus tularensis*), burrowing owl (*Athene cunicularia*), LeConte's thrasher (*Toxostoma lecontei*), long-billed curlew (*Numenius americanus*), coast horned lizard (*Phrynosoma blainvillii*), and San Joaquin coachwhip (*Masticophis flagellum*

ruddocki). The Project alignment is also within the geographic range of the California Rare Plant Rank 1B.2 California alkali grass (*Puccinellia simplex*).

To evaluate impacts of the Project on these species, CDFW recommends that a qualified biologist conduct species-specific focused habitat assessments and, if suitable habitat is present, protocol-level surveys or assumption of presence. CDFW further recommends that the results of these surveys be summarized and used to evaluate Project impacts, impact avoidance and mitigation, and potential permitting needs in the EIR. The EIR must provide quantifiable and enforceable measures as needed that will reduce impacts to less than significant levels.

Please note that the CNDDB is populated by and records voluntary submissions of species detections. As a result, species may be present in locations not depicted in the CNDDB but where there is suitable habitat with features capable of supporting species. A lack of an occurrence record in the CNDDB does not mean that a species is not present. In order to adequately assess any potential Project-related impacts to biological resources, surveys conducted by a qualified biologist during the appropriate survey period(s) and using the appropriate protocol survey methodology are warranted in order to determine whether or not any special status species are present.

Riparian and Wetland Habitats: Based on aerial imagery and Project mapping in the NOP, the Project potentially diverts flow from the Kings River, and the alignment crosses the Kings River and potentially other drainages. Project activities such as water diversion and any associated ground disturbances have the potential to involve temporary and permanent impacts to stream/riparian and wetland habitat features; CDFW recommends that the EIR document the extent of all such impacts in the Project area and that the potential direct and indirect impacts to stream/riparian and wetland habitat be analyzed. Based on those potential impacts, CDFW recommends that the EIR include measures to avoid, minimize, and/or mitigate those impacts. CDFW recommends that impacts to riparian habitat, including biotic and abiotic features, take into account the effects to stream function and hydrology from riparian habitat loss or damage, as well as potential effects from the loss of riparian habitat to special-status species already identified herein.

Project Description: The NOP lacks detailed information with regard to the actual footprint of the Project and does not address methods and materials, ground disturbance related to each activity, staging and laydown areas, and other specific Project-related activities that could threaten biological resources and result in potentially significant environmental impacts within the Project area. CDFW anticipates these details to be provided in the EIR, in addition to details such as specific locations of activities relative to private or public property and adjacent roads and the need for any night work.

Baseline Conditions: The NOP states that some segments of the pipeline alignment were constructed between the Summer of 2021 and March of 2022. No change in onsite conditions has occurred since the issuance of a temporary restraining order in March 2022. The NOP indicates that the EIR will use an environmental baseline date of December 20, 2023, for the date the NOP was published. Given that 3.2 miles of the Project alignment was constructed prior to the issuance of an NOP or other CEQA review, and the potential for impacts to sensitive species and habitat along these Project segments, CDFW recommends that the EIR determine baseline conditions for environmental and biological analysis for the whole of the CEQA action as the environmental conditions that existed prior to construction of any Project alignment.

Cumulative Impacts: Given that portions of the Project's segments have already been constructed, CDFW recommends that the EIR include existing and future impacts in the cumulative impact analysis conducted for all biological resources, including those that will either be significantly or potentially significantly impacted by implementation of the Project, including those whose impacts are determined to be less than significant with mitigation incorporated or for those resources that are rare or in poor or declining condition and will be impacted by the Project, even if those impacts are relatively small (i.e., less than significant). CDFW recommends that cumulative impacts be analyzed using an acceptable methodology to evaluate the impacts of past, present, and reasonably foreseeable future projects on resources and be focused specifically on the resource, not the Project. An appropriate resource study area identified and utilized for this analysis is advised. CDFW staff is available for consultation in support of cumulative impacts analyses as a trustee and responsible agency under CEQA.

Water Rights: The NOP states that during flood events, the pipeline would transport water in the opposite direction, from Blakeley Canal to the north, in order to facilitate the utilization of flood waters. CDFW recommends providing a detailed description of all water rights and water entitlements that would pertain to the Project, including any applications or change petitions that may be filed to transfer water. If a new water allocation would occur specifically for transfer to the Sandridge facilities, CDFW recommends that the EIR also include an analysis of the impacts of diverting currently unallocated flows, including such details for the point(s) of diversion as a hydrologic study, water availability analysis, and other information that identifies and analyzes the impacts to aquatic ecosystems and fish and wildlife resources.

As Trustee Agency, CEQA is consulted by the SWRCB during the water rights process to provide terms and conditions designed to protect fish and wildlife prior to appropriation of the State's water resources. Given the potential for impacts to special status species and their habitats, it is advised that details be disclosed during the CEQA process and that required consultation with CDFW occur well in advance of any SWRCB water right application process.

Lake and Streambed Alteration: Jurisdictional activities in rivers, streams, and lakes are subject to CDFW's authority pursuant to Fish and Game Code section 1600 et seq. Fish and Game Code section 1602 requires an entity to notify CDFW prior to commencing any activity that may (a) substantially divert or obstruct the natural flow of any river, stream, or lake; (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake (including the removal of riparian vegetation): (c) deposit debris, waste or other materials that could pass into any river, stream, or lake. "Any river, stream, or lake" includes those that are ephemeral, intermittent, or episodic, as well as those that are perennial, regardless of the duration, frequency, or volume of flow.

CDFW is required to comply with CEQA in the issuance of a Lake or Streambed Alteration Agreement; therefore, if the CEQA document approved for the Project does not adequately describe the Project and its impacts to lakes or streams as they related to Fish and Game Code section 1600 et seq., a subsequent CEQA analysis may be necessary for a Lake or Streambed Alteration Agreement issuance. For information on notification requirements or for questions related to remediation of any work completed prior to notification, please refer to CDFW's website (https://wildlife.ca.gov/Conservation/LSA) or contact CDFW staff in the Central Region Lake and Streambed Alteration Program at (559) 243-4593 or R4LSA@wildlife.ca.gov.

Project Alternatives Analysis: CDFW recommends that the information and results obtained from the biological technical surveys, studies, and analyses conducted in support of the EIR be used to develop and modify the Project's alternatives to avoid and minimize impacts to biological resources to the maximum extent possible. When efforts to avoid and minimize have been exhausted, remaining impacts to sensitive biological resources may need to be mitigated to reduce impacts to a less than significant level, if feasible.

Federally Listed Species: CDFW recommends consulting with the U.S. Fish and Wildlife Service (USFWS) on potential impacts to federally listed species. Take under the federal Endangered Species Act (ESA) is more broadly defined than CESA; take under ESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting. Consultation with the USFWS in order to comply with ESA is advised well in advance of any ground-disturbing activities.

Nesting birds: CDFW encourages that Project implementation occur outside the bird nesting season; however, if ground-disturbing or vegetation-disturbing activities must occur during the breeding season from February through mid-September, the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above.

To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground or vegetation disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the Project site to identify nests and determine their status. A sufficient area means any area potentially affected by the Project. In addition to direct impacts (i.e. nest destruction), noise, vibration, and movement of workers or equipment could also affect nests. Prior to initiation of construction activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once construction begins, CDFW recommends having a qualified biologist continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, CDFW recommends halting the work causing that change and consulting with CDFW for additional avoidance and minimization measures.

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

CDFW appreciates the opportunity to comment on the NOP to assist the Stratford Public Utilities District in identifying and mitigating Project impacts to biological resources. If you have any questions, please contact Annette Tenneboe, Senior Environmental Scientist Specialist, at (559) 580-3202 or by email at Annette.Tenneboe@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Julie Vance
FA83F09FE08945A...

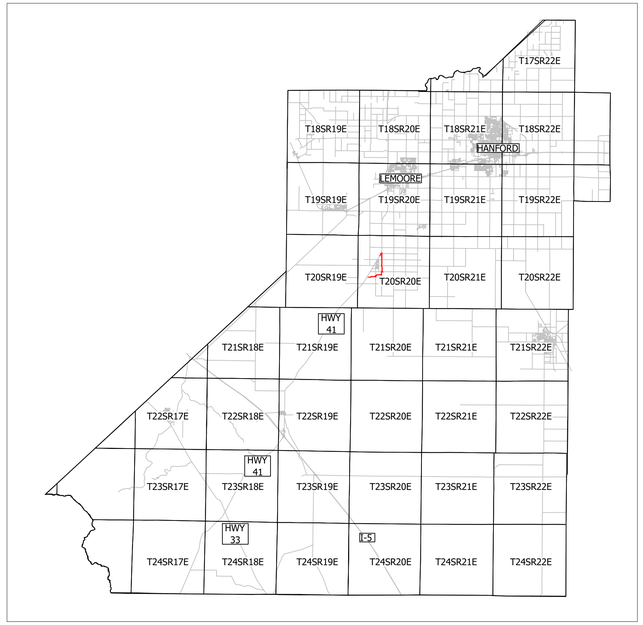
Julie A. Vance
Regional Manager

ec: State Clearinghouse
Governor's Office of Planning and Research
State.Clearinghouse@opr.ca.gov

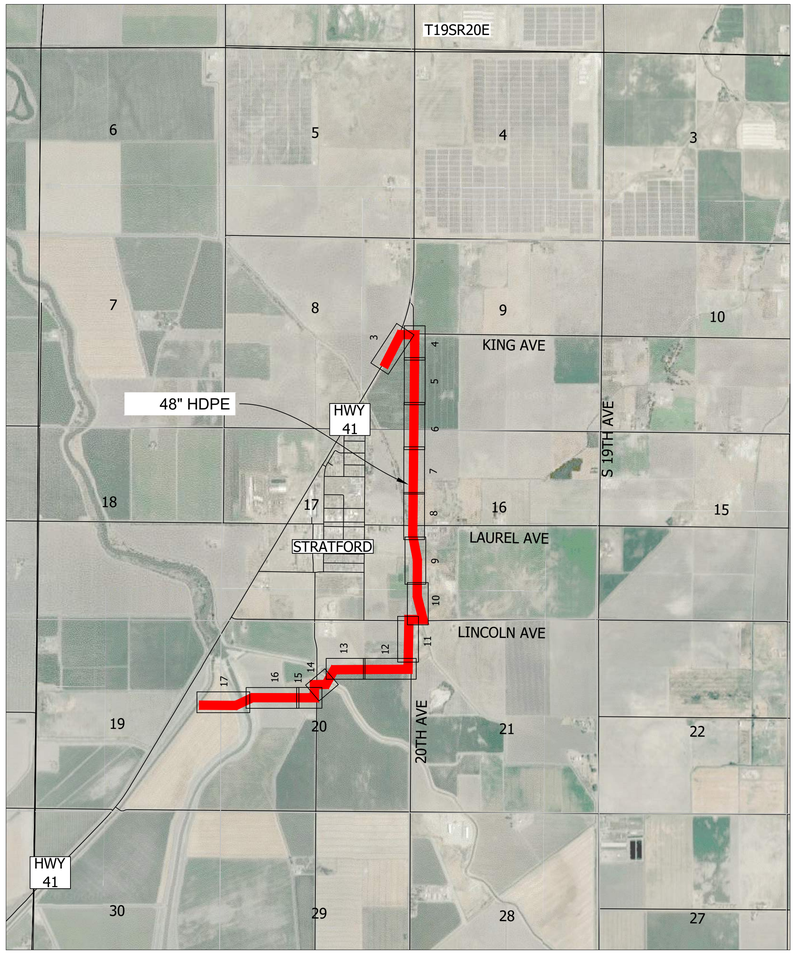
Appendix B
Design Details of Previously Constructed Pipeline Sections

BROWN CONTINUATION PIPELINE

PLAN AND PROFILE



KINGS COUNTY
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

SHEET INDEX:

DIGALERT 811

EXISTING UNDERGROUND UTILITIES AND PIPELINES
UNDERGROUND UTILITIES AND PIPELINES MAY EXIST WITHIN LIMITS OF DEVELOPMENT. ALL UTILITIES AND PIPELINES SHALL BE IDENTIFIED AND PROTECTED PRIOR TO SITE DISTURBANCE.

DESIGNED BY:

TIM ASHLOCK, RCE 32778 DATE

SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

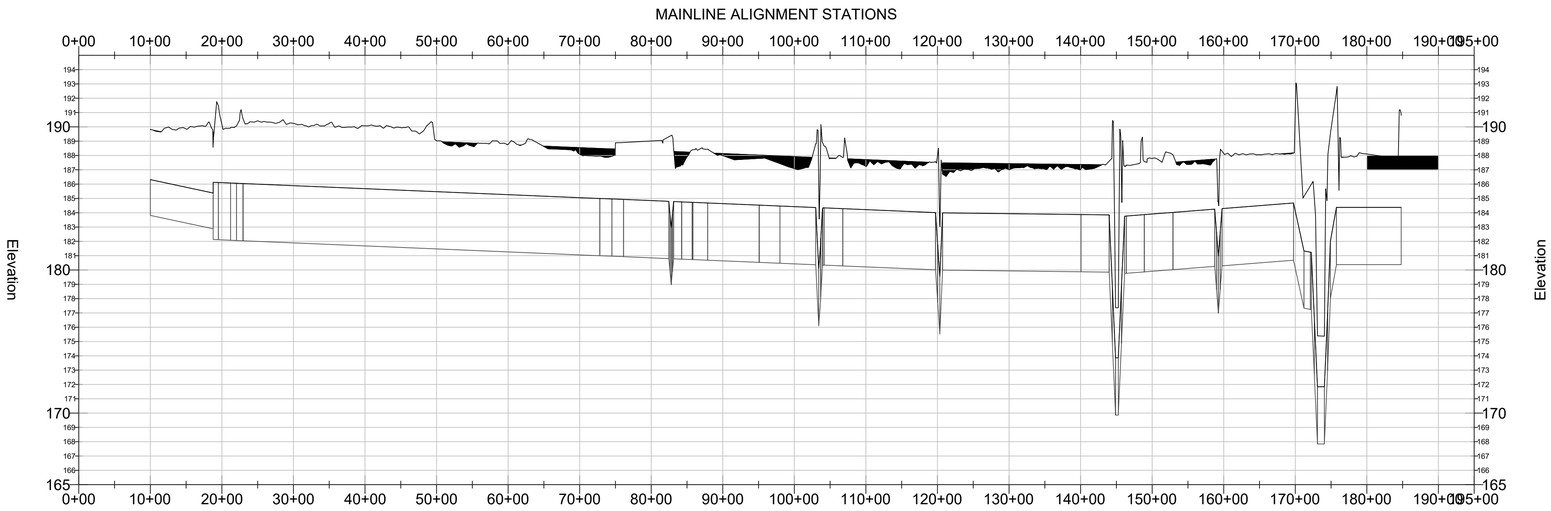
BROWN CONTINUATION PIPELINE

TITLE SHEET
KING COUNTY, CA

REV: REV: REV: REV: REV:
DRAWN BY: ASM
DATE: 12/26/2021
SCALE: -

SHEET:
1
of
20

BROWN CONTINUATION PIPELINE



BROWN CONTINUATION PIPELINE - MAINLINE OVERALL PROFILE

HORIZONTAL SCALE 1"=1000'
VERTICAL SCALE 1"=5'

Materials		
Part	Size	QTY
HDPE Tee	30" x 30" x 18" FLG	2
	30" x 48" x 30" FLG	1
	48" x 48" x 18" FLG	17
Isolation Valve Assembly	48"	1
HDPE 90 Elbow	48"	7
HDPE 45 Elbow	48"	2
PIP Flange Adapter	12"	19
HDPE Pipe (LF)	48"	16600
	30"	890
PIP Pipe (LF)	12"	360

Stand Pipe Schedule			
Station	Size	Plan & Profile Sheet	Detail & Sheet
10+00	12"	3	1/18
18+78	12"	3	1/18
19+42	12"	3	1/18
22+85	12"	4	1/18
81+92	12"	8	1/18
83+06	12"	8	1/18
102+49	12"	10	1/18
103+90	12"	10	1/18
119+15	12"	11	1/18
120+46	12"	12	1/18
139+46	12"	13	1/18
143+38	12"	14	1/18
145+95	12"	14	1/18
158+18	12"	15	1/18
159+60	12"	16	1/18
169+14	12"	16	1/18
176+11	12"	17	1/18
183+60	12"	17	1/18

Isolation Valve Schedule			
Station	Size	Plan & Profile Sheet	Detail & Sheet
183+90	48"	17	2/18

NOTES & SPECIFICATIONS:

1. ALL WORK AND MATERIALS SHALL CONFORM WITH LOCAL AND STATE CODES AND BE PERFORMED IN A PROFESSIONAL MANNER.
2. ALL NECESSARY PERMITS, ETC. SHALL BE OBTAINED AND MAINTAINED ON SITE PRIOR TO SITE DISTURBANCE.

RESPONSIBILITIES OF CONTRACTOR:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING ALL APPLICABLE SAFETY LAWS INCLUDING STATE AND FEDERAL REQUIREMENTS.
2. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR JOB SITE SAFETY INCLUDING, BUT NOT LIMITED TO, THE SAFETY OF HIS EQUIPMENT AND METHODS AND FOR ANY DAMAGE OR INJURY WHICH MAY RESULT FROM THEIR FAILURE, IMPROPER CONSTRUCTION, MAINTENANCE, OR OPERATION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AN UPDATED SET OF AS-BUILT DRAWINGS ONSITE DURING CONSTRUCTION OF THE PROJECT. THESE DRAWINGS SHALL INCLUDE THE LOCATION OF ALL PIPELINES INSTALLED AND CONNECTION DETAILS AT VALVES AND CONNECTION TO EXISTING FACILITIES. A COMPLETE SET OF AS-BUILT DRAWINGS SHALL BE PRESENTED TO OWNER UPON COMPLETION OF PROJECT.
4. CONTRACTOR SHALL GUARANTEE WORK UNDER HIS DIRECTION OR THAT OF HIS SUBCONTRACTORS FOR A PERIOD OF ONE YEAR. ANY REPAIRS NECESSARY DUE TO FAULTY INSTALLATION DURING THE ONE-YEAR PERIOD SHALL BE PROMPTLY CORRECTED AT NO EXPENSE TO OWNER.
5. AT LEAST TWO DAYS PRIOR TO ANY SITE DISTURBANCE, CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) AT 811 AND REQUEST FIELD LOCATION OF ALL EXISTING UTILITIES.
6. CONTRACTOR SHALL BE CAREFUL TO AVOID DAMAGE TO EXISTING FACILITIES AND IMPROVEMENTS. CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IF ANY DAMAGE THE COST OF REPAIRING ANY DAMAGE CAUSED BY CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATIONS OF UNDERGROUND PIPELINES AND UTILITIES PRIOR TO COMMENCING PROJECT. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPAIRED IMMEDIATELY.
8. ANY CHANGES TO PROJECT INSTALLATION THAT IS NOT SPECIFIED IN THE PLANS OR SPECIFICATIONS SHALL BE AGREED TO BY ENGINEER, OWNER, AND CONTRACTOR IN WRITING PRIOR TO THE WORK IN QUESTION BEING PERFORMED.
9. ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS, SPECIFICATIONS, AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN THE DRAWINGS OR SPECIFICATIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER, IN WRITING, WHO WILL PROMPTLY CORRECT SUCH INCONSISTENCIES OR AMBIGUITIES IN WRITING. WITHOUT NOTIFICATION, WORK DONE BY CONTRACTOR AFTER HIS DISCOVERY OF SUCH DISCREPANCIES, SHALL BE DONE AT THE CONTRACTOR'S RISK.
10. THERE MAY EXIST BURIED GAS AND WATER LINES, AND BURIED AND/OR OVERHEAD TELEPHONE LINES AND ELECTRICAL LINES WITHIN THE PROJECT LIMITS. THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR THE LOCATION AND PROTECTION OF ALL EXISTING FACILITIES, BURIED OR OVERHEAD, DURING THE CONSTRUCTION OPERATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES OR INJURY OF ANY NATURE CAUSED BY EXECUTION OF THE WORK AND SHALL RESTORE SUCH UTILITIES TO A CONDITION SIMILAR OR EQUAL TO THEIR CONDITION BEFORE SUCH DAMAGE OR INJURY WAS DONE, BY REPAIR OR REPLACEMENT IN AN ACCEPTABLE MANNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ANY AFFECTED UTILITY.
11. THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR THE LOCATION AND PROTECTION OF ALL EXISTING FEATURES, ABOVE GROUND OR BURIED, WHICH ARE LOCATED WITHIN THE PROJECT LIMITS, AND MAY BE AFFECTED DURING THE CONSTRUCTION OPERATION. SUCH FEATURES SHALL INCLUDE, BUT ARE NOT LIMITED TO; FENCING, IRRIGATION, LANDSCAPING, GRADING, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES OR INJURY OF ANY NATURE CAUSED BY THE EXECUTION OF WORK AND SHALL RESTORE SUCH FEATURES TO A CONDITION SIMILAR OR EQUAL TO THEIR CONDITION BEFORE SUCH DAMAGE OR INJURY WAS DONE, BY REPAIR OR REPLACEMENT IN AN ACCEPTABLE MANNER. THE CONTRACTOR SHALL RESTORE ANY SUCH FEATURES WHICH ARE REMOVED OR RELOCATED TO FACILITATE THE CONSTRUCTION PROCESS TO A CONDITION SIMILAR OR EQUAL TO THEIR CONDITION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, BY REPAIR OR REPLACEMENT IN AN ACCEPTABLE MANNER. THE CONTRACTOR SHALL CAREFULLY INSPECT THE CONSTRUCTION SITE AND VERIFY THE LOCATION AND CONDITION OF ANY SUCH FEATURES WITHIN THE PROJECT LIMITS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
12. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND SHALL CONFORM TO ALL APPLICABLE AWWA STANDARDS.
13. PIPELINES SHALL BE INSTALLED AND BACKFILLED TO MINIMIZE ANY CONTRACTION OR EXPANSION COMPLICATIONS. A MINIMUM OF ONE FOOT OF VERTICAL SEPARATION IS REQUIRED AT ALL PIPELINE CROSSINGS INCLUDING DRAINAGE, ELECTRICAL, AND IRRIGATION PIPING. CONTRACTOR SHALL DENOTE FUNCTION OF EACH PIPELINE ON PLAN AS-BUILT IF BURIED IN COMMON TRENCH. MINIMUM DEPTH OF COVER SHALL BE 42 INCHES.
14. BACKFILL: TRENCH BACKFILL SHALL BE NO GREATER THAN 1" DIAMETER AND FREE OF ROCKS AND ORGANIC MATTER. ALL ENCASEMENT BACKFILL AROUND PIPING SHALL BE COMPACTED TO A 90% PROCTOR MINIMUM. SEE TRENCH DETAIL ON THIS PLAN SET. BACKFILL SHALL BE INSTALLED AND COMPACTED IN 6 INCH LIFTS TO 12 INCHES ABOVE CROWN OF PIPE. ALL BACKFILL AROUND TEES, ELBOWS AND OTHER FITTINGS SHALL BE COMPACTED TO 90% PROCTOR. NATIVE BACKFILL IS ACCEPTABLE ABOVE INITIAL PIPE ENCASEMENT TO SURFACE AND SHALL BE COMPACTED TO 90% PROCTOR IN 12" LIFTS. IF THE REQUIRED 42 INCH MINIMUM COVER ABOVE CROWN OF PIPE CANNOT BE ATTAINED DUE TO SITE CONDITIONS, ADDITIONAL MATERIAL SHALL BE ADDED ABOVE PIPE TO REACH ADEQUATE COVER ONCE APPROVED BY SITE ENGINEER.
15. CONTRACTOR SHALL COORDINATE INSPECTIONS WITH OWNER A MINIMUM OF 48 HOURS IN ADVANCED.
16. CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY COMPANIES 48 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO EXISTING UTILITY LINES UNLESS ENCROACHMENT PERMIT SPECIFIES OTHERWISE.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF ALL EXISTING UTILITIES IN THE FIELD. LOCATIONS OF UTILITIES AND UNDERGROUND FACILITIES SHOWN ARE APPROXIMATE AND FOR GENERAL INFORMATION ONLY.
18. CONTRACTOR SHALL PROVIDE AND MAINTAIN SUFFICIENT BARRICADES TO PROVIDE FOR THE SAFETY OF THE GENERAL PUBLIC.
19. ALL MATERIAL SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
20. CONTRACTOR SHALL COORDINATE ALL NECESSARY UTILITY RELOCATIONS, IF REQUIRED, WITH THE APPROPRIATE UTILITY COMPANIES.
21. CONTRACTOR SHALL ELIMINATE OR MINIMIZE NON-STORM WATER DISCHARGES FROM THE CONSTRUCTION SITE TO STORM DRAINS, CANALS AND OTHER WATER BODIES. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN A MANNER THAT MINIMIZES, TO THE MAXIMUM EXTENT PRACTICABLE, ANY POLLUTANTS ENTERING DIRECTLY OR INDIRECTLY THE STORM WATER SYSTEM, CANAL SYSTEM OR GROUND WATER. THE CONTRACTOR SHALL ENSURE THAT NO CONSTRUCTION MATERIALS (E.G., CLEANING FRESH CONCRETE FROM EQUIPMENT) ARE CONVEYED INTO THE STORM DRAIN OR CANAL SYSTEM. ALL MATERIALS THAT COULD CAUSE WATER POLLUTION (I.E., MOTOR OIL, FUELS, PAINTS, ETC.) SHALL BE STORED AND USED IN A MANNER THAT WILL NOT CAUSE ANY POLLUTION. ALL DISCARDED MATERIAL AND ANY ACCIDENTAL SPILLS SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED DISPOSAL SITE. CONTRACTOR SHALL COMPLY WITH ALL STATE AND FEDERAL LAWS AND REGULATIONS RELATED TO STORM WATER AS STIPULATED IN THE CLEAN WATER ACT. CONTRACTOR SHALL PROVIDE A STORM WATER PREVENTION PLAN AND STORM WATER PREVENTION PLAN MONITORING IN ACCORDANCE WITH THE REGIONAL WATER QUALITY CONTROL BOARD.
22. ALL TRAFFIC CONTROL REQUIRED FOR CONSTRUCTION ACTIVITIES SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE CALTRANS TRAFFIC MANUAL.
23. AERIAL IMAGES ARE INFORMATIONAL ONLY AND MAY NOT REFLECT CURRENT SITE IMPROVEMENTS.

SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

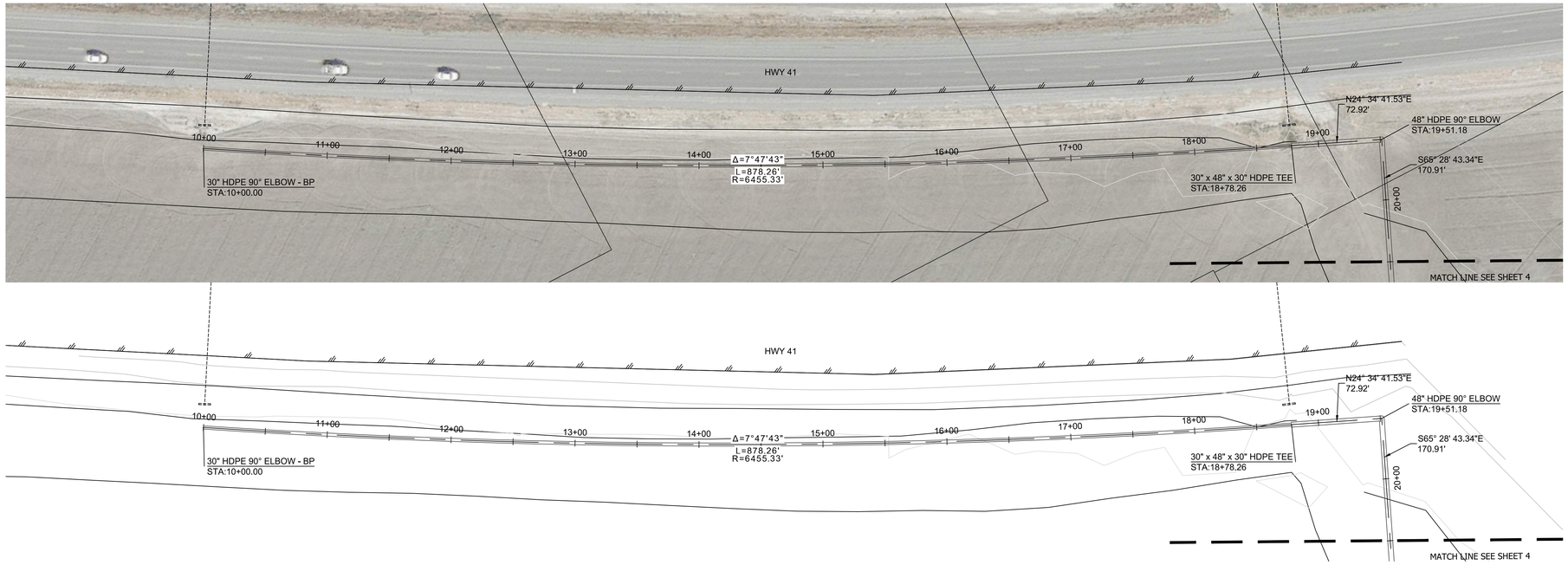
BROWN CONTINUATION PIPELINE
OVERALL PROFILE
STRATFORD, CA

REV:
REV:
REV:
REV:
REV:
REV:

DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

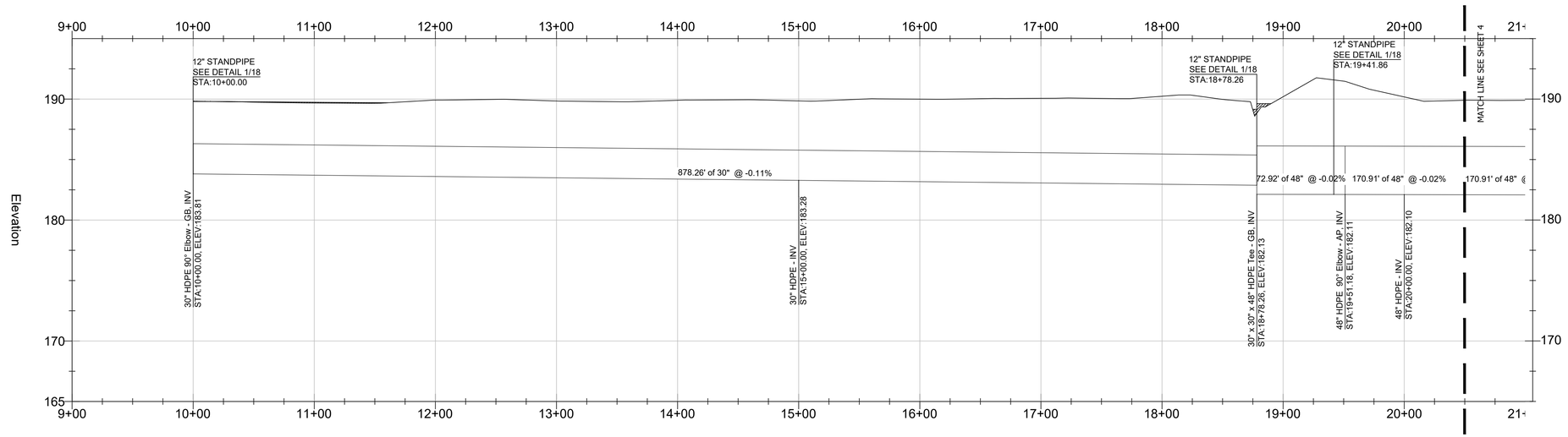
BROWN CONTINUATION PIPELINE

PLAN AND PROFILE



BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 10+00 TO 20+50
STRATFORD, CA

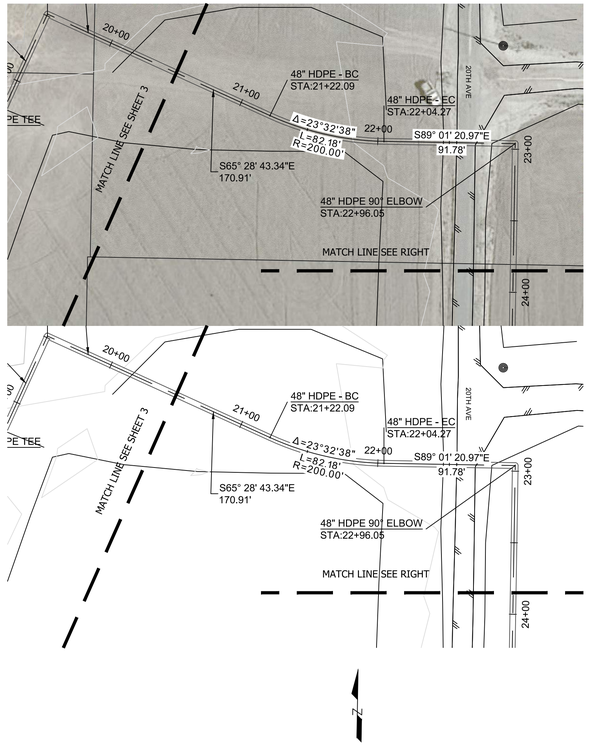
REV:	----
REV:	----
REV:	----
REV:	----
REV:	----
REV:	----

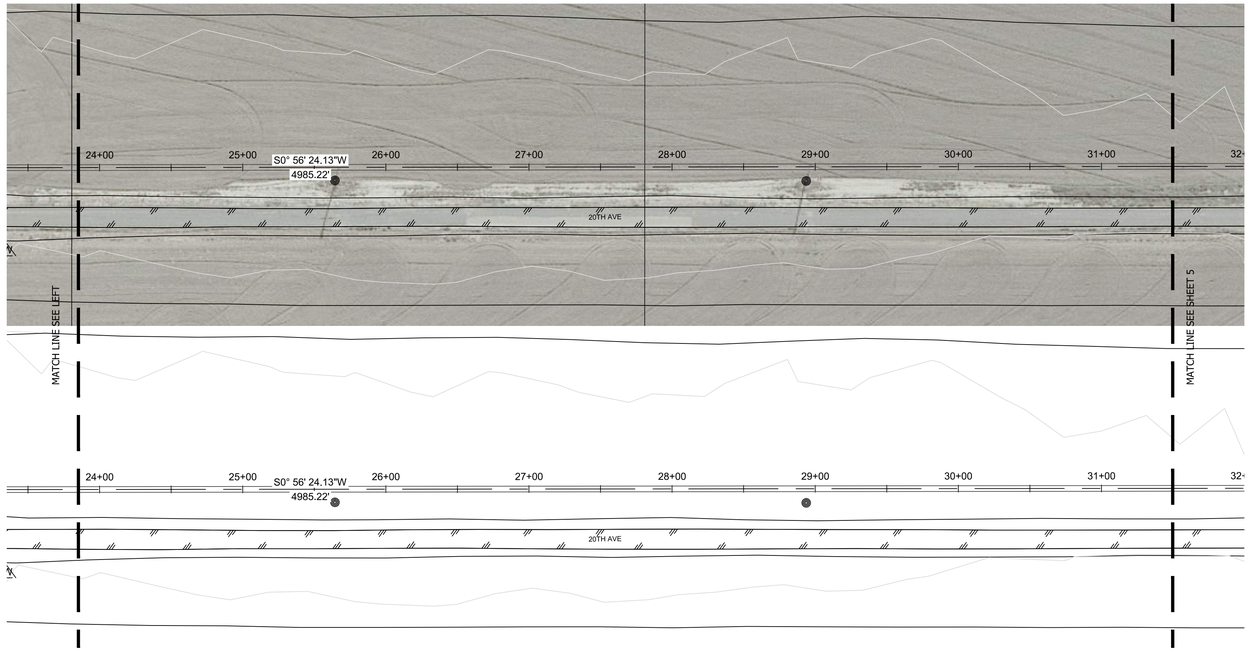
DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
3
of
20

BROWN CONTINUATION PIPELINE

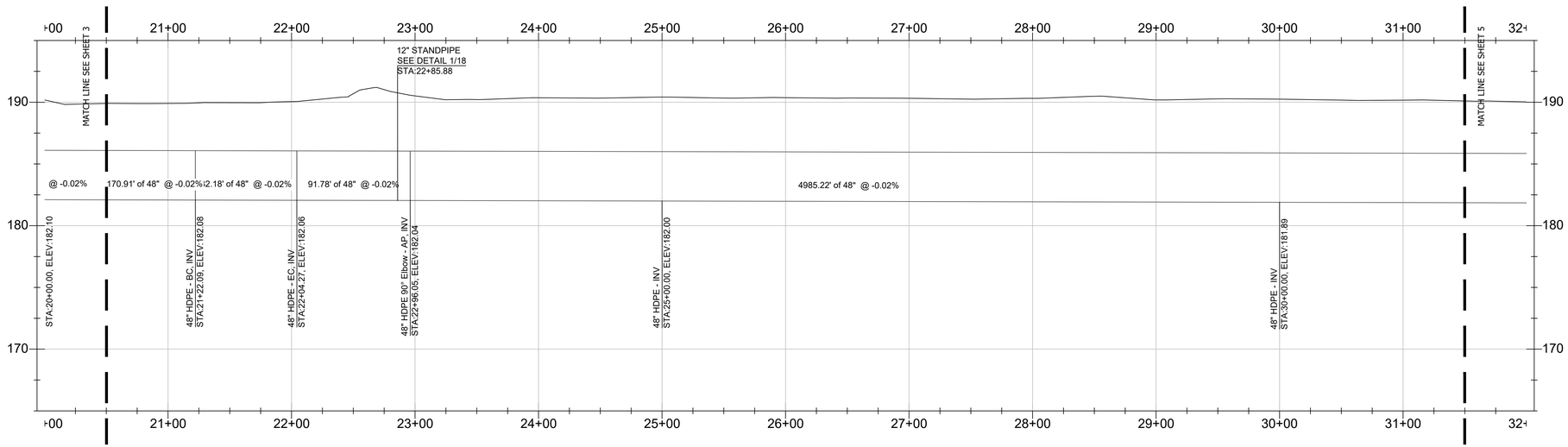
PLAN AND PROFILE





BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 20+50 TO 31+50
STRATFORD, CA

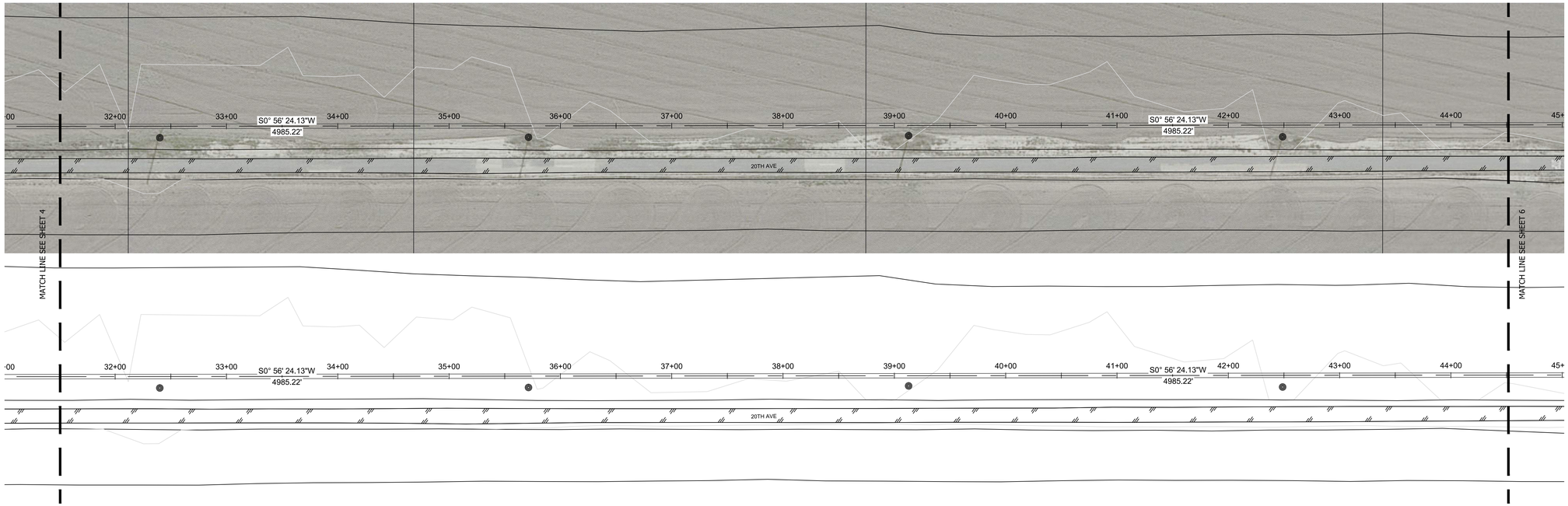
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----

DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
4
of
20

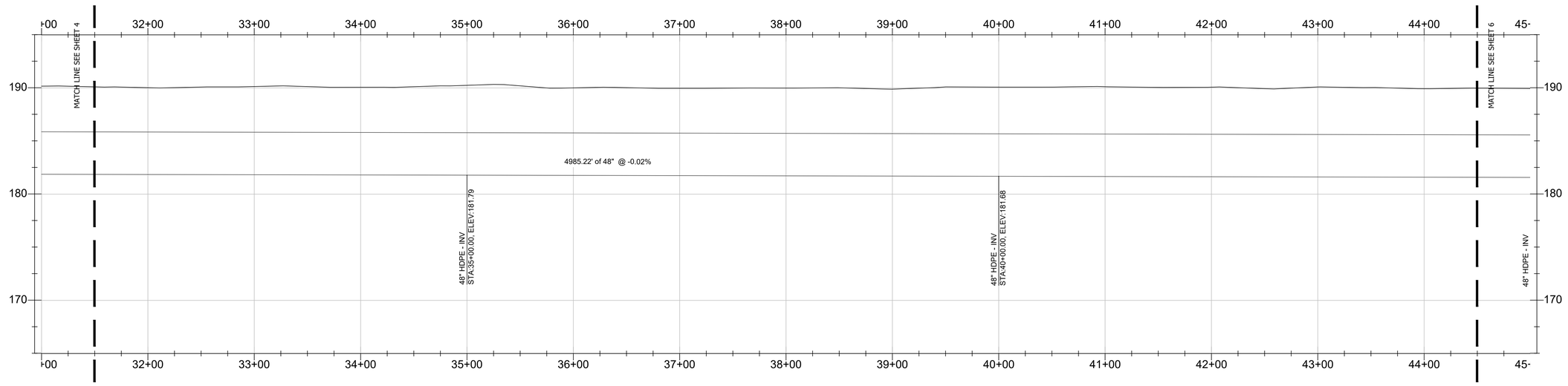
BROWN CONTINUATION PIPELINE

PLAN AND PROFILE



BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 31+50 TO 44+50
STRATFORD, CA

REV:	REV:	REV:	REV:	REV:	REV:
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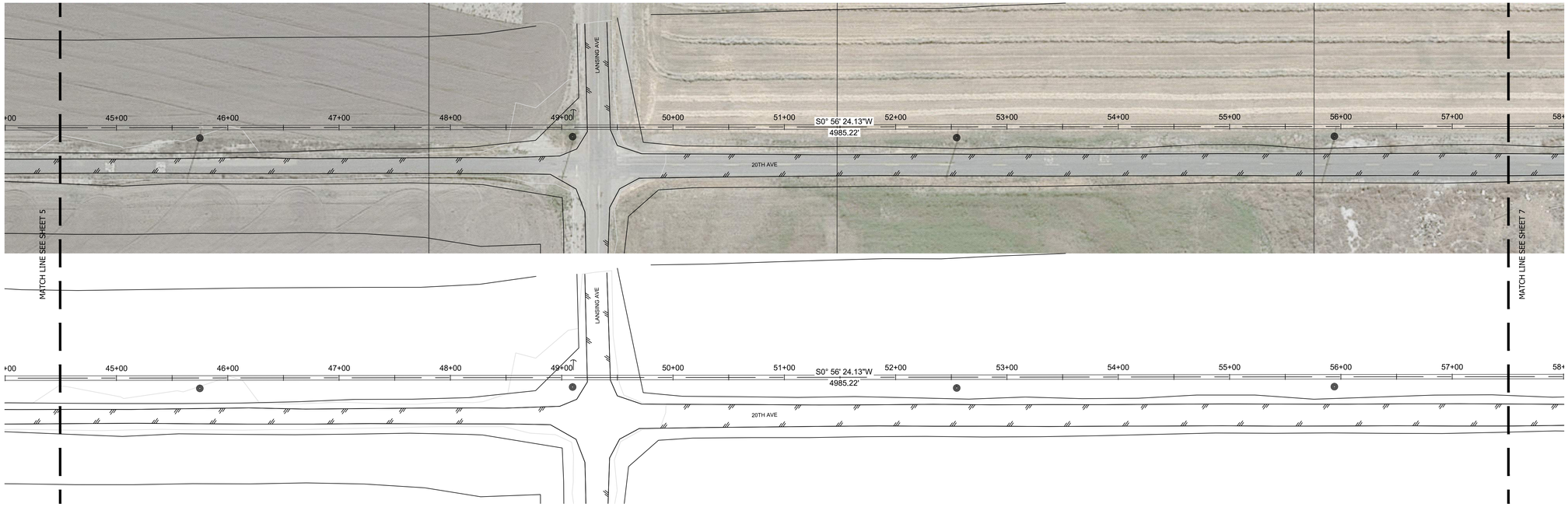
DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
5
of
20

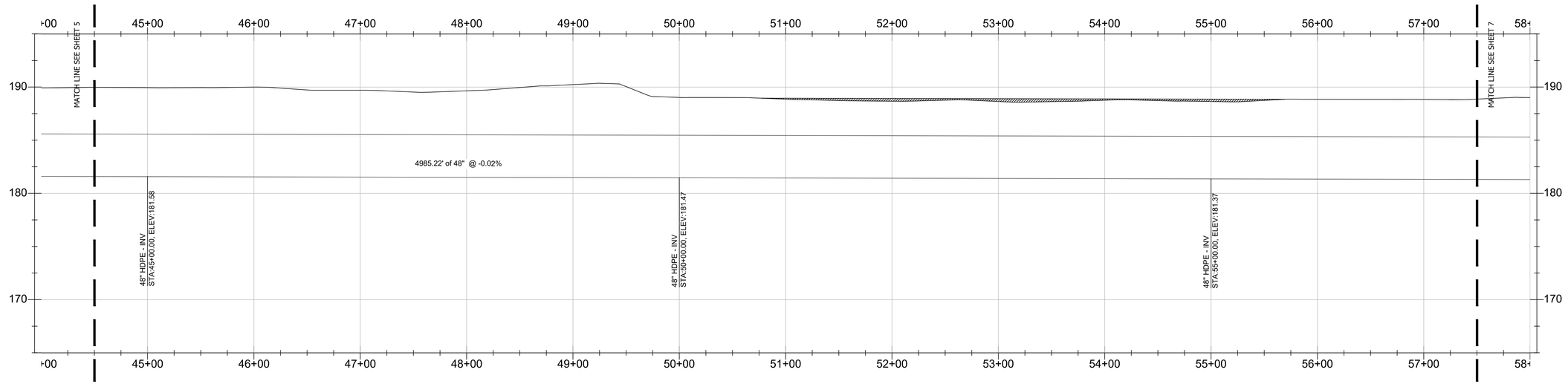
BROWN CONTINUATION PIPELINE

PLAN AND PROFILE



BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 44+50 TO 57+50
STRATFORD, CA

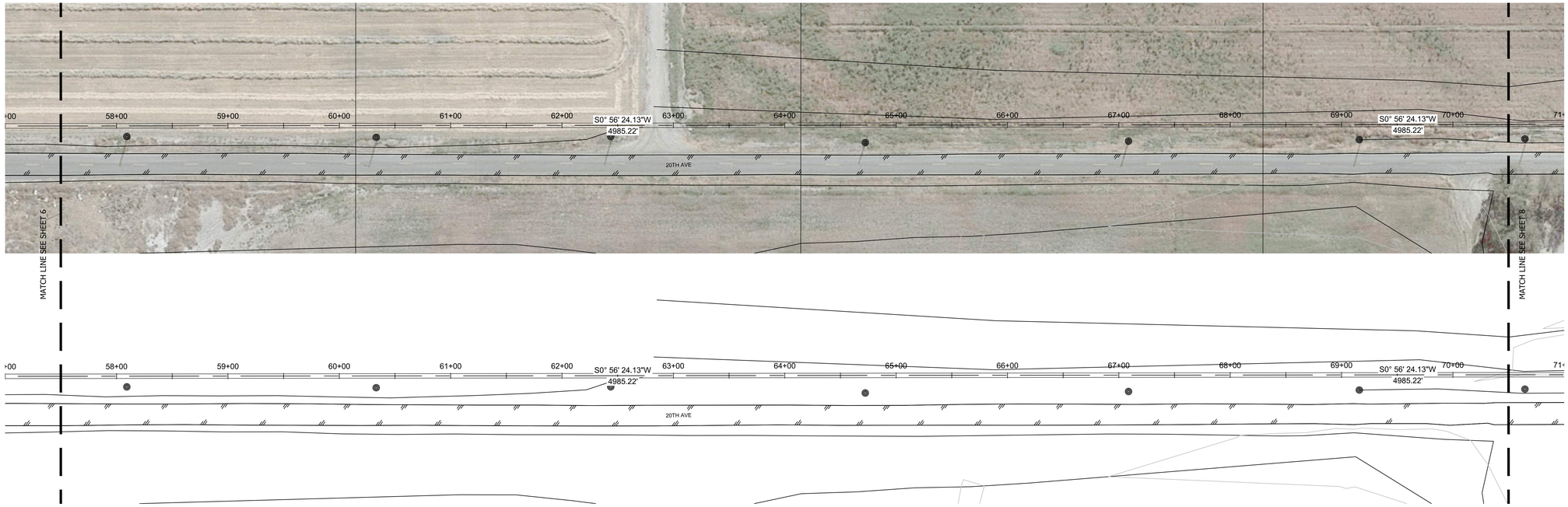
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----

DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
6
of
20

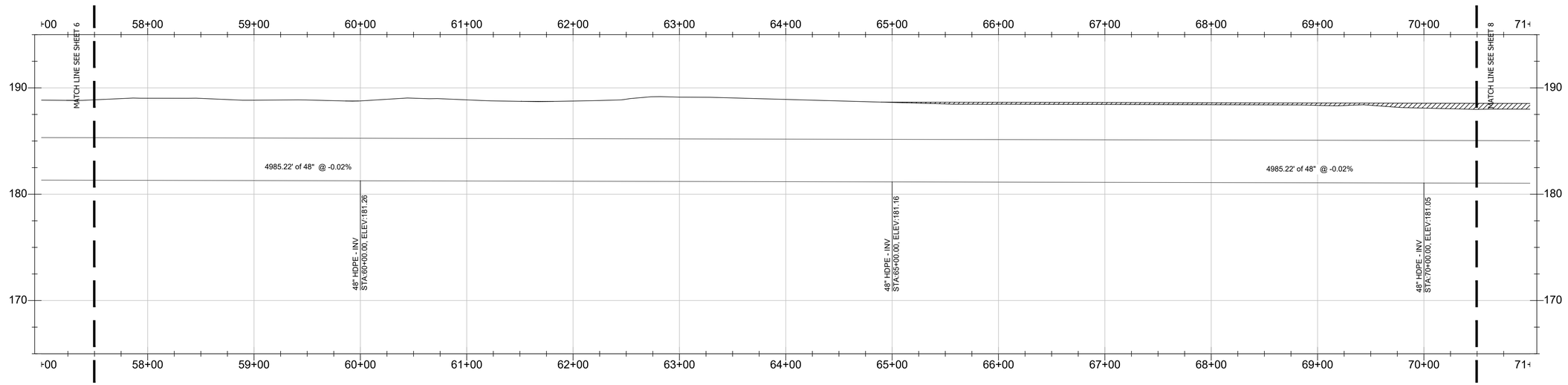
BROWN CONTINUATION PIPELINE

PLAN AND PROFILE



BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 57+50 TO 70+50
STRATFORD, CA

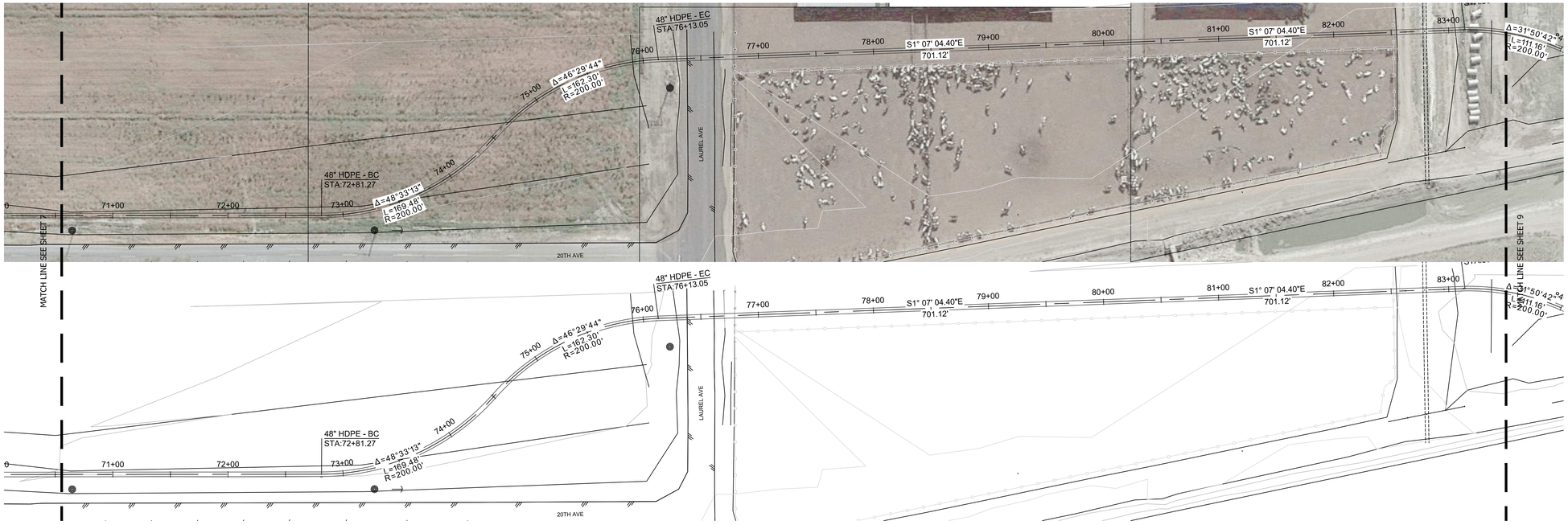
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----

DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
7
of
20

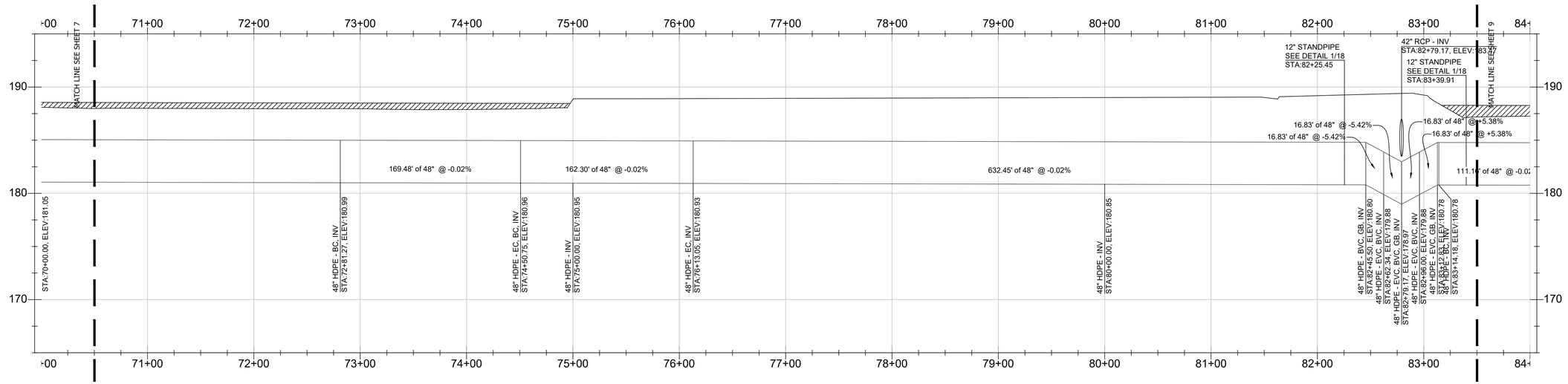
BROWN CONTINUATION PIPELINE

PLAN AND PROFILE



BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 70+50 TO 83+50
STRATFORD, CA

REV:	REV:	REV:	REV:	REV:	REV:
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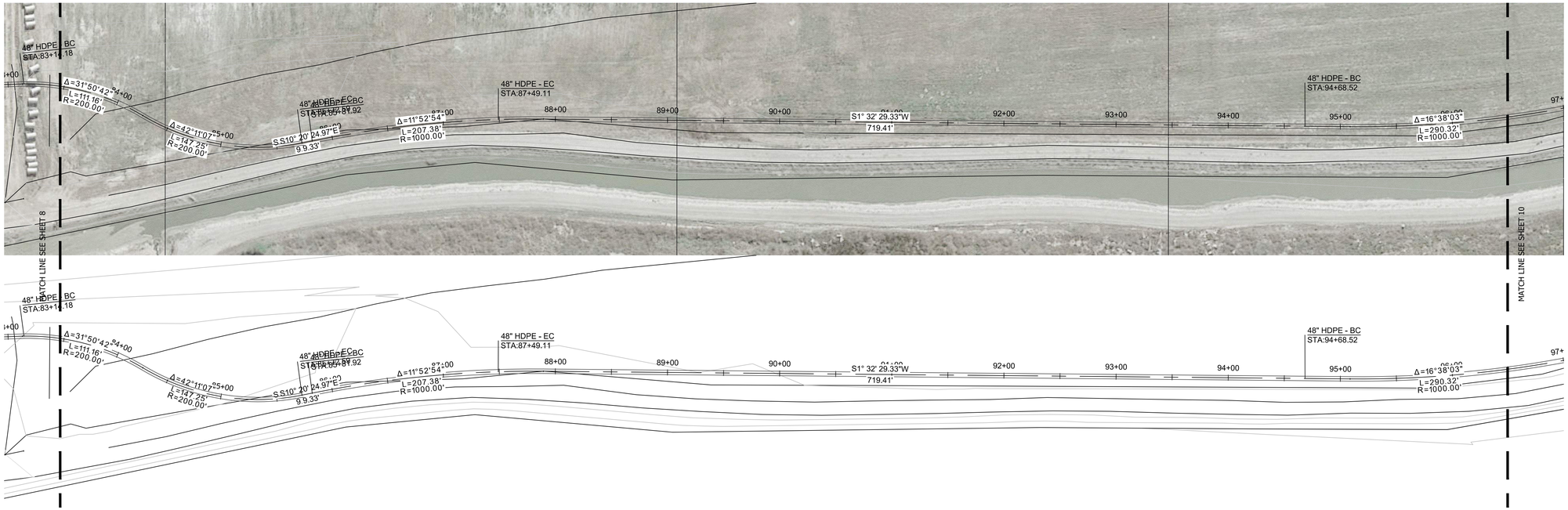
DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
8
of
20

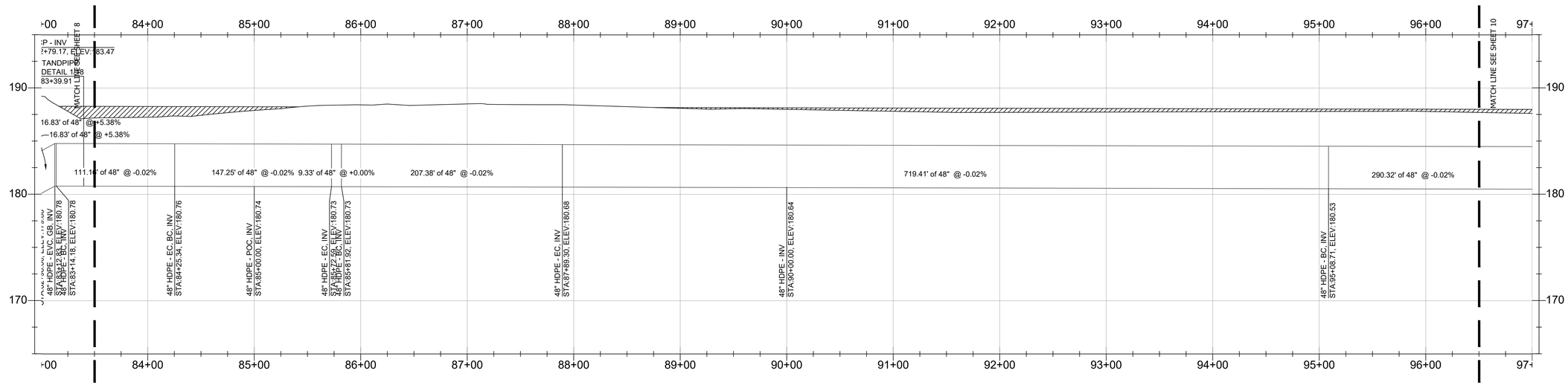
BROWN CONTINUATION PIPELINE

PLAN AND PROFILE



BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 83+50 TO 96+50
STRATFORD, CA

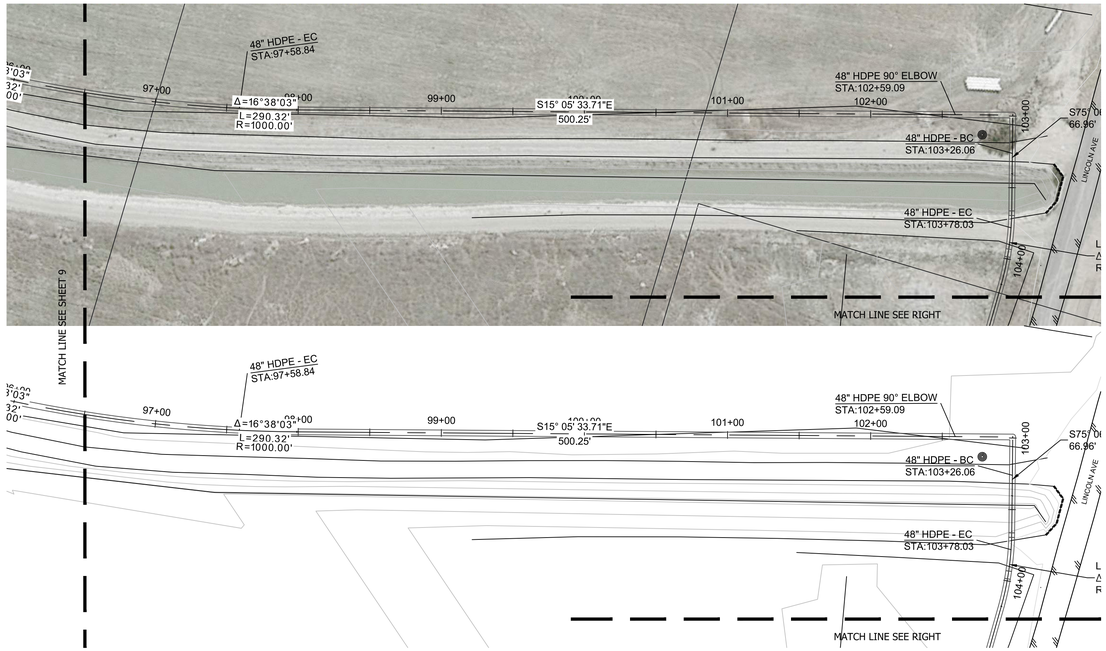
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----

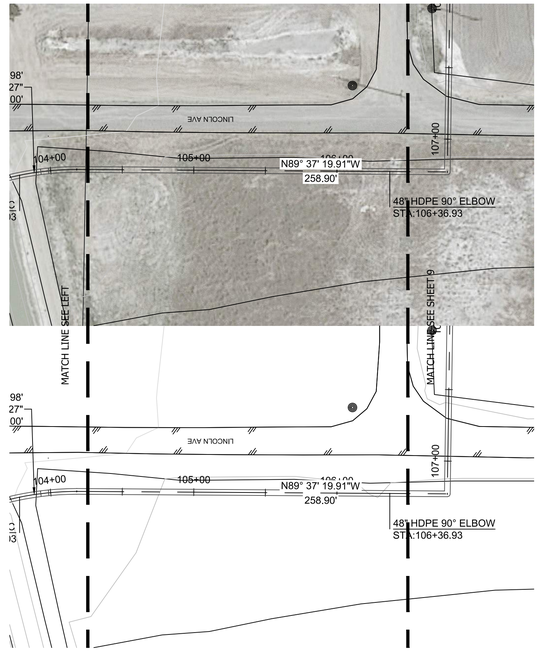
DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
9
of
20

BROWN CONTINUATION PIPELINE

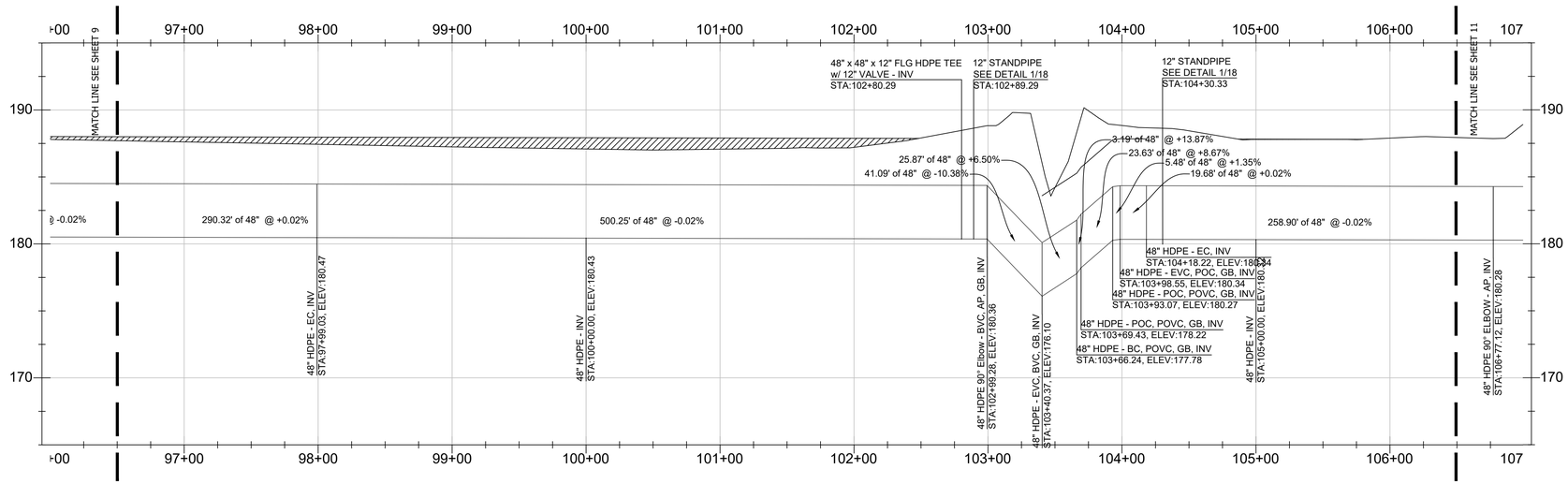
PLAN AND PROFILE





BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 96+50 TO 106+50
STRATFORD, CA

REV:	REV:	REV:	REV:	REV:
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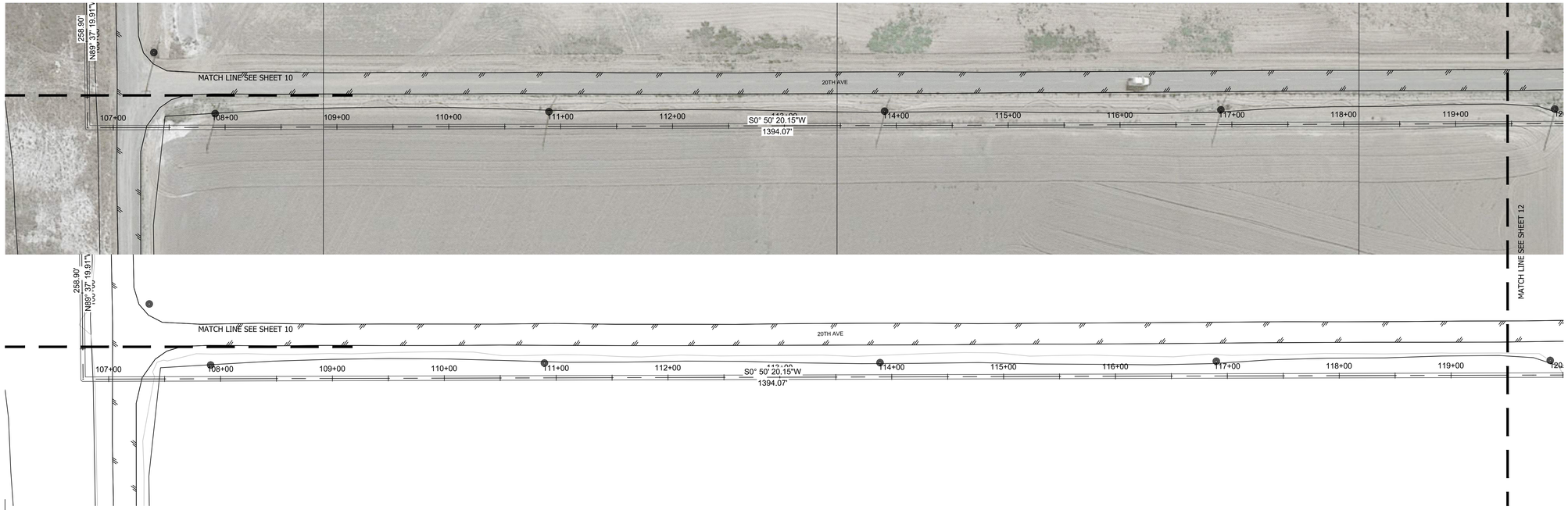
DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
10
of
20

BROWN CONTINUATION PIPELINE

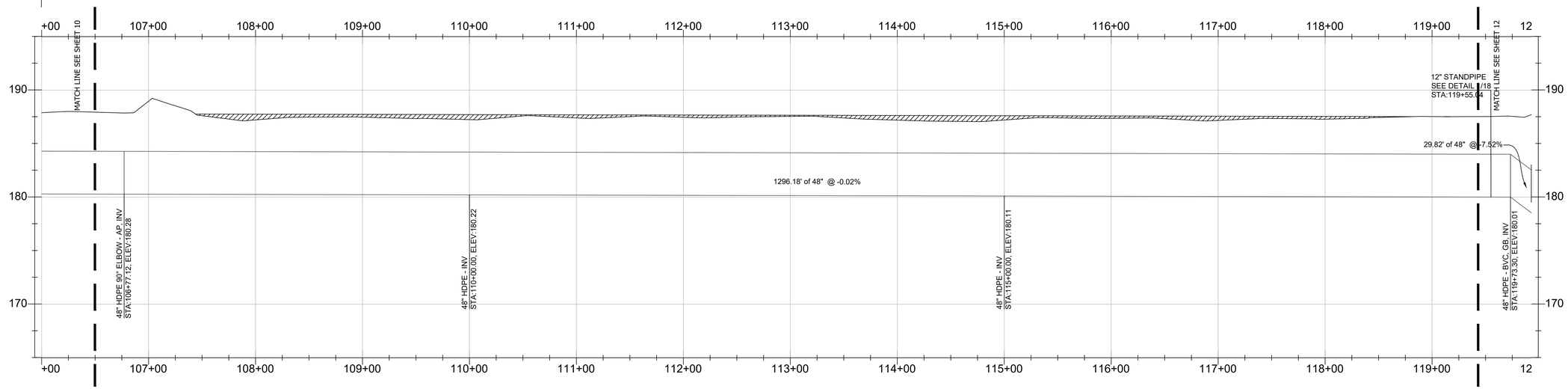
PLAN AND PROFILE



258.90'
N89° 37' 19.91"W
MATCH LINE SEE SHEET 10
20TH AVE
107+00
108+00
109+00
110+00
111+00
112+00
S0° 50' 20.15"W
1394.07'
114+00
115+00
116+00
117+00
118+00
119+00

BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 106+50 TO 119+50
STRATFORD, CA

REV: ----
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----

DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

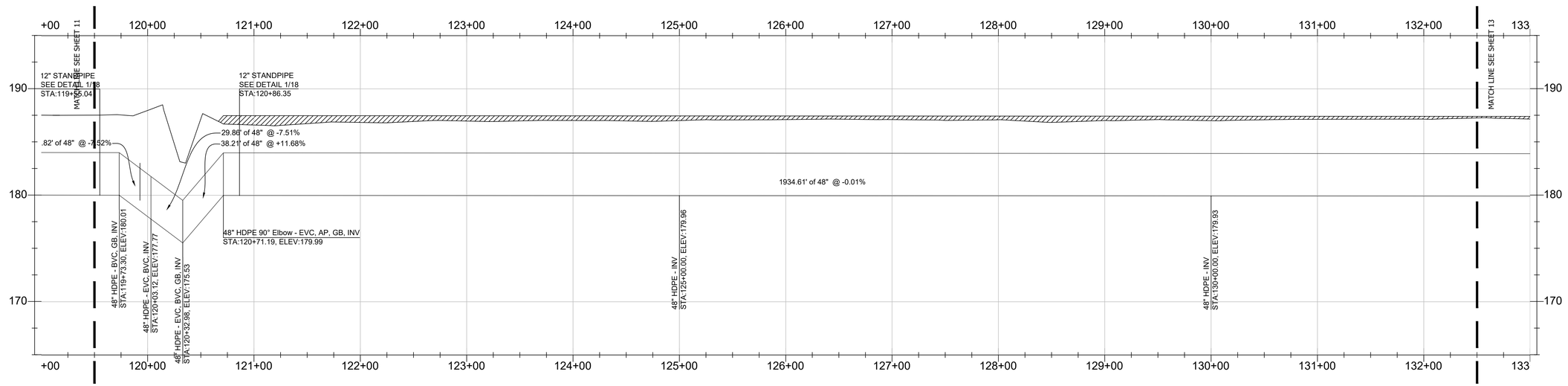
SHEET:
11
of
20

BROWN CONTINUATION PIPELINE

PLAN AND PROFILE

BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 119+50 TO 132+50
STRATFORD, CA

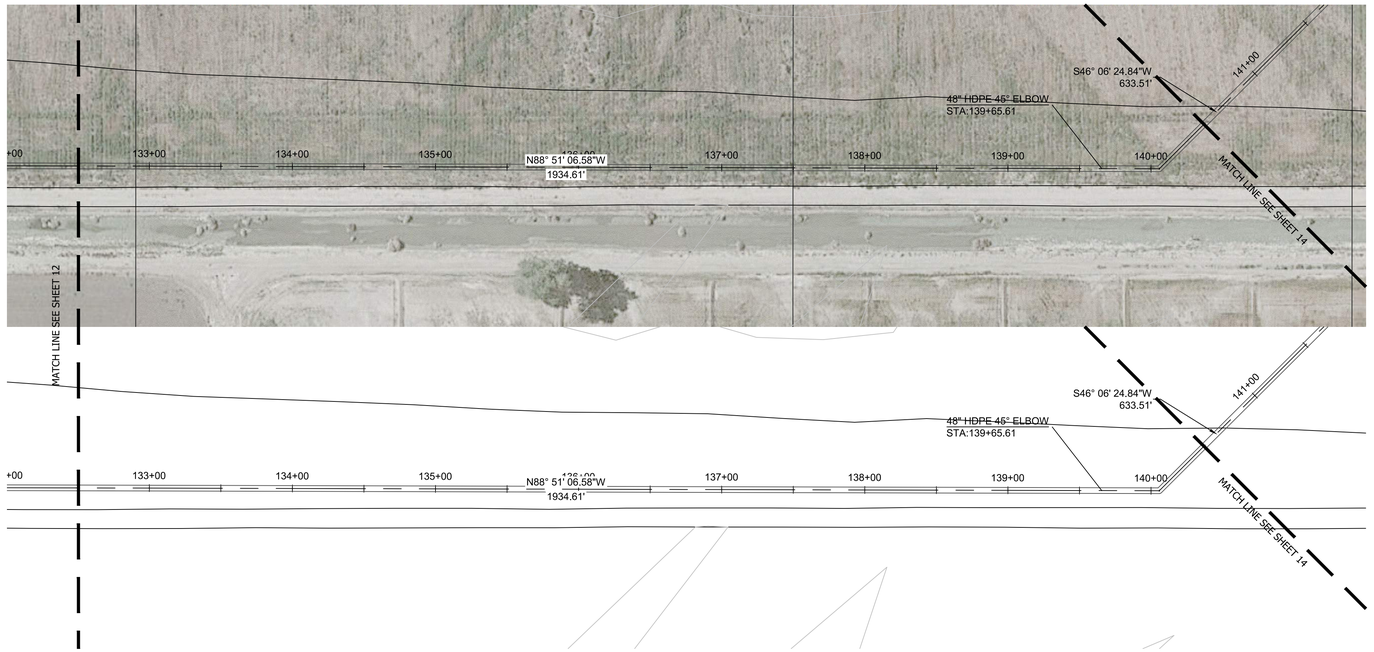
REV: ---- | REV: ---- | REV: ---- | REV: ---- | REV: ---- | REV: ----

DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
12
of
20

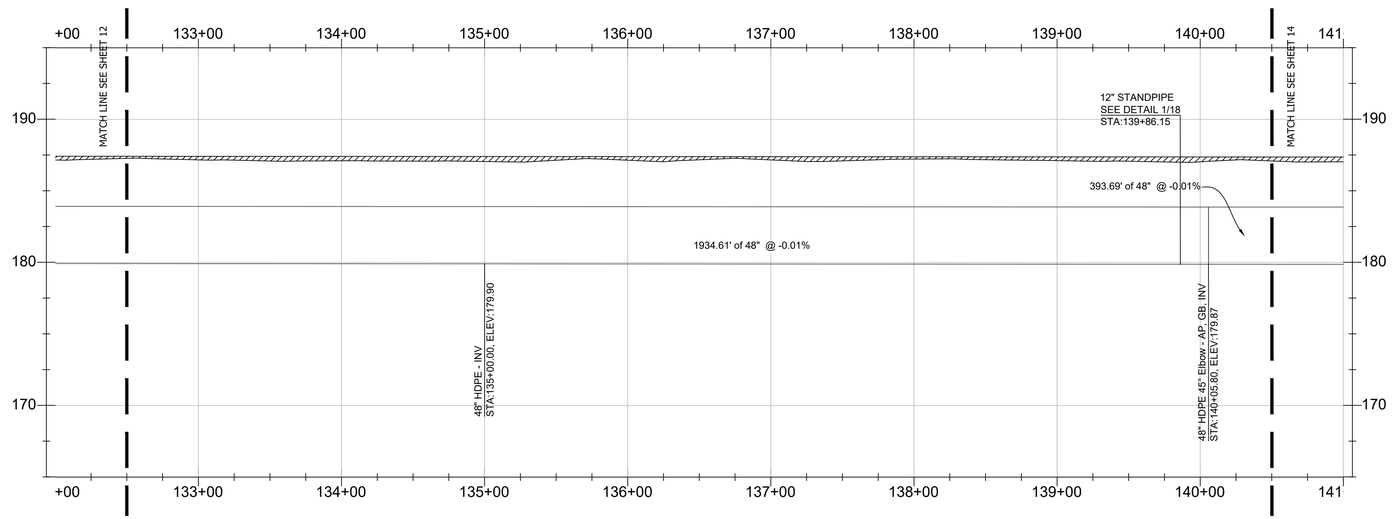
BROWN CONTINUATION PIPELINE

PLAN AND PROFILE



BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 132+50 TO 140+50
STRATFORD, CA

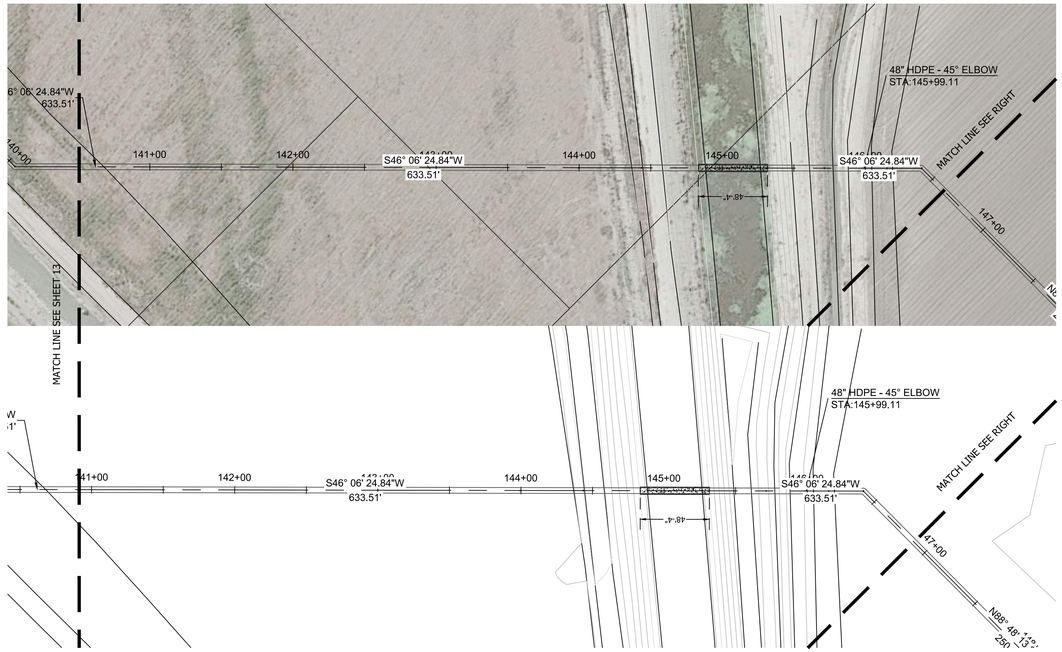
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----

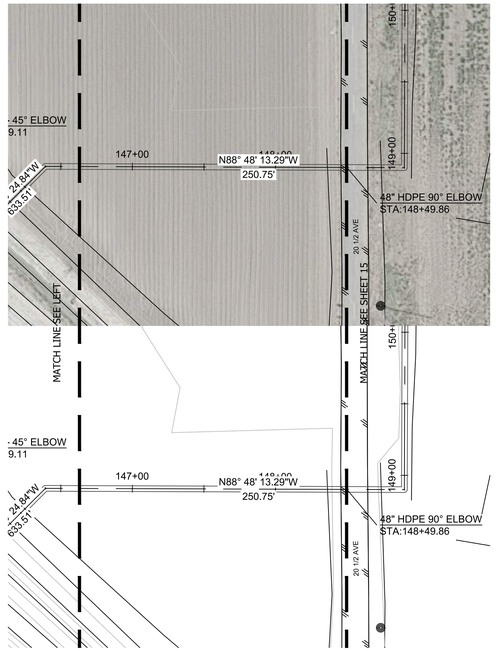
DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
13
of
20

BROWN CONTINUATION PIPELINE

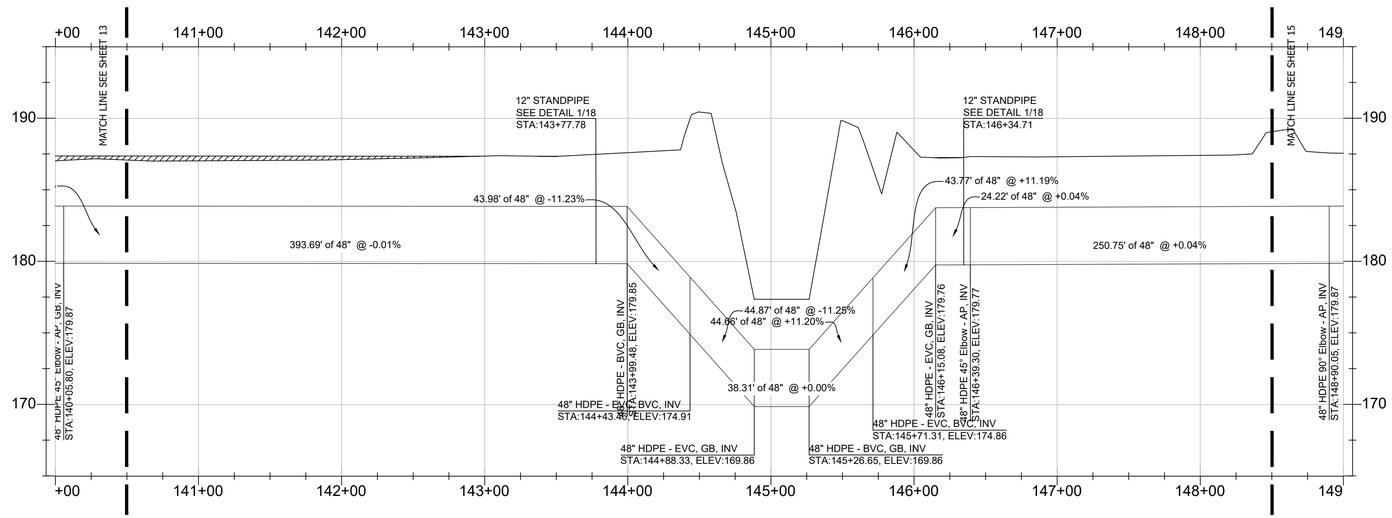
PLAN AND PROFILE





BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 140+50 TO 148+50
STRATFORD, CA

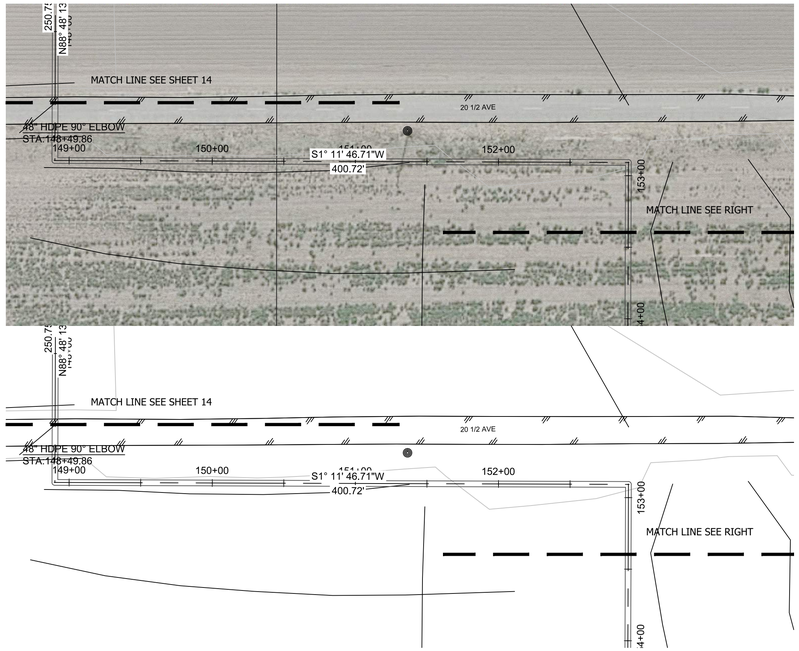
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----

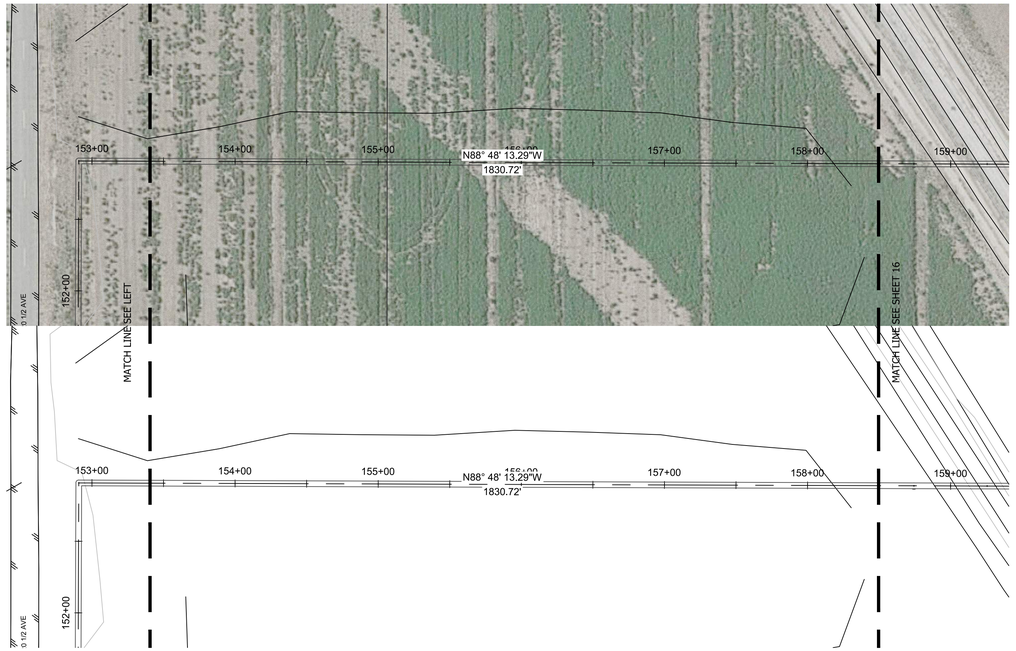
DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
14
of
20

BROWN CONTINUATION PIPELINE

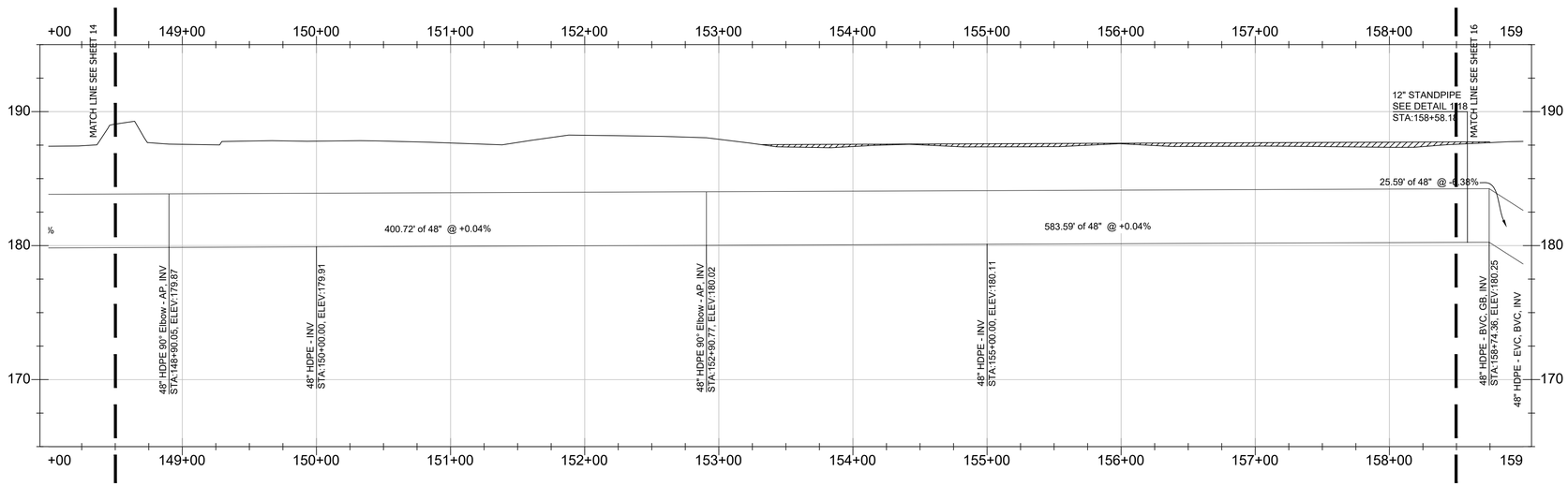
PLAN AND PROFILE





BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 148+50 TO 158+50
STRATFORD, CA

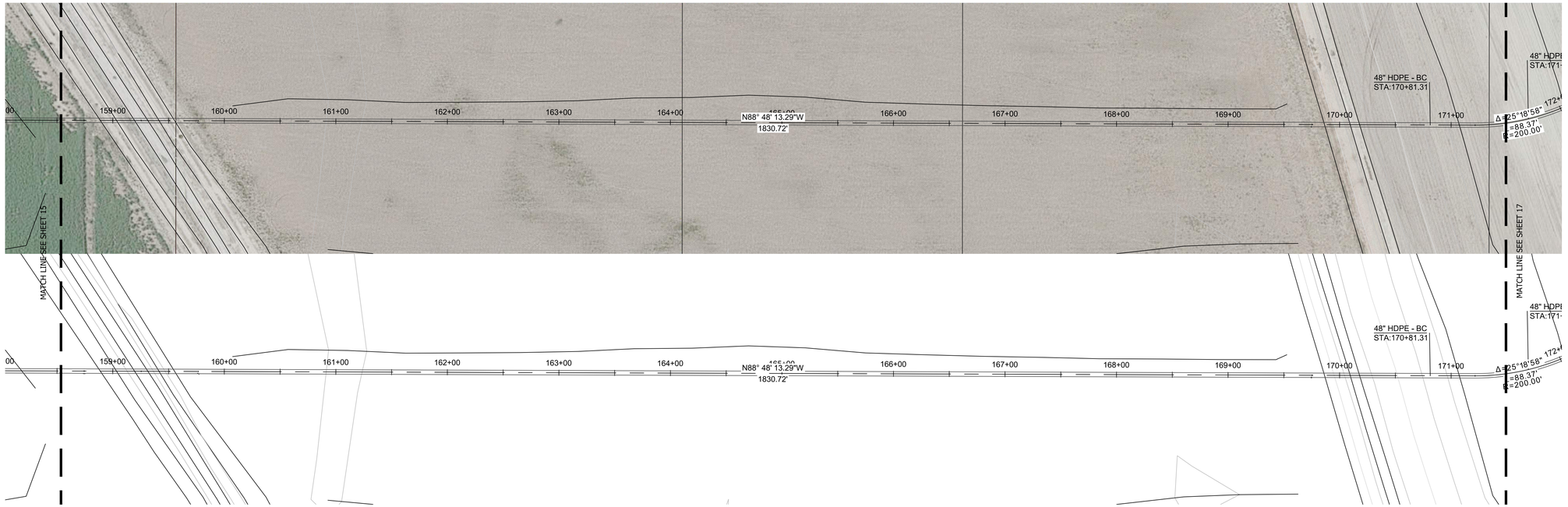
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----

DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
15
of
20

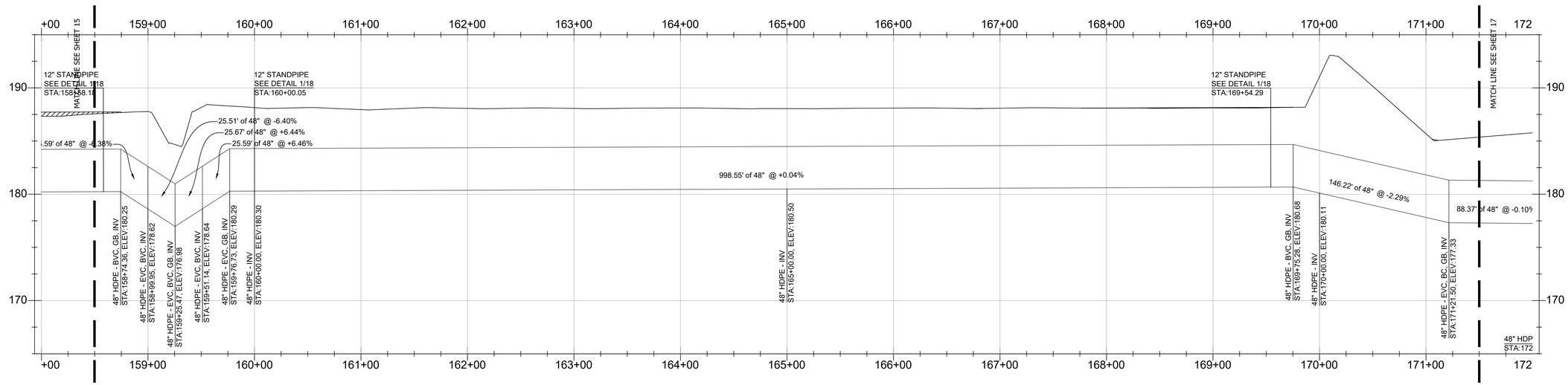
BROWN CONTINUATION PIPELINE

PLAN AND PROFILE



BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 158+50 TO 171+50
STRATFORD, CA

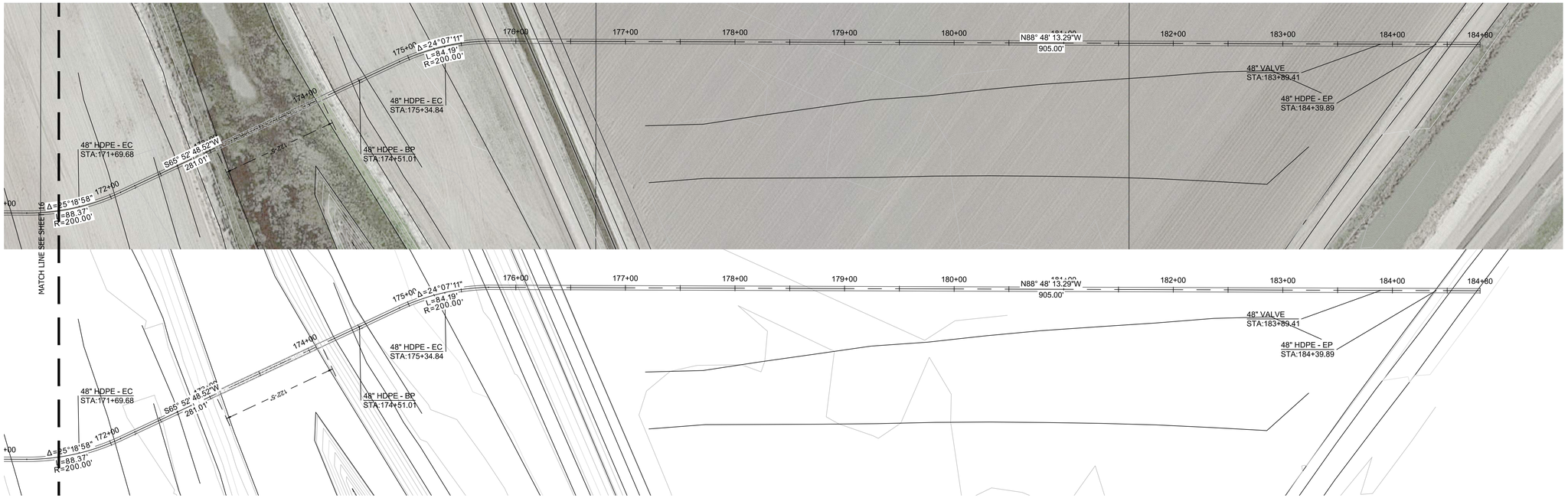
REV: ---- REV: ---- REV: ---- REV: ---- REV: ---- REV: ----

DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
16
of
20

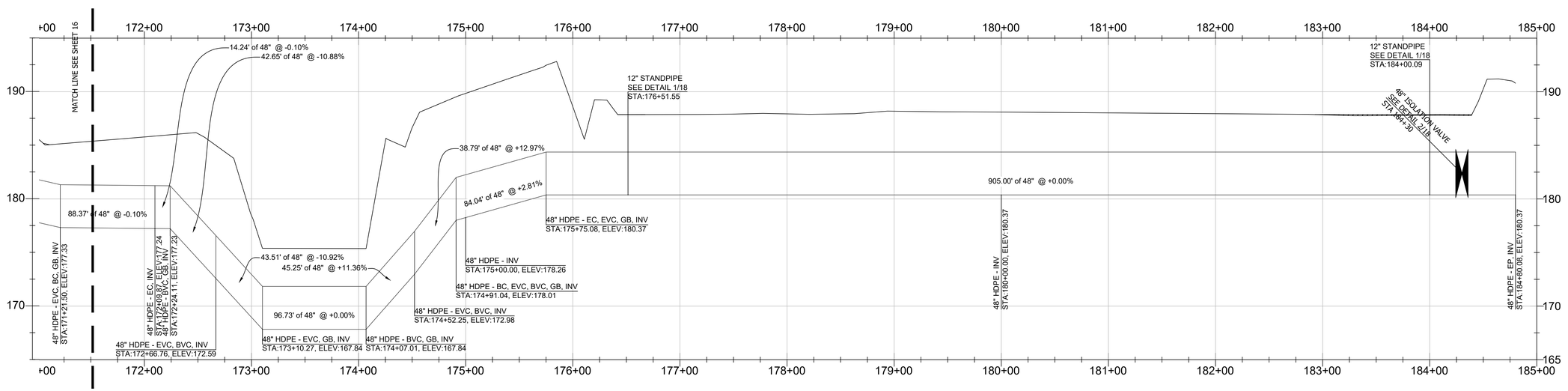
BROWN CONTINUATION PIPELINE

PLAN AND PROFILE



BROWN CONTINUATION PIPELINE - MAINLINE

HORIZONTAL SCALE 1"=50'
VERTICAL SCALE 1"=5'



SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE
MAINLINE
PLAN AND PROFILE - 172+50 TO 184+50
STRATFORD, CA

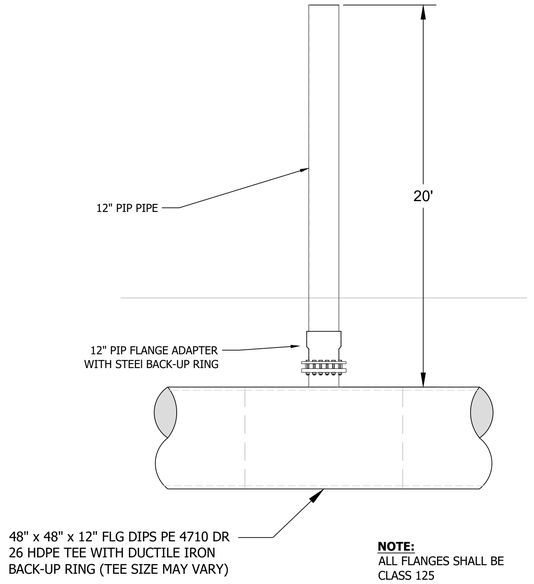
REV: ---- REV: ---- REV: ---- REV: ---- REV: ---- REV: ----

DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

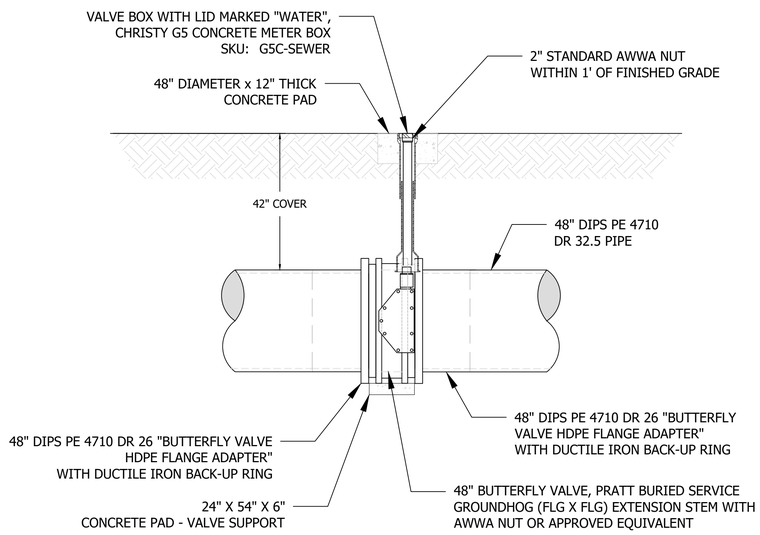
SHEET:
17
of
20

BROWN CONTINUATION PIPELINE

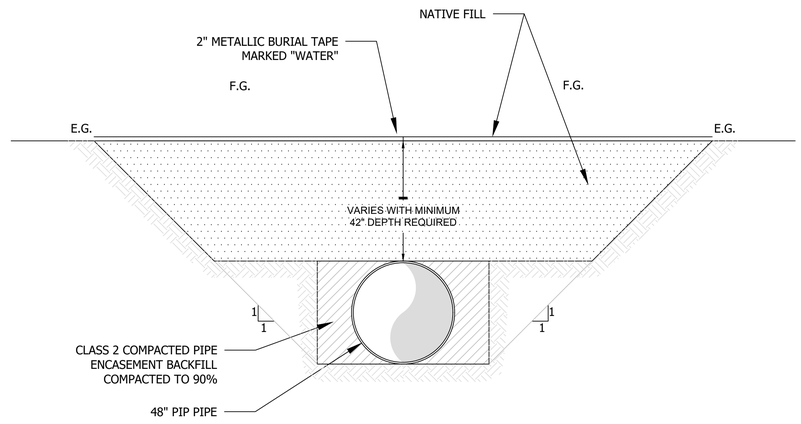
DETAILS



1/18 **12" STANDPIPE DETAIL**
NOT TO SCALE



2/18 **48" ISOLATION VALVE DETAIL**
NOT TO SCALE



CUT AREA:	61.25 + 24 =	76.73 SQ FT
AVAILABLE DIRT FOR FILL:	76.73 x 0.9 =	69.05 SQ FT
FILL AREA NEEDED :		61.25 SQ FT
EXTRA DIRT:	69.05 - 61.25 =	7.8 SQ FT

3/18 **48" PIPE TRENCH DETAIL**
NOT TO SCALE

SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE

DETAILS

STRATFORD, CA

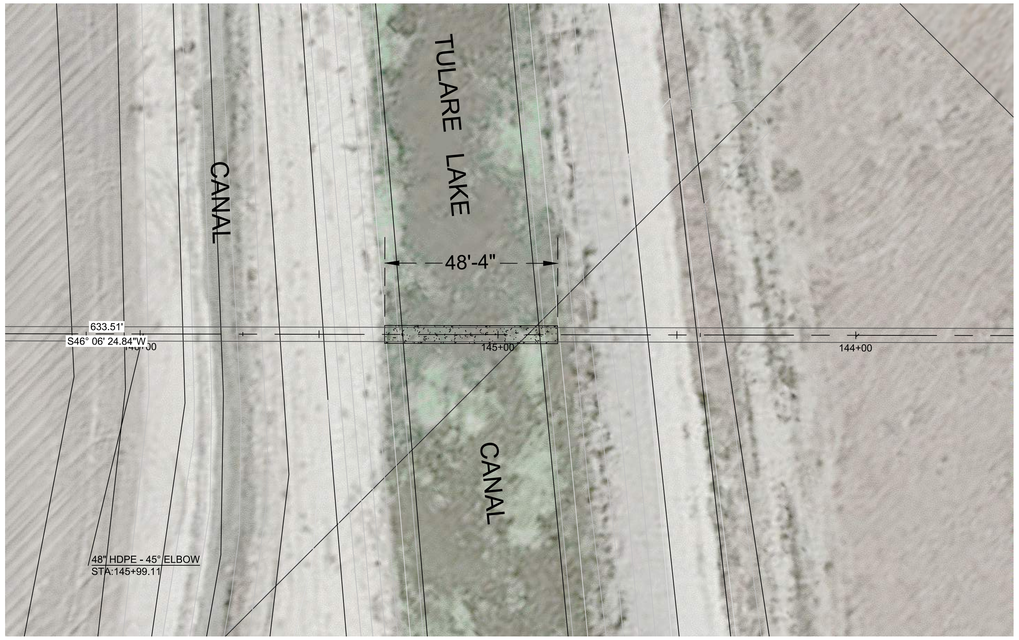
REV: ---- REV: ---- REV: ---- REV: ---- REV: ----

DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

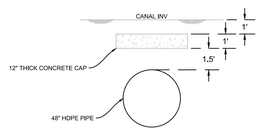
SHEET:
18
of
20

BROWN CONTINUATION PIPELINE

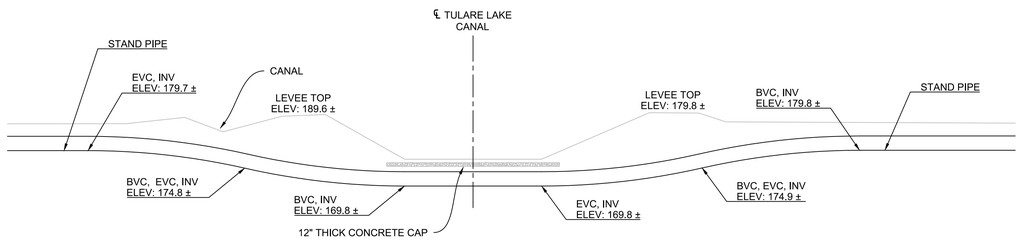
DETAILS



PLAN



SCALE 1" = 50'



1 / 19 **TULARE LAKE CANAL CROSSING**

NOT TO SCALE

SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE

DETAILS

STRATFORD, CA

REV: ----
REV: ----
REV: ----
REV: ----
REV: ----

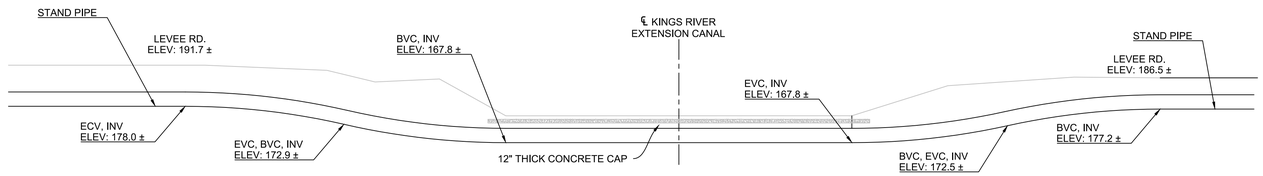
DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
19
of
20

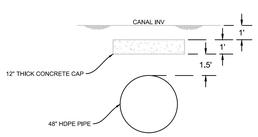
BROWN CONTINUATION PIPELINE

DETAILS

PLAN



1/20 **KINGS RIVER EXTENSION CANAL CROSSING**
NOT TO SCALE



SCALE 1" = 50'

SANDRIDGE PARTNERS LP
960 N San Antonio Rd
Suite 114
Los Altos, CA 94022

BROWN CONTINUATION PIPELINE

DETAILS
STRATFORD, CA

REV: ----
REV: ----
REV: ----
REV: ----
REV: ----
REV: ----

DRAWN BY: ASM
DATE: 2/10/2022
SCALE: 1" = 50'

SHEET:
20
of
20

Appendix C

Special-Status Species with Potential to Occur within the Project Area and Site Photographs

C.1 Special-Status Species with Potential to Occur within the Project Area

SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

Species	Status Fed/State/CNPS*	Habitat	Potential to Occur
Plants			
Lasthenia chrysantha alkali-sink goldfields	--/--/1B.1	Valley grassland, alkali sink, wetland-riparian. Annual herb. Blooms Feb-June.	**Not Present.** Suitable alkali sink, grassland or wetland-riparian habitat is not present on-route. Only nearby occurrence (from Tulare Lake) is historic and extirpated (CDFW 2023).
Lepidium jaredii ssp. *album* Panoche peppergrass	--/--/1B.2	Valley and foothill grassland (steep slopes, clay). Annual herb. Blooms Feb– June. Elevation 607–902 m.	**Not Present.** Suitable grassland habitat is not present on-route. Only nearby occurrence (from Riverdale) is historic and extirpated (CDFW 2023).
Monolopia congdonii San Joaquin woollythreads	FE/--/1B.2	Chenopod scrub, valley and foothill grassland (sandy). Annual herb. Blooms Feb–May. Elevation 197–2625 m.	**Low.** Project area lacks suitable scrub or sandy grassland habitat. Nearest occurrence over 5 miles south of the project area in Kettleman City (CDFW 2023).
Puccinelia simplex California alkali grass	--/--/1B.2	Chenopod scrub with alkaline soils. Generally found growing near edges of barren soil. Blooms Mar-May.	**Low.** Project area lacks suitable alkaline scrub or sandy grassland habitat. Nearest occurrence near alignment east along Kansas Ave (CDFW 2023).
Invertebrates			
Bombus crotchii Crotch's bumble bee	--/SCE	Inhabits grassland and scrubland in hot, dry areas. Nests underground, often in abandoned rodent burrows.	**Low.** Project route lacks suitable scrub or sandy grassland habitat. No records within 5 miles of the project area (CDFW 2023).
Branchinecta lynchi Vernal pool fairy shrimp.	FT/--	Primarily vernal pools but also alkaline rain-pools, ephemeral drainages, rock outcrop pools, ditches, stream oxbows, stock ponds, vernal swales, and seasonal wetlands.	**Not Present.** No suitable pools are present along the proposed pipeline route.
Desmocerus californius dimorphus Valley elderberry longhorn beetle	FT/--	On elderberry (*Sambucus)* shrubs in riparian areas and foothill oak woodlands on central valley floor and in low foothills.	**Low.** No elderberry shrubs seen along project route. Nearest record from 1991 5 miles north along Kings River.
Lepidurus packardi Vernal pool tadpole shrimp	FE/--	Vernal pools, ponded clay flats, alkaline pools, ephemeral stock ponds, and roadside ditches. ranging in size from small, clear, vegetated vernal pools to highly turbid pools and large winter lakes.	**Not Present.** No suitable pools are present along the project route.
Reptiles and Amphibians			
Arizona elegans occidentalis California glossy snake	--/SSC	Chaparral, sagebush, valley-foothill hardwood, pine-juniper, and annual grasslands, in small mammal burrows and rock outcrops.	**Low.** The project route consists of actively farmed agricultural areas and disturbed areas that do not provide suitable habitat for this species
Actinemys marmorata Northwestern pond turtle	FC/SSC	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg-laying. Nest sites most often gentle slopes (<15%) with little vegetation or sandy banks.	**Moderate**. Nearby islands within the Kings River provide suitable habitat for this species. CNDDB record from river near project area in 1996 (CDFW 2023).

Species	Status Fed/State/CNPS*	Habitat	Potential to Occur
Coast horned lizard *Phyrnosoma blainvillii*	--/SSC	Prefers chaparral and coastal sage scrub vegetation with friable sandy soils and low to moderate slope percent rise.	**Low.** The project route lacks suitable chaparral or scrub habitat for this species. No records within 5 miles of the project area (CDFW 2023).
Coluber flagellum ruddocki San Joaquin coachwhip	--/SSC	Occurs in open, dry, treeless areas with little or no cover, including valley grassland and saltbush scrub. Avoids dense vegetation.	**Low.** The project route lacks suitable grassland or scrub habitat for this species. No records within 5 miles of the project area (CDFW 2023).
Spea hammondii western spadefoot	FPT/SSC	Primarily grassland and vernal pools, but also ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, and pastures.	**Low.** The project route lacks suitable grassland habitat for this species. The nearest CNDDB occurrence is approximately 4 miles north of the project area at Lemoore air base (CDFW 2023).
Birds			
Agelaius tricolor tricolored blackbird	--/ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture.	**Low.** The project area lacks suitable marsh nesting habitat, though it may provide foraging areas within cultivated agricultural lands.
Athene cunicularia burrowing owl	--/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows. This species requires short vegetation with sparse shrubs and burrows for roosting and nesting.	**Moderate.** The project area has suitable open habitat for this species; however, ag fields are regularly disked and no ground squirrels or suitable burrows observed during survey. The nearest CNDDB occurrences approximately 3 miles west of the project route (CDFW 2023).
Charadrius nivosus nivosus western snowy plover	FT/SSC	Sandy beaches, shores of alkali lakes, or levees; needs sandy, gravelly or friable soils for nesting.	**Low.** Nesting observation from 1987 overlaps northern terminus of project route (CDFW 2023) but no suitable habitat is currently present for this species.
Buteo swainsoni Swainson's hawk	--/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture.	**Moderate.** Few suitable nest trees along the project route; potential foraging habitat in the croplands along the route of the proposed pipeline. Several CNDDB occurrences approx. 4 miles east (CDFW 2023).
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FT/SE	Nests in dense riparian woodlands with well-developed understories and thickets along streams and marshes.	**Not Present.** Suitable riparian habitat is absent from the project route.
Lanius ludovicianus loggerhead shrike	--/SSC	Nests and forages in open habitats with scattered shrubs, trees, or other perches.	**Low.** The project route contains suitable foraging habitat but little barbed wire or perching sites. No CNDDB records within 5 miles of the project route.
Toxostoma lecontei LeConte's thrasher	--/SSC	Found in sandy, open deserts with saltbush, shadscale, cholla cactus, creosote, yucca, or mesquite in flat or rolling landscapes of arroyos, open flats, or dunes.	**Low**. The project area consists of disturbed agricultural land which is not suitable habitat for this species. It may occasionally fly over or forage in the vicinity.
Xanthocephalus xanthocephalus Yellow-headed blackbird	--/SSC	Nests in marshes and prairie meadows, and in winter forages in croplands, ranchlands and savanna. Found in large flocks with other blackbirds.	**Low.** The project route lacks suitable marsh nesting habitat, though it may provide foraging areas within cultivated agricultural lands. Nearest CNDDB occurrence 2.5 miles west of the project area (CDFW 2023).

Species	Status Fed/State/CNPS*	Habitat	Potential to Occur
Mammals			
Ammospermophilus nelsoni Nelson's antelope squirrel	--/ST	Arid annual grassland or shrubland with rolling hills or sandy washes, with or without shrubs. Prefers fine-textured soils.	**Low.** Project area is disturbed ag land lacking suitable grassland or shrubland habitat. Nearest CNDDB occurrence is 4 miles south of the project area from 1951 (CDFW 2023).
Dipodomys nitratoides exilis Fresno kangaroo rat	FE/SE	Range limited to central San Joaquin Valley in arid grassland habitats with loose soil for burrowing.	**Low.** No suitable grassland habitat along project route. Nearest CNDDB occurrence at Lemoore air base (CDFW 2023).
Dipodomys nitratoides nitratoides Tipton kangaroo rat	FE/SE	Arid lowlands in San Joaquin Valley where they construct underground burrow systems in berms, embankments, along fences and at bases of shrubs.	**Low.** The project alignment lacks suitable grassland habitat. Nearest CNDDB occurrence approximately 1 mile east of the project route in valley sink scrub habitat in 2008 (CDFW 2023).
Onychomys torridus tularensis Tulare grasshopper mouse	--/SSC	Low, open scrub, and semi-scrub habitats in arid semi-desert associations.	**Low.** The project area is highly disturbed and lacks shrubland communities associated with this species. Nearest CNDDB occurrence more than 5 miles south of the project route in Kettleman Hills (1931) (CDFW 2023).
Buena Vista Lake Ornate Shrew *Sorex ornatus relictus*	FE/--	Historically found throughout wetlands of the San Joaquin Valley floor, but most habitat was drained and converted to agricultural land. Requires dense ground cover and moist soils to support prey species.	**Low.** The project area consists mainly of tilled agricultural fields, though vegetated banks of canals could provide fragmentary habitat for this species.
Taxidea taxus American badger	--/SSC	Most abundant in drier open stages of shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient burrowing rodent prey and open, uncultivated ground.	**Low.** Badgers burrow in open areas, including ranchlands and ag fields; however, project area is regularly tilled and lacks suitable open habitat. No CNDDB records within 5 miles (CDFW 2023).
Vulpes macrotis mutica San Joaquin kit fox	FE/ST	Grasslands and scrublands, including disturbed areas; oak woodland, alkali sink scrubland, vernal pools, and alkali meadows.	**Low.** Low potential within the project area based on disturbance and lack of suitable denning habitat in the vicinity. May sporadically traverse the area. Several CNDDB records from 3 miles east from 1988 (CDFW 2023).

USGS 7.5-minute quads Riverdale, Hanford, Stratford, Lemoore, Vanguard, Westhaven, Stratford Se, Kettleman City, El Rico Ranch

***STATUS LEGEND:**

FE = Federally Endangered.
FT = Federally Threatened.
FP = CDFW Fully Protected Species.
FPT = Federally Proposed Threatened
FDL=Federally Delisted.
SE = State Endangered.
ST = State Threatened.
SSC = California Species of Concern.
SDL=State Delisted.
BCC=Bird of Conservation Concern

CRPR:

1B: Plants rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California, but more common elsewhere
4: Plants of limited distribution – watch list

THREAT RANK:

1 – Seriously threatened in California
2 – Fairly threatened in California
3 - Fairly threatened in California and elsewhere

Sources: USFWS 2023, CNPS 2023, and CDFW 2023.

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C.2 Site Photographs

Photo 1 Tulare Lake Canal crossing site.

Photo 2 Pipeline to connect at Tulare Lake Canal site.

Photo 3 Patch of *Typha* in ditch where pipeline would be placed.

Photo 4 Canal at northern end of site where pipeline would be placed.

Appendix D

Air Quality Emissions Detailed Report

Sandridge Pipeline v2 Detailed Report

Table of Contents

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Sandridge Pipeline v2
Construction Start Date	9/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	22.2
Location	36.1908251413969, -119.81732354995431
County	Kings
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2605
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Southern California Gas
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Linear	2.30	Mile	5.60	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.64	1.38	12.9	15.1	0.02	0.54	7.05	7.59	0.50	3.49	3.99	—	2,486	2,486	0.10	0.03	2.27	2,500
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.04	0.38	0.45	< 0.005	0.02	0.20	0.22	0.01	0.10	0.11	—	79.3	79.3	< 0.005	< 0.005	0.04	79.8
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.07	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.02	0.02	—	13.1	13.1	< 0.005	< 0.005	0.01	13.2

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.64	1.38	12.9	15.1	0.02	0.54	7.05	7.59	0.50	3.49	3.99	—	2,486	2,486	0.10	0.03	2.27	2,500
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.05	0.04	0.38	0.45	< 0.005	0.02	0.20	0.22	0.01	0.10	0.11	—	79.3	79.3	< 0.005	< 0.005	0.04	79.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.01	0.01	0.07	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.02	0.02	—	13.1	13.1	< 0.005	< 0.005	0.01	13.2

3. Construction Emissions Details

3.1. Linear, Grading & Excavation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.52	1.28	12.7	11.8	0.02	0.54	—	0.54	0.50	—	0.50	—	1,901	1,901	0.08	0.02	—	1,908
Dust From Material Movement	—	—	—	—	—	—	6.55	6.55	—	3.37	3.37	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.35	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	52.1	52.1	< 0.005	< 0.005	—	52.3

Dust From Material Movement	—	—	—	—	—	—	0.18	0.18	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.62	8.62	< 0.005	< 0.005	—	8.65
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.20	3.22	0.00	0.00	0.49	0.49	0.00	0.12	0.12	—	585	585	0.02	0.02	2.27	592
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	0.03	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.43	2.43	< 0.005	< 0.005	< 0.005	2.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Linear, Drainage, Utilities, & Sub-Grade (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.43	2.40	< 0.005	0.05	—	0.05	0.05	—	0.05	—	382	382	0.02	< 0.005	—	383
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.23	5.23	< 0.005	< 0.005	—	5.25
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.87	0.87	< 0.005	< 0.005	—	0.87

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.20	3.22	0.00	0.00	0.49	0.49	0.00	0.12	0.12	—	585	585	0.02	0.02	2.27	592
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.34	7.34	< 0.005	< 0.005	0.01	7.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.22	1.22	< 0.005	< 0.005	< 0.005	1.23
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grading & Excavation	Linear, Grading & Excavation	9/1/2024	9/15/2024	5.00	10.0	—
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	9/16/2024	9/20/2024	5.00	5.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grading & Excavation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Linear, Grading & Excavation	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50
Linear, Grading & Excavation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Linear, Drainage, Utilities, & Sub-Grade	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	12.0	60.0	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	0.00	3.50	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.00	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	12.0	60.0	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	3.50	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	0.00	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

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

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Linear, Grading & Excavation	—	—	5.60	0.00	—
Linear, Drainage, Utilities, & Sub-Grade	—	—	5.60	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Linear	5.60	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

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

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	30.8	annual days of extreme heat
Extreme Precipitation	0.55	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A

Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	70.7
AQ-PM	60.2
AQ-DPM	9.41
Drinking Water	71.8
Lead Risk Housing	78.0
Pesticides	92.1
Toxic Releases	51.4
Traffic	8.97
Effect Indicators	—
CleanUp Sites	25.6
Groundwater	92.4
Haz Waste Facilities/Generators	3.64
Impaired Water Bodies	43.8
Solid Waste	87.8
Sensitive Population	—
Asthma	76.7
Cardio-vascular	95.9
Low Birth Weights	60.3
Socioeconomic Factor Indicators	—
Education	97.3
Housing	52.6
Linguistic	91.9
Poverty	80.3
Unemployment	82.3

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	13.65327858
Employed	12.83202874
Median HI	14.07673553
Education	—
Bachelor's or higher	12.28025151
High school enrollment	24.08571795
Preschool enrollment	34.18452457
Transportation	—
Auto Access	92.6344155
Active commuting	66.88053381
Social	—
2-parent households	19.82548441
Voting	21.1600154
Neighborhood	—
Alcohol availability	60.77248813
Park access	4.645194405
Retail density	0.603105351
Supermarket access	4.991659181
Tree canopy	1.886308225
Housing	—
Homeownership	51.52059541
Housing habitability	54.6002823
Low-inc homeowner severe housing cost burden	17.97767227

Low-inc renter severe housing cost burden	86.30822533
Uncrowded housing	25.95919415
Health Outcomes	—
Insured adults	4.067753112
Arthritis	0.0
Asthma ER Admissions	27.1
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	14.5
Cognitively Disabled	96.3
Physically Disabled	89.8
Heart Attack ER Admissions	17.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	76.2
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—

Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	4.0
Elderly	91.2
English Speaking	38.6
Foreign-born	62.3
Outdoor Workers	1.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	82.6
Traffic Density	10.1
Traffic Access	0.0
Other Indices	—
Hardship	90.1
Other Decision Support	—
2016 Voting	10.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	92.0
Healthy Places Index Score for Project Location (b)	12.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Project specific information.
Construction: Off-Road Equipment	Project specific information
Construction: Trips and VMT	Project specific information