DRAFT SUBSEQUENT INITIAL STUDY/
PROPOSED MITIGATED NEGATIVE DECLARATION

R-649, R-700, and R-707 Natural Gas Transmission Pipeline 131 Replacement Project: Additional Segments Replacement and Inspection

APRIL 2021

PREPARED FOR:
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Draft Subsequent Initial Study/Proposed Mitigated Negative Declaration

for the

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April 2021

PROPOSED MITIGATED NEGATIVE DECLARATION

Project: PG&E R649, R700, and R707 Natural Gas Transmission Pipeline 131 Replacement Project: Additional Segments Replacement and Inspection

Lead Agency: California Department of Fish and Wildlife

PROJECT DESCRIPTION

The California Department of Fish and Wildlife (CDFW) is publishing a Subsequent Mitigated Negative Declaration and supporting Initial Study (Subsequent IS/MND) for Pacific Gas and Electric Company's (PG&E) R649, R700, and R707 Natural Gas Transmission Pipeline 131 Replacement Project (Original Project). The Original Project included replacement of three segments totaling 5 miles of the L-131 pipeline for safety. The IS/MND for the Original Project was adopted in August 2018 (SCH #2018062074). Since adoption of the Original Project, PG&E has identified one additional segment of the L-131 pipeline that needs replacement (R-893) and one segment of the L-114 pipeline that needs inspection and repair (D-915). The Original Project together with these two additional components is the Amended Project. The R-893 component of the Amended Project is in the City of Livermore and the D-916 component is located in unincorporated Alameda County. The R-893 component would replace approximately 825 feet of the existing pipeline near Tranquility Circle, extending under Interstate 580, and ending at private property south of East Airway Boulevard. The D-915 component would include excavation, inspection, and repair of approximately 24 feet of the L-114 pipeline in two locations. One location would be about 225 feet north of the existing Dalton crossover station, located northeast of the intersection of Raymond Road and Ames Street. A second location would be about 830 feet north of the first.

FINDINGS

An Initial Study has been prepared to assess the project's potential effects on the environment and the significance of those effects. Based on the Initial Study, it has been determined that the project would not have any significant effects on the environment once mitigation measures are implemented. As a result, a Mitigated Negative Declaration (MND) is being considered for adoption by CDFW for the proposed project. This conclusion is supported by the following findings:

1. The project would have no impact related to land use and planning, mineral resources, and population and housing.
2. The project would have a less-than-significant impact on aesthetics, agriculture and forest resources, air quality, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, noise, public services, recreation, transportation and traffic, tribal cultural resources, utilities and service systems, and wildfire.
3. Mitigation measures incorporated into the project will clearly reduce potentially significant impacts to less-than-significant levels related to biological resources and hydrology and water quality.

Following are the mitigation measures that have been committed to and shall be implemented by PG&E to avoid or minimize environmental impacts. Implementation of these mitigation measures will reduce the potentially significant environmental impacts of the project to a less-than-significant level. Implementation of these mitigation measures shall be subject to monitoring in accordance with a Mitigation Monitoring and Reporting Program adopted along with this Proposed MND. The MMRP is an Attachment to the Initial Study.

Biological Resources

Mitigation Measure BIO-1: Prepare and Implement Vegetation Restoration Plan

PG&E shall prepare and implement a Vegetation Restoration Plan (VRP) prepared by a qualified restoration specialist, which shall be submitted to CDFW for review and approval no less than 30 days before start of construction. PG&E shall restore on-site all of the native vegetation, and ground cover, that shall be disturbed during construction according to the success criteria established in the VRP. The table below describes the proposed restoration success criteria for grassland habitat beginning in "Year 1," the first year upon completion of construction.

Restoration Success Criteria and Reporting for Grassland Habitat

Overall Success Criteria	Year 1*	Year 2 and Year 3, if applicable
A minimum of 70% vegetation cover relative to baseline conditions, and less than 5% absolute cover of invasive plants listed as high or moderate in the Cal-IPC database and mapped in the work area during the baseline conditions assessment.	Take photos from designated photo stations. In Year 1, an annual restoration monitoring report shall be submitted to CDFW with a qualitative assessment of vegetation cover and a comparison to the baseline conditions assessment for the work areas. Annual monitoring report shall document restoration success and shall be submitted to the permitting agencies by September 1. The first report shall provide a species list of the seed mix used at each restoration area. If success criteria, are met in Year 1, no additional monitoring or reporting is required, and restoration is considered complete.	Take photos from designated photo stations ▪ If success criteria are not met in Year 1, a Year 2 annual restoration monitoring report shall be submitted to CDFW by September 1, containing the same information as the Year 1 report. ▪ If success criteria are not met in Year 2, a final report shall be submitted to CDFW by September 1, containing the same information as the Year 1 and 2 reports.

* Year 1 is first year of post-construction operation.

The success criteria may be adjusted annually by CDFW based on reference site plant counts observed outside of the area impacted by the project to account for drought, herbivory, fire, and unanticipated landowner impacts to the property, among other factors.

The VRP shall include specifications for restoring all temporarily disturbed areas, such as seed mixes, timing, and application methods. Non-native invasive species shall not account for the absolute cover for restoration success. The California Invasive Plant Council (Cal-IPC) database (http://www.cal-ipc.org/paf/) shall be consulted when determining noxious and invasive plants. The Vegetation Restoration Plan shall contain the following components:

Disturbed Annual Grassland

- Topsoil and Seed Salvage. The top 6 to 12 inches of shall be scraped prior to excavation. Scraped topsoil will be stored separately from other spoils piles and restored to its original location over backfilled material. The stockpiles shall be protected from non-native plant propagules and protected with weed-free straw mulch, jute netting, or other suitable cover such as hydroseed/hydromulch without fertilizer added. Locations with Livermore tarplant or any other special-status plant species shall have location-specific plans that address the salvage of seedbed or plant propagule material.
- Baseline Conditions Assessment. Prior to initiating ground disturbance, PG&E shall identify baseline vegetation conditions in any project area within suitable habitat for California tiger salamander or any sensitive natural community. Documentation shall identify: (1) the vegetation species; (2) an estimate of average ground cover density; (3) an overall estimate of the density of native and non-native species compositions; and (4) weed mapping of all Cal-IPC's California Invasive Plants listed as high or moderate.
- Seeding. Seed shall be applied after completion of construction in the late fall and early winter when rainfall and temperatures are sufficient to trigger germination and growth. This will avoid the need for irrigation in most cases. If the timing of construction activities precludes seeding during the late fall or early winter during a given

year, the site will be temporarily stabilized, and the site will be seeded in the following fall. Reporting on site restoration that needs to be delayed in this way shall include a statement of adjusted mitigation, in order to compensate for the additional season of temporary impact to the habit

- Seed Mix. A seed mix shall be identified considering species found in the baseline conditions assessment and include only native species, with an emphasis on native bunchgrasses and other grassland species.
- Invasive Plants. In the baseline conditions assessment, PG&E shall perform preconstruction weed mapping of all Cal-IPC's California Invasive Plants listed as high or moderate to document baseline Cal-IPC invasive plants present in the project area prior to construction. The restored project area shall consist of no more than 5 percent of the existing baseline Cal-IPC invasive plants observed in the same project area. If the presence of invasive species exceeds this threshold, PG&E is responsible for conducting appropriate control activities during monitoring, up to three years after implementation of restoration.
- Monitoring. To ensure that site restoration and erosion control measures are successful, PG&E shall be required to monitor site conditions for up to three years following project completion or until success criteria are satisfied prior to the end of three years. Site visits shall be conducted at least once after the first significant rain event after project completion to evaluate site stability and during the spring and summer to evaluate revegetation efforts. If PG&E or CDFW determines there has been an increase in erosion or bank instability since project inception, PG&E shall consult with CDFW on corrective actions, and additional mitigation may be required.
- Photographs from Flagged Points. Prior to commencement of work, PG&E shall identify representative views of the project area that will be identified in the Incidental Take Permit for this project, would impact California tiger salamander or California red-legged frog upland habitat, or would impact special-status plant species or sensitive natural communities (i.e., alkali grassland or native grassland). PG&E shall photograph the project area from each of the flagged points, noting the direction and magnification of each photo.
- Upon completion of construction, PG&E shall photograph post-project conditions from the flagged photo points using the same direction and magnification as pre-project photos. Labeled digital copies of pre- and post-project photographs shall be sent to CDFW within forty-five (45) days of completion of the project.
- Additional Revegetation. Regrowth will be evaluated on an annual basis. If success criteria (see Table 3.4-3) are not met during annual monitoring, weeding and/or further seeding shall be conducted as determined necessary by a qualified botanist to attain regrowth targets of local ground cover, and additional mitigation may need to be provided.
- Regrowth will be evaluated on an annual basis. If success criteria are not met during annual monitoring, weeding will be conducted as determined necessary by a qualified botanist to attain regrowth targets of local ground cover.

Restoration of Special-Status Plants and Sensitive Natural Communities

The VRP shall address the following components for onsite restoration of the special-status plant (Livermore tarplant [*Deinandra bacigalupii*]) and sensitive natural communities (alkali grassland, native grassland, and Salt Grass Flats/Alkali Heath Marsh) that will be disturbed during construction:

- Seed Collection and Dispersal. Seed from the special-status plant Livermore tarplant and sensitive natural communities to be impacted will be replanted onsite after construction. If construction of the project begins prior to the availability of seed, collection of seed for special-status plant species and sensitive communities shall be from populations in the vicinity of the project area.
- Seed Collection: Timing. Areas of special-status plants and sensitive natural communities mapped during surveys shall be revegetated with seed collected prior to construction (or during construction from adjacent sites), and other native species found in the Project region, if necessary.
- Restoration Site Selection. The restoration site assessment for special-status plants shall support the VRP selection of restoration sites. Reseeding should be done at the exact site where individuals were removed if at all possible. If it is known that a location will be subject to tilling or other forms of disturbance before 2022, an alternate suitable

location as close as possible to the impact, shall be identified. The VRP shall also: 1) propose an offsite location for mitigation for specific species (Livermore tarplant) impacted at the project, in Alameda or Contra Costa County, to be secured within a conservation easement that will be in effect in perpetuity) and 2) outline how the seed harvested from one annual CDFW-listed and CRPR-listed plant (Livermore tarplant) shall be used. The use of the Livermore tarplant seed collected by CDFW and stored at UCBG shall be developed in consultation with CDFW.

- A statement of number and species of trees proposed for removal and proposed restoration locations and compensatory ratios shall be included in the VRP.

Mitigation Measure BIO-2: Invasive Plant and Plant Pathogen Abatement

A CDFW-approved biologist shall ensure that the spread or introduction of invasive exotic plant species shall be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project area shall be removed. Prior to entry to any project area for the first time, equipment must be free of soil and debris on tires, wheel wells, vehicle undercarriages, and other surfaces (a high-pressure washer and/or compressed air may be used to ensure that soil and debris are completely removed).

Mitigation Measure BIO-3: Financial Security

Prior to initiating project activities, and if proof of species compensatory mitigation completion consistent with APM-BIO-26: Habitat Compensation for Effects to Livermore Tarplant and MM BIO-9: Additional California Tiger Salamander Habitat Compensation, has not been submitted to CDFW and USFWS, PG&E shall provide CDFW with a form of performance security, approved in advance in writing, in an amount comprised of funds necessary for purchase of species bank credits and/or habitat acquisition and perpetual management. Should these offsite mitigation obligations be satisfied prior to the start of project activities, PG&E will provide financial security adequate to cover the cost of onsite post construction restoration only. Security shall be in the form of an irrevocable letter of credit (LOC) with CDFW as the beneficiary, mitigation fund holding account, or other approved performance bond method. PG&E shall create a separate LOC for onsite restoration and if needed offsite mitigation costs.

Mitigation Measure BIO-4: Amphibian Capture Best Practices for California Tiger Salamander

CDFW-approved biologists shall use their bare hands to capture California tiger salamander. CDFW-approved biologists shall not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within 2 hours before and during periods when they are capturing and relocating individual California tiger salamander. To avoid transferring disease or pathogens from handling, CDFW-approved biologists shall follow the Declining Amphibian Populations Task Force's Code of Practice (Appendix D). Captured California tiger salamanders shall be placed individually into a dark, clean plastic container of suitable size with enough room, so the wildlife can move freely, and shall keep the container moist with damp paper towels, soft foam rubber, or natural or synthetic sponge free of soaps and anti-bacterial/antifungal treatments. Containers used for holding or transporting shall not contain any standing water. The lids of the containers shall have small air holes for ventilation. Sponges shall not be reused, and all other housing materials shall be disinfected between occupants according to the Task Force's Code of Practice.

Mitigation Measure BIO-5: California Tiger Salamander Handling and Injury

California tiger salamanders shall be handled and assessed according to the Restraint and Handling of Live Amphibians USGS, National Wildlife Health Center (D. Earl Creene, ARMI SOP No. 100; 16 February 2001, Appendix D). CDFW-approved biologist shall move California tiger salamanders to appropriate locations within 300 feet of the project boundary pursuant to the Relocation Plan (MM BIO-7). If an injured California tiger salamander is found during the project term, the individual shall be evaluated by the approved biologist who shall then immediately contact the PG&E project biologist who shall then contact the CDFW and USFWS, via email and telephone, to discuss the next steps. If the representatives cannot be contacted immediately, the injured salamander shall be placed in a shaded container and kept moist. If the representatives are not available or do not respond within two hours of initial attempts, then the following steps shall be taken:

a) If the injury is minor or healing and the salamander is likely to survive, it shall be released immediately as follows. The approved biologist shall relocate any California tiger salamander found within the work area to an active

rodent burrow or burrow system located no more than 300 feet outside of the work area. The California tiger salamander shall be monitored until it is determined that it is not imperiled by predators or other dangers. Relocation areas shall be identified by the approved biologist based on best suitable habitat available and approved by the agencies prior to the start of project activities. The approved biologist shall document both locations by photographs and GPS positions. The California tiger salamander shall be photographed and measured (snout- vent and total length) for identification purposes prior to relocation. All documentation shall be provided by PG&E to CDFW and the USFWS within 24 hours of relocation.

b) If it is determined that the California tiger salamander has major or serious injuries as a result of project-related activities, the CDFW/USFWS-approved biologist shall immediately take it to the Lindsay Wildlife Experience or another agency-approved facility. If taken into captivity, the individual shall remain in captivity and not be released into the wild unless it has been kept in quarantine and the release is authorized by the agencies. The circumstances of the injury, procedure followed, and final disposition of the injured animal shall be documented in a written incident report, as described above.

Mitigation Measure BIO-6: Conduct Preconstruction Surveys for California Tiger Salamander and Avoid Impacts to Burrows

A CDFW-approved biologist shall survey the project area with potential habitat for California tiger salamander and immediately prior to ground-disturbing activities. Surveys shall include all potentially suitable upland habitat such as rodent burrows, cracks, ruts, holes near root structures, foundations, abutments, and leaf litter within the project area that contain potential habitat for these species. If any California tiger salamanders are found, the approved biologist shall contact CDFW and the USFWS to determine if moving any of these salamanders is appropriate. In making this determination, CDFW and USFWS shall consider if an appropriate relocation site exists as provided in the Relocation Plan (MM BIO-7). If CDFW and the USFWS approve moving animals, the CDFW- and USFWS-approved biologist would be allowed sufficient time to move California tiger salamander from the project area before work activities begin. Only CDFW- and USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California tiger salamander.

The approved biologist shall mark all burrows within the project area no less than seven days prior to earthmoving activities in those areas. All burrows shall be avoided to the maximum extent practicable during earthmoving activities. Areas with high concentrations of burrows shall be avoided by earthmoving activities to the maximum extent possible. In addition, when concentrations of burrows or large burrows are observed within the site, and if it is possible to avoid these burrows during construction activities, these areas shall be staked and/or flagged to ensure construction personnel are aware of their location and to facilitate avoidance of these areas when possible.

Mitigation Measure BIO-7: California Tiger Salamander Relocation Plan

A Relocation Plan for California tiger salamander shall be submitted to CDFW for approval no less than 15 days prior to the start of construction in any area with suitable breeding or estivation habitat The Relocation Plan shall include relocation site selection criteria. When a California tiger salamander is observed within work areas, the qualified biologist approved by USFWS and CDFW to handle and relocate the species shall do so. The approved biologist shall relocate any individual to an active rodent burrow system no greater than 300 feet from work area boundaries unless no suitable burrow systems are present within the area. If no suitable burrows are available within 300 feet of the work area, then the California tiger salamander will be released at the nearest suitable burrow system. If burrow density allows, the designated biologist shall only release one animal per burrow. Relocation burrows will be chosen based on the presence of similar characteristics to the burrows inside the work area to the extent possible. A suitable burrow should be at least 3 inches in depth and have moist and cool conditions. All relocation burrows will be away from roads and pavement/graveled areas to the extent possible. The biologist shall capture, handle, and assess Covered Species according to the Restraint and Handling of Live Amphibians Protocol, USGS, National Wildlife Health Center (D. Earl Greene, ARMI SOP NO. 100; 16 February 2001; Appendix D). California tiger salamander shall be released as soon as possible. If the animal repeatedly walks away from the burrow, or partially enters it and then turns around, the qualified biologist shall remove it and find another burrow. A qualified and approved biologist will be

identified who will be within 30 minutes of travel time of the project area during construction to ensure prompt relocation.

The qualified biologist shall document occurrence and relocation sites by photographs and GPS positions. When handled, California tiger salamanders shall be photographed and measured (snout-vent and total length) for identification purposes prior to relocation. Individuals shall be monitored until it is determined that they are not imperiled by predators or other dangers. The qualified biologist shall release individuals one at a time rather than as a group. All documentation shall be provided to CDFW and USFWS within 48 hours of relocation.

Mitigation Measure BIO-8: Implement Wildlife Fencing for California Tiger Salamander

At least 30 days prior to commencing any ground disturbing Project activities, PG&E shall submit to CDFW a barrier proposal that shall address the level of need for California tiger salamander exclusion fencing at all project areas within suitable California tiger salamander habitat for CDFW approval. The Qualified Biologist shall evaluate site and planned work activities to determine the exclusion barrier proposal and consider season of work, California tiger salamander occurrence to date, time duration of site activity, and implications for wildlife movement in the proposal. A recommendation not to install fencing may be made if the effects of fencing installation could be greater in extent or duration than those associated with planned work activities.

Fencing will be installed prior to ground disturbing activities. Fencing will be installed using a trencher or hand digging. Fences will be made from silt fence, geotextile fabric, plastic mesh, or other similar materials and will not use plastic monofilament netting. The fencing shall include multiple escape funnels, ramp, or another method if approved by CDFW to allow wildlife to leave the project area. Fencing will be at least 3 feet in height, with the lower edge buried 6 inches underground. The remaining 2.5 feet will be left above ground to serve as a barrier for animals moving on the ground surface.

Gates will be installed within exclusion fencing where necessary for access. Gates will not be buried but will include a flexible rubber strip extending from its lower edge so that it lies flat against the ground when the gate is closed. Materials such as gravel bags will be placed on the edge of the gate when closed to form a seal with the ground.

PG&E shall maintain the barrier, and repair openings as soon as possible to ensure that it is functional and without defects. Any California tiger salamander found along the barrier shall be relocated in accordance with the Relocation Plan. Location and design of the barriers shall be included within the proposal. The barrier shall be installed under the supervision of a qualified biologist. Following fence installation, the qualified biologist(s) shall block holes or burrows entrances within project area, of burrows avoided by construction activities, if any, that appear to extend under the barrier to minimize California tiger salamander movement into the project area. The barrier shall be checked regularly (not less than three times per week) to look for animals and to ensure barrier integrity. Inspection intervals shall be based upon the planned construction activities at each site, recent and forecasted weather events, and the results of preconstruction surveys and previous inspections. The barriers shall be continuously maintained until all construction activities are completed, and then removed as soon as possible, but no later than seven days after activities have ceased, unless required to remain longer to ensure SWPPP of S-ESCP compliance. The barrier shall continue to be checked regularly until it is removed.

Mitigation Measure BIO-9: Additional California Tiger Salamander Habitat Compensation

Prior to construction of the R-893 and D-915 sites, or no later than 18 months from issuance of an Amended ITP by CDFW, assuming financial assurance is provided to CDFW (see MM BIO-3), PG&E shall purchase additional credits at a USFWS/CDFW-approved Conservation Bank or secure conservation easements on USFWS/CDFW-approved mitigation parcels to compensate for unavoidable temporary impacts to upland California tiger salamander habitat at a ratio approved by the CDFW during the consultation process for this Amended Project. It is estimated that temporary loss of approximately 1.370 acres of California tiger salamander upland habitat needs to be mitigated; however, the final additional areas of temporary impacts and compensatory mitigation may differ.

Hydrology and Water Quality

Mitigation Measure HWQ-1: Prepare and Implement a Water Diversion and Dewatering Plan

Although flowing water is generally not expected at any work areas, there is some possibility for water to be present at both sites. A Water Diversion and Dewatering Plan shall be prepared and provided to CDFW for review and approval 7 days prior to the start of construction if it appears that dewatering may be necessary. The Plan shall include specific provisions for each site where dewatering or diversion would be necessary and measures to maintain natural flows to the greatest extent feasible and minimize erosion.

Mitigation Measure HWQ-2: Restore Swale and Channel Contours

Upon completion of excavation burial, and prior to October 15 in any construction year, swale and channel contours shall be restored to previous contours.

Pursuant to Section 21082.1 of the California Environmental Quality Act, CDFW has independently reviewed and analyzed the Initial Study and Mitigated Negative Declaration for the project and finds that the Initial Study and Mitigated Negative Declaration reflects the independent judgment of CDFW. The Lead Agency further finds that the project mitigation measures shall be implemented as stated in the Mitigated Negative Declaration.

I hereby approve this project:

_____

Gregg Erickson, Regional Manager, Bay Delta Region
California Department of Fish and Wildlife
(to be signed upon approval of the project after the public review period is complete)

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Appendices (included in a flash drive)

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LIST OF ABBREVIATIONS

AB	Assembly Bill
ACFD	Alameda County Fire Department
APM	Applicant Proposed Measure
BAAQMD	Bay Area Air Quality Management District
BAHCP	Bay Area Habitat Conservation Plan
bgs	below ground surface
BMPs	best management practices
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
City	City of Livermore
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CP	cathodic protection
CRPR	California Rare Plant Rank
dB	decibel
DOC	California Department of Conservation
DPM	diesel particular matter
EACCS	East Alameda County Conservation Strategy
GHG	greenhouse gas
I-580	Interstate 580
ITP	Incidental Take Permit
LOC	letter of credit
LOS	level of service
LPFD	Livermore – Pleasanton Fire Department
LSAA	Lake and Streambed Alteration Agreement
MLD	most likely descendant
MM	mitigation measures
MP	mile post
$MTCO_2e$	metric tons of carbon dioxide–equivalent
$MTCO_2e$/year	metric tons of carbon dioxide–equivalent per year

NAHC	Native American Heritage Commission
NPDES	National Pollutant Discharge Elimination System
Original Project	R-649, R-700, and R-707 Natural Gas Transmission Pipeline 131 Replacement Project
PG&E	Pacific Gas & Electric Company
PM	particulate matter
ROG	reactive organic gases
ROW	right-of-way
S-ESCP	Site-specific Erosion and Sediment Control Plan
Subsequent IS/MND	Subsequent Initial Study/proposed Mitigated Negative Declaration
SWPPP	stormwater pollution prevention plan
UCBG	UC Botanical Gardens
USFWS	U.S. Fish and Wildlife Service
VMT	vehicle miles travelled

1 INTRODUCTION

1.1 INTRODUCTION AND PROJECT BACKGROUND

This document is a Subsequent Initial Study/proposed Mitigated Negative Declaration (Subsequent IS/MND) that analyzes a proposed natural gas transmission pipeline maintenance and replacement project. The Pacific Gas & Electric Company (PG&E) R-649, R-700, and R-707 Natural Gas Transmission Pipeline 131 Replacement Project (Original Project) was previously evaluated in an IS/MND that was adopted by the California Department of Fish and Wildlife (CDFW) in August 2018 (SCH #2018062074). A California Endangered Species Act (CESA) Fish and Game Code Section 2081 Incidental Take Permit (ITP) (Permit No. 2081-2017-011-03) was issued for the Original Project on August 28, 2018, and a Fish and Game Code Lake and Streambed Alteration Agreement (LSAA; No. 1600-2017-041-R3) was issued on October 23, 2018. The 2018 IS/MND is incorporated by reference into this Subsequent IS/MND pursuant to CEQA Guidelines Section 15150, and is provided in Appendix A.

Since adoption of the 2018 IS/MND and issuance of the Original ITP and LSAA in 2018, PG&E has modified the Original Project to add two pipeline components for replacement and maintenance. PG&E proposes to add a segment of Natural Gas Transmission Pipeline 131 (L-131) for replacement and a segment of Natural Gas Transmission Pipeline 114 (L-114) for inspection and repair. The two additional components and the Original Project together constitute the Amended Project. The Amended Project is proposed for approval of an Amended ITP from CDFW. Accordingly, this Subsequent IS/MND addresses the potential environmental impacts of the whole of the Amended Project. It identifies changes to the project description, environmental and regulatory settings, environmental impact analysis, and mitigation measures. Where the presentation and analysis from the 2018 IS/MND remains valid, it is reiterated in this Subsequent IS/MND, then supplemented with updated information, where needed, with analysis of the two added components. Once adopted, the Subsequent IS/MND will supersede and replace the 2018 IS/MND.

As in the Original Project, the two additional project components (R-893 [L-131] and D-915 [L-114]) are in Alameda County, California. The R-893 component is located within the City of Livermore and the D-915 component is located within unincorporated Alameda County. Consistent with the objectives of the Original Project, the Amended Project adds two components needed for pipeline maintenance and safety. The two additional components are described below:

- R-893: Replace approximately 825 feet of the existing L-131 between pipeline mile post (MP) 32.29 and MP 32.39, beginning at the south end of the R-649 component of the Original Project, extending under Interstate 580 (I-580), and ending at a private property just south of East Airway Boulevard.
- D-915: Excavation, inspection, and repair approximately 24 feet of L-114 between MP 28.73 and 28.88. Excavation of the D-915 component would occur in two locations (Locations A and B). The D-915 component Location A would be about 830 feet north of Location B. The D-915 component Location B would be about 225 feet north of the existing Dalton crossover station, located northeast of the intersection of Raymond Road and Ames Street.

1.2 SUMMARY OF PREVIOUS CEQA DOCUMENT

The 2018 IS/MND (State Clearinghouse No. 2018062074) was adopted by CDFW as the CEQA lead agency pursuant to Section 15070(a) of the CEQA Guidelines. CDFW is the CEQA lead agency for this Subsequent IS/MND. CDFW serves as the lead agency because the primary approval action is an Amended CESA ITP.

The Original Project analyzed in the 2018 IS/MND included the replacement of three segments of the L-131 pipeline, R-649, R-700, and R-707. The original PG&E L-131 pipeline was a 24-inch-diameter pipeline installed in 1944. PG&E engineering studies determined that portions of the original asphalt pipe coating were in poor condition, and corrosion engineering assessments concluded that segments R-649, R-700, and R-707, totaling approximately 5 miles of L-131, could not be adequately protected by the existing cathodic protection system. To address this safety issue, PG&E proposed to replace the three segments of L-131 with new 24-inch-diameter pipe. These segments are located between I-580, immediately east of Isabel Avenue and extending northeast to Vasco Road. The 2018 IS/MND

determined that the Original Project would have potentially significant impacts on biological resources and hydrology and water quality; however, implementation of mitigation measures would reduce these potential impacts to a less-than-significant level. All other environmental issue areas were determined to be less-than-significant or no impact. Original Project construction began in September 2018 and construction for all of R-700, R-707, and R-649 were completed in 2019. Restoration monitoring for the Original Project is ongoing in compliance with the 2018 IS/MND and Original ITP.

The Amended Project is being evaluated in a Subsequent IS/MND because at the time that the 2018 IS/MND was prepared, the scopes of these subsequent components were not fully developed and more engineering was required, making their analysis infeasible during evaluation and approval of the Original Project.

1.3 BASIS FOR SUBSEQUENT IS/MND

Pursuant to CEQA Guidelines Section 15162, a subsequent MND should be prepared if an MND has been adopted for a project, but one or more of the following conditions are met.

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:

A. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

B. Significant effects previously examined will be substantially more severe than shown in the previous EIR;

C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

D. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

The Amended Project would involve areas outside the Original Project area defined in the Original ITP, which include approximately 2.286 acres of additional area at the R-893 site and the entire 5.804 acres of the D-915 site. The Amended Project would therefore result in additional impacts to the habitat of 20 special-status animal species and 16 special-status plant species. These species include California tiger salamander, the state-listed species covered in the Original ITP, and Livermore tarplant, a state-listed plant, which would not be covered in an ITP. The length of the construction schedule would be altered with the two additional project components, requiring an amendment and extension of the duration of the Original ITP.

CDFW has determined that a Subsequent IS/MND is the appropriate CEQA document for the Amended Project because the Amended Project would result in (1) new potentially significant impacts to the environment that were not previously addressed in the 2018 IS/MND and (2) a substantial increase in the severity of previously identified significant effects.

As discussed in Chapter 3 of this document, the Amended Project could result in potentially new significant impacts or an increase in the severity of previously identified significant impacts related to Biological Resources. In addition, since the 2018 IS/MND was adopted in August 2018, the Office of Planning and Research released updated CEQA Guidelines on December 28, 2018. This Subsequent IS/MND incorporates the revisions to Appendix G of the State CEQA Guidelines, which modified environmental questions and added impact topics. As documented in the Initial Study checklist (Chapter 3), all potentially significant environmental impacts of the Amended Project would be less-than-significant after implementation of mitigation measures.

1.4 ENVIRONMENTAL REVIEW

CDFW is the lead agency under CEQA for the preparation of this Subsequent IS/MND. PG&E has filed an application with CDFW for an Amended ITP under California Fish and Game Code Section 2081 for the Amended Project. Because approval of this application is a discretionary action, the project is subject to CEQA review. The purpose of this document is to present to decision-makers and the public information about the environmental consequences of implementing the Amended Project. This disclosure document is being made available to the public for review and comment. This Subsequent IS/MND will be available for a 45-day public review period from April 6, 2021 to May 21, 2021. A copy of the Subsequent IS/MND is available for review on CDFW's website: https://www.wildlife.ca.gov/Notices. If you are unable to access the internet, please contact Serge Glushkoff at Serge.Glushkoff@wildlife.ca.gov or (707) 339-6191 to arrange for an alternative means to view the Subsequent IS/MND, as the CDFW's offices are temporarily closed due to the COVID-19 pandemic.

The comment period for the Subsequent IS/MND is from April 6, 2021 to May 21, 2021. Comments on the Subsequent IS/MND must be received by 5 p.m. on Friday, May 21, 2021 and should be sent to the California Department of Fish and Wildlife, c/o Serge Glushkoff, 2825 Cordelia Road, Suite 100, Fairfield, California 94534 or via email to Serge.Glushkoff@wildlife.ca.gov. Please include your name, address, and telephone number.

CDFW is the custodian of supporting documentation referenced in this Subsequent IS/MND. If you would like to view supporting documentation, please contact Serge Glushkoff at the email address or phone number above. After comments are received from the public and reviewing agencies, CDFW may (1) adopt the Subsequent MND, approve the project, and issue an amendment to the ITP; (2) undertake additional environmental studies; or (3) decline to approve the project. If the Amended Project is approved with issuance of an Amended ITP, PG&E may proceed with implementation.

1.5 DOCUMENT ORGANIZATION

This Subsequent IS/MND is organized as follows:

- Chapter 1: Introduction. This chapter provides an introduction to the environmental review process and background information about the project. It describes the purpose and organization of this document and presents a summary of findings.
- Chapter 2: Project Description and Background. This chapter summarizes the Original Project analyzed in the 2018 IS/MND, identifies project objectives, and provides a detailed description of the Amended Project.
- Chapter 3: Environmental Checklist. This chapter presents an analysis of a range of environmental issues identified in the CEQA Environmental Checklist. It determines if the modifications added to the Amended Project since the 2018 IS/MND would result in no change in the previously identified impacts, a new less-than-significant impact, a new less-than-significant impact with mitigation incorporated, or a new potentially significant impact. If any impacts were determined to be potentially significant and could not be clearly mitigated to less-than-significant, an EIR would be required.
- Chapter 4: References. This chapter lists the references used in preparation of this Subsequent IS/MND.
- Chapter 5: List of Preparers. This chapter identifies report preparers.

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2 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The Original Project included replacement of three segments totaling 5 miles of the L-131 pipeline for safety. Since adoption of the Original Project, PG&E has identified one additional segment of the L-131 pipeline that needs replacement and one segment of the L-114 pipeline that needs inspection and repair. The Original Project together with these two additional pipeline components is the Amended Project. The following sections provide a description of the Amended Project.

2.2 PROJECT LOCATION

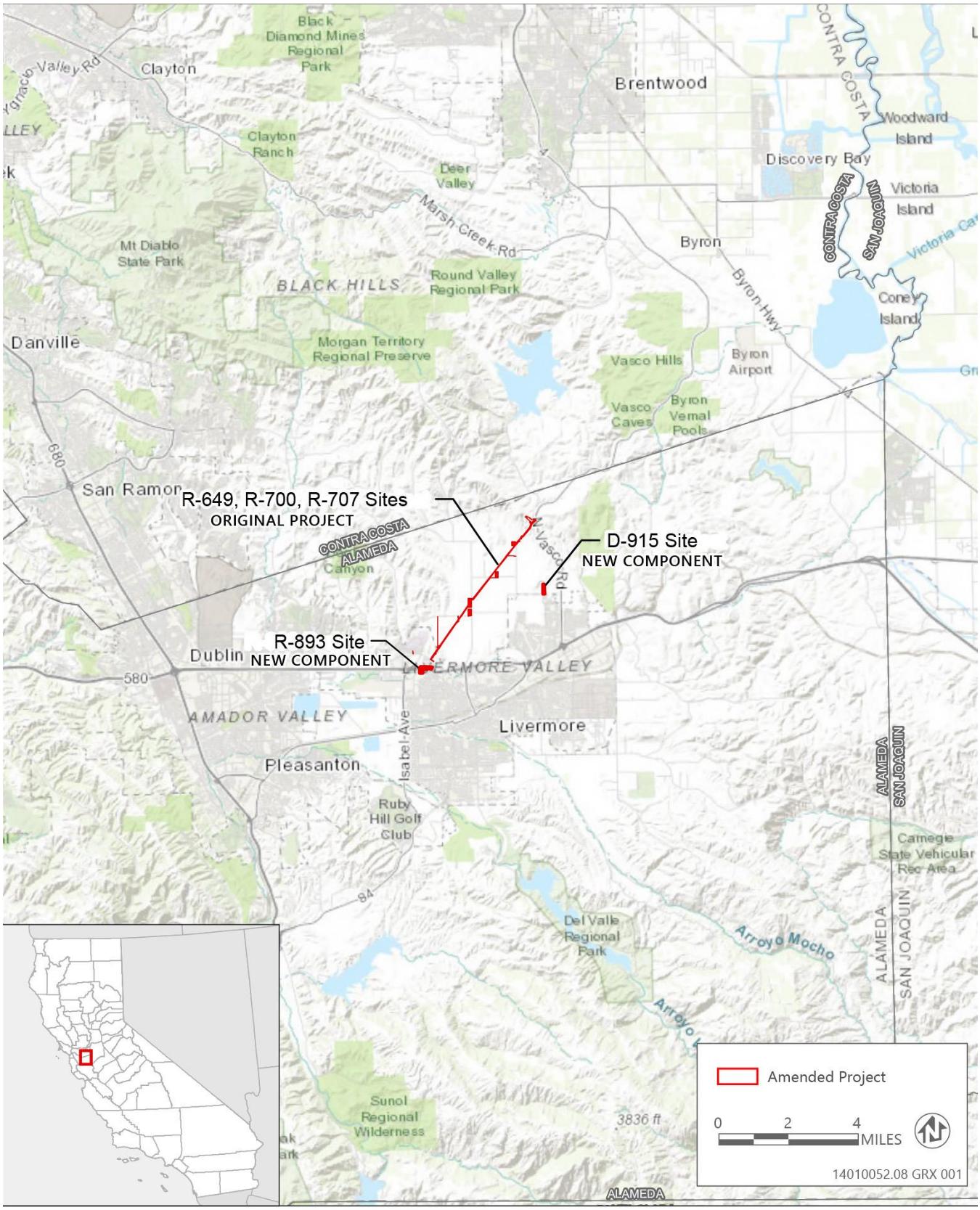
The Original Project is located between I-580, immediately east of Isabel Avenue and extending northeast to Vasco Road. As with the Original Project, the two new project components (R-893 and D-915) are in Alameda County, California (Figures 2-1 and 2-2). The R-893 component is located in the City of Livermore and overlaps with a portion of the R-649 segment of the Original Project, adjacent to the Shea Homes Sage residential complex. The pipeline travels under Arroyo Las Positas Creek and I-580 and ends at a private parking lot adjacent to East Airway Boulevard. The northern portion of the R-893 component is about 0.25 mile east of Isabel Avenue, and 0.25 mile west of Portola Avenue. The D-915 component is located in unincorporated Alameda County, 1.6 miles north of I-580, 0.5 mile west of North Vasco Road, and about 500 feet northeast from the corner of Raymond Road and Ames Street and the Dalton Crossover PG&E Substation.

2.3 PROJECT OBJECTIVES

The basic objectives of the proposed Amended Project are to make safety improvements to an existing natural gas pipeline and prevent natural gas leaks. PG&E engineering studies determined that portions of the original asphalt pipe coating were in poor condition, and corrosion engineering assessments concluded that segments R-649, R-700, and R-707 could not be adequately protected by the existing cathodic protection (CP) system. To address this safety issue, PG&E proposed the Original Project to replace the three segments of L-131 with new 24-inch-diameter pipe. The Amended Project includes two additional components that are needed to complete the safety improvement objective.

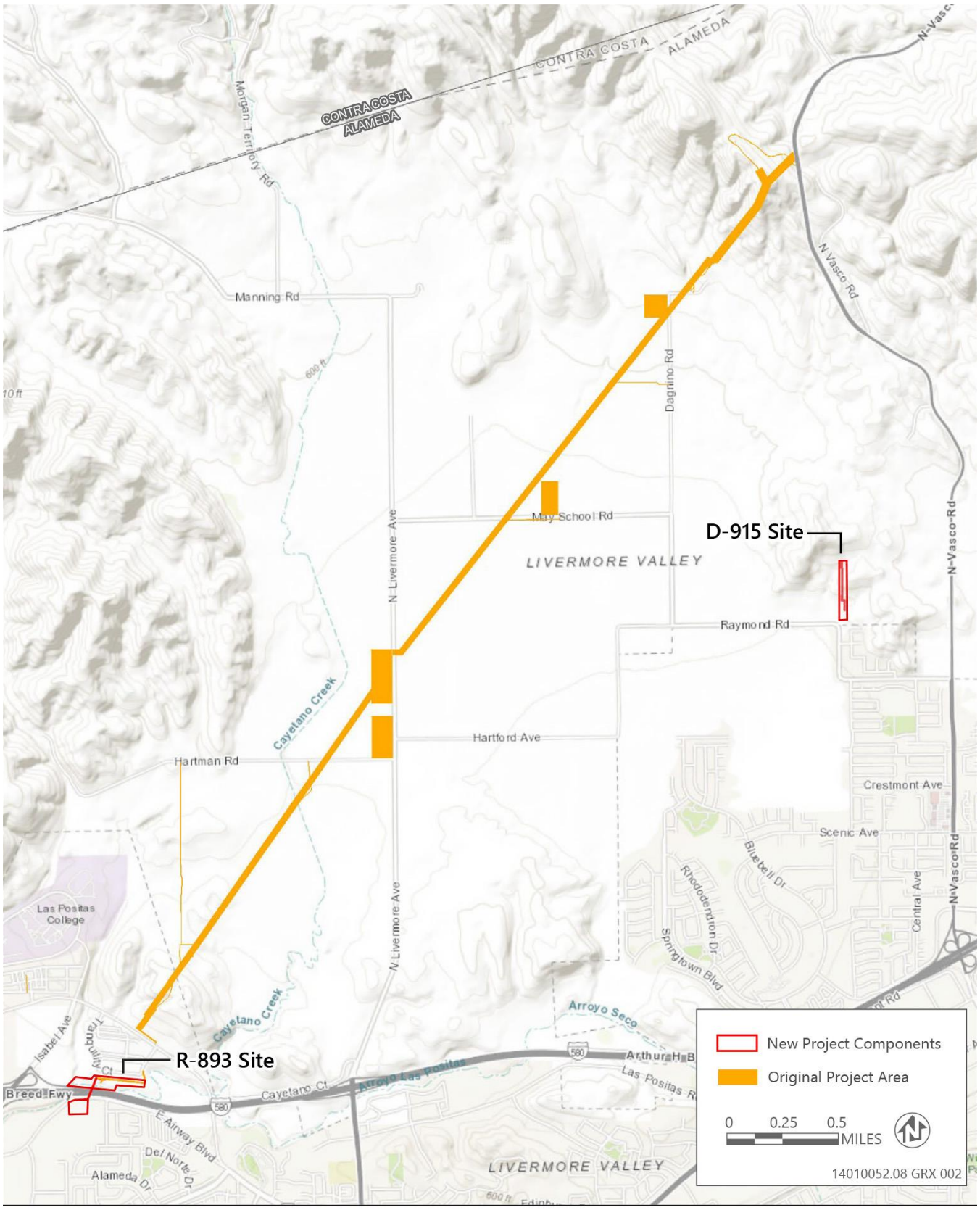
2.4 DESCRIPTION OF ORIGINAL PROJECT

The Original Project proposed upgrades to an approximately 5-mile section of L-131 pipeline that could not be adequately protected by the existing CP system. The Original Project consisted of installing a new pipeline approximately 10 feet from and parallel to the existing pipeline, retiring the existing pipeline along the replacement segments, and replacing the CP system. The new pipeline was 24 inches in diameter and located along approximately the same alignment as the existing pipeline. The existing pipeline was retired and sealed in segments following PG&E's standard procedures and remains buried except for an above-ground span removed as part of the R-700 Component. To replace the CP system, existing CP cable and electronic testing stations were removed, new cathodic testing stations were installed, and rectifiers were replaced. New pipeline markers were installed along the new alignment. The Original Project consisted of three project components: R-649, R-700, and R-707. These project components are discussed below.



Source: Adapted by Ascent Environmental in 2020

Figure 2-1 Project Vicinity



Source: Adapted by Ascent Environmental in 2020

Figure 2-2 Project Location

- R-649 Component. PG&E previously relocated a segment of the L-131 pipeline to accommodate a new residential housing development between I-580 and Portola Avenue. PG&E planned to replace portions of the L-131 pipeline on either side of the segment that was relocated for the housing development, between mile posts (MPs) 31.83 and 31.90 and at MP 32.29. The new pipe was to be buried approximately 5 feet below ground surface (bgs) as part of the R-649 Component. Retired pipe was to be cut in sections and remain buried in place.
- R-700 Component. PG&E replaced an approximately 4-mile segment of the L-131 pipeline between MPs 28.00 and 31.93, beginning at the north end of R-649 and extending north to where it intersects Dagnino Road, terminating at the south end of the R-707 Component. From southwest to northeast, the R-700 Component crossed Hartman Road, North Livermore Avenue, May School Road, and Dagnino Road. The R-700 Component also included a route deviation around the existing residence located at 4011 North Livermore Avenue, whereby the new pipeline ran parallel to North Livermore Avenue approximately 350 feet and crossed the road at a 90-degree angle north of the residence. The new pipeline was primarily installed approximately 5 feet bgs, but increased to approximately 10 feet bgs when it crossed certain roads, streams, and swales. As part of the R-700 Component, an approximately 100-foot-long pipe span was removed from beneath Cayetano Creek and replaced with a new approximately 100-foot-long pipeline approximately 10 feet bgs. Retired pipe for the rest of the R-700 Component was cut in sections and remained buried in place. All portions of this component were completed with the exception of vegetation restoration and monitoring.
- R-707 Component. PG&E replaced an approximately 1-mile segment of the L-131 pipeline between MPs 27.02 and 28.00, extending northeast from the north end of the R-700 Component adjacent to Dagnino Road, to the existing Vasco Crossover Station adjacent to North Vasco Road. The new pipeline segment was installed approximately 5 feet bgs and parallel to the existing pipeline, except where it crossed the Greenville Fault northeast of Dagnino Road. The alignment at that location was adjusted to cross the fault at a 90-degree angle and retired pipe was cut in sections and remained buried in place. All portions of this component were completed with the exception of ongoing vegetation restoration and monitoring.

All three components were constructed between October 2018 and April 2019 and collectively tied into the gas system after venting gas from the existing pipeline. Retirement of the existing pipeline and replacement of the CP system was conducted after the new pipeline was tied into the gas system. PG&E had a 15-foot permanent easement for the L-131 pipeline along the replaced section of pipeline. The easements were augmented and/or replaced to accommodate the new pipeline, resulting in approximately 50 feet of permanent pipeline easement along the majority of the pipe alignment.

2.5 DESCRIPTION OF NEW PROJECT COMPONENTS

2.5.1 R-893 Component

One of the new components would include replacement of an 825-foot segment of the 24-inch L-131 pipeline (R-893) containing various sections of 1944, 1949, and 1969 vintage pipe. The eastern portion of this pipeline replacement overlaps with the southern portion of the R-649 component of the Original Project. Additional information on the R-649 component of the Original Project can be found in the 2018 IS/MND (Appendix A). The R-893 pipeline replacement would consist of installing a new pipeline approximately 80 to 150 feet west and parallel to the existing pipeline and retiring the existing pipeline in place. The new pipeline would be 24 inches in diameter and be located along approximately the same alignment as the existing pipeline between MPs 32.29 and 32.39. The existing pipeline would be capped and retired following PG&E's standard procedures and remain buried. New pipeline markers would be installed along the new alignment.

Construction of the R-893 component is composed of three areas, which lie north, south, and beneath the I-580 corridor (Figure 2-3) and Arroyo Las Positas Creek. In the northern area, south of Shea Homes on Tranquility Circle in Livermore, a segment of approximately 440 feet of pipeline would be installed via open trench approximately 10 feet bgs. A portion of the eastern end of this pipeline segment was part of the R-649 component.

Source: Stantec 2021

Figure 2-3 R-893 Site Detail

CONSTRUCTION AREAS

Temporary Construction Areas

Temporary construction areas required to complete the R-893 component are depicted on Figure 2-3. Construction activities would occur within an approximately 3.33-acre area consisting of two work areas.

The approximately 400-foot wide northern work area would be located south of Shea Homes and would extend approximately 150 feet south into the California Department of Transportation (Caltrans) right-of-way (ROW). This work area would cover approximately 67,200 square feet and would allow for construction crew parking and meetings, equipment and materials storage, soils stockpiling, and pipeline preparation activities (e.g., pipeline stringing and assembly), and trenching for pipeline installation via open trench. This work area would also contain the entry pit (60 feet by 25 feet) and exit pit (20 feet by 10 feet) for the underground auger bore. The low flow channel of Arroyo Las Positas is located south (and outside) of the northern work area. The corridor along Arroyo Las Positas is relatively flat with little change in topography apart from the steeply sloped berm to the north of the creek. The creek corridor is dominated by herbaceous communities including native grassland and freshwater emergent marsh with scattered riparian tree species within the floodplain. Direct impacts to Arroyo Las Positas, including the associated native vegetation communities, will be avoided by siting the northern work area approximately 50 feet north of the creek hinge point of the northern bank and adjacent floodplain. To avoid the creek corridor, the project area will be delineated with high visibility temporary flagging or other barriers to prevent encroachment of construction personnel and equipment outside of the project area, as detailed in Applicant Proposed Measure (APM) Bio-14: Work Area Delineation (refer to Section 2.7, below). In addition, potential impacts to the creek corridor will be avoided through the implementation of the following APMs: AIR-1: BAAQMD Basic Control Measures, BIO-1: Worker Education and Training, BIO-5: Vehicle Parking, BIO-6: Off-Road Travel, BIO-10: Refueling and Equipment Maintenance, BIO-14: Work Area Delineation, BIO 15: Seasonal Work Restriction, HWQ-2: Worker Environmental Awareness Program Development and Implementation, and HWQ-3: Secondary Containment (refer to Section 2.7 below for a full description).

The southern work area would be located south of East Airway Boulevard and would be approximately 180 feet wide and 480 feet long. The site would be located in a parking area immediately west of the Interstate Storage facility and north of the agricultural fields associated with G&M Farms. This area would cover approximately 78,000 square feet, and allow for construction crew parking and meetings, equipment and materials storage, soil stockpiling, and workspace for pipeline preparation activities (e.g., pipeline fabrication), and trenching for pipeline installation. This work area would also contain the entry pit for the underground auger bore.

The work areas for the R-893 component would total approximately 145,000 square feet (3.33 acres). These work areas would be temporary and would be restored to pre-project conditions and returned to the property owners after construction. Landscaping removal would only be required within the northern work area and would be restored to approximate pre-project conditions.

Easements and Permits

PG&E would acquire a new easement for L-131 on private property south of Shea Homes (APN 903-0014-008 /APN 903-0014-002) for the installation of new gas transmission pipeline that will connect to the existing 45-foot-wide easement and gas transmission line on the north side of I-580.

PG&E would also apply for an Encroachment Permit for work along East Airway Boulevard with the City of Livermore. Temporary construction easements would be secured as necessary for work, laydown, or staging outside of PG&E easements.

Water Source

Approximately 34,800 gallons of water would be required for hydrotesting of the new pipeline, pipeline cleaning, potholing, and dust control during the course of construction. Water would likely be sourced through a local water supply municipality (City of Livermore) and trucked to the construction areas.

Site Access

The R-893 northern work area would be accessed from Portola Avenue and Tranquility Circle (Figure 2-3). There is currently an unnamed, paved roadway that extends from Portola Avenue, circles near the southwestern portion of Shea Homes, then connects to Tranquility Circle and along the southern edge of Shea Homes. This paved roadway would be used as the direct access to the northern work area. The R-893 southern work area would be accessed from East Airway Boulevard, through the private driveway and gravel parking lot located at 487 East Airway Boulevard.

Site Preparation and Maintenance

Approximately half of the R-893 northern work area is landscaped and has sloping topography. The first phase of construction would be to create a safe working environment by preparing the site for the staging of construction equipment and crews. Preparation of the construction areas would include vegetation removal, debris disposal, topsoil salvaging and separation, grading, and installation of erosion control measures.

The excavated subsoil would be maintained in a separate windrow, or linear pile, to be used as trench backfill and for passive reseeding of native plants following installation of the pipe. Erosion controls would be installed as needed and as required by regulatory agencies, prior to or immediately following initial disturbance of the soils, and would be maintained throughout construction to contain excavated material within the approved temporary use areas. Construction areas would be continuously inspected and maintained to confirm that erosion control measures, dust control measures, and waste management practices remain effective.

Portable restroom facilities would be placed near active construction areas, but away from sensitive resources and within secondary containment. These facilities would be regularly cleaned and maintained to meet health and safety codes. Waste containers would be distributed throughout the work areas, and workers would make regular sweeps to confirm the worksite is clean and safe.

CONSTRUCTION ACTIVITIES

Potholing and Trenching

The existing L-131 pipeline would be located using potholing, which involves the use of high-pressure water from a truck to break apart the soil while a vacuum removes the water/soil mix to expose the top of underground pipelines. After the pipeline has been located, trenching activities would be initiated. Approximately 440 feet of trench would be excavated in the R-893 northern work area, and approximately 50 feet of trench would be excavated for installation of the pipeline in the R-893 southern work area. Trenching would begin by removing approximately 6 to 12 inches of topsoil (depending on landowner preferences and environmental considerations) and separating it on the edge of the construction area for replacement following construction. The excavated subsoil would be maintained in a separate windrow to be used as trench backfill. Trenches excavated for installation of the new pipe would typically be between 5 to 10 feet deep and extend to approximately 3 feet below the bottom of the pipeline to allow for adequate construction access. Subsoils from the second excavation would also be placed in a separate windrow until they are ultimately returned to the trench as native backfill.

While generally not expected, groundwater could be encountered during trenching. If encountered, groundwater would either be used for dust control or conveyed via piping into temporary storage tanks before it is tested and hauled off-site for disposal at an approved facility or discharged to a sewer drain connecting to a publicly owned treatment network. All water generated during construction activities would be tested and discharged appropriately in accordance with applicable state and federal laws.

Auger Bore Process

Auger boring would be used for the installation of pipeline beneath I-580 and approximately 30 feet of a large ephemeral drainage, Arroyo Las Positas. Boring would require excavation of an entry pit (60 feet wide by 25 feet long) and exit pit (20 feet wide by 10 feet long) down to the new pipeline depth. A 24-inch metal-coated pipe would be welded and pushed into the bore in 40-foot sections. Crews would weld and coat each pipe joint prior to the pipe being pushed into the bore. Tie-in welds would be performed and coated at either end of the bore. Bore pits would

be excavated to approximately 28 feet below the bottom of the pipeline, no less than 10 feet below the streambed, to allow for adequate construction access. PG&E will develop a frac-out contingency plan in case of inadvertent fracture through alluvium or bedrock below the channel. After installation of the pipeline, excavated subsoil would be placed into the bore pits followed by placement of topsoil to restore the original grade to approximate pre-project contours.

Hydrostatic Testing

Before becoming part of PG&E's integrated gas transmission system, the newly installed pipeline segments would be hydrostatically pressure-tested (hydrotested) with water to verify the maximum operation pressure and confirm that the pipeline is free of leaks. The hydrostatic test process involves filling the pipeline with water and slowly raising the pressure to the appropriate test pressure, which is typically 1.5 times the maximum operating pressure, for a minimum of 8 hours. Hydrostatic testing water (an estimated 18,800 gallons) would be obtained through a local water supply municipality/company and trucked to the work area. At the end of the test, the pipeline segments would be emptied of water and the water would be collected in temporary storage tanks. The water would then be tested before being hauled off-site to an appropriate disposal site, discharged to a sewer drain connecting to a publicly owned treatment network, or used on-site for dust control. If hydrostatic test water is used for on-site dust control, free standing water would not be allowed to collect on-site or allowed to enter adjacent swales or stream zones.

Backfilling

After installing the pipeline, excavated subsoil would be placed into the trenches followed by placement of topsoil, if separated, to restore approximate pre-project contours and grade. Backfill material would be composed primarily of the excavated trench spoils. Imported material would be used as backfill, if necessary, for installation and safety of the pipeline during construction and would be used in accordance with APM GEO-1: Backfill Operations (refer to Section 2.7 below for a description). Unusable spoils material or contaminated soils would be disposed of according to applicable regulations. Before being returned to the trench, spoils would be screened using standard construction screening equipment. Soil that is free of rocks would be separated out to be used to create a padding and shading zone around the pipeline. This would protect the pipeline from abrasion and other damage, which could compromise the coating. The pipeline would be covered along the sides with a maximum of 6 inches of native, rock-free fill and then covered with a minimum of 12 inches of additional dirt fill. In certain areas where damage might occur to the coating from abrasive spoils, clean sand or earth backfill would be used to pad the pipeline. Any padding material not obtained from trenching spoils would be purchased from local commercial sources. Previously separated topsoil would then be placed on top of the trench spoils to promote revegetation.

New Pipeline Connection

A segment of the existing L-131 pipeline would be temporarily taken out of service when connecting the newly installed pipeline to the existing pipeline. In taking the pipeline temporarily out of service, approximately 825 feet of the existing pipeline would be isolated and purged of natural gas. Purged gas would be safely released from points on the pipeline located at the Vasco Station and/or the East Airway Boulevard Station (South of I-580). The inline pressure would be drawn down to 125 pounds per square inch (psi) when purged. The natural gas would not be flared. The typical procedure for isolating and purging a section of pipeline begins with allowing the system or customers to draft and draw down the pressure in the pipeline by simply consuming gas. Once the system's draw or consumption of gas lowers the pressure in the pipeline to approximately 100-125 psi, the pipeline would be fully isolated and purging or release of the remaining gas in the now isolated section would take place. This procedure of lowering the pipeline pressure by the system itself minimizes the amount of gas eventually released and vented. The maximum pressure that would be purged is 125 psi. The pressure would then be brought to 0 psi and tested using an electronic gas detector to confirm there is no methane left in the pipeline. The newly installed pipeline would be extended and welded to the existing pipeline at both ends of R-893. Gas would then be conveyed into the new pipeline segment for operation.

To confirm that natural gas is not leaking out of the pressurized portion of the L-131 pipeline, PG&E would excavate a sniff hole within the construction area about 100 feet east of the pipeline northern tie-in point to the R-649 segment of the Original Project. At the sniff hole location, a probe with an electronic gas detector would be inserted into the existing pipeline to detect gas leaks. This early detection would enable PG&E personnel to take appropriate measures

to avoid safety hazards. After the new pipeline is operational, the probe would be removed, and the sniff hole excavation would be backfilled.

Pipeline Retirement

Retired sections of the L-131 pipeline may require cleaning to remove contaminants, such as mercury, that may have built up inside the pipeline. If cleaning is necessary, Pipe Internal Gauge (PIG) launchers and receivers would be temporarily installed on the deactivated pipeline to insert PIGs and liquids (water or cleaning fluids) into the pipeline. Air compressors staged at both the launching and receiving ends of each cleaning section would propel the PIGs and liquids through the pipeline. Multiple cleaning runs may be necessary to remove all contaminants. Upon completion of each PIG run, the PIGs and liquids would be removed from the pipeline and collected in temporary storage tanks connected to PIG receivers by temporary pipes/hoses. Secondary containment such as rubber berms with lips, larger layflat hose, or other suitable materials would be used. PIGs and liquids would be sampled and disposed of off-site in accordance with all environmental regulations. Pipeline cleaning is anticipated to require approximately 16,000 gallons of water.

Once the new 24-inch pipeline is installed, tied-in, and operational, the existing 24-inch pipeline would be retired. The pipe would be abandoned in-place and would be filled with cellular concrete slurry to prevent potential settling from potential long-term corrosion of the deactivated pipe.

Site Restoration

Immediately following construction activities, construction equipment and materials would be removed from all work areas, and site restoration would be initiated. All temporarily affected work areas would be restored to approximate pre-project conditions, and all areas subject to ground disturbance would be revegetated with hydroseeding or hand seeding using an appropriate seed mix that would be regulated through a Vegetation Restoration Plan subject to CDFW approval. No container stock would be used for revegetation to limit potential for introduction of pathogens during restoration.

Schedule

Construction would take 3 months and is expected to occur in 2021 or 2022 during the dry season (typically April 15-October 15). All work related to the R-893 component would occur during daytime hours, unless operational, safety, or emergency conditions warrant night work such as work within or adjacent to roadways where an encroachment permit requires nighttime construction to reduce traffic congestion. During construction of the R-893 component, crews would typically work from 7:00 a.m. to 5:30 p.m., Monday through Saturday. Occasionally, work may extend beyond these hours to complete a necessary task for safety reasons or other urgent requirements (i.e., completing a weld, hydrotest, or scheduled pipeline clearance/outages and tie-in work) and would be allowed from half an hour after sunrise to half an hour before sunset. Sunday work may also be required.

Construction would begin following approval of permits from regulatory agencies and other entitlements, final engineering, and procurement activities. Although PG&E is not required to comply with local regulations, to the extent feasible, all proposed construction activities would be completed within work times that are consistent with the hours described in Chapter 6.60 of the Alameda County Municipal Code and the City of Livermore's Municipal Code Chapter 9.36.

Construction Management and Equipment

Construction contractors would prepare the R-893 site, deliver and install pipe, retire the existing pipeline, and complete final cleanup and restoration of the R-893 site. It is projected that approximately 20-25 workers per day would be on-site for a period of 3 months. The following types of construction equipment would be used:

- Air Compressor
- Backhoe
- Bore Rig
- Bulldozer
- Excavator
- Flat Bed Truck
- Forklift
- Grader
- Heavy Duty Truck
- Light Duty Truck
- Pipe Bender
- Polaris Razor
- Semi-Truck
- Side Boom
- 10-wheel Dump Truck
- Tractor Trailer
- Trailer
- Trencher
- Vibratory Compactor
- Welding Rig

During construction, all employees would park within the R-893 site boundary. Equipment used during construction activities would stay within the R-893 work areas and access roads.

COMPLIANCE MONITORING

Once construction is complete for this project component, compliance monitoring will be conducted for the Amended project to verify compliance with the biological APMs and mitigation measures (MMs) proposed in Chapters 2 and 3 of this Subsequent IS/MND, and with the CEQA mitigation monitoring and reporting program (MMRP) for the Amended Project. Compliance monitoring will include site visits and documentation by monitors accountable directly to CDFW to verify compliance with APMs and MMs and/or to identify any compliance issues.

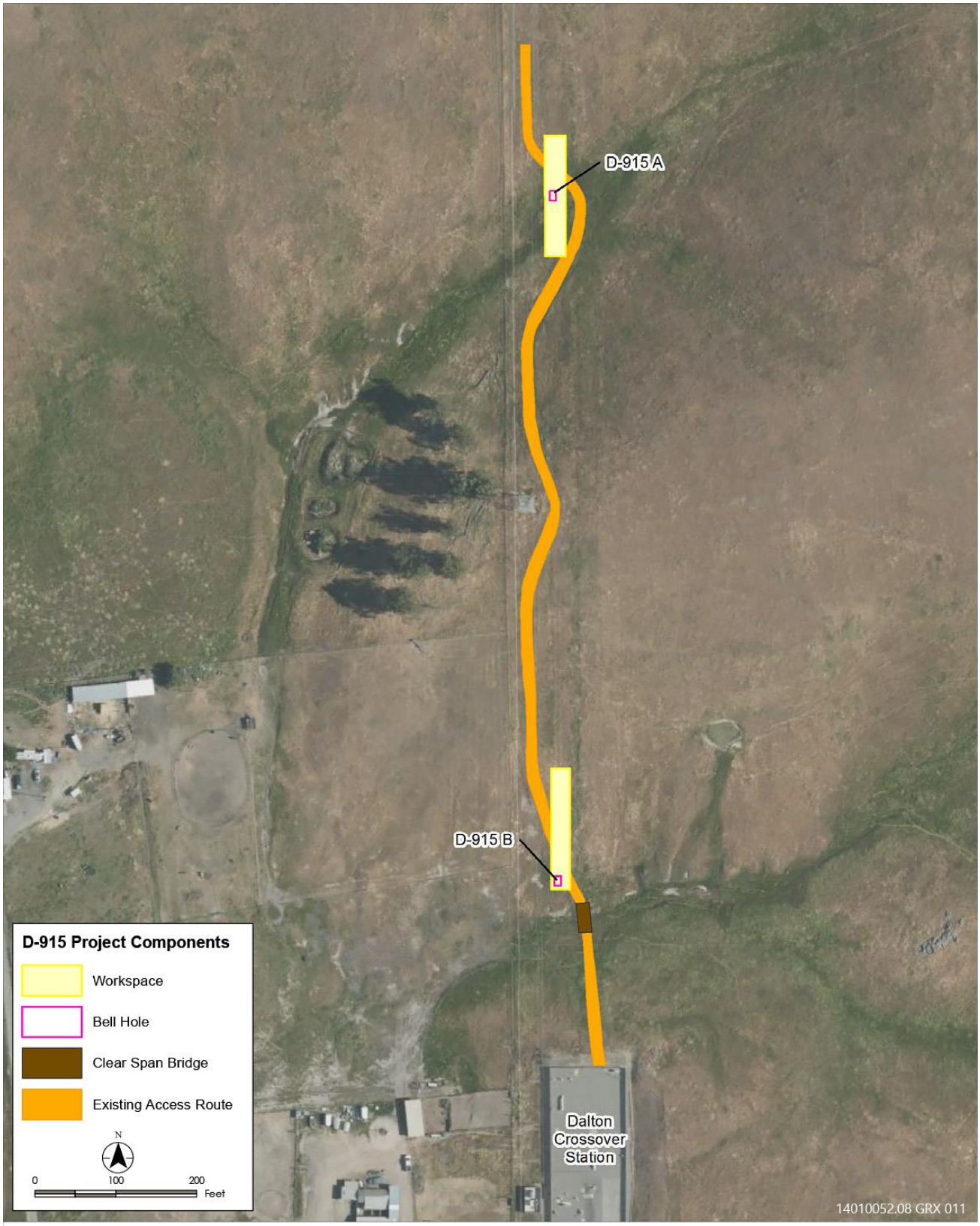
OPERATIONS AND MAINTENANCE

Once in operation, PG&E proposes to maintain an approximate 45-foot-wide permanent easement to connect to the existing 45-foot-wide easement (in the northern work area) and a 15-foot-wide permanent easement or franchise agreement (within Caltrans ROW) along the length of the new pipeline alignment.

The level of vehicle activity entering and leaving the site during operations would be limited to infrequent scheduled and emergency maintenance visits and would be similar to existing maintenance. Emergency maintenance could occur at any time, as needed; however, maintenance and emergency service during daylight hours would be encouraged, to maximize worker safety.

2.5.2 D-915 Component

The second new component is maintenance of the L-114 pipeline, and also excavation, visual assessment, and potential repairs on approximately 24 feet of the L-114 pipeline. This work area is at a completely separate location from the Original Project. Activities at the D-915 site would consist of exposing two 12-foot-long sections of pipeline by excavating two 12-foot by 8-foot bell holes at MPs 28.73 and 28.88. The northern excavation is Location A and the southern excavation is Location B (Figure 2-4). Examination of the pipeline would include removing pipeline coating, performing an inspection to identify corrosion, dents, manufacturing anomalies, and pipe body and weld cracks. Pipeline repairs would be made as designated by the In-Line Inspection engineer. The site would be backfilled and restored to the approximate pre-project conditions.



Source: Stantec 2021

Figure 2-4 D-915 Site Detail

CONSTRUCTION AREAS

Temporary Construction Areas

Within the 5.804 acre study area, temporary construction activities would occur within an approximate 0.38-acre area consisting of two work areas (Figure 2-4), and an approximate 10-foot-wide access road. The two work areas (covering a total of 7,500 square feet or 0.17 acre) would allow for crew parking and meetings, storage of equipment and materials, additional stockpiling of soils, and workspace for other pipeline preparation activities. These areas are referred to as Location A (northern area) and Location B (southern area).

Easements and Permits

PG&E has an existing 45-foot easement for the L-114 pipeline and a 52.5-foot easement for the L-303 pipeline that runs parallel to L-114. The total easement width in this area is 97.5-feet. All D-915 component work and site access would occur within the existing PG&E easement.

Site Access

The D-915 site would be accessed from the corner of Raymond Road and Ames Street through the Dalton Crossover Station to the north. An existing approximate 10-foot-wide, dirt access route used by the landowner would be utilized for access to the project workspaces. This access route extends from the Dalton Crossover Station north to Location B for approximately 290 feet and continues an additional 850 feet from Location B north to Location A (Figure 2-4). The access route crosses an alkali seasonal wetland swale that supports special-status plant species. A temporary clear span bridge that would facilitate the crossing may be used at the time of construction to prevent impacts to species and topography.

Water Source

If water is needed for dust control or potholing during construction, no more than 5,000 to 10,000 gallons per day would be used. If needed, water would be obtained through a local water supply municipality (City of Livermore) and trucked to the D-915 site.

Site Preparation and Maintenance

The work and staging areas are predominately flat, grazing or dryland agricultural fields within otherwise sloping hills. The first phase of construction would be to prepare the site for staging of construction equipment and crews. Preparation of the construction areas would consist of mowing, debris disposal, topsoil salvaging and separation at locations where required by landowners or environmental approvals, and installation of erosion control measures. If needed, existing fencing would be temporarily removed to accommodate construction activities and then restored upon project completion. Vegetation removed at the D-915 site would consist of grasses and other herbaceous vegetation. Mowing of vegetation would occur within and outside of designated work areas, as deemed necessary for fire protection. The upper layer of topsoil (approximately 6 to 12 inches) would be stripped from the work areas where requested by landowners or required by environmental approvals. The excavated subsoil would be maintained in a separate windrow to be used as trench backfill and for passive reseeding of native plants following repair of the pipeline. Erosion controls would be installed and maintained throughout construction as discussed above for R-893. Portable restroom facilities and waste containers would also be placed and maintained as discussed above for R-893.

CONSTRUCTION ACTIVITIES

Potholing and Trenching

The existing L-114 pipeline would be located using the potholing technique described above for R-893. As with the R-893 component, topsoil and subsoil would be removed and separated to be used as backfill. Trenches excavated for pipeline repairs would typically be about 8.5 feet deep.

While generally not expected, if groundwater is encountered during trenching, it would be used for dust control or hauled off-site for disposal as described above.

Inspection

Once exposed, the pipeline coating would be removed to perform a direct inspection of the pipeline in accordance with in-line inspection procedures. Repairs would be made as needed per the direction of the engineer after the pipeline has been exposed and examined.

Backfilling

After examining the pipeline and making any necessary repairs, excavated subsoil would be placed into the trenches followed by placement of topsoil, if separated, to restore to approximate pre-project contours and grade. Imported material would be used as backfill, if necessary, for installation and safety of the pipeline during construction and would be used in accordance with APM GEO-1: Backfill Operations (refer to Section 2.7 below for a description). Unusable spoils material or contaminated soils would be disposed of according to applicable regulations. Before being returned to the trench, spoils would be screened and separated as described above for R-893.

Site Restoration

Site restoration would begin immediately after the construction activities. Construction equipment and materials would be removed from all work areas immediately following construction activities. All temporarily affected work areas would be restored to approximate pre-project conditions as described above.

Schedule

Construction would take 1 month and is expected to occur during the spring and/or summer of 2021, with specific timing consistent with Applicant Proposed Measures. All work related to the D-915 component would occur during daytime hours Monday through Saturday as described for R-893, unless operational, safety, or emergency conditions warrant night work.

Construction Management and Equipment

Construction contractors would prepare the D-915 site, inspect the pipeline, make repairs, and complete final cleanup and restoration of the site. It is projected that approximately 7-8 workers per day would be on-site for 1 month. The following types of construction equipment would be used:

- 10-wheel Dump Truck
- Air Compressor
- Backhoe
- Bulldozer
- Excavator
- Flat Bed Truck
- Forklift
- Grader
- Heavy Duty Truck
- Light Duty Truck
- Trailer
- Trencher
- Vibratory Compactor

COMPLIANCE MONITORING

As described above for this project component, once construction is complete, compliance monitoring will be conducted for the Amended Project to verify compliance with the biological APMs and MMs proposed in Chapters 2 and 3 of this Subsequent IS/MND, and with the CEQA MMRP for the Amended Project. Compliance monitoring will include site visits and documentation by monitors accountable directly to CDFW to verify compliance with APMs and MMs and/or to identify any compliance issues.

OPERATIONS AND MAINTENANCE

Once in operation, PG&E would maintain the 97.5-foot-wide permanent easement along the length of the existing pipeline alignments.

The level of vehicle activity entering and leaving the site during operations would be limited to infrequent scheduled and emergency maintenance visits.

2.6 REQUIRED ACTIONS

Agency approvals/actions for the Amended Project would include, but are not limited to, the following:

- CDFW Amendment and Extension to 2018 Incidental Take Permit.
- Alameda County Public Works Agency Encroachment Permit.
- California Department of Transportation Encroachment Permit.
- Bay Area Air Quality Management District (BAAQMD) Authority to Construct

2.7 APPLICANT PROPOSED MEASURES

PG&E identified APMs for the Original Project that would be implemented before, during, and after construction of the Amended Project to avoid and minimize potential impacts to environmental resources. Most of the APMs listed below were included in the 2018 IS/MND. PG&E's APMs include construction techniques, avoidance measures, and best management practices (BMPs), as well as the requirements of applicable agency permits that would be implemented during construction. In some cases, changes to APM text were required to address new conditions or circumstances. To avoid major revision of previous numbering, new/supplemental APMs have letters after the number (e.g., APM BIO-12A). Twelve new APMs, beginning with APM BIO-16, pertain to resources not identified in the Original Project or may have been MMs in the 2018 IS/MND. The proposed APMs listed below are incorporated into the Amended Project and referenced in Chapter 3, where applicable. Additionally, the Amended Project is located within PG&E's Bay Area Habitat Conservation Plan (BAHCP) area, which provides coverage for select federally listed plants and wildlife during general operations and maintenance work on gas and electric facilities. Additional details of implementation for select species is described under APM BIO-25: California Red-Legged Frog Protection, Avoidance, and Compensation.

The following APM's would be implemented as part of the Amended Project:

- APM AES-1: Construction Area Cleanup. Construction and staging areas shall be maintained in a clean condition with regular cleanup after construction activities to minimize clutter. Construction waste and debris would not be left in the open visible places and will be disposed of as soon as possible or contained in bins. All staging areas shall be reclaimed to approximate pre-project conditions immediately following completion of their use, unless otherwise requested by landowners.
- APM AIR-1: BAAQMD Basic Control Measures. The following BAAQMD basic control measures will be implemented with the Amended Project:
  - All exposed surfaces (i.e., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day, or more if necessary. Watering shall be done in such a manner that no puddles are formed and impacts to wetlands and waters are avoided. Chemical additives used for dust suppression must be reviewed and approved by CDFW and shall not cause harm to sensitive species or habitats.
  - All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
  - All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A publicly visible sign shall be posted with the telephone number and person to contact at PG&E regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

- APM AIR-2: Minimize Exhaust Emissions. Exhaust emissions shall be minimized during construction activities with the use of off-road equipment engines that meet or exceed [California Air Resources Board (CARB)] Tier 3 or Tier 4 engine emissions standards for large (greater than 120 HP) off-road equipment. At a minimum, all welding rigs, dozers, and graders shall be certified as compliant with the Tier 4 engine emissions standards, as provided in the California Code of Regulations, Title 13, Section 2423(b)(1)(B). Engines can achieve these standards through the use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
- APM BIO-1: Worker Education and Training. PG&E will develop a construction employee education program, which covers all sensitive environmental resources potentially onsite and the measures and regulations associated with their protection (i.e., from APMs, MMs, statute and regulation). The training will be a component of weekly project meetings and will be provided to everyone working onsite. At minimum, the training program will include:
  - A sign-in sheet to document the attendance for all employees who attend.
  - A brief presentation, to be conducted by persons knowledgeable in the sensitive environmental resources described in the Subsequent IS/MND or protected by statute or regulation, to explain necessary protections to contractors, their employees, and agency personnel involved in the project.
  - For biological resources, the program will include:
    - A description of local and special-status species and their habitat needs;
    - An explanation of the status of each special-status species and their protection under ESA and CESA and a list of measures being taken to reduce effects during construction and implementation and penalties for non-compliance; and
    - Fact sheets conveying this information and an educational brochure containing color photographs of all special-status species in the project area will be prepared for distribution to the training attendees and anyone else who may enter the project area.
- APM BIO-1A: Biological Monitoring. A CDFW-approved biological monitor ("approved biologist") shall be present onsite during vegetation removal and initial ground disturbing activities within habitat for special-status wildlife and plant species. Once ground is disturbed, including scraping of soil and excavation by construction equipment, an approved biologist will inspect and clear sites for wildlife prior to beginning of construction each day and may move between construction sites. An approved biologist must be within the overall project area at all times when construction is occurring. The approved biologist shall:
  - Observe ground disturbing activities and make sure all appropriate protections are in place and permit conditions are followed.

- Have experience with the species being surveyed for.
- Have the authority to stop any work that may impact wildlife species.
- Have the authority to suggest alternative work practices after consultation with construction personnel, as appropriate, if construction activities are likely to impact sensitive biological resources, and to make those suggestions known to CDFW. If the approved biologist exercises this authority, the PG&E project biologist shall be notified immediately, and PG&E shall notify, by telephone or electronic mail, CDFW within 1 working day.
- Be the contact for any employee or contractor who might inadvertently kill or injure a special-status species or anyone who finds a dead, injured, or entrapped special-status species.
- In active construction areas, inspect the area beneath equipment and vehicles for wildlife at the beginning of every work day and prior to beginning of ground disturbing activities.
- Possess a working wireless/mobile phone. This phone number, in addition to the PG&E project biologist's phone number, shall be provided to CDFW.
- Document all APM, MM, and permit condition compliance and any corrective actions and include these records in regular reporting to CDFW.
- PG&E shall also provide full access to CDFW staff and its agents for ongoing compliance inspection purposes throughout project preparation, implementation and restoration phases.

- APM BIO-2: Pipe Storage and Inspection. Pipes, culverts, and similar materials shall be stored to prevent wildlife from using these as temporary refuges (i.e., securely capped where possible). These materials will be inspected each morning for the presence of animals prior to being moved, buried or capped.
- APM BIO-3: Prohibited Activities. The following shall not be allowed in or near the project area: trash dumping, firearms, open fires (such as barbecues), hunting, and pets.
- APM BIO-4: Debris Abatement. All trash and debris within the project area shall be placed in containers with secure lids before the end of each work day to reduce the likelihood of wildlife being attracted to the site by discarded food wrappers and other rubbish that may be left on-site. Containers will be emptied as necessary to prevent overflow. All trash shall be disposed of at an appropriate off-site location.
- APM BIO-5: Vehicle Parking. Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas or areas approved by the biological monitor after determining wildlife or habitat resources will not be adversely affected.
- APM BIO-6: Off-Road Travel. Off-road vehicle travel shall be minimized. If off-road vehicle travel is necessary, it will be confined to the PG&E-designated overland access routes visible in Figures 2-3 and 2-4.
- APM BIO-7: Speed Limits. Vehicles shall not exceed a speed limit of 15 mph in undeveloped portions of the workspaces (i.e., unpaved access roads).
- APM BIO-8: Vehicle Cleaning. Vehicles shall arrive in sensitive vegetation habitats (i.e., sensitive natural communities and areas with special-status plant populations) clean of muddy debris. If work occurs in project areas with heavy weed infestation, vehicles will be cleaned before moving to a sensitive habitat if that area does not contain a substantial weed component. Degree of infestation by noxious weeds (defined as those that are listed on the Cal-IPC high or moderate lists) across the entirety of the project alignment shall be determined by a biologist prior to construction (see MM BIO-1). Cleaning will occur by brushing, washing, or other means of manual or mechanical removal and shall be confirmed clean by a biological monitor before entering sensitive habitats.
- APM BIO-9: Night Work Restriction. All construction activities shall cease 30 minutes before sunset and will not begin prior to 30 minutes after sunrise. If construction cannot be avoided because of safety or emergency reasons, it shall proceed only for the minimum time necessary to abate the risk to safety or emergency. If standard nighttime construction cannot be avoided, night work will be limited to a maximum of a total of 7 nights at each individual work area. Night work shall be limited in extent, duration, and brightness. Prior to commencing

night work, PG&E will provide CDFW with notice of where and when work will occur, and measures implemented to protect sensitive biological resources. If more than 7 total nights of work are necessary at any work area with habitats that support nesting birds or sensitive species, due to requirements in local permits or unforeseen circumstances, additional nights of work will only occur if approved by CDFW and assuming adherence to other regulatory entities with jurisdiction. Lighting shall be faced downward and will only be used in the immediate workspace to achieve a safe working environment. A CDFW-approved biologist will be present during all construction activities in areas with sensitive species habitat including all night work and will ensure that lighting is used to the minimum extent feasible.

- APM BIO-10: Refueling and Equipment Maintenance. Vehicle and equipment fueling, and maintenance operations shall be conducted in designated areas only; these will be equipped with appropriate spill control materials and containment. Vehicles or equipment shall not be refueled within 150 feet of a wetland, stream, or other waterway unless a bermed and lined refueling area is constructed.
- APM BIO-11: Erosion Control Materials. Plastic mono-filament netting (erosion control matting) or similar material containing netting shall not be used at the project. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds that are non-toxic and approved by CDFW.
- APM BIO-12: Stockpiling. Stockpiling of material shall occur outside of seasonal swales and ephemeral drainages.
- APM BIO-12A: Work in Dry Weather. During the dry season (April 15 – October 15), PG&E shall limit construction activities to periods of low rainfall (less than 0.10 inch per 24-hour period). Ground disturbing activities may resume 48 hours after the rain ceases when there is a less than 40 percent chance of precipitation in the 24-hour forecast.
- APM BIO-13: Access Across and Avoidance of Jurisdictional Features. Access across the alkali seasonal wetland swale along the D-915 Locations A and B access route shall occur during the dry season, when no flowing or standing water is anticipated, to avoid any significant alteration of the bed, channel, or bank of this feature. The project shall utilize an existing, two-track, dirt, access route to access the Locations A and B from the Dalton Crossover Station. Heavy construction equipment shall minimize travel through the crossing to an extent feasible, with the frequency subject to written CDFW approval. A temporary clear-span bridge will be installed to further prevent any impacts to the feature unless PG&E requests and receives approval for a variance to this requirement due to seasonal desiccation of swale wetland moisture and vegetation.
- APM BIO-14: Work Area Delineation. The project area shall be delineated with high visibility temporary flagging or other barriers, such as T-post and rope (where cattle are not present), to prevent encroachment of construction personnel and equipment outside of the project area. Flagging or other materials will be inspected and maintained daily until completion of the project. The materials will be removed only when all construction equipment is removed from the site.
- APM BIO-15: Seasonal Work Restriction. Grading and construction activities shall be conducted during the dry season, between April 15 and October 15 to the extent possible. Should work need to occur outside of this period, PG&E will request authorization from CDFW at least 10 days prior of the date of the proposed extension, for intervals of up to 1 week. Work will only be conducted in accordance with CDFW approval and shall be subject to weather conditions.
- APM BIO-16: Rare and Special-Status Botanical Surveys and Avoidance. Prior to project implementation, a qualified botanist shall conduct a survey for rare and special-status plants (as defined in Section 3.4.1 below) that have the potential to occur at the project area, in order to supplement and update the protocol level surveys conducted in 2018 and ensure that no additional special-status plant species are present. Botanical surveys shall be floristic in nature and consistent with CDFW's *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities*. The surveys shall be seasonally appropriate and conducted at the appropriate time of year when botanicals are both evident and identifiable (i.e., blooming, flowering, or fruiting) to the extent possible. If rare or special-status botanical species are found, they shall be flagged and appropriate buffers shall be established in consultation with the botanist and CDFW. CDFW shall be notified of the occurrence of special-status plants within five (5) days of discovery.

- APM BIO-17: Pre-Activity Wildlife Surveys. Within 14 days prior to any construction or staging activities, a CDFW-approved biologist shall conduct a preconstruction survey for special-status wildlife species (except California tiger salamander, covered by MM BIO-6, see Section 3.4) in the active construction work areas. Survey results may be documented in a brief memo or monitoring form and shall note the occurrence, location, or indication (e.g., active nest, occupied burrow of any special-status species). If a special-status wildlife species is observed, work shall not begin until the species departs the construction area or is moved, if necessary, permits have been obtained, out of the construction area to a CDFW-approved relocation site. If at any point construction activities cease for more than 7 days, additional surveys shall be conducted prior to the resumption of these actions.
- APM BIO-18: Entrapment Avoidance. To prevent the accidental entrapment of wildlife during construction, all excavated holes or trenches deeper than 6 inches shall be covered at the end of each workday with plywood or similar materials and completely buried or otherwise sealed around the perimeters. Larger excavations that cannot easily be covered shall be ramped at the end of the workday to allow trapped animals to escape and must be checked at intervals of no less than 24 hours. Ramps for open excavations shall be soil and/or rough plank ramps with a maximum 45-degree angle and shall be installed at intervals of no less than 30- to 45-inches apart unless otherwise authorized by CDFW. Trenches shall be backfilled as soon as possible. Construction personnel shall inspect open holes and trenches for wildlife prior to backfilling. If a special-status species is discovered in a trench or excavation, work in the area shall be redirected, and the animal shall be allowed to leave the trench and the area of its own accord or be relocated by the approved biologist in accordance with agency approvals. In the event a California tiger salamander is trapped in a trench or an excavation and unable to leave on its own accord, it shall be relocated according to MM BIO-7.
- APM BIO-19: Implement Wildlife Barriers. This APM is consistent with the MM BIO-8, Wildlife Fencing for California tiger salamander. At least 15 days prior to commencing any ground disturbing project activities, PG&E shall submit to CDFW a barrier proposal that shall address the level of need for wildlife exclusion fencing at all project areas. A qualified biologist shall evaluate site and planned work activities to determine the wildlife exclusion barrier proposal and consider season of work, special-status species occurrence to date, time, duration of site activity, and implications for wildlife movement in the proposal. A recommendation not to install fencing may be made if the effects of fencing installation could be greater in extent or duration than those associated with planned work activities.

  Fencing will be installed prior to ground disturbing activities (mowing is not considered ground disturbance). Fencing will be installed using a trencher or hand digging. Fences will be made from silt fence, geotextile fabric, plastic mesh, or other similar materials and will not use plastic monofilament netting. The fencing shall include multiple escape funnels, ramp, or another method if approved by CDFW to allow wildlife to leave the project area. Fencing will be at least 3 feet in height, with the lower edge buried 6 inches underground. The remaining 2.5 feet will be left above ground to serve as a barrier for animals moving on the ground surface. Gates will be installed within exclusion fencing where necessary for access. Gates will not be buried but will include a flexible rubber strip extending from its lower edge so that it lies flat against the ground when the gate is closed. Materials such as gravel bags will be placed on the edge of the gate when closed to form a seal with the ground. PG&E shall maintain the barrier, and repair openings as soon as possible to ensure that it is functional and without defects. Any animal found along the barrier shall be relocated in accordance with its Relocation Plan, if any, or moved to a nearby suitable location by the qualified biologist. Location and design of the barriers shall be included within the proposal. The barrier shall be installed under the supervision of a qualified biologist. Following fence installation, the qualified biologist(s) shall block holes or burrows entrances within project area, of burrows avoided by construction activities, if any, that appear to extend under the barrier to minimize animal movement into the project area. The barrier shall be checked regularly (not less than 3 times per week) to look for animals and to ensure barrier integrity. Inspection intervals shall be based upon the planned construction activities at each site, recent and forecasted weather events, and the results of preconstruction surveys and previous inspections. The barriers shall be continuously maintained until all construction activities are completed, and then removed as soon as possible, but no later than 7 days after activities have ceased, unless required to remain longer to ensure Stormwater Pollution Prevention Plan compliance. The barrier shall continue to be checked regularly until it is removed.

- APM BIO-20: Conduct Preconstruction Surveys for Vernal Pool Fairy Shrimp and Longhorn Fairy Shrimp. Preconstruction surveys will be performed prior to groundbreaking activities, as described below. All surveys will be conducted by a qualified biologist. Vernal pools and depressions capable of sustaining either species of shrimp identified during preconstruction surveys will be reported to CDFW, and reported to the [California Natural Diversity Database (CNDDB)]. The surveys will be conducted to determine presence or absence of suitable habitat for vernal pool species.

  A qualified biologist will establish a 250-foot buffer from the outer edge of any vernal pools, vernal swales or significant ponded depressions identified within the project area. Buffers will be marked by brightly colored fencing or flagging throughout the construction activities.

  If maintaining the buffer is not possible because the habitats are either in or adjacent to the Work Areas, the vernal pools and/or vernal swales will be flagged in addition to in the execution of APM BIO-14, foot access will be implemented where feasible, and work will be restricted to the dry season. Activities must maintain the downstream hydrology to the vernal pool or complex.

  Written results of the surveys will be submitted to CDFW within 1 week of the completion of surveys and prior to the beginning of ground disturbance and/or construction activities likely to affect any habitat feature for either of the shrimp species.

- APM BIO-21: Conduct Preconstruction Surveys for Nesting Birds. If construction activities are scheduled to occur between February 1 and August 31, preconstruction nesting bird surveys shall be conducted by a qualified biologist no more than 7 days prior to the start of construction activities at any location, covering a radius from the work area boundary of 0.5 mile for golden eagles, 500 feet for raptors, and 250 feet for passerines. If any active nests containing eggs or young are found, an appropriate nest exclusion zone shall be established by the qualified biologist in accordance with *PG&E Draft Avian Conservation Strategy: Guidelines for Bird Protection and Mitigation* (ICF International 2013) and in coordination with CDFW. No project vehicles or heavy equipment shall be operated in this exclusion zone until the biologist has determined that the nest is no longer active and or the young have fledged.

- APM BIO-22: Conduct Preconstruction Surveys for Burrowing Owl and Implement Impact Avoidance, Minimization and Mitigation. Prior to construction at any time of the year, a qualified biologist shall conduct a survey consistent with CDFW's Staff Report on Burrowing Owl Mitigation (Mitigation Guidelines; CDFW 2012) in areas with suitable habitat for burrowing owl to determine the presence/absence of active burrowing owl nesting or wintering burrows within 250 feet of any ground disturbance. Results of nest surveys and planned no-disturbance setbacks shall be submitted to CDFW.

  If burrowing owls are present within 250 feet of the project area, work shall not commence or resume in this zone until one of the following occurs:

  1. An Avoidance Plan shall be approved by CDFW and implemented by PG&E. The objective of the PG&E-prepared Avoidance Plan shall be to identify what, if any, level of work can begin or resume without disruption of nesting activity or burrow occupancy. The Avoidance Plan shall consider the type and extent of the proposed activity, the duration and timing of the activity, the nesting status of the owls, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities, significant aspects of site such as topography, or prevailing wind direction to minimize the potential to affect the reproductive success of the owls. Further steps shall be coordinated with CDFW. The Plan shall include monitoring to be conducted prior to, during, and after initiation or re-initiation of project activity sufficient to ensure take is avoided. The biologist shall monitor all work activities in these zones daily when construction is occurring and assess their effect on the nesting birds. If the biologist observes any indication that behaviors are changing relative to baseline behaviors observed prior to project activity (e.g., female flapping of wings in an agitated manner, extended concentrated staring at project activities, distress calls, continuous circling over the area of disturbance), or otherwise determines that particular activities pose a risk of disturbing an active nest, project activity shall cease immediately. Permittee efforts to minimize nest abandonment does not eliminate or reduce the risk of prosecution in case nest abandonment occurs. The biologist may then

recommend additional measures to minimize the risk of nest disturbance and those measures shall be implemented. If work cannot proceed without disturbing the nesting birds, or signs of disturbance are observed by the monitor, work shall be halted or redirected to other areas until the nesting is completed.

2. A PG&E Biologist submits a Burrowing Owl Exclusion Plan (see Appendix E of the Staff Report on Burrowing Owl Mitigation, Department of Fish and Game, March 2012) and a Burrowing Owl Impact Mitigation Plan based on Appendix F of the Staff Report on Burrowing Owl Mitigation (Department of Fish and Game, March 2012) to CDFW and the plans are approved by CDFW prior to project commencement or re-initiation. Exclusion of nesting burrowing owls is not allowed.

- APM BIO-23: American Badger Impact Avoidance, Minimization and Mitigation. If potential American badger dens are located within the project area and cannot be avoided during construction, a biologist shall determine if the dens are active. If active, a 250-foot no-activity buffer (or smaller, if approved by CDFW) shall be observed around the den, if possible. If the den cannot be avoided, the entrances of the dens will be blocked with soil, sticks, and debris for 3 to 5 days to discourage the use of these dens prior to project disturbance activities. The den entrances will be blocked to an incrementally greater degree over the 3 to 5-day period. No disturbance of active dens will take place when cubs may be present and dependent on parental care, as determined by the qualified biologist.
- APM BIO-24: Conduct Preconstruction Surveys for San Joaquin Kit Fox. Preconstruction surveys will be performed prior to groundbreaking activities, as described below. All surveys will be conducted by a qualified biologist. Special-status species identified during preconstruction surveys will be reported CDFW, as appropriate, and reported to the CNDDB.

  A qualified biologist will conduct a preconstruction survey of the project area, including a 200-foot buffer area no more than 30 days prior to ground disturbance or any activity likely to affect San Joaquin kit fox and just prior to the start of work activities. The biologist will conduct den searches by systematically walking transects spaced 30 to 100 feet apart through the survey area. Transect distance will be determined on the basis of the height of vegetation such that 100 percent visual coverage of the project area is achieved. If dens are found during the survey, the biologist will map the location of each den as well as record the size and shape of the den entrance; the presence of tracks, scat, and prey remains; and if the den was recently excavated. The biologist will also record information on prey availability (e.g., ground squirrel colonies). The status of the den as defined by [U.S. Fish and Wildlife Service (USFWS)] and CDFW will also be determined and recorded. Dens will be classified in one of the following four den status categories:

  1. Potential den: Any subterranean hole within the species' range that has entrances of appropriate dimensions for which available evidence is sufficient to conclude that it is being used or has been used by a San Joaquin kit fox. Potential dens comprise: (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, or ground squirrel) that otherwise has appropriate characteristics for San Joaquin kit fox use.
  2. Known den: Any existing natural den or artificial structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records; past or current radio telemetry or spotlighting data; San Joaquin kit fox signs such as tracks, scat, and/or prey remains; or other reasonable proof that a given den is being or has been used by a San Joaquin kit fox.
  3. Natal or pupping den: Any den used by San Joaquin kit fox to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more San Joaquin kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt and/or vegetation at one or more entrances. A natal den, defined as a den in which San Joaquin kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two; therefore, for purposes of this definition either term applies.

4. Atypical den: Any artificial structure that has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.

Written results of the surveys will be submitted to CDFW within 1 week of the completion of surveys and prior to the beginning of ground disturbance and/or construction activities likely to affect San Joaquin kit fox. If preconstruction surveys indicate a known den, pupping den, or atypical den is present in the project area or within the survey area PG&E will halt work and immediately consult with CDFW and the USFWS on avoidance and minimization measures. Work shall not proceed until PG&E receives take authorization or avoidance and minimization measures are deemed sufficient by CDFW and USFWS to avoid take.

- APM BIO-25: California Red-Legged Frog Protection, Avoidance, and Compensation. The following steps shall be implemented to protect California red-legged frog species during construction activities for the project:

1. Conduct Surveys: A CDFW-approved biologist shall survey the project area with potential habitat for California red-legged frog within 24 hours prior to ground-disturbing activities. Surveys shall include all potentially suitable upland habitat such as rodent burrows, cracks, ruts, holes near root structures, foundations, abutments, and leaf litter within the project area that contain potential habitat for these species. If suitable habitat is present, but no California red-legged frogs are observed onsite, no further action is required other than Step 5, Compensation for loss of habitat. If California red-legged frogs are observed during the surveys, Step 2 should then be initiated by the approved biologist.
2. Consultation with CDFW and USFWS: If any California red-legged frog are observed on the project site, the approved biologist shall contact CDFW and the USFWS to determine if moving any of these life stages is appropriate. In making this determination, CDFW and USFWS shall consider if an appropriate relocation site exists as provided in the Relocation Plan (See Step 4 below).
3. Avoidance: The approved biologist shall mark all burrows within the project area no less than 7 days prior to earthmoving activities in those areas. All burrows shall be avoided to the maximum extent practicable during earthmoving activities. Areas with high concentrations of burrows shall be avoided by earthmoving activities to the maximum extent possible. In addition, when concentrations of burrows or large burrows are observed within the site, and if it is possible to avoid these burrows during construction activities, these areas shall be staked and/or flagged to ensure construction personnel are aware of their location and to facilitate avoidance of these areas when possible.
4. Relocation: If CDFW and the USFWS approve moving animals, the CDFW- and USFWS-approved biologist would be allowed sufficient time to move California red-legged frog(s) from the project area before work activities begin. Only CDFW- and USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California red-legged frog. The following relocation measures shall be implemented prior to and during all relocation activities:

    a. A Relocation Plan for California red-legged frog shall be submitted to CDFW for approval 5 days prior to the start of construction in any area with suitable breeding or estivation habitat for those two species The Relocation Plan shall include relocation site selection criteria. When either species is observed within work areas, the qualified biologist approved by USFWS and CDFW to handle and relocate them, shall do so.

    b. CDFW/USFWS-approved biologists shall use their bare hands to capture California red-legged frog and shall not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within 2 hours before and during periods when they are capturing and relocating individual California red-legged frog. To avoid transferring disease or pathogens from handling of the amphibians, CDFW/USFWS-approved biologists shall follow the Declining Amphibian Populations Task Force's Code of Practice.

    c. The approved biologist shall relocate any individual to an active rodent burrow system no greater than 300 feet from work area boundaries unless no suitable burrow systems are present within the area. If no suitable burrows are available within 300 feet of the work area, then the California red-legged frog will be released at the nearest suitable burrow system. If burrow density allows, the designated biologist shall only release one animal per burrow. Relocation burrows will be chosen based on the presence of similar

characteristics to the burrows inside the work area to the extent possible. A suitable burrow should be at least 3 inches in depth and have moist and cool conditions. All relocation burrows will be away from roads and pavement/graveled areas to the extent possible. The biologist shall capture, handle, and assess Covered Species according to the Restraint and Handling of Live Amphibians Protocol, USGS, National Wildlife Health Center (D. Earl Greene, ARMI SOP NO. 100; 16 February 2001; Attachment 2) (Green 2001). California red-legged frog shall be released as soon as possible. If the animal repeatedly walks away from the burrow, or partially enters it and then turns around, the qualified biologist shall remove it and find another burrow. A qualified and approved biologist will be identified who is within 30 minutes of the project area to ensure prompt relocation.

d. If an injured California red-legged frog is found during the project term, the individual shall be evaluated by the approved biologist who shall then immediately contact the PG&E project biologist who shall then contact the CDFW and USFWS, via email and telephone, to discuss the next steps. If the representatives cannot be contacted immediately, the injured amphibian shall be placed in a shaded container and kept moist. If the representatives are not available or do not respond within 2 hours of initial attempts, then the following steps shall be taken:

    i. If the injury is minor or healing and the amphibian is likely to survive, the amphibian shall be released immediately as follows. The approved biologist shall relocate any California red-legged frog found within the work area to an active rodent burrow or burrow system located no more than 300 feet outside of the work area. The qualified biologist shall document occurrence and relocation sites by photographs and GPS positions. When handled, California red-legged frog shall be photographed and measured (snout-vent and total length) for identification purposes prior to relocation. The individual shall be monitored until it is determined that it is not imperiled by predators or other dangers. The qualified biologist shall release individuals one at a time rather than as a group. All documentation shall be provided to CDFW and USFWS within 48 hours of relocation.

    ii. If it is determined that the California red-legged frog has major or serious injuries as a result of project-related activities, the CDFW/USFWS-approved biologist shall immediately take it to the Lindsay Wildlife Museum or another agency-approved facility. If taken into captivity, the individual shall remain in captivity and not be released into the wild unless it has been kept in quarantine and the release is authorized by the agencies. The circumstances of the injury, procedure followed, and final disposition of the injured animal shall be documented in a written incident report, as described above.

5. Compensation: Regardless of avoidance and relocation measures, compensation for loss of California red-legged frog habitat is required due to the temporary conversion of habitat. As such, prior to construction, or no later than 18 months from start of construction and assuming financial assurance is provided to CDFW, PG&E shall purchase credits at a USFWS/CDFW-approved Conservation Bank to compensate for unavoidable temporary impacts to upland California red-legged frog habitat at a ratio approved by the CDFW and USFWS during the permitting processes for this project. It is estimated approximately 1.119 acres of California red-legged frog upland habitat need to be mitigated as compensation for temporary impacts; however, the final area of temporary impacts and compensatory mitigation may differ.

Consistent with the conservation strategy outlined in the BAHCP PG&E has established several USFWS approved conservation projects in advance of impacts that provide habitat benefits to California red-legged frog (acquisition, preservation, enhancement, or bank credit purchase). PG&E may fully mitigate for the potential take of California red-legged frog, based on acreages of estimated and actual habitat losses, through the allocation of conservation assets from the BAHCP Mitigation Portfolio. PG&E will mitigate temporary impacts at a 1:1 ratio and provide CDFW with documentation of California red-legged frog conservation allocation to the ID-103 and R-893 projects from the BAHCP Mitigation Portfolio within 90 days of start of project construction. Should PG&E or CDFW determine upon project commencement and/or completion that actual impacts to California red-legged frog habitat exceed 1.119 acres, or have lasted beyond a single season, CDFW will be notified in writing, PG&E will mitigate accordingly, and provide supplemental proof of allocation to CDFW.

- APM BIO-26: Habitat Compensation for Effects to Livermore Tarplant. Prior to construction of the R-893 and D-915 sites, PG&E shall coordinate with CDFW to establish onsite avoidance and offsite compensation for the impacts to 0.067 acre of occupied habitat and individuals of the State Endangered Livermore tarplant. Habitat compensation shall be through the acquisition and commitment for management in perpetuity of suitable habitat, approved in advance by CDFW. Should habitat acquisition and commitment for management in perpetuity not be possible due to limited availability of parcels that support habitat for this species, PG&E and CDFW will coordinate to either develop habitat restoration and/or enhancement opportunities that provide direct benefit to Livermore tarplant habitat and populations. In the event that sufficient restoration and/or enhancement is not attained within 18 months of start of construction, CDFW will be entitled to a release of financial security that PG&E shall post prior to construction. Financial and other components of these compensatory actions shall be further detailed in the Vegetation Restoration Plan (VRP) that is a requirement of MM BIO-1 (See Section 3.4).
- APM BIO-27: Tree Replanting. Any trees removed will be replaced onsite if conditions exist that do not conflict with PG&E's Utility Standard TD-44905, mandated by the Code of Federal Regulations (CFR) Title 49, Part 192 and under the jurisdiction of the California Public Utilities Commission (CPUC). This standard requires buffers that range from 10 feet to 14 feet of lateral above-ground distance between tree center and outer edge of underground pipeline. CPUC General Order 95, Rule 35 defines vegetation clearances related to PG&E's electrical facilities. New plantings will need to avoid these facilities also. Non-native (landscaping) trees shall be replaced at a 1:1 ratio, and native trees at a 3:1 ratio. All replanting activities will be implemented in accordance with applicable residential plans and/or other approvals, as necessary. Plantings shall be onsite to the greatest extent feasible with details proposed in the VRP that is a requirement of MM BIO-1 (See Section 3.4), and subject to CDFW approval.
- APM CUL-1: Prehistoric or Historic-Period Materials Discovered during Construction. If prehistoric or historic-period materials are encountered during ground-disturbing work, all work within a 50-foot radius of the discovery shall be halted until a qualified archaeologist can evaluate the significance of the resource. If the resource is determined to be significant and the landowner consents, PG&E will determine the appropriate avoidance measures or other appropriate mitigation in consultation with a qualified archaeologist, landowner, and CDFW. Consultation shall include the lead tribal monitor if the discovery involves a prehistoric resource. With the permission of the landowner, significant cultural materials will be curated according to current professional standards.
- APM CUL-2: Human Burials Encountered during Construction. Section 7050.5(a) of the California Health and Safety Code (HSC) states that it is a misdemeanor to knowingly disturb a human burial. If human remains are encountered during any activity related to the project, the contractor shall:
  - Stop all work within 100 feet.
  - Immediately contact a PG&E Cultural Resource Specialist, who will then notify the County Coroner (the Coroner typically makes a determination regarding the origins of the remains within two working days following notification).
  - Immediately upon discovery, secure the location by closing access to the area, and covering the discovery with tarp; do not touch or remove remains and associated artifacts during this process.
  - While awaiting the County Coroner's arrival, do not remove associated cultural materials, artifacts, or objects, or pick through them.
  - Record the location and keep notes of all calls and events.
  - Treat the find as confidential and do not publicly disclose the location or details of the burial.

  If the human remains are of Native American origin, the County Coroner must notify the Native American Heritage Commission (NAHC) within 24 hours of such identification (HSC Section 7050.5[c]). Standard protocol is for the most likely descendant (MLD) to visit the discovery site, with permission of the landowner, within 48 hours of notification by the NAHC (PRC Section 5097.98[a]). The PG&E Cultural Resource Specialist will work with the

MLD to develop a treatment plan for re-burial in situ, re-interment in a new location, or other disposition of the human remains and any associated artifacts.

No additional work shall take place within 50 feet of the burial(s) until the appropriate actions have been implemented.

- APM CUL-3: Workers Awareness Training. Prior to the start of construction, all field personnel shall receive a worker's environmental awareness training module on cultural, paleontological, and tribal cultural resources using PG&E's Cultural Resources Awareness and Response Brochure. The training will provide a description of cultural, paleontological, and tribal cultural resources that may be encountered in the project area, outline steps to follow in the event that an inadvertent discovery is made, and provide contact information for the project Archaeologist, project Paleontologist, on-site cultural resources monitor(s), and tribal cultural monitor(s). The training may be conducted concurrent with other environmental training (e.g., natural resources awareness training, safety training).
- APM CUL-4: Paleontological Resources Discovered during Construction. If paleontological fossils or geologic units containing evidence of paleontological resources are encountered during ground-disturbing work, all work within 50 feet of the discovery shall be halted until a paleontologist who meets the minimum qualification standards established by the Society for Vertebrate Paleontology can evaluate the significance of the find. If the find is determined to be significant and the landowner consents, PG&E will determine the appropriate avoidance measures or other appropriate mitigation in consultation with a qualified paleontologist, landowner, and shall inform CDFW. With the permission of the landowner, significant fossil resources will be curated according to current professional standards.
- APM GEO-1: Backfill Operations. All backfill above pipelines shall be mechanically compacted to at least 95 percent relative compaction. On-site soils will be acceptable for use as backfill in non-structural areas only. All imported fill shall consist of granular, non-expansive soil with an Expansion Index of 20 or less. Soil will not contain any contaminated soil, expansive soil, debris, organic matter, or other materials unsuited as backfill.
- APM GEO-2: Geotechnical Report Recommendations. PG&E shall incorporate site-specific recommendations identified in the Geotechnical Study (Appendix B), into the pipeline design. The geotechnical recommendations and pipeline design shall be reviewed and approved by a structural engineer to confirm compliance with all applicable seismic regulations.
- APM HAZ-1: Hazardous Substance Control and Emergency Response. PG&E will implement its hazardous substance control and emergency response procedures as needed. The procedures identify methods and techniques to minimize the exposure of the public and site workers to potentially hazardous materials during all phases of construction through operation. They address worker training appropriate to the site worker's role in hazardous substance control and emergency response. The procedures also require implementing appropriate control methods and approved containment and spill-control practices for construction and materials stored on-site. If it is necessary to store chemicals on-site, they will be managed in accordance with all applicable regulations. Material safety data sheets shall be maintained and kept available on-site, as applicable.

  In the event that soils suspected of being contaminated (on the basis of visual, olfactory, or other evidence) are removed during site grading activities or excavation activities, the excavated soil will be tested and, if contaminated above hazardous waste levels, will be contained and disposed of at a licensed waste facility. The presence of suspected contaminated soil will require testing and investigation procedures to be supervised by a qualified person, as appropriate, to meet state and federal regulations.

  All hazardous materials and hazardous wastes shall be handled, stored, and disposed of in accordance with all applicable regulations, by personnel qualified to handle hazardous materials. The hazardous substance control and emergency response procedures include, but are not limited to, the following:

  - Proper disposal of potentially contaminated soils.
  - Establishing site-specific buffers for construction vehicles and equipment located near sensitive resources.

- Emergency response and reporting procedures to address hazardous material spills.
- Stopping work and contacting the Alameda County Fire Department (ACFD) for the D-915 site or the Livermore – Pleasanton Fire Department (LPFD) for the R-893 site immediately if visual contamination or chemical odors are detected. CDFW shall be informed of the occurrence. Work will resume after any necessary consultation and approval by ACFD or LPFD.
- PG&E shall complete its Emergency Action Plan Form as part of the pre-construction meetings. The purpose of the form is to gather emergency contact numbers, first aid location, work area location, and other relevant information.

- APM HAZ-2: Fire Avoidance and Suppression. California Department of Forestry and Fire Protection (CAL FIRE) requires that PG&E select a welding site that is void of native combustible material and/or clearing such material for 10 feet around the area where the work is to be performed. PG&E will follow its standard practice for clearing in wildland areas. Project personnel shall be directed to drive on areas that have been cleared of vegetation; park away from dry vegetation; and carry water, shovels, and fire extinguishers in times of high fire hazard. PG&E also will prohibit trash burning. Additionally, fire-suppression materials and equipment shall be kept adjacent to work areas and would be clearly marked as required by the Hot Work permit that would be obtained for the project. Where Hot Work is occurring in undeveloped and dry areas, PG&E shall use a water truck to provide additional fire protection, as deemed necessary.
- APM HWQ-1: SWPPP Development and Implementation, Erosion, and Sedimentation. Following approval of the project, PG&E shall obtain a National Pollutant Discharge Elimination System (NPDES) General Construction permit for the project and prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), an amendment to an existing SWPPP to minimize construction impacts on surface water for R-893 and groundwater quality water, or a Site-specific Erosion and Sediment Control Plan (S-ESCP) for D-915. Implementation of the SWPPP or S-ESCP will help stabilize disturbed areas and reduce erosion and sedimentation.

  The plan shall designate BMPs that would be adhered to during construction activities. Erosion and sediment control measures, such as straw wattles, covers, and silt fences, will be installed before the onset of winter rains or any anticipated storm events. Suitable stabilization measures will be used to protect exposed areas during construction activities, as necessary. During construction activities, measures shall be in place to prevent contaminant discharge from vehicles and equipment. A monitoring program shall be established to confirm that the BMPs prescribed in the SWPPP are followed throughout construction.

  The project SWPPP or S-ESCP shall include erosion control and sediment transport BMPs to be used during construction. BMPs, where applicable, shall be designed by using specific criteria from recognized BMP design guidance manuals. Erosion-minimizing efforts may include measures such as the following:

  - Defining ingress and egress within the project area.
  - Implementing a dust control program during construction.
  - Properly containing stockpiled soils.

  Erosion control measures identified shall be installed in an area before construction begins. Temporary measures such as silt fences or wattles, intended to minimize sediment transport from temporarily disturbed areas, shall remain in place until disturbed areas have stabilized. The plan will be updated during construction as required by the State Water Resources Control Board (SWRCB).
- APM HWQ-2: Worker Environmental Awareness Program Development and Implementation. The worker environmental awareness program shall communicate environmental issues and appropriate work practices specific to the project. This shall include spill prevention and response measures and proper BMP implementation. The training will emphasize site-specific physical conditions to improve hazard prevention (such as identification of flow paths to nearest water bodies) and will include a review of all site-specific water quality requirements, including applicable portions of erosion control and sediment transport BMPs, health and safety plan, and hazardous substance control and emergency response plan.

- APM HWQ-3: Secondary Containment. Secondary containment, such as rubber berms with lips, larger layflat hose, or other suitable materials, shall be provided for water piping/hoses, frac tanks, and other equipment used to convey and temporarily store water and cleaning fluids.
- APM NOI-1: Notify Residents and Ranchers of Construction Activities. Notification and coordination shall include the following: prior to construction, PG&E shall give at least a 7-day advance notice of the start of construction-related activities. Notification shall be provided by mailing notices to all residences within 500 feet of the project area. The announcement shall:
  - Describe where and when construction is planned.
  - Describe the dates and type of any planned nighttime work.
  - Provide contact information for a point of contact for complaints related to construction activities.

  Prior to commencing ground disturbing or noise generating activities, PG&E will submit a copy of the template used for the notification letter and a list of the landowners notified to CDFW. PG&E will document all complaints and strategies for resolving complaints in monthly reports to CDFW during construction activities.
- APM NOI-2: Noise Minimization with Quiet Equipment. Quiet equipment (e.g., equipment that incorporates noise-control elements into the design) shall be used during construction whenever feasible. This means that engine exhaust points will be equipped with a muffler, and quiet model air-compressors or generators will be used, if available. Use of equipment such as hammers, pile drivers, pneumatic tools, or other impact device that may create loud or unusual noise shall be avoided at night or will be shrouded or provided with barriers to achieve a 5-decibel (dB) reduction during night work.
- APM T&T-1: Traffic Coordination. Emergency service providers shall be notified of the timing, location, and duration of construction activities that will affect traffic. Traffic control devices and signage will be used as required by encroachment permits and as needed.
- APM TCR-1: Management of Unanticipated Tribal Cultural Resources. In the event that subsurface construction activities inadvertently discover tribal cultural resources, all activity in the vicinity of the find shall stop and a qualified archaeologist and an authorized tribal representative designated by a consulting tribe shall be contacted to assess the significance of the find according to CEQA Guidelines Section 15064.5 and Section 21074. If any find is determined to be significant, the archaeologist shall determine, in consultation with the implementing agency and any local Native American groups expressing interest, appropriate avoidance measures or other appropriate mitigation. Per CEQA Guidelines Section 15126.4(b)(3), preservation in place shall be the preferred means to avoid impacts to tribal cultural resources. Methods of avoidance may include, but shall not be limited to, project reroute or redesign, project cancellation, or identification of protection measures such as capping or fencing. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist shall develop additional treatment measures, such as data recovery or other appropriate measures, in consultation with the implementing agency and any local Native American representatives expressing interest in the tribal cultural resource.

3 ENVIRONMENTAL ANALYSIS

1. Project Title:	R-649, R-700, and R-707 Natural Gas Transmission Pipeline 131 Replacement Projects: Additional Segments Replacement and Inspection at R-893 and D-915
2. Lead Agency Name and Address:	California Department of Fish and Wildlife Bay Delta Region 2825 Cordelia Road, Suite 100 Fairfield, CA 94534
3. Contact Person and Phone Number:	Serge Glushkoff, (707) 339-6191
4. Project Location:	City of Livermore and Alameda County
5. Project Sponsor's Name and Address:	Pacific Gas & Electric Company 6111 Bollinger Canyon Road San Ramon, CA 94583
6. General Plan Designation:	Open Space/Agriculture and Resource Management
7. Zoning:	Unzoned
8. Description of Project:	The PG&E R-649, R-700, and R-707 Natural Gas Transmission Pipeline 131 Replacement Project (Original Project) included replacement of three segments totaling 5 miles of the L-131 pipeline for safety. Since adoption of the Original Project, PG&E has identified one additional segment of the L-131 pipeline that needs replacement and one segment of the L-114 pipeline that needs inspection and repair. The Original Project together with these two additional pipeline components is the Amended Project.
9. Surrounding Land Uses and Setting:	Surrounding land uses in the project vicinity include residential development, I-580, Dalton Crossover PG&E Substation, and a parking lot.

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

Alameda County Public Works Agency (Encroachment Permit), California Department of Transportation (Encroachment Permit), Bay Area Air Quality Management District (Authority to Construct), and Regional Water Quality Control Board (Section 401 Clean Water Act)

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

Consistent with PRC Section 21080.3.1, CDFW notified nine tribes about the Amended Project on April 14, 2020. No responses from any tribes have been received to date.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages. Where checked below, the topic with a potentially significant impact will be addressed in an environmental impact report.

___ Aesthetics	___ Agriculture and Forest Resources	___ Air Quality
___ Biological Resources	___ Cultural Resources	___ Energy
___ Geology / Soils	___ Greenhouse Gas Emissions	___ Hazards / Hazardous Materials
___ Hydrology / Water Quality	___ Land Use / Planning	___ Mineral Resources
___ Noise	___ Population / Housing	___ Public Services
___ Recreation	___ Transportation	___ Tribal Cultural Resources
___ Utilities / Service Systems	___ Wildfire	___ Mandatory Findings of Significance
	___ None	_X_ None with Mitigation Incorporated

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

___ I find that the proposed project could not have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

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

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

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

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

DocuSigned by:
Gregg Erickson
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Signature

4/7/2021

Date

Gregg Erickson, Regional Manager
Bay Delta Region
California Department of Fish and Wildlife

APPROACH TO ENVIRONMENTAL ANALYSIS

As explained in Chapters 1 and 2 of this Subsequent Initial Study/Mitigated Negative Declaration (Subsequent IS/MND), the comparative analysis has been undertaken pursuant to the provisions of CEQA Sections 15162 to provide CDFW with the factual basis for determining whether any of the changes identified as part of the Amended Project or changes in circumstances or introduction of new information constitute a substantial change from the Original Project and analysis described in the 2018 IS/MND. The following analysis supports the CDFW determination that a subsequent review of the Amended Project is warranted.

Each environmental resource category below has its own subsection to evaluate any changed conditions that may result in a changed environmental effect (e.g., a new significant impact or substantial increase in the severity of a previously identified significant effect) (CEQA Guidelines Section 15162). Each subsection is organized as follows:

1. Environmental Resource Checklist: The questions posed in each subsection are derived from Appendix G of the CEQA Guidelines and are included in table format within each subsection. Each table is organized into the following columns:
    - Original Project's 2018 IS/MND Significance Determination: This column includes the significance conclusion of the Original Project in the 2018 IS/MND relative to significance threshold listed under each topic.
    - Would the Proposed Modifications Involve New or Substantially More Severe Impacts?: Pursuant to CEQA Guidelines Section 15162(a)(1), this column indicates whether the changes represented by the Amended Project would result in new significant environmental impacts not previously identified in the 2018 IS/MND, or whether the changes will result in a substantial increase in the severity of a previously identified significant impact.
    - Do Changes in Circumstances Involve New or Substantially More Severe Impacts?: Pursuant to CEQA Guidelines Section 15162(a)(2), this column indicates whether there have been substantial changes with respect to the circumstances of the new project components that would require major revisions to the IS/MND related to new significant environmental effects or a substantial increase in the severity of previously identified significant effects.
    - Is There Substantial New Information Requiring Analysis or Verification?: Pursuant to CEQA Guidelines Section 15162(a)(3)(a-d), this column indicates whether there is new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the 2018 IS/MND was certified.
    - Applicable APMs: This column lists Applicant Proposed Measures (APMs) from the 2018 IS/MND, and newly proposed APMs that apply to each impact. The full descriptions of APMs are listed in Section 2.7 of Chapter 2, "Project Description".
    - Applicable Mitigation Measures: Mitigation measures (MMs) required to reduce a potentially significant impact are listed in this column.
    - Amended Project's Subsequent IS/MND Significance Determination: This column includes the significance conclusion of the Amended Project relative to significance threshold listed under each topic.
2. Discussion: A discussion of the elements of the checklist is provided under each environmental resource category to substantiate impact conclusions. Each discussion provides information about the environmental issue, how the new project components relate to the Original Project analysis and a discussion of any APMs or mitigation measures that may be required.
3. Conclusion: A discussion of the conclusion relating to the analysis is contained in each section.

3.1 AESTHETICS

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Have a substantial adverse effect on a scenic vista?	Less-than-Significant	No	No	No	None	None	Less-than-Significant
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	Less-than-Significant	No	No	No	AES-1	None	Less-than-Significant
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Less-than-Significant	No	No	No	AES-1	None	Less-than-Significant
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Less-than-Significant	No	No	No	None	None	Less-than-Significant

3.1.1 Discussion

a) Have a substantial adverse effect on a scenic vista?

The City of Livermore and Alameda County General Plans identify the surrounding hillsides and ridgelines to the northeast, northwest, west, and south of Livermore as scenic vistas. The nearest scenic vista to the Amended Project area is Brushy Peak, approximately 2 miles northeast of the D-915 component. However, because of the steep hillside terrain and vegetation, distant views of the Amended Project area would be obscured and not visible from Brushy Peak. Therefore, the new project components would not have an adverse effect on a scenic vista. This impact would be less-than-significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

The new project components would involve approximately 825 feet of open trench excavation to install the new L-131 pipeline (R-893) that would overlap with the southern portion of the R-649 component of the Original Project, and excavation and potential repairs on approximately two 12-foot segments of the L-114 pipeline (D-915). This R-893 component is adjacent to Interstate 580 (I-580), which is eligible for designation as a state scenic highway (Caltrans 2020). As with the Original Project, temporary construction activities, vegetation removal, equipment, and staging areas associated with the R-893 component would be visible to motorists driving on I-580. Construction activities associated with the R-893 component would be temporary and occur for approximately 3 months. Temporary construction activities would include the removal of existing vegetation, including 51 native and non-native tree species, which are comprised of six coast live oak (*Quercus agrifolia*), four valley oak (*Quercus lobata*), three Australian willows (*Geijera parviflora*), eight strawberry trees (*Arbutus unedo*), six western sycamores (*Platanus racemosa*), nine eastern redbuds (*Cercis canadensis*), and 15 toyon (*Heteromeles arbutifolia*). All of the trees are relatively small, ranging from 6 to 8 feet in height. Additionally, vegetation within a 0.5-acre area would be removed, which currently consists of roses (*Rosa* spp.), coyote brush (*Baccharis pilularis*), and manzanita (*Arctostaphylos* sp.) all of which are approximately 2 feet in height. Post construction, the area would be revegetated using hydroseeding and hand seeding techniques using an appropriate seed mix. The area would be restored to approximate pre-project conditions after the completion of construction activities, in accordance with the mitigation requirements of the Vegetation Restoration Plan (MM BIO-1). Some trees may be replanted in the area as negotiated with the Homeowners Association; however, due to pipeline safety requirements, trees would not be replanted directly over or adjacent to the pipeline. The R-893 component would not require removal of or damage to scenic resources, such as rock outcroppings or historic buildings visible from the I-580 corridor.

The D-915 component would not be visible from I-580, but is in open grassland adjacent to, and visible from, residences. Staging of construction equipment would be largely limited in scope to two specific bell hole locations and access route, and of limited duration (approximately 1 month). After construction is complete the new pipeline and repaired pipeline would be buried and would not be visible. For these reasons, this impact would be less-than-significant. Implementation of APM AES-1: Construction Area Cleanup, would require construction activities and staging areas to be maintained in a clean condition and that debris would be disposed immediately or contained in bins, so visible debris would not result in aesthetic impacts. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

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

The Amended Project area would be visible to sensitive viewer groups (e.g., residences) and construction of the new project components would result in temporary changes to the visual character of the area similar to the Original Project. However, equipment and workers associated with construction of the new project components would be consistent with the existing equipment and activities that commonly occur and are visible in the Amended Project area (i.e., agricultural operations, construction activities). In addition, these changes to the visual character would be temporary. Therefore, the new project components would not significantly degrade the existing visual character or quality of the Amended Project area, and this impact would be less-than-significant. Additionally, during temporary construction activities, APM AES-1: Construction Area Cleanup, would be implemented so visible debris would not cause a significant aesthetic impact. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Above ground markers associated with the new project components would provide a small reflective surface but would remain consistent with existing above ground features. No permanent sources of lighting would be required for the new project components. In addition, similar to the Original Project, all construction would be limited to daytime hours, except when necessary to complete a task for safety reasons or other urgent requirements (i.e., completing a weld, hydrotest, or scheduled pipeline clearance/outages and tie-in work) and would be allowed from half an hour after sunrise to half an hour before sunset. In the event emergency nighttime maintenance is required, temporary lighting fixtures installed would only be turned on when necessary to safely complete maintenance activities. All temporary lighting fixtures would cast light in a downward direction and be focused on the work area to minimize light spillover into off-site areas. This impact would be less-than-significant.

3.1.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or substantial changes in circumstances that would alter the effects described in the 2018 IS/MND for the Original Project. The conclusions of the 2018 IS/MND apply to the Amended Project. Aesthetic impacts of the Amended Project would be less-than-significant with no mitigation required.

3.2 AGRICULTURE AND FORESTRY RESOURCES

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact	No	No	No	NOI-1	None	Less-than-Significant
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact	No	No	No	None	None	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	No Impact	No	No	No	None	None	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact	No	No	No	None	None	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	Less-than-Significant	No	No	No	None	None	Less-than-Significant

3.2.1 Discussion

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

The California Department of Conservation (DOC) designates the Amended Project area as grazing land (DOC 2014). The R-893 component would involve an underground pipeline that crosses a landscaped portion of the privately-owned Shea Homes Sage, a residential development, a privately-owned graveled lot, and Caltrans right-of-way (ROW). This land is not used for grazing or agriculture and therefore, construction of this project component would not result in conversion or loss of farmland and to non-agricultural uses.

The D-915 component would involve an underground pipeline parallel to a privately-owned parcel used for grazing. Excavation and inspection of the subsurface gas pipeline would temporarily (construction duration is approximately 1 month) affect agricultural land in the work area during construction. Temporary impacts may include disturbance to livestock or other short-term interruption of farming operations in the work area, and presence or use of construction equipment and project vehicles on farm roads and overland access on ranchland. Grazing activities on lands surrounding the D-915 site would continue uninterrupted during construction activities. The construction areas would be used temporarily and restored to approximate pre-project conditions. After the D-915 component construction is complete, grazing lands would be returned to landowners for continued grazing use. Therefore, the project would not result in conversion of agricultural land to non-agricultural uses, and this impact would be less-than-significant. APM NOI-1: Notify Residents and Ranchers of Construction Activities, would be implemented to notify ranchers and nearby residents of construction activities to further reduce potential disruption to farming and ranching activities. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

As with the Original Project the new project components are located on land identified as Non-Enrolled Land. Non-Enrolled Land consists of land not enrolled in a Williamson Act contract and not mapped by the Farmland Mapping and Monitoring Program as Urban and Built-Up Land or Water. Therefore, the Amended Project would not conflict with a Williamson Act contract. There would be no impact.

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

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

The new project components and surrounding lands are not designated as forest land, timberland, or timberland production, and no timberland uses currently exist within the Amended Project area. Therefore, as with the Original Project, the new project components would not conflict with lands zoned as timberland or result in the loss of forest lands or timberland. There would be no impact.

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

The new project components would involve replacing or repairing existing subsurface gas pipelines. Grazing land in the vicinity of the D-915 site would be temporarily affected; however, similar to the Original Project, the new project components would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. This impact would be less-than-significant.

3.2.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project. Agriculture and forestry resources impacts of the Amended Project would be less-than-significant with no mitigation required.

3.3 AIR QUALITY

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Conflict with or obstruct implementation of the applicable air quality plan?	Less-than-Significant	No	No	No	AIR-1 AIR-2	None	Less-than-Significant
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	Less-than-Significant	No	No	No	AIR-1 AIR-2	None	Less-than-Significant
c) Expose sensitive receptors to substantial pollutant concentrations?	Less-than-Significant	No	No	No	AIR-1 AIR-2	None	Less-than-Significant
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	Less-than-Significant	No	No	No	AIR-1 AIR-2	None	Less-than-Significant

3.3.1 Discussion

a) Conflict with or obstruct implementation of the applicable air quality plan? or

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

The new project components would result in additional construction activity; therefore, the estimation of construction-generated emissions of criteria air pollutants and precursors was revised to include the emissions associated with the new R-893 and D-915 components. The revised emission estimates also reflect that the R-700 and R-707 components of the Original Project have already been constructed. The modeling parameters used to quantify the construction emissions were the same as used for the Original Project and are as follows:

- Construction equipment horsepower, load factors, and emission factors from the California Emissions Estimator Model (CalEEMod) User's Guide Appendix D (SCAQMD 2016).
- Vehicle emission factors from EMFAC2014 software.
- Fugitive dust emission factors for paved and unpaved road travel based on guidance in AP-42 (EPA 2006 and 2011).
- South Coast Air Quality Management District's CEQA Handbook (SCAQMD 1993).

- Fugitive dust control efficiencies from two of SCAQMD's guidance resources, *Final – Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds* (SCAQMD 2006) and *Mitigation Measures and Control Efficiencies* (SCAQMD 2007).

Construction of the added D-915 component is scheduled in the spring/summer of 2021. Whereas the construction of the R-893 component is anticipated in 2021 or 2022. The emission estimates for these new components are summarized in Table 3.3-1. Detailed emission estimates are provided in Appendix C.

Table 3.3-1 Emissions of Criteria Air Pollutants and Precursors Associated with Construction of the D-915 and R-893 Components (daily Emissions of Criteria Air Pollutants and Precursors (lb/day))

Project Component by Year	ROG	CO	NO_x	SO_x	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)	PM_{10} (Fugitive Dust)	$PM_{2.5}$ (Fugitive Dust)
Year 2021 or 2022								
R-893 Component	3	25	26	<1	1	1	21	2
Year 2021								
D-915 Component	<1	<1	2	<1	<1	<1	7	<1
Total	4	26	28	2	2	2	28	3
2017 BAAQMD Construction Thresholds of Significance	54	N/A	54	N/A	82	54	N/A	N/A
Exceeds Threshold (Y/N)?	N	N	N	N	N	N	N	N

Notes: lb/day = pounds per day; ROG = reactive organic gases; CO = carbon monoxide; NO_x = oxides of nitrogen; SO_x = oxides of sulfur; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with an aerodynamic diameter of 2.5 microns or less. See Appendix C for detailed calculations, input parameters, and assumptions.

Source: Modeling conducted by Stantec in 2018 and 2020 and compiled by Ascent Environmental.

As shown in Table 3.3-1, the combined emissions generated by the construction of the new project components in 2021 and 2022 would not exceed the BAAQMD's mass emission thresholds. Therefore, the new project components would not conflict with the BAAQMD Clean Air Plan or result in a cumulatively considerable net increase in emissions of criteria air pollutants or precursors for which the San Francisco Bay Area Air Basin has been designated as nonattainment with respect to the ambient air quality standards for ozone, PM_{10}, or $PM_{2.5}$. Therefore, this impact would be less-than-significant. Implementation of APM AIR-1: BAAQMD Basic Control Measures, would limit fugitive dust emissions by requiring watering of all exposed surfaces, covering of haul trucks carrying soil and rock, and limiting vehicle speeds on unpaved surfaces. APM AIR-1 also would minimize emissions of diesel particular matter (DPM) by limiting idling of diesel-powered equipment and requiring all equipment to be maintained and properly tuned in accordance with manufacturer's specifications. APM AIR-2: Minimize Exhaust Emissions, would reduce exhaust emissions by requiring construction equipment to meet or exceed CARB's Tier 3 or Tier 4 engine emissions standards. With implementation of these APMs, the severity of this impact would be maintained at a less-than-significant level.

c) Expose sensitive receptors to substantial pollutant concentrations?

The 2018 IS/MND examined whether construction activity associated with the Original Project would expose sensitive receptors to substantial concentrations of fugitive dust, toxic air contaminants (TACs), and naturally occurring asbestos. Some of the emissions-generating construction activity under the Original Project was as close as 50 feet to residences.

The types of ground disturbing activities and diesel-powered equipment used in construction of the new project components would be similar to the types of activities and equipment used for the Original Project. The proximity of these emissions-generating activities to sensitive receptors would also be similar. Additional residential land uses in the City of Livermore would be in proximity to areas where fugitive dust- and DPM-emitting activities would occur during construction of the new project components. Construction activity at the northern work area of the R-893

component would be as close as 20 feet from multifamily residential land uses along the south side of Tranquility Circle. Construction work at the southern work area of the R-893 component would be approximately 325 feet north of single-family residences on the south side of East Airway Boulevard. Construction traffic of the D-915 component would be as close as 50 feet from the single-family residences along Bridle Court and Gelding Lane. Without implementation of protection measures, the project could result in a potentially significant air quality impact. Although additional residences would be close to areas where emissions of fugitive dust and DPM would be generated during construction of the new project components, implementation of APM AIR-1: BAAQMD Basic Control Measures and APM AIR-2: Minimize Exhaust Emissions would limit these emissions and minimize air quality impacts. APM AIR-1 would limit fugitive dust emissions by requiring watering of all exposed surfaces, covering of haul trucks carrying soil and rock, and limiting vehicle speeds on unpaved surfaces. APM AIR-1 also would minimize emissions of DPM by limiting idling of diesel-powered equipment and requiring all equipment to be maintained and properly tuned in accordance with manufacturer's specifications. APM AIR-2 would reduce exhaust emissions by requiring construction equipment to meet or exceed CARB's Tier 3 or Tier 4 engine emissions standards. Thus, the additional construction associated with the new project components would not expose sensitive receptors to pollutant concentrations beyond what was assessed in the 2018 IS/MND. With implementation of these APMs, the severity of this impact would be maintained at a less-than-significant level.

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

The occurrence and severity of odor impacts depends on numerous factors including: the nature, frequency, and intensity of the source; wind speed and direction; and the proximity and sensitivity of exposed individuals. The 2018 IS/MND determined that emissions of diesel exhaust, reactive organic gases (ROG), and unburned, odorized natural gas during construction activities would be less-than-significant because they would be temporary and disperse rapidly and, therefore, would not create objectionable odors affecting a substantial number of people.

Similar to the Original Project, the new project components would not introduce any new long-term operational sources of odors. Odorized natural gas would be purged at the Vasco Station and/or the East Airway Boulevard Station.

Construction activity conducted for the new project components would emit odorous emissions of diesel exhaust and ROG that would only be generated within portions of the site at any given time and would occur intermittently throughout the course of a day. The types of activities and diesel-powered equipment used in construction of the R-893 and D-915 components would be similar to the types of activities and equipment used for the Original Project. Additional residential land uses in the City of Livermore could be exposed to odorous emissions from construction of the new project components. As discussed above, the nearest residences would be 20 feet from the R-893 site.

Although additional residences could be exposed to odorous emissions of diesel exhaust and ROG generated during construction of the new project components, the level of exposure to these residences would be similar to the level of exposure of residences located near the Original Project that were identified in the 2018 IS/MND. This impact would be less-than-significant. APM AIR-1: BAAQMD Basic Control Measures and APM AIR-2: Minimize Exhaust Emissions would be implemented during construction to further reduce impacts related to odors. APM AIR-1 would limit idling of diesel-powered equipment and ensure all equipment is maintained and properly tuned in accordance with manufacturer's specifications. APM AIR-2 would reduce exhaust emissions by requiring construction equipment to meet or exceed CARB's Tier 3 or Tier 4 engine emissions standards. With implementation of APMs, the severity of this impact would be maintained at less-than-significant.

3.3.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project. Impacts to air quality would be less-than-significant with no mitigation required.

3.4 BIOLOGICAL RESOURCES

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Less-than-Significant with Mitigation	Yes	Yes	Yes	BIO-1 through BIO-27	BIO-1 through BIO-9	Less-than-Significant with Mitigation
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish or U.S. Fish and Wildlife Service?	Less-than-Significant with Mitigation	Yes	Yes	Yes	BIO-1 BIO-1A BIO-3 through BIO-16 BIO-27	BIO-1 through BIO-3	Less-than-Significant with Mitigation
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Less-than-Significant	Yes	Yes	Yes	BIO-1 BIO-1A BIO-3 through BIO-6 BIO-8 through BIO-10 BIO-12 through BIO-15	BIO-1 through BIO-3	Less-than-Significant with Mitigation
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less-than-Significant	Yes	Yes	Yes	BIO-1 BIO-1A BIO-3 BIO-5 through BIO-7 BIO-9 through BIO-12A BIO-14 through BIO-19 BIO-25	BIO-1, BIO-6 through BIO-8	Less-than-Significant with Mitigation

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less-than-Significant	No	No	No	None	None	Less-than-Significant
f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan?	No Impact	No	No	No	None	None	No Impact

3.4.1 Environmental Setting

SITE CHARACTERISTICS

The Amended Project components are both situated in Alameda County, California. Because of their location (1 mile and 0.25 mile away from the R-649 component for D-915 and R-893, respectively), both of the new project component sites are located within the same ecological and environmental zones as the Original Project, namely within the central portion of the Fremont-Livermore Hills and Valleys ecological subsection within the Central California Coast Ecological Section (USDA 1997). This area is characterized by its Mediterranean climate which supports cool wet winters and warm, dry summers.

The R-893 site is located near the northern limits of the City of Livermore in Alameda County and is composed of two work areas that are separated by I-580. Land use in the surrounding area consists of residential development, and open space on the north side of the freeway and developed, industrial, and agricultural on the south side. Hydrology onsite is influenced by precipitation, surface water runoff, topography, soil permeability, and plant cover. Much of the site is defined by Arroyo Las Positas Creek, which includes nearby Cayetano Creek as a tributary, and runs in between the two work areas of the site, flowing west through the center of the study area on the northern side of I-580. The R-893 site supports few trees and is dominated by herbaceous vegetation communities including ruderal, non-native grassland, and native grassland habitat. Outside and adjacent to the site, along Arroyo Las Positas Creek, a Coastal and Valley Freshwater Marsh vegetative community is present and composed of dense emergent vegetation. The relatively shallow, slow-moving water in the creek with ample vegetative cover provides suitable aquatic and upland dispersal habitat for various amphibian species including California red-legged frog, which is discussed in further detail in the Special-Status Wildlife discussion below. Suitable upland habitat for native grassland species, such as western burrowing owl, is present in the grassland areas adjacent to the Arroyo Las Positas Creek. The R-893 site is somewhat differentiated from the Original Project due to its direct proximity to newly constructed housing and I-580 and is situated directly above the terraced mesic grassland site.

Ground squirrel burrows are present here that may provide suitable overwintering, underground refugia habitat for California red-legged frog and California tiger salamander. The portion of the R-893 site south of I-580 does not support adequate naturalized vegetation or special-status species habitat with the exception of potential nearby nesting habitat for raptors.

The D-915 component site is located within unincorporated Alameda County. Land use in the surrounding area consists primarily of grazing lands and some rural residences. The D-915 site is fundamentally similar to the center of the R-649 pipeline, except that it is at the base of the first elevational gradient along the southern flank of the hills that define the edge of the Livermore Valley. The site is dominated by grassland with limited other herbaceous vegetation communities, with a notable exception of an alkali seasonal wetland swale dominated by native and some endemic species that occur on alkali soils. This swale was actively draining water in late November 2020, and the immediate vicinity of the channel was moist. The swale is located on the southern portion of the site and is fed primarily by precipitation and surface water runoff during the wet season. The presence of nearby stock ponds and spring-fed features provides potentially suitable aquatic breeding habitat for both California red-legged frog and California tiger salamander. The grassland habitat provides ample prey species for these amphibians in the form of insects and small rodents, as well as ground squirrel burrows which could provide both species with underground refugia during overland foraging movement.

BIOLOGICAL RESOURCE SURVEYS

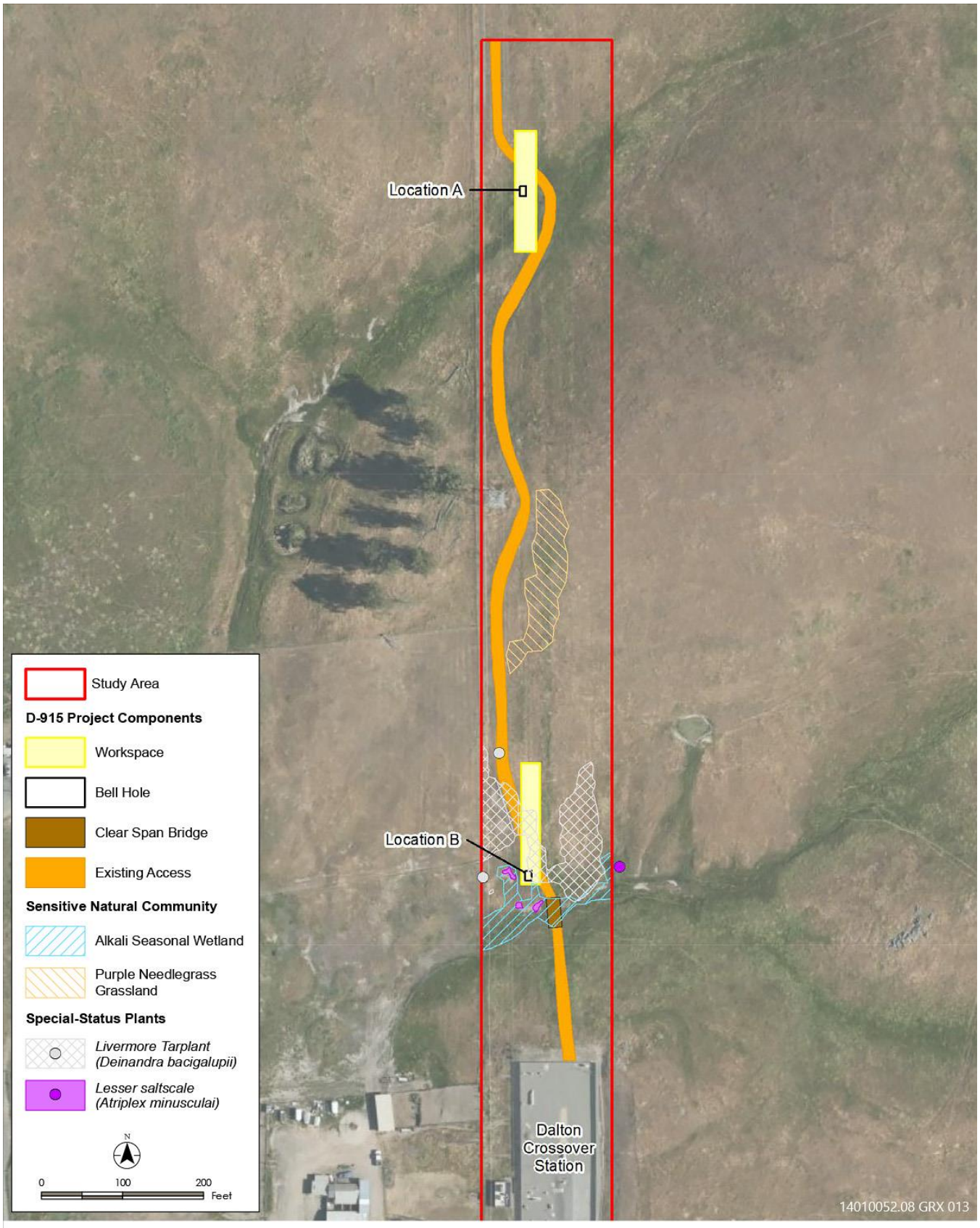
In the 2018 IS/MND, two special-status plant species, Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*) and hogwallow starfish (*Hesperevax caulescens*), were identified during protocol-level botanical surveys completed in 2016 and 2017. Implementation of applicable APMs and mitigation measures minimized the potential for temporary impacts on these two-plant species.

Protocol-level botanical surveys were conducted in 2018 at the R-893 and D-915 sites, respectively (Appendix D). All plant species discussed in the 2018 IS/MND (Table 3.4-1) were evaluated, but were either determined to have low potential to occur within the R-893 and D-915 sites due to a lack of suitable habitat or were not found during protocol-level botanical surveys. Two special-status plant species that were not discussed in the 2018 IS/MND were determined to have potential to occur at the D-915 site based on the habitat present within this site: heartscale (*Atriplex cordulata* var. *cordulata*) and long-styled sand-spurrey (*Spergularia macrotheca* var. *longistyla*). Neither species was detected during the 2018 protocol-level botanical surveys. Livermore tarplant (*Deinandra bacigalupii*) (State Endangered; CRPR 1B.1) and brittlescale (*Atriplex depressa*) (CRPR 1B.2) were evaluated in the 2018 IS/MND, but were not detected during the aforementioned surveys within the Original Project survey area. However, these two special-status-plant species were detected during the 2018 protocol-level botanical survey at the D-915 site. In subsequent surveys in July 2020, project botanists revised the identification of the *Atriplex* species to be *Atriplex minuscula*; CRPR 1B.1 (lesser saltscale) and not brittlescale.

SPECIAL-STATUS SPECIES

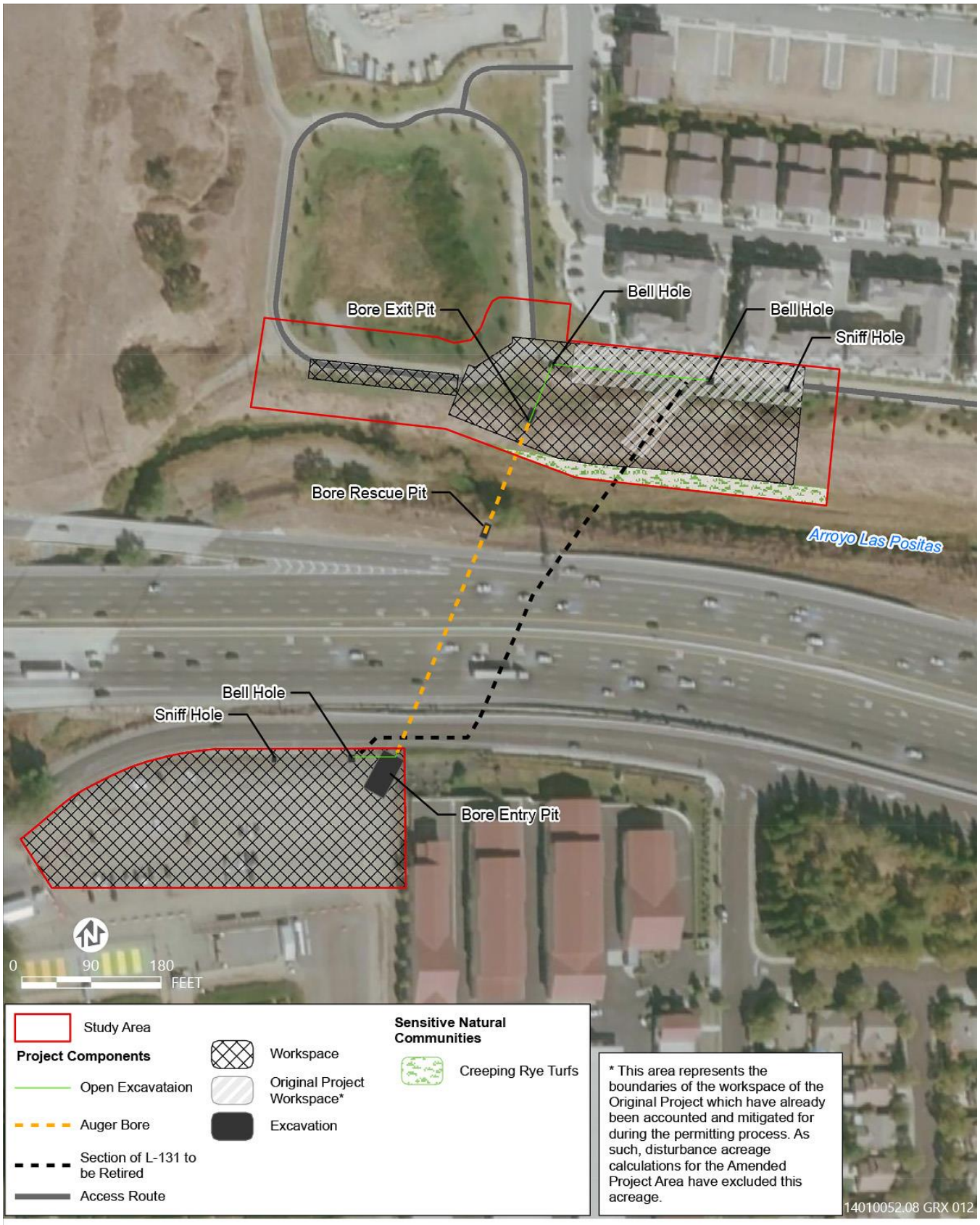
Special-Status Plants

To provide an update of Table 3.4-1 from the 2018 IS/MND, a revised list of regionally occurring special-status plant species was compiled based on a review of pertinent literature. For the purpose of this evaluation, special-status plant species include plants that are (1) listed as threatened or endangered under the CESA or federal Endangered Species Act, (2) proposed for federal listing as threatened or endangered, (3) state or federal candidate species, (4) designated as rare by the CDFW, or (5) California Rare Plant Rank (CRPR) 1A, 1B, 2A or 2B species. A total of 16 species were found to be of moderate or high potential to occur at one or both of the project sites. Ecological aspects and likelihood of occurrence are discussed below and in Table 3.4-1. The 16 species are: alkali milk-vetch (*Astragalus tener var. tener*), heartscale, brittlescale, lesser saltscale (*Atriplex miniscula*), big tarplant (*Blepharizonia plumose*), Mt. Diablo fairy-lantern (*Calochortus pulchellus*), Congdon's tarplant, hispid bird's-beak (*Chlorpyron mole* ssp. *hispidum*), palmate-bracted bird's-beak (*Chloropyron palmatum*), Livermore tarplant, San Joaquin spearscale (*Atriplex joaquinana*), hairless popcornflower (*Plagiobothrys glaber*), California alkali grass (*Puccinellia simplex*), long-styled sand-spurrey, saline clover (*Trifolium hydrophilum*), and caper-fruited tropidocarpum (*Tropidocarpum capparideum*) (Figures 3-1 and 3-2).



Source: Image provided by Stantec in 2021

Figure 3-1 Special-status Plant Species and Sensitive Communities at D-915



Source: Image provided by Stantec in 2021

Figure 3-2 Special-status Plant Species and Sensitive Communities at R-893

Alkali milk-vetch CRPR 1B.2

Alkali milk-vetch is an erect to ascending annual herb that grows to approximately 2 to 12 inches in height (Baldwin et al. 2012). This variation can be distinguished from *var. ferrisiae* by leaflet shape and fruit morphology; alkali milk vetch tends to have variable leaflets, and shorter, and straighter, and more deflexed pods (Spellenberg 1993, USFWS 2005). It is a California endemic that occurs in the Sacramento Valley, San Joaquin Valley, San Francisco Bay Area, and Inner South Coast Ranges California Floristic Provinces. The single CNDDB occurrence of alkali milk-vetch within 5 miles of the R-893 site is a historic occurrence (possibly extirpated) from 1958, located in the general vicinity of I-580 and Vasco Road (exact location unknown), and was observed in alkali flats (CNDDB 2021).

Heartscale CRPR 1B.2

Heartscale is an erect annual herb that grows to approximately 4 to 20 inches in height (Baldwin et al. 2012). This variation can be distinguished from crownscale (A. *coronata var. coronate*) by its fruit bracts, which are generally widest below the middle, and its heart-shaped (cordate) leaf bases (Baldwin et al. 2012). It is a California endemic that occurs in the Sacramento Valley and San Joaquin Valley California Floristic Provinces (Baldwin et al. 2012, CNPS 2021). There are two CNDDB occurrences of heartscale within 5 miles of the R-893 site. There are four CNDDB occurrences within 5 miles of the D-915 site.

Brittlescale CRPR 1B.2

Brittlescale is an annual herb with a prostrate-decumbent to ascending growth habit; it grows up to approximately 12 inches in height (Baldwin et al. 2012). This species is closely related to lesser saltscale (*Atriplex miniscula*) and Parish's brittlescale (*A. parishii*) as all three species can co-occur; however, brittlescale can be distinguished by its glabrous to densely scaly stem tips (Baldwin et al. 2012). It is a California endemic that occurs in the Sacramento Valley and San Joaquin Valley California Floristic Provinces (Baldwin et al. 2012, CNPS 2021). There are four CNDDB occurrences of brittlescale within 5 miles of the R-893 site. There are six CNDDB occurrences within 5 miles of the D-915 site.

Lesser saltscale CRPR 1B.1

Lesser saltscale is an erect to ascending annual herb that grows up to approximately 16 inches in height (Baldwin et al. 2012). This species is closely related to brittlescale and Parish's brittlescale as all three species can co-occur; however, lesser saltscale can be distinguished by its ascending erect stems (Baldwin et al. 2012). It is a California endemic that occurs in the San Joaquin Valley California Floristic Province (Baldwin et al. 2012, CNPS 2021). There are nine CNDDB occurrences of lesser saltscale within 5 miles of the R-893 site. There is a total of three CNDDB occurrences within 5 miles of the D-915 site.

Big tarplant CRPR 1B.2

Big tarplant is an erect annual herb with arched-ascending branches; this genus is known to grow up to approximately 6 feet in height, while this species is typically 1 to 3 feet (Baldwin et al. 2012). Big tarplant can be distinguished from viscid big tarplant (*Blepharizonia plumose*) by branching patterns, amount of color, and glandular hairs on stems and leaves, although these species can hybridize (Hickman 1993, Baldwin et al. 2012). Big tarplant is often found on dry slopes (Baldwin et al. 2012) and burned areas (CNDDB 2021). It is a California endemic that occurs in the San Joaquin Valley and the San Francisco Bay Area California Floristic Provinces (Baldwin et al. 2012, CNPS 2021). The closest CNDDB occurrence is located 8.75 miles to the northeast.

Mt. Diablo fairy-lantern CRPR 1B.2

Mt. Diablo fairy-lantern is an erect perennial bulbiferous herb with stout stems. This species is known to grow between approximately 4 to 12 inches in height (Baldwin et al. 2012). Mt. Diablo fairy-lantern can be distinguished by its bright yellow, pendant flowers (Hickman 1993, Baldwin et al. 2012). It is a California endemic that occurs in the San Francisco Bay Area California Floristic Province (Baldwin et al. 2012, CNPS 2021). It is located on the southern side of the Los Vaqueros Reservoir in grasslands found within chaparral and oak woodland habitats (CNDDB 2021).

Congdon's tarplant CRPR 1B.1

Congdon's tarplant is an erect annual herb that grows to heights between 4 and 27.5 inches (Baldwin et al. 2012). The distal leaves and peduncle bracts are spine-tipped, the leaves are glabrous to coarsely hairy, and the plant is seldom glandular but can have minute, stalked and yellowish glands interspersed among non-glandular hairs (Baldwin et al. 2012). Both the ray and disk flowers are yellow. Disk flowers have yellow to brown anthers and are subtended by 3 to 5 linear or awl-like scales (Baldwin et al. 2012). It is a California endemic that occurs in the central western California geographic region (CNPS 2021).

There is a total of 13 CNDDB occurrences of Congdon's tarplant within 5 miles of the R-893 site occurrence is located approximately 2.43 miles east of North Livermore Road along Hartford Avenue, and was observed in annual grassland. There is a total of nine CNDDB occurrences within 5 miles of the D-915 site. The closest is the one that is located along Hartford Avenue (CNDDB 2021).

There is marginal suitable habitat for Congdon's tarplant at the R-893 site and is it not expected to occur. However, suitable habitat is present for this species at the D-915 site and it could occur in the seasonal alkali wetland and in the alkali portions of the non-native grassland habitat.

Hispid bird's-beak CRPR 1B.1

Hispid bird's-beak is a hemiparasitic annual herb with many bristly branches spreading from near the base. This genus is known to grow to approximately 4 to 16 inches in height (Baldwin et al. 2012). Hispid bird's-beak can be distinguished from soft bird's beak (*C. mole* ssp. molle) by stiff, bristly hairs on the lobed bracts (Hickman 1993, Baldwin et al. 2012). It is a California endemic that occurs in the San Joaquin Valley and the Sacramento Valley California Floristic Provinces (Baldwin et al. 2012, CNPS 2021). There is one CNDDB occurrence in the Project Area, 0.65 mile southwest of the D-915 site (CNDDB 2021). There is no suitable habitat for hispid bird's-beak at the R-893 site, where it is not expected to occur. However, it could occur in the seasonal alkali wetland and in the moist, alkali portions of the non-native grassland habitat at D-915.

Palmate-bracted bird's-beak FE/CE/CRPR 1B.1

Palmate-bracted bird's-beak is a hemiparasitic annual herb with many bristly branches spreading from near the base and known to grow to approximately 4 to 12 inches in height (Baldwin et al. 2012). Palmate-bracted bird's-beak is often associated with salt grass (*Distichilis spicat*a), a host plant (CNDDB 2021, USFWS 1998) and also tends to occur with hispid bird's beak at the nearby (0.2 mile) Springtown Alkali Sink Preserve (Coates et al. 1989, USFWS 1998). It is a California endemic that occurs in the San Joaquin Valley and the Sacramento Valley California Floristic Provinces (Baldwin et al. 2012; CNPS 2021).

Within 5 miles of the D-915 site there is one occurrence located approximately 0.2 mile within the Springtown Alkali Sink Preserve west of Ames Street, where it was observed in iodine bush and alkali grasslands communities along braided channels (CNDDB 2021). It could occur in the seasonal alkali wetland and in the alkali portions of non-native grassland habitat present at D-915.

Livermore tarplant CRPR 1B.1, State listed (endangered)

Livermore tarplant is an erect annual herb with coarse-hairy and stalked -glandular leaves, and is known to grow to approximately 4 to 16 inches in height (Baldwin et al. 2012). Like many other tarplants, it is known by its sticky glands that produce a distinctive odor (Baldwin et al. 2012). It is a California endemic that occurs in the San Joaquin Valley California Floristic Province (Baldwin et al. 2012, CNPS 2021). The species is present at the D-915 site and there are four other CNDDB occurrences within 5 miles. Suitable habitat and hundreds of individual plants were present at the D-915 site during the special-status plant surveys performed in spring and summer 2018 on the site, throughout the seasonal alkali wetland and on alkali soils within the non-native grassland habitat, as shown in Figure 3-1. CDFW collected seed in this area in October and November 2020 and stored it at the UC Botanical Garden to support conservation and research.

San Joaquin spearscale CRPR 1B.2

San Joaquin spearscale is an erect annual herb with coarse-hairy and stalked-glandular leaves; this species is known to grow up to 4 to 40 inches in height (Baldwin et al. 2012). San Joaquin spearscale is known to be generally irregularly wavy-dentate with abruptly reduced leaves on distal stems (Baldwin et al. 2012). It is a California endemic that occurs in the Inner North Coast Ranges, Sacramento Valley, San Joaquin Valley, Central Coast, San Francisco Bay Area, and Inner South Coast Ranges California Floristic Provinces (Baldwin et al. 2012, CNPS 2021).

There are ten CNDDB occurrences of San Joaquin spearscale within 5 miles of the D-915 site in the Springtown Alkali Sink Preserve where it was observed in alkali sink scrub habitat (CNDDB 2021). There is a total of 12 CNDDB occurrences of San Joaquin spearscale within 5 miles of the R-893 site. The closest occurrence is near Doolan Canyon, observed in an alkaline wetland community.

This species could occur at the D-915 site in the seasonal alkali wetland and on adjacent moist, alkali soils in non-native grassland habitat.

Hairless popcornflower CRPR 1A

Hairless popcorn flower is presumed extinct in California. It is an erect to ascending annual herb that grows to heights no larger than 0.5 inch (Baldwin et al. 2012). This genus tends to grow with bracts below dense inflorescences, often with lobes appressed to the stem (Baldwin et al. 2012). It is a California endemic that occurs in the Central Coast and San Francisco Bay Area California Floristic Provinces (Baldwin et al. 2012, CNPS 2021). There are two CNDDB occurrences within five miles of the R-893 site. The closest is a historic occurrence from 1942 that is assumed extirpated and is located along I-580. There is only one CNDDB occurrence of hairless popcorn flower within 5 miles of the D-915 site, also from the same historic 1942 occurrence. The species could occur at the D-915 site in the seasonal alkali wetland and on alkali soils adjacent to this feature in non-native grassland habitat.

California alkali grass CRPR 1B.2

California alkali grass is an erect to decumbent annual grass with inflorescences, and grows from approximately 0.3 to 7 inches in height (Baldwin et al. 2012). This genus tends to grow with bracts below dense inflorescences, often with lobes appressed to the stem (Baldwin et al. 2012). It is a California endemic that occurs in various California Floristic Provinces, including Tehachapi Mountain Area, Sacramento Valley, San Joaquin Valley, San Francisco Bay Area, Desert Mountains, and Mojave Desert (Baldwin et al. 2012, CNPS 2021). There are two CNDDB occurrences of California alkali grass within five miles of the R-893 site. The closest is an undated general reference from Springtown Alkali Sink Preserve. From the D-915 site, there are three total CNDDB occurrences of California alkali grass within 5 miles.

Long-styled sand-spurrey CRPR 1B.2

Long-styled sand-spurrey is a stout, perennial herb of approximately 4 to 12 inches in height (Baldwin et al. 2012). This genus tends to grow with bracts below dense inflorescences, often with lobes appressed to the stem (Baldwin et al. 2012).

It is a California endemic that occurs in the Inner North Coast Ranges, Sacramento Valley and San Joaquin Valley California Floristic Provinces (Baldwin et al. 2012, CNPS 2021). There are two CNDDB occurrences of long-styled sand-spurrey within 5 miles of the R-893 site, a historic occurrence from 1943 with no substantial details on exact location or observations indicated. There are three CNDDB occurrences of long-styled sand-spurrey within 5 miles of the D-915 site. The closest is from 2003, within the Springtown Alkali Sink Preserve, which was observed in alkaline openings of grassland habitat. It could occur in the seasonal alkali wetland located below the southern work area.

Saline clover CRPR 1B.2

Saline clover is a generally fleshy annual herb with inflorescences of 1 to 1.5 centimeter (approximately 0.4 to 0.6 inch) in width (Baldwin et al. 2012). This species can be distinguished by its involucre bracts which are basally fused and less than 1 millimeter (Baldwin et al. 2012). It is a California endemic that occurs in the Sacramento Valley, San Joaquin Valley, Central Coast, San Francisco Bay Area, Inner South Coast Ranges, and the Outer Coast Ranges California Floristic Provinces (Baldwin et al. 2012, CNPS 2021). There are two CNDDB occurrences of saline clover within 5 miles of the R-893 site located in the Springtown Alkali Sink Preserve. There is only one CNDDB occurrence of saline clover within 5 miles of the D-915 site, also within the Springtown Alkali Sink Preserve. It could occur within the seasonal alkali wetland and on adjacent moist alkali soils within non-native grassland habitat.

Caper-fruited tropidocarpum CRPR 1B.1

Caper-fruited tropidocarpum is an erect to prostrate annual herb that grows to heights of up to 20 inches. While this genus tends to have silique fruits (seed capsule) with spoon-shaped, yellow, more or less purple fruits, the fruits of caper-fruited tropidocarpum tend to be less than 0.2 inch wide (Baldwin et al. 2012). It is a California endemic that occurs in the San Joaquin Valley, and the Outer Coast Ranges California Floristic Provinces (Baldwin et al. 2012, CNPS 2021).

There is one CNDDB occurrence of caper-fruited tropidocarpum within 5 miles of the project sites. This is a historic occurrence from 1897 located approximately 2.95 miles southeast of D-915 site. There is no suitable habitat for caper-fruited tropidocarpum at the R-893 site and it is not expected to occur there. Suitable habitat is present for this species at D-915 where it could occur within the alkali areas of the non-native grassland habitat below Location B.

Table 3.4-1 Potential for Special-Status Plant Species to Occur within the Amended Project Area

Species Name Common Name	Federal State CNPS Listing[1]	Habitat Preferences, Distribution Information, & Additional Notes	Flowering Phenology/ Life Form	Potential for Occurrence in R-893 Project Site	Potential for Occurrence in D-915 Project Site	Botanical Survey Results
Astragalus tener var. tener alkali milk-vetch	—/—/1B.2	Occurs in alkaline soils in playas, valley and foothill grassland (often adobe clay), and vernal pools below approximately 197 feet in elevation.	Mar-Jun Annual herb	Not likely to occur. No suitable habitat present. Closest CNDDB occurrence is located 4.36 miles east of the site.	Moderate potential to occur. Suitable habitat is present. The closest extant CNDDB occurrence is from 1999 and is located approximately 1.70 miles southeast of the project site.	Not observed during botanical surveys.
Atriplex cordulata var. cordulata heartscale	—/—/1B.2	Occurs in saline or alkaline soils in chenopod scrub, meadows and seeps, valley and foothill grassland (often sandy) below approximately 1,837 feet in elevation.	Apr-Oct Annual herb	Not likely to occur. No suitable habitat present. Closest CNDDB occurrence is located 2.76 miles northeast of the site.	Moderate potential to occur. Suitable habitat is present. The closest CNDDB occurrence is from 2002 and is located approximately 1.02 miles east of the site.	Not observed during botanical surveys.
Atriplex depressa brittlescale	—/—/1B.2	Occurs in alkaline (typically clay) soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools below approximately 1,050 feet in elevation.	Apr-Oct Annual herb	Not likely to occur. No suitable habitat is present. The closest CNDDB occurrence is from 2000 and is located approximately 1.48 miles northeast of the site.	Moderate potential to occur. Suitable habitat is present, but species not known to occur. The closest CNDDB occurrence outside of the D-915 site is located 0.17 mile to the southwest, within the Springtown Alkali Sink Preserve.	Not observed during botanical surveys.
Atriplex minuscula lesser saltscale	—/—/1B.1	Occurs in alkaline, sandy soils in chenopod scrub, playas, valley and foothill grassland between approximately 49 – 656 feet in elevation.	May-Oct Annual herb	Not likely to occur. No suitable habitat is present. The closest CNDDB occurrence is from 2010 and is located 2.77 miles northeast of the site.	Present. Suitable habitat is present at this site, and species was present in 2018. Also noted in CNDDB from 2018 at Springtown Alkali Sink Preserve, 0.75 mile to the southwest.	Species observed at D-915 site during botanical surveys performed in 2018 and 2020; species located within alkali wetland immediately south and southwest of Location B.
Blepharizonia plumose big tarplant	—/—/1B.1	Occurs in valley and foothill grassland; usually clay soils between approximately 98 – 1,657 feet in elevation.	Jul-Oct Annual herb	Moderate potential to occur. Suitable habitat is present. The closest CNDDB occurrences is greater than 5 miles from site.	Moderate potential to occur. Suitable habitat is present. The closest CNDDB occurrence is from 2007 and is located in the Vasco Caves Regional Preserve	Not observed during botanical surveys.

Species Name Common Name	Federal State CNPS Listing[1]	Habitat Preferences, Distribution Information, & Additional Notes	Flowering Phenology/ Life Form	Potential for Occurrence in R-893 Project Site	Potential for Occurrence in D-915 Project Site	Botanical Survey Results
					within the Altamont Pass area, approximately 4.63 miles northeast.	
Calochortus pulchellus Mt. Diablo fairy-lantern	—/—/1B.2	Occurs in chaparral, cismontane woodland, riparian woodland, valley and foothill grassland (often grassy slopes) between approximately 98 – 2,756 feet in elevation.	Apr-Jun Perennial bulbiferous herb	Moderate potential to occur. Suitable habitat is present. The closest CNDDB occurrences is greater than 5 miles from site.	Moderate potential to occur. Suitable habitat is present. The closest CNDDB occurrence is from 2003 and is located 4.8 miles north of the site.	Not observed during botanical surveys.
Centromadia parryi ssp. congdonii Congdon's tarplant	—/—/1B.1	Occurs in alkaline soils in valley and foothill grassland below approximately 755 feet in elevation.	May-Oct (Nov) Annual herb	Low potential to occur. Suitable grassland vegetation associations or substrates are present; however, most of the ruderal and non-native grasslands provide low quality habitat for this species.	Moderate potential to occur. Suitable habitat is present. The closest CNDDB occurrence is from 1998 and is located 1.67 miles southwest of the site.	Not observed during botanical surveys.
Chloropyron molle ssp. hispidum hispid bird's-beak	—/— /1B.1	Occurs in alkaline meadows and seeps, playas, valley and foothill grassland below approximately 509 feet in elevation.	Jun-Sep Annual herb (hemiparasitic)	Not likely to occur. No suitable habitat is present. The closest CNDDB occurrence is located 3.38 miles to the northeast.	Moderate potential to occur. Suitable habitat is present. The closest CNDDB occurrence is from 2003 and is located in the Springtown Alkali Sink Preserve, 0.65 mile southwest of the site.	Not observed during botanical surveys.
Chloropyron palmatum palmate-bracted bird's-beak	FE/CE/1B.1	Occurs in alkaline substrates in chenopod scrub, valley and foothill grassland between approximately 16 – 509 feet in elevation.	May-Oct Annual herb (hemiparasitic)	Not likely to occur. No suitable habitat is present. The closest CNDDB occurrence is from 2018 and is located 2.51 miles northeast from the site.	Moderate potential to occur. Suitable habitat is present. The closest CNDDB occurrence is from 2018 and is located 0.20 mile south-southwest from the site.	Not observed during botanical surveys.
Deinandra bacigalupii Livermore tarplant	—/CE/1B.1	Occurs in alkaline meadows and seeps between approximately 492 – 607 feet in elevation.	Jun-Oct Annual herb	Not likely to occur. No suitable habitat is present.	Present. Individual plants were observed during botanical surveys completed in 2018. Suitable habitat is located on site. The closest CNDDB occurrence is from 2015 and overlaps the southern portion of the site.	Species observed at D-915 site during botanical surveys in alkali wetland and along the north side of the wetland in alkali grasslands in 2018 and 2020.

Species Name Common Name	Federal State CNPS Listing[1]	Habitat Preferences, Distribution Information, & Additional Notes	Flowering Phenology/ Life Form	Potential for Occurrence in R-893 Project Site	Potential for Occurrence in D-915 Project Site	Botanical Survey Results
						Individual plants and seed were collected by CDFW in Fall 2020 in support of research and conservation purposes.
Extriplex joaquinana San Joaquin spearscale	—/—/1B.2	Occurs in alkaline soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland below approximately 2,740 feet in elevation.	Apr-Oct Annual herb	Not likely to occur. No suitable habitat is present. The closest CNDDB occurrence is from 2006 and is located 2.26 miles northwest of the site.	Moderate potential to occur. Suitable habitat is present. The closest CNDDB occurrence is from 2015 and is located 0.73 mile southwest of the site.	Not observed during botanical surveys performed.
Helianthella castanea Diablo helianthella	—/—/1B.2	Occurs in rocky, often partially shaded soils in broad-leafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland, between approximately 197-4,265 feet elevation.	Mar-Jun Perennial herb	Low potential to occur. Suitable grassland habitat is present, but the preferred soil type is absent. The closest CNDDB occurrence is greater than 5 miles from site.	Not likely to occur. No suitable habitat present. The closest CNDDB occurrence is from 1988 and is located 3.92 miles north-northwest of the site.	Not observed during botanical surveys.
Hesperolinon breweri Brewer's western flax	—/—/1B.2	Occurs in chaparral, Cismontane woodland, Valley and foothill grassland, usually serpentinite substrates between approximately 98 – 3,100 feet in elevation.	May-Jul Annual herb	Not likely to occur. Suitable grassland habitat is present, but serpentinite soils are absent. The closest CNDDB occurrence is greater than 5 miles from site.	Not likely to occur No suitable habitat is present. The closest CNDDB occurrence is 3.71 miles north-northwest of the site.	Not observed during botanical surveys.
Plagiobothrys glaber Hairless popcornflower	—/—/1A	Occurs in alkaline meadows and seeps, and coastal salt marshes and swamps below approximately 49 – 591 feet in elevation.	Mar-May Annual herb	Not likely to occur. No suitable habitat is present. The closest CNDDB occurrence is located 3.3 miles east of the site.	Moderate potential to occur. Suitable habitat is present. The closest CNDDB occurrence is located 2.08 miles south.	Not observed during botanical surveys.
Puccinellia simplex California alkali grass	—/—/1B.2	Occurs in alkaline, vernally mesic substrates, sinks, flats, and lake margins in chenopod scrub, meadows	Mar-May Annual herb	Not likely to occur. No suitable habitat is present. The closest CNDDB occurrence is located 3.44 miles northeast of the site.	Moderate potential to occur. Suitable habitat is present. The closest CNDDB	Not observed during botanical surveys.

Species Name Common Name	Federal State CNPS Listing[1]	Habitat Preferences, Distribution Information, & Additional Notes	Flowering Phenology/ Life Form	Potential for Occurrence in R-893 Project Site	Potential for Occurrence in D-915 Project Site	Botanical Survey Results
		and seeps, valley and foothill grassland, and vernal pools below approximately 3,051 feet in elevation.			occurrence is located 0.7 mile southwest of the site.	
Spergularia macrotheca var. longistyla long-styled sand-spurrey	—/—/1B.2	Occurs in alkaline meadows and seeps, marshes and swamps below approximately 837 feet in elevation.	Feb-May (Jun) Perennial herb	Not likely to occur. No suitable habitat is present. The closest CNDDB occurrence is located 2.04 miles southeast of the site.	Moderate potential to occur. Suitable habitat is present. The closest CNDDB occurrence is located 1.06 mile southwest of the site.	Not observed during botanical surveys.
Trifolium hydrophilum saline clover	—/—/1B.2	Occurs in (salt) marshes and swamps, valley and foothill grassland (mesic, alkaline), and vernal pools below approximately 984 feet in elevation.	Apr-Jun Annual herb	Low potential to occur. There is suitable grassland and limited suitable emergent wetland on the site, but the preferred soil type is absent. The closest CNDDB occurrence is located 3.58 miles northeast of the site.	Moderate potential to occur. Suitable habitat is present. The closest CNDDB occurrence is located 0.8 mile south of the site.	Not observed during botanical surveys.
Tropidocarpum capparideum Caper-fruited tropidocarpum	—/—/1B.1	Occurs in valley and foothill grassland (often alkaline hills) below approximately 1,493 feet in elevation.	Mar-Apr Annual herb	Low potential to occur. There is suitable grassland habitat on the site, but the preferred soil type is absent. The closest CNDDB occurrence is located 4.7 miles east of the site.	Moderate potential to occur. Suitable habitat is present. The closest CNDDB occurrence is located 2.95 miles southeast of the site.	Not observed during botanical surveys.

Notes:

[1] Status definitions:

Federal:

E Endangered (legally protected)

State:

CE Endangered (legally protected)

[1] In California Rare Plant Rank (CRPR) system. Species are ranked from presumed extinct (CRPR 1A), to limited distribution species now on a watch list (CRPR 4).
Plants with a CRPR of 1A are presumed extirpated or extinct because they have not been seen or collected in the wild in California for many years. A plant that is considered extirpated from California has been eliminated from California but may still occur elsewhere in its range.
Plants with a CRPR of 1B are rare throughout their range with most of them endemic to California. Rankings of 1B and lower are followed with another digit of 1 to 4, a "threat ranking." Ranks at each level also include a threat rank (e.g., CRPB 4.3) and are determined as follows: 1-Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat); 2-Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat) and 3-Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

Special-Status Wildlife

The 2018 IS/MND concluded that 11 special-status wildlife species had potential to occur within the Original Project site: California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), grasshopper sparrow (*Ammodramus savannarum*), golden eagle (*Aquila chrysaetos*), western burrowing owl (*Athene cunicularia*), northern harrier (*Circus hudsonius*), white-tailed kite (*Elanus leucurus*), loggerhead shrike (*Lanius ludovicianus*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and American badger (*Taxidea taxus*). See Tables 3.4-1 and 3.4-2 in the 2018 IS/MND for a list and evaluation of species at the Original Project site. Only California tiger salamander was found during construction, and out of 116 total recorded, 111 individual wildlife species were relocated short distances outside of the project footprint by PG&E's biological monitors between the dates of October 2, 2018 and February 28, 2019 (see Appendix D). This impact was considered to be fully mitigated through implementation of mitigations of ITP 2081-2017-011-03 (see Appendix D).

As summarized in the Wildlife Constraints Report (Appendix D), biological evaluations were conducted for the R-893 and D-915 sites to determine potential suitability for special-status wildlife species at these locations. Also, to provide an update of Table 3.4-2 in the 2018 IS/MND, a revised list of regionally occurring special-status wildlife species was compiled based on a review of pertinent literature, the results of the biological evaluations, and queries of the USFWS, CNDDB, and CNPS database records within 5 miles of the project sites and the California Wildlife Habitats Relationship system. For each species, general habitat requirements were assessed and compared to the habitats within the project sites and immediate vicinity to determine the potential for each species to be present at the R-893 site or the D-915 site. Based on these reviews and field assessment, 20 special-status wildlife species were determined to have a medium or high potential to occur in the study area (Table 3.4-2). Ecological aspects and likelihood of species' occurrence are discussed in further detail below and in Table 3.4-2. The 20 species are: longhorn fairy shrimp, vernal pool fairy shrimp, California tiger salamander, California red-legged frog, Western spadefoot, California glossy snake, Western pond turtle, San Joaquin coachwhip, coast horned lizard, Northern harrier, tricolored blackbird, grasshopper sparrow, short-eared owl, golden eagle, burrowing owl, Swainson's hawk, white-tailed kite, loggerhead shrike, American badger, and San Joaquin kit fox.

Longhorn fairy shrimp

Longhorn fairy shrimp require freshwater vernal pool ecosystems that remain inundated for up to 43 days for the shrimp to reach maturity. This species has been recorded within a range of vernal pool habitats from clear water, neutral pH, low alkalinity, low conductivity and water temperatures between 50 to 64°F to grassland pools with clear to turbid water and water temperatures between 50 to 82°F (Helm 1998, Eriksen and Belk 1999). There are six CNDDB records of longhorn fairy shrimp within 5 miles of the R-893 and D-915 sites.

Vernal pool fairy shrimp

Vernal pool fairy shrimp require freshwater vernal pools and vernal pool-like habitats. They occur in clear, cool-water, small, shallow vernal pool habitats with relatively short inundation periods and low to moderate turbidity and alkalinity (Helm 1998; Eriksen and Belk 1999), although they have also been recorded within turbid, large, deep, alkaline pools (Eriksen and Belk 1999, USFWS 2007). Vernal pool fairy shrimp require water temperatures of 50°F or below to hatch form cysts and immature and adult shrimp have been documented perishing when water temperatures reach 75°F (Helm 1998; Eriksen and Belk 1999). There are three CNDDB records of vernal pool fairy shrimp within 5 miles of the R-893 and D-915 sites.

California tiger salamander

The central population of the California tiger salamander is most strongly associated with grassland and aquatic habitats, but the species also occurs in other habitat types including oak savanna, on the edges of mixed woodlands, and in foothill coniferous forests. Adults spend most of the year in underground retreats, particularly in burrows of California ground squirrels (*Spermophilus beecheyi*) and pocket gopher (*Thomomys bottae*), and occasionally are found in man-made structures (Stebbins 2003). California tiger salamanders make seasonal migrations up to 1.3 miles to breeding ponds starting with the onset of fall rains (USFWS 2004). Seasonal pools are most commonly used but California tiger salamander may also occasionally use permanent ponds if predatory fish and other predators are

absent. After breeding, California tiger salamander adults return to their upland retreats after a few days or weeks. Juveniles require approximately 10 to 12 weeks to achieve metamorphosis; they then disperse to upland areas after spending a few hours or days near the edges of aquatic habitats (Stebbins 2003).

There are 209 CNDDB occurrences of CTS within 5 miles of the R-893 and D-915 sites, USFWS designated critical habitat occurs 3.4 miles west of R-893 and 0.9-mile northwest of D-915. At the R-893 Project site, suitable aquatic breeding habitat for California tiger salamander is absent, but suitable upland habitat is present in the grassland and ruderal habitat communities. Although the site is partially surrounded by urban development, open areas of grassland with scattered seasonal wetlands and stock ponds north of the site provide suitable habitat for the species.

Suitable aquatic and upland habitat are present within and immediately adjacent to the D-915 site. During the December 2018 biological surveys of the site, four ponds were identified within 500 feet of the D-915 site (with the closest approximately 197 feet northeast of Location B) that could provide suitable aquatic breeding habitat for California tiger salamander (see Appendix D). The nearest pond is a small, spring-fed, permanent stock pond with sparse emergent vegetation. In addition, the D-915 site is less than 1 mile from the Springtown Alkali Sink Preserve and the Lin Livermore Ranch Preserve where the species is known to occur. A total of six potentially suitable breeding ponds are within less than 1 mile of the site. Suitable upland habitat is also present in the adjacent grassland habitat which supports a large ground squirrel population. The 2018 biological survey identified a total of 96 burrows capable of providing suitable underground refugia for the species within the 5.804-acre study area.

California red-legged frog

California red-legged frog breeds in wetlands, lakes, ponds, and other still or slow-moving sources of water that remain inundated long enough for larvae to complete metamorphosis, which typically occurs from 11 to 20 weeks after hatching (Storer 1925). During summer months, California red-legged frog may take refuge in cool, moist areas, including rodent burrows and soil crevices within a few hundred feet of aquatic habitats. Adult frogs tend to be most active at night during wet weather, but they may move through upland areas at any time during the year (USFWS 2002). California red-legged frog may disperse more than 2 miles from breeding ponds but movement distances of up to 1 mile probably occur much more commonly. Upland habitat includes various vegetation types, such as grassland, woodland, forest, wetland, or riparian areas and includes structures that provide shade, moisture and cooler temperatures (USFWS 2010).

There are 91 CNDDB occurrences of California red-legged frog within 5 miles of the R-893 and D-915 sites. The closest occurrences were an observation approximately 0.26 mile east of the R-893 site in Cayetano Creek, a tributary to Arroyo Las Positas, and a 2012 observation that overlaps the southern portion of the D-915 site (CNDDB 2021). Suitable breeding and upland habitat for California red-legged frog is present at both R-893 and D-915 sites. At the R-893 site, suitable aquatic dispersal habitat and breeding habitat is present along Arroyo Las Positas (a creek adjacent to R-893) as well as suitable upland foraging habitat. Suitable aquatic dispersal habitat and possible breeding habitat is also present on this creek, as well as suitable upland habitat (dense emergent vegetation).

The D-915 site is located within California red-legged frog Critical Habitat Unit ALA-1A. Suitable aquatic habitat for this species, as identified during literature searches and the December 2018 survey, is abundant in the vicinity with a total of six ponds present within less than 1 mile. The nearest pond is a small, spring-fed, permanent stock pond with sparse emergent vegetation that is located approximately 197 feet northeast of the D-915 Location B. Suitable upland habitat is also present in the adjacent grassland habitat which supports ample insect and small rodent prey species for red-legged frog, as well as ground squirrel burrows which could provide the frogs with refuge during overland foraging movement.

Western spadefoot toad

Western spadefoot toads prefer grassland, oak woodland, coastal sage scrub, and chaparral habitats with sandy and gravelly soils. Adults and juveniles typically remain in burrows they dig with the small wedge-shaped spades on their hind feet, or use small mammal burrows during hot, dry periods. Adults migrate during rain events to freshwater seasonal wetlands and vernal pools (Stebbins and McGinnis 2012, Thomson et al. 2016). This species has also been documented breeding in intermittent streams with isolated pools and artificial stock ponds (Thomson et al. 2016).

There are two CNDDB records of western spadefoot within 5 miles of the D-915 site, and none within five miles of R-893. Both records are from 2004.

California glossy snake

The California glossy snake resides in a variety of lightly vegetated to barren areas surrounded by denser vegetation in grassland, desert, shrubland, chaparral, and woodland habitats with loose sandy or loamy soils (Stebbins and McGinnis 2012, Thomson et. al 2016, CNDDB 2021). It also occurs in rocky areas in these habitats, is mainly nocturnal, and resides in small mammal burrows, under rocks, or in burrows it excavates (Stebbins and McGinnis 2012, Thomson et. al 2016, CNDDB 2021). California glossy snake has been recorded at elevations ranging from sea level to 6,000 feet (CNDDB 2021). Loss of habitat to urban and agriculture developments is the primary threat to the species (Thomson et. al 2016).

There are no CNDDB records of California glossy snake within 5 miles of the project sites. The closest occurrence is a 2010 observation approximately 8 miles southeast of the D-915 site. Suitable open grassland habitat does occur there.

Western pond turtle

The western pond turtle occurs in both permanent and seasonal waters, including marshes, streams, rivers, ponds and lakes, but are also found in irrigation canals and agricultural drains. This species favors habitats with suitable sites for emergent basking, as it spends a significant amount of time in this form of thermoregulation. The basking is done at a variety of sites, including rocks, sand, mud, downed logs, submerged branches of near-shore vegetation, and emergent or submerged aquatic vegetation.

There are 14 CNDDB records of western pond turtle within 5 miles of the R-893 and D-915 project sites. The closest occurrences are both along the Arroyo del Positas (2017).

San Joaquin coachwhip

The San Joaquin coachwhip prefers open, dry areas with little to no vegetation cover in desert, grassland, pasture, and scrubland habitats and is an active diurnal species that prefers warmer temperatures. It uses mammal burrows for overwintering or when surface temperatures become too high. This species will also climb into shrubs, bushes, and trees to scan for prey, seek shade, or bask (Stebbins and McGinnis 2012, Thomson et. al 2016). San Joaquin coachwhip has been recorded at elevations ranging from sea level to 7,700 feet. Loss of habitat to urban and agricultural development is the primary threat to San Joaquin coachwhip (Stebbins and McGinnis 2012, Thomson et. al 2016).

There is one CNDDB record for San Joaquin coachwhip within 5 miles of the project sites, from a 2000 observation.

Coast horned lizard

The coast horned lizard requires loose, fine soils in open areas with scattered shrubs and abundant ant and invertebrate prey in a variety of habitats including scrubland, dunes, grassland, chaparral, and woodland. This species uses loose soils for thermoregulation by burrowing into the substrate and uses vegetation, surface objects, and small mammal burrows for shade and overwintering (Stebbins and McGinnis 2012, Thomson et. al 2016). Coast horned lizard has been recorded at elevations ranging from sea level to 4,000 feet in the Sierra Nevada foothills, and to 6,000 feet in the mountains of southern California. Loss of habitat to urban and agricultural developments, flood control activities, and the introduction of non-native ant species are the primary threats to coast horned lizard (Stebbins and McGinnis 2012, Thomson et. al 2016).

There are no CNDDB records of coast horned lizard within 5 miles of the project sites. The closest occurrence is an 1893 observation.

Tricolored blackbird

Tricolored blackbird is a colonial nester, breeding in dense colonies from which they may travel several miles to forage in grasslands and agricultural fields. They breed within a variety of wetland habitats but prefer freshwater marshes dominated by cattails (*Typha* spp.) or bulrushes (*Schoenoplectus* spp.). Nesting has also been documented in

willows (*Salix* spp.), blackberries (*Rubus* spp.), thistles (*Cirsium* and *Centaurea* spp.), and nettles (*Urtica* sp.) (Beedy and Hamilton 1999).

There are 14 CNDDB records of tricolored blackbird within 5 miles of the R-893 and D-915 sites. The closest occurrences are from 1980 and 2014. Suitable nesting habitat may be present in the emergent wetland and Arroyo Las Positas Creek adjacent to the R-893 site.

Grasshopper sparrow

The grasshopper sparrow inhabits grassland habitats, including cultivated fields with short to medium height vegetation consisting of grasses and scattered shrubs or weeds. It builds a cup nest of dried grass located in slight depressions with overhanging grasses and forbs. Diet consists primarily of invertebrates but also includes seeds from grasses and forbs (Unitt 2008).

One CNDDB record for grasshopper sparrow from 2016 occurs 4.5 miles northeast of the R-893 site and 2 miles north of the D-915 site. Grasslands within the project sites and surrounding areas may provide suitable foraging and nesting habitat for grasshopper sparrow.

Short-eared owl

Short-eared owls occur throughout North America and can be found in open country, such as annual and perennial grasslands, prairies, dunes, meadows, irrigated lands, and saline and fresh emergent wetlands (Wiggins et al. 2021). This species requires dense vegetation (tall grasses or brush) for nesting and open foraging grounds with an abundance of small mammal prey (Clark 1975). This species nests on dry ground, often on slight ridges or mounds if present. Nests consist of depressions that are scraped out by the females and lined with grasses and feathers and concealed in vegetation. Primary threats to this species include degradation of habitat due to conversion of open habitat to agriculture, grazing, and development. This species is particularly susceptible to habitat fragmentation as it requires relatively large tracts of grassland, and fragmented habitats and rural development also lead to increased predation pressure on ground nesters (Wiggins et al. 2021).

There are no CNDDB occurrences documented within 5 miles of the project sites. The nearest occurrences are from 2011 and 1987. Both were more than 20 miles away.

Golden eagle

Golden eagles occur in grasslands, oak savannahs, woodlands, and agricultural areas. Nesting habitat includes cliffs and large trees in open or semi-open areas, and golden eagles frequently use the same nesting sites between years or use alternate sites within a territory. Golden eagles prey on mammals including rabbits and rodents and also prey on birds and reptiles (Polite and Pratt 1988).

There are two CNDDB records of golden eagle nests within 5 miles of the D-915 site, but no records within 5 miles of R-893. The closet record is from 2007 and is 3.7 miles north of D-915.

Burrowing owl

Burrowing owls are found in open arid and semiarid habitats with short or sparse vegetation, including grasslands, deserts, agricultural fields, ruderal areas and open, landscaped areas. They generally are dependent on mammals, such as the California ground squirrel, that dig burrows the owls occupy. Some burrowing owls have adapted to urban landscapes, and in some instances open lots, roadsides, and landscaped areas can provide suitable habitat (Gervais et al. 2008).

There are 29 CNDDB records of burrowing owl within 5 miles of the R-893 and D-915 sites. The most recent occurrence is from 2017; there was also a 2014 occurrence 0.7 mile to the northwest in the construction equipment laydown area for the construction of the PG&E Dalton substation that is at the south end of the D-915 site.

Swainson's hawk

Swainson's hawk inhabits open, deserts, grasslands and agricultural fields with abundant prey including rabbits, rodents, reptiles, and birds. Adults nest in isolated trees or small groves in open habitats and in riparian areas and oak

savannahs adjacent to open habitats. Swainson's hawks have been documented roosting on the ground if no nest trees are available (Polite 1988a).

One CNDDB record for Swainson's hawk from 2017 is from 3.7 miles southeast of the R-893 site and 3.4 miles south of the D-915 site.

Northern harrier

Northern harrier nests on the ground in marshes or dense fields and generally use grasslands for foraging. Their diet consists mostly of small mammals (up to the size of small rabbits) and small birds. Northern harrier nests are usually situated on the ground in shrubby vegetation, usually along marsh edges. Threats to this species habitat includes degradation of freshwater and estuarine wetlands and conversion of grasslands to agriculture. Northern harrier generally avoid urban areas but know been known to forage along roadsides (Hager 2009).

There is one CNDDB occurrence (1992) located approximately 5.2 miles northwest of the R-893 site. This occurrence consisted of a possible breeding pair documented in tall annual grassland in a remote location relatively secluded from human disturbance.

White-tailed kite

The white-tailed kite inhabits grasslands, marshes, agricultural areas, oak woodland, and oak savanna habitats, typically nesting in dense-canopied trees. Small mammals, particularly meadow voles, make up the bulk of their diet, and foraging habitats generally are open areas supporting relatively large vole populations. Reptiles and occasionally birds also are taken as prey (Polite 1988b).

There are two CNDDB records of white-tailed kite within 5 miles of the R-893 and D-915 sites. The closest occurrence is from 1996 and located 4.6 miles east of the R-893 site and 3 miles southeast of the D-915 site.

Loggerhead shrike

Loggerhead shrike inhabits open, grassy areas interspersed with trees, shrubs and bare ground. Trees, shrubs, and fence posts are used as hunting perches and territory announcement sites. Nesting occurs in a variety of trees and shrubs and is common in low shrubs with dense layers of protective branches or thorns (Yosef 1996).

There are two CNDDB records of loggerhead shrike within 5 miles of the D-915 site, and none within 5 miles of the R-893 site. The closest occurrence is from 2009 and located 4.3 miles south of the D-915 site.

American badger

American badger requires loose soils in open areas and with abundant rodent prey, especially ground squirrels and prairie dogs, in prairie, desert, grassland, chaparral, pasture, woodland, and alpine meadow habitats. This species is a proficient digger and constructs large burrows that may be up to 30 feet long for refugia, rearing offspring, food storage, and overwintering (Sullivan 1996, Reid 2006). During the summer, American badger may excavate and use a new den each day. This species has been recorded at elevations ranging from sea level to 12,000 feet (Sullivan 1996).

There are five CNDDB records of American badger within 5 miles of the project sites. The closest occurrence is from 1995 observation. There is suitable habitat within both the R-893 and D-915 sites as there is ground squirrel activity and other burrowing rodents in both areas. However, the residential and industrial development at the R-893 site reduces the quality of suitable foraging and denning habitat in the vicinity.

San Joaquin Kit Fox

San Joaquin kit fox is the largest of the kit fox species and prefers desert-like habitats with loose, sandy soils and sparse to no shrubs, sparse ground cover, and short vegetation where present (USFWS 2010). It is typically found in alkali scrub/shrub and arid grassland habitats with either level terrain or gradual slopes and an abundance of rodent prey, especially kangaroo rats, white-footed mice, pocket gophers, and ground squirrels (USFWS 2010). This species constructs burrows for refugia and rearing offspring and is absent in areas with high water tables, shallow soils, or impenetrable hardpans (USFWS 2010).

There are four CNDDB records of San Joaquin kit fox within 5 miles of the project sites. The closest occurrence is a 2002 observation located approximately 3.2 miles northeast of the D-915 site. The residential and industrial development at the R-893 site reduces the quality of suitable foraging and denning habitat in the vicinity.

Table 3.4-2 Potential for Special-Status Wildlife Species to Occur within the Amended Component Project Areas

Species Name Common Name	Federal State Other Listing	Associated Habitats	Potential for Occurrence within R-893 Project Site	Potential for Occurrence within D-915 Project Site
Invertebrates				
Branchinecta conservatio Conservancy fairy shrimp	FE/--/--	Inhabits vernal pools, seasonal swales, and depressions, usually in grassland habitats.	Not likely to occur. No records within 5 miles of the site. Populations are highly restricted and known from only a few disjunct localities within the northern two thirds of the Central Valley.	Not likely to occur. No records within 5 miles of the site. Populations are highly restricted and known from a few disjunct localities within the northern two thirds of the Central Valley.
Branchinecta longiantenna Longhorn fairy shrimp	FE/--/--	Inhabits vernal pools and depressions. In the project region, this species occurs in pools within sandstone outcrops with low alkalinity.	Low potential to occur. The nearest record is 2.4 miles east. The emergent wetland adjacent to the site may contain suitable habitat. No vernal pools or other suitable seasonally inundated habitat is present.	Moderate potential to occur. The nearest record overlaps the site and USFWS designated critical habitat occurs 2.9 miles northeast. The seasonal alkali wetland crossed by the access route just south of the Location B may contain suitable habitat although the hydroperiod is likely not long enough to support the species' breeding cycle (as observed in a February 2021 site visit).
Branchinecta lynchi Vernal pool fairy shrimp	FT/--/--	Inhabits a variety of seasonal pools and vernal pools including stone, mud, and grassy-bottomed habitats.	Low potential to occur. The nearest record is 2.2 miles northeast and USFWS designated critical habitat occurs 2 miles northeast. No vernal pools or other suitable seasonally inundated habitat is present.	Moderate potential to occur. The nearest record is 498 feet southwest. The southern portion of the site occurs in USFWS designated critical habitat. The seasonal alkali wetland crossed by the access route may contain suitable habitat, although the hydroperiod is like long enough to support the species' breeding cycle (as observed in a February 2021 site visit).
Desmocerus californicus Valley elderberry longhorn beetle	FT/--/--	USFWS defines habitat as elderberry shrubs (*Sambucus* sp.) with stems measuring greater than 1 inch in diameter within riparian and upland habitats in the Central Valley, up to 3,000 feet in elevation.	Not likely to occur. No records within 5 miles of the site, host plant not observed during field surveys.	Not likely to occur. No records within 5 miles of the site. No suitable habitat is present.
Amphibians				
Ambystoma californiense California tiger salamander	FT/ST/--	Inhabits grasslands and foothills, breeding in seasonal pools and ponds. Requires rodent burrows in grasslands for terrestrial	High potential to occur. The nearest record occurs 0.6 mile north and USFWS designated critical habitat occurs 0.9 mile northwest.	High potential to occur. The nearest record occurs 400 feet south and USFWS designated critical habitat occurs

Species Name Common Name	Federal State Other Listing	Associated Habitats	Potential for Occurrence within R-893 Project Site	Potential for Occurrence within D-915 Project Site
		underground retreats after breeding.	Aquatic breeding habitat is present within dispersal distance, and suitable upland habitat is present that supports burrows which could provide underground refugia.	3.4 miles west. Aquatic breeding habitat is present within dispersal distance, and suitable upland habitat is present that supports burrows which could provide underground refugia.
Rana boylii Foothill yellow-legged frog	SE/--/--	Inhabits rocky streams and rivers with rocky substrate and open, sunny banks in forest and chaparral habitats.	Not likely to occur. The nearest record is 5 miles south. No suitable habitat is present.	Not likely to occur. No records in the project site or vicinity. No suitable habitat is present.
Rana draytonii California red-legged frog	FT/--/SSC	Breeding habitat consists of still or slow-moving water with emergent or riparian vegetation. Non-breeding habitat includes cool, moist areas with adequate cover or small mammal burrows. Requires barrier-free areas to allow movement between breeding and upland habitats.	High potential to occur. The nearest record is 0.4 mile east and USFWS designated critical habitat is 0.9 mile northwest of the site. The emergent wetland and pools within Arroyo Las Positas Creek may contain suitable breeding habitat and additional aquatic breeding habitat is present within dispersal distance. Suitable upland grassland habitat is present.	High potential to occur. Occurrence has been recorded at the site. The site is within USFWS designated critical habitat. Suitable aquatic breeding habitat is present within dispersal distance, and suitable upland is present within the grassland habitat.
Spea hammondii Western spadefoot	--/--/SSC	Inhabits primarily lowland areas where temporary pools occur, including washes, river floodplains, alluvial fans, and alkali flats. Associated with low vegetation areas and sandy or gravel substrate.	Low potential to occur. No records within 5 miles of the site. No vernal pools or other suitable seasonally inundated habitat is present.	Moderate potential to occur. The nearest record is 4 miles southeast. The seasonal alkali wetland within the site may provide suitable breeding habitat. Suitable grassland habitat is present.
Reptiles				
Arizona elegans occidentalis California glossy snake	--/--/SSC	Occurs in arid scrub, desert, sagebrush, grassland, and chaparral habitats with open areas and loose soil for burrowing or small mammal burrows and rocky outcrops for refuge.	Low potential to occur. The nearest CNDDB occurrence is more than 5 miles from the project site. No suitable habitat is present.	Moderate potential to occur. The nearest CNDDB occurrence is more than 5 miles from the site. Suitable grassland habitat is present
Emys marmorata Western pond turtle	--/--/SSC	Inhabits ponds, lakes, rivers, streams and marshes. Requires sites for basking and upland habitat typically within 300 feet for egg-laying, such as sandy or grassy open fields.	High potential to occur. The nearest record is 0.4 mile east on Arroyo Las Positas Creek. This creek and the emergent wetland and adjacent to the project site may contain suitable breeding habitat, and the adjacent vegetated uplands may contain suitable nesting habitat.	Not likely to occur. The nearest record is 2.5 miles southwest. No suitable habitat is present.
Masticophis flagellum ruddocki San Joaquin coachwhip	--/--/SSC	Inhabits open, dry habitats with little or no tree cover. Found in valley grassland and salt brush scrub in the San Joaquin Valley. Mammal burrows are used for refuge and oviposition sites.	Not likely to occur. No records within 5 miles of the site. No suitable habitat is present.	Moderate potential to occur. The nearest record is 4.58 miles southeast. There is suitable open grassland habitat within the site and surrounding areas.

Species Name Common Name	Federal State Other Listing	Associated Habitats	Potential for Occurrence within R-893 Project Site	Potential for Occurrence within D-915 Project Site
Phrynosoma blainvillii Coast horned lizard	--/--/SSC	Occurs in open areas in valley-foothill hardwood, coniferous, riparian, and grassland habitats with loose soil for burrowing or small mammal burrows, rock outcrops, and surface objects for refuge.	Low potential to occur. No CNDDB occurrences within 5 miles of the site. No suitable habitat is present.	Moderate potential to occur. No CNDDB occurrences within 5 miles of the site. Suitable open grassland habitat is present within the site and the surrounding areas.
Masticophis lateralis euryxanthus Alameda whipsnake	FT/ST/--	Occurs in northern sage scrub or chaparral habitats with rock outcrops, rock crevices, and small mammal burrows used for refugia. May travel up to 500 feet into adjacent grassland habitat.	Not likely to occur. No records within 5 miles of the project site. No suitable habitat is present.	Not likely to occur. The nearest record is 3.1 miles north. No suitable habitat is present.
Birds				
Agelaius tricolor Tricolored blackbird	--/ST/--	Inhabits emergent wetlands; grasslands; and agricultural fields. Breeds near fresh water in large stands of emergent wetlands in cattails or tules. May also breed in thickets of willow, wild rose, blackberry, or other tall herbaceous species.	Low potential to occur (nesting). The nearest record is 1.4 miles southwest. Emergent vegetation along the creek is sparse and does not have the density that would support a nesting colony. Suitable foraging habitat is present in the upland habitat along the creek.	Low potential to occur (nesting). The nearest record is 0.9 miles northwest. Nesting habitat is absent, however suitable foraging habitat is present throughout the site.
Ammodramus savannarum Grasshopper sparrow	--/--/SSC	Inhabits moderately open grasslands with scattered shrubs.	Moderate potential to occur (nesting). The nearest record is 4.5 miles northeast. Suitable nesting and foraging habitats are present in grasslands within the site.	Moderate potential to occur (nesting). The nearest record is 1.2 miles north. Suitable nesting and foraging habitat is present in grasslands within the site.
Asio flammeus Short-eared owl	--/--/SSC	Inhabit large, open areas with low vegetation in prairie, grassland, meadows, savanna, tundra, dunes, and agricultural fields. Nests on the ground amid grasses and low vegetation.	Moderate potential to occur. The nearest CNDDB occurrence is approximately 24 miles west. Suitable foraging and nesting habitats are present.	Moderate potential to occur. The nearest CNDDB occurrence is approximately 28 miles west. Suitable foraging and nesting habitats are present.
Aquila chrysaetos Golden eagle	--/--/SFP	Inhabits grasslands, oak savannas, woodlands, and agricultural areas. Nesting habitat includes cliffs and large trees in open or semi-open areas.	Not likely to occur (nesting). No records within 5 miles of the project sites. No large trees that would provide nesting habitat are present, however the grasslands on the site provide suitable foraging habitat, particularly where small mammals are abundant.	Low potential to occur (nesting). The nearest record is 3.7 miles north. No suitable nesting habitat is present, however the grasslands on the site provide suitable foraging habitat, particularly where small mammals are abundant.
Athene cunicularia Burrowing owl	--/--/SSC	Inhabits open arid and semiarid habitats with short or sparse vegetation, including grasslands, deserts, agricultural fields, ruderal areas and open, landscaped areas. Reliant on mammals that dig underground burrows.	Moderate potential to occur (nesting). The nearest record is 1.1 miles north. Suitable nesting and foraging habitat are present in the grasslands.	High potential to occur (nesting and foraging). The nearest record is 0.2 mile south. Suitable nesting and foraging habitat are present in the grasslands within the project site, as are ground squirrels.

Species Name Common Name	Federal State Other Listing	Associated Habitats	Potential for Occurrence within R-893 Project Site	Potential for Occurrence within D-915 Project Site
Buteo swainsoni Swainson's hawk	--/ST/--	Nests in scattered trees or along riparian systems adjacent to agricultural fields or pastures, which are their primary foraging areas. Preferred nest trees are valley oak; cottonwood; willow; sycamore; and walnut.	Low potential to occur (nesting). The nearest record is 3.7 miles north. No large trees that would provide nesting habitat are present, however the grasslands on the site provide suitable foraging habitat, particularly where small mammals are abundant.	Low potential to occur (nesting). The nearest record is 3.7 miles north. No suitable nesting habitat is present, however the grasslands on the site provide suitable foraging habitat, particularly where small mammals are abundant.
Circus hudsonius Northern harrier	--/--/SSC	Occurs in open wetland, grassland, meadows, tundra, high desert, agricultural fields, and prairie habitats with low, dense vegetation. Nests on the ground amid dense vegetation.	Moderate potential to occur. The closest CNDDB occurrence is approximately 5.2 miles northwest. Marginal foraging and nesting habitats are present.	Moderate potential to occur. No records within 5 miles of the project site. Suitable foraging and nesting habitats are present.
Elanus leucurus White-tailed kite	--/--/SFP	Inhabits grasslands, marshes, agricultural areas, oak woodland, and oak savanna habitats, typically nesting in dense-canopied trees.	Low potential to occur (nesting). The nearest record is 4.6 miles east. Limited nesting habitat due to few trees. Foraging habitat within site grasslands is present.	Low potential to occur (nesting). The nearest record is 3 miles southeast. No suitable nesting habitat present, however, grasslands provide suitable foraging habitat, particularly where small mammals are abundant.
Falco peregrinus anatum American peregrine falcon	FD/SD/SFP	Occurs in a wide range of habitats including wetlands, deserts, forests, and islands. In California, breeding habitats include cliffs in uninhabited areas, and tall buildings or bridges within urban areas.	Low potential to occur (nesting). The nearest record is 3.5 miles north. No suitable nesting habitat is present; however, grasslands provide suitable foraging habitat.	Low potential to occur (nesting). The nearest record is 1.4 miles northwest. No suitable nesting habitat is present; however, grasslands provide suitable foraging habitat.
Lanius ludovicianus Loggerhead shrike	--/--/SSC	Inhabits open, grassy areas interspersed with trees, shrubs and bare ground. Trees, shrubs, and fence posts are used as hunting perches and territory announcement sites. Nesting occurs in a variety of trees and shrubs but low shrubs with dense layers of protective branches or thorns are common.	Low potential to occur (nesting). No records within 5 miles of the site. Limited nesting habitat due to few trees or dense shrubs, but suitable foraging habitat present within grasslands.	Low potential to occur (nesting). The nearest record is 4.3 miles southeast. No suitable nesting habitat is present; however, grasslands provide suitable foraging habitat.
Mammals				
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	--/--/SSC	Inhabits oak and conifer woodlands; scrub communities; riparian habitats.	Not likely to occur. No records within 5 miles of the project site. No suitable habitat is present.	Not likely to occur. The nearest occurrence is 3.8 miles northwest. No suitable habitat is present.
Taxidea taxus American badger	--/--/SSC	Inhabits scrub, forest, grasslands, and desert habitats. Requires friable soils for burrowing and an adequate prey base.	Moderate potential to occur. The nearest CNDDB occurrence is approximately 4.4 miles north of the sites. Marginal grassland habitat is present.	Moderate potential to occur. The nearest CNDDB occurrence is approximately 2.1 miles north. Marginal grassland habitat is present.

Species Name Common Name	Federal State Other Listing	Associated Habitats	Potential for Occurrence within R-893 Project Site	Potential for Occurrence within D-915 Project Site
Vulpes macrotis mutica San Joaquin kit fox	FE/ST/--	Associated with arid lands with sparse or absent shrub cover, sparse ground cover and short vegetation. Constructs underground burrows in areas with sandy soils that are relatively stone-free to a depth of 3 or 4.5 feet and lack an impenetrable hardpan.	Moderate potential to occur. The nearest CNDDB occurrence is approximately 4.9 miles northwest. Suitable habitat is present, with ground squirrel activity and other burrowing rodents in the area. However, adjacent residential and industrial development reduces suitable foraging and denning habitat quality.	Moderate potential to occur. The nearest CNDDB occurrence is approximately 3.2 miles northeast. Suitable foraging and denning habitat is present.

Notes: Federal Designations: (FE) = Federally Endangered, (FT) = Federally Threatened, (FD) = Federally Delisted

State Designations: (SE) = State Endangered, (ST) = State Threatened, (SCE) = State Candidate Endangered, (SD) = State Delisted, (SSC) = Species of Special Concern, (SFP) State Fully Protected Species

3.4.2 Discussion

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

Special-Status Plants

The potential direct effects, or effects on any special-status plant species through habitat modification as addressed in the 2018 IS/MND and information related to the new project components are summarized below. All of the species described in Table 3.4-1 above meet the definition of Rare or Endangered under CEQA Guidelines Section 15125; (c) and/or Section 15380, and impacts to them are included in the CEQA analysis.

Both sites have herbaceous special-status species vegetation, but only the D-915 site supports special-status plant species, Livermore tarplant and lesser saltscale. Potential direct and indirect effects to these special-status plants resulting from construction at the D-915 pipeline may include direct mortality of individuals, soil compaction, erosion, and introduction and spread of non-native, invasive species. These potential effects would be associated with project staging, excavation, and stockpiling activities within the workspace around Location B, as well as vehicle disturbance associated with the use of the access route. Additional potential effects following completion of construction may include the direct and immediate loss of flower and seed production and alteration of root layer soil density and moisture gradients. The discussion of each plant species is presented below.

<u>Livermore Tarplant</u>

At the D-915 site, Livermore tarplant has been found west of the Dalton Crossover Station and upslope of the seasonal alkali wetland swale that is situated adjacent to the D-915 Location B (Figure 3-1). This species may be affected by any ground disturbance activities that take place within D-915 Location B and overland vehicle travel from the north gate of the Dalton Crossover Station to the established 10-foot wide, dirt two-track access route which begins at the north side of the alkali seasonal wetland swale and continues to Location B. Approximately 0.067 acre of occupied habitat for Livermore tarplant would be affected as a result of proposed activities at the D-915 site. CDFW collected seed in this area and stored it at the UC Botanical Gardens (UCBG) in support of research and conservation purposes. Nevertheless, impacts to this species as a result of project activities are anticipated because seedbed materials would still be disturbed by project activities.

<u>Lesser Saltscale</u>

At the D-915 site, lesser saltscale (see discussion of the corrected survey results for this species) has been found on alkali soils both within and adjacent to the seasonal alkali wetland swale, and in neighboring non-native grassland

habitat associated with salt-tolerant species (Figure 3-1). This species was detected in several areas throughout the southern portion of the D-915 site centered around Location B. However, all three of the mapped populations of lesser saltscale would be fully avoided and no direct loss of this species as a result of project activity is anticipated.

Because the special-status plants discussed above are present, or have the potential to occur at the D-915 site, and the Amended Project could have a substantial adverse effect, either directly or through habitat modification, the impact would be potentially significant without any measures to lessen such impacts.

Applicable APMs from the 2018 IS/MND (see Section 2.7 for full descriptions of APMs) to minimize impacts to the special-status plant species described above include APMs: BIO-1: Worker Education and Training (which would require all workers to attend training on the species and habitat protection requirements and avoidance); BIO-1A: Biological Monitoring (which would provide continual protective oversight on all phases of project implementation); BIO-3: Prohibited Activities (which would minimize impacts to species from prohibited activities); BIO-5: Vehicle Parking, BIO-6: Off-road Travel and BIO-8: Vehicle Cleaning (which would minimize risk of encroachment on vegetation and crushing of wildlife by vehicles); BIO-9: Night Work Restriction (which would minimize of encroachment on vegetation and impacts to wildlife outside of work areas due to lack of visibility); BIO-10: Refueling and Equipment Maintenance, BIO-11: Erosion Control Materials, BIO-12: Stockpiling, BIO-12A: Work in Dry Weather, and BIO-13: Access Across and Avoidance of Jurisdictional Features (which would minimize impacts to special-status swale vegetation and its habitat); BIO-14: Work Area Delineation and BIO-15: Seasonal Work Restriction (which would minimize impacts to vegetation and wildlife by avoidance of vulnerable life history stages); and BIO-16: Rare and Special-Status Botanical Surveys and Avoidance, BIO-26: Habitat Compensation for Effects to Livermore Tarplant, and BIO-27: Tree Planting (which would compensate for impacts to special-status plants and trees).

Although impacts would be minimized with these APMs, the new project components would still have the potential to have a substantial adverse effect, either directly or through habitat modification impacts, to special-status plants. This impact would be potentially significant. For plants, the following MMs from the Original Project will be implemented (the numbering of these MMs has been revised).

Mitigation measures for special-status plant species are as follows:

Mitigation Measure BIO-1: Prepare and Implement Vegetation Restoration Plan

PG&E shall prepare and implement a Vegetation Restoration Plan (VRP) prepared by a qualified restoration specialist, which shall be submitted to CDFW for review and approval no less than 30 days before start of construction. PG&E shall restore on-site all of the native vegetation, and ground cover, that shall be disturbed during construction according to the success criteria established in the VRP. The table below describes the proposed restoration success criteria for grassland habitat beginning in "Year 1," the first year upon completion of construction.

Table 3.4-3 Restoration Success Criteria and Reporting for Grassland Habitat

Overall Success Criteria	Year 1*	Year 2 and Year 3, if applicable
A minimum of 70% vegetation cover relative to baseline conditions, and less than 5% absolute cover of invasive plants listed as high or moderate in the Cal-IPC database and mapped in the work area during the baseline conditions assessment.	Take photos from designated photo stations. In Year 1, an annual restoration monitoring report shall be submitted to CDFW with a qualitative assessment of vegetation cover and a comparison to the baseline conditions assessment for the work areas. Annual monitoring report shall document restoration success and shall be submitted to the permitting agencies by September 1. The first report shall provide a species list of the seed mix used at each restoration area. If success criteria, are met in Year 1, no additional monitoring or reporting is required, and restoration is considered complete.	Take photos from designated photo stations ▶ If success criteria are not met in Year 1, a Year 2 annual restoration monitoring report shall be submitted to CDFW by September 1, containing the same information as the Year 1 report. ▶ If success criteria are not met in Year 2, a final report shall be submitted to CDFW by September 1, containing the same information as the Year 1 and 2 reports.

* Year 1 is first year of post-construction operation.

The success criteria may be adjusted annually by CDFW based on reference site plant counts observed outside of the area impacted by the project to account for drought, herbivory, fire, and unanticipated landowner impacts to the property, among other factors.

The VRP shall include specifications for restoring all temporarily disturbed areas, such as seed mixes, timing, and application methods. Non-native invasive species shall not account for the absolute cover for restoration success. The California Invasive Plant Council (Cal-IPC) database (http://www.cal-ipc.org/paf/) shall be consulted when determining noxious and invasive plants. The Vegetation Restoration Plan shall contain the following components:

Disturbed Annual Grassland

- Topsoil and Seed Salvage. The top 6 to 12 inches of shall be scraped prior to excavation. Scraped topsoil will be stored separately from other spoils piles and restored to its original location over backfilled material. The stockpiles shall be protected from non-native plant propagules and protected with weed-free straw mulch, jute netting, or other suitable cover such as hydroseed/hydromulch without fertilizer added. Locations with Livermore tarplant or any other special-status plant species shall have location-specific plans that address the salvage of seedbed or plant propagule material.
- Baseline Conditions Assessment. Prior to initiating ground disturbance, PG&E shall identify baseline vegetation conditions in any project area within suitable habitat for California tiger salamander or any sensitive natural community. Documentation shall identify: (1) the vegetation species; (2) an estimate of average ground cover density; (3) an overall estimate of the density of native and non-native species compositions; and (4) weed mapping of all Cal-IPC's California Invasive Plants listed as high or moderate.
- Seeding. Seed shall be applied after completion of construction in the late fall and early winter when rainfall and temperatures are sufficient to trigger germination and growth. This will avoid the need for irrigation in most cases. If the timing of construction activities precludes seeding during the late fall or early winter during a given year, the site will be temporarily stabilized, and the site will be seeded in the following fall. Reporting on site restoration that needs to be delayed in this way shall include a statement of adjusted mitigation, in order to compensate for the additional season of temporary impact to the habit.
- Seed Mix. A seed mix shall be identified considering species found in the baseline conditions assessment and include only native species, with an emphasis on native bunchgrasses and other grassland species.
- Invasive Plants. In the baseline conditions assessment, PG&E shall perform preconstruction weed mapping of all Cal-IPC's California Invasive Plants listed as high or moderate to document baseline Cal-IPC invasive plants present in the project area prior to construction. The restored project area shall consist of no more than 5 percent of the existing baseline Cal-IPC invasive plants observed in the same project area. If the presence of invasive species exceeds this threshold, PG&E is responsible for conducting appropriate control activities during monitoring, up to three years after implementation of restoration.
- Monitoring. To ensure that site restoration and erosion control measures are successful, PG&E shall be required to monitor site conditions for up to three years following project completion or until success criteria are satisfied prior to the end of three years. Site visits shall be conducted at least once after the first significant rain event after project completion to evaluate site stability and during the spring and summer to evaluate revegetation efforts. If PG&E or CDFW determines there has been an increase in erosion or bank instability since project inception, PG&E shall consult with CDFW on corrective actions, and additional mitigation may be required.
- Photographs from Flagged Points. Prior to commencement of work, PG&E shall identify representative views of the project area that will be identified in the Incidental Take Permit for this project, would impact California tiger salamander or California red-legged frog upland habitat, or would impact special-status plant species or sensitive natural communities (i.e., alkali grassland or native grassland). PG&E shall photograph the project area from each of the flagged points, noting the direction and magnification of each photo.

- Upon completion of construction, PG&E shall photograph post-project conditions from the flagged photo points using the same direction and magnification as pre-project photos. Labeled digital copies of pre- and post-project photographs shall be sent to CDFW within forty-five (45) days of completion of the project.
- Additional Revegetation. Regrowth will be evaluated on an annual basis. If success criteria (see Table 3.4-3) are not met during annual monitoring, weeding and/or further seeding shall be conducted as determined necessary by a qualified botanist to attain regrowth targets of local ground cover, and additional mitigation may need to be provided.
- Regrowth will be evaluated on an annual basis. If success criteria are not met during annual monitoring, weeding will be conducted as determined necessary by a qualified botanist to attain regrowth targets of local ground cover.

Restoration of Special-Status Plants and Sensitive Natural Communities

The VRP shall address the following components for onsite restoration of the special-status plant (Livermore tarplant [*Deinandra bacigalupii*]) and sensitive natural communities (alkali grassland, native grassland, and Salt Grass Flats/Alkali Heath Marsh) that will be disturbed during construction:

- Seed Collection and Dispersal. Seed from the special-status plant Livermore tarplant and sensitive natural communities to be impacted will be replanted onsite after construction. If construction of the project begins prior to the availability of seed, collection of seed for special-status plant species and sensitive communities shall be from populations in the vicinity of the project area.
- Seed Collection: Timing. Areas of special-status plants and sensitive natural communities mapped during surveys shall be revegetated with seed collected prior to construction (or during construction from adjacent sites), and other native species found in the Project region, if necessary.
- Restoration Site Selection. The restoration site assessment for special-status plants shall support the VRP selection of restoration sites. Reseeding should be done at the exact site where individuals were removed if at all possible. If it is known that a location will be subject to tilling or other forms of disturbance before 2022, an alternate suitable location as close as possible to the impact, shall be identified. The VRP shall also: 1) propose an offsite location for mitigation for specific species (Livermore tarplant) impacted at the project, in Alameda or Contra Costa County, to be secured within a conservation easement that will be in effect in perpetuity) and 2) outline how the seed harvested from one annual CDFW-listed and CRPR-listed plant (Livermore tarplant) shall be used. The use of the Livermore tarplant seed collected by CDFW and stored at UCBG shall be developed in consultation with CDFW.
- A statement of number and species of trees proposed for removal and proposed restoration locations and compensatory ratios shall be included in the VRP.

Mitigation Measure BIO-2: Invasive Plant and Plant Pathogen Abatement

A CDFW-approved biologist shall ensure that the spread or introduction of invasive exotic plant species shall be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project area shall be removed. Prior to entry to any project area for the first time, equipment must be free of soil and debris on tires, wheel wells, vehicle undercarriages, and other surfaces (a high-pressure washer and/or compressed air may be used to ensure that soil and debris are completely removed).

Mitigation Measure BIO-3: Financial Security

Prior to initiating project activities, and if proof of species compensatory mitigation completion consistent with APM-BIO-26: Habitat Compensation for Effects to Livermore Tarplant and MM BIO-9: Additional California Tiger Salamander Habitat Compensation, has not been submitted to CDFW and USFWS, PG&E shall provide CDFW with a form of performance security, approved in advance in writing, in an amount comprised of funds necessary for purchase of species bank credits and/or habitat acquisition and perpetual management. Should these offsite mitigation obligations be satisfied prior to the start of project activities, PG&E will provide financial security adequate to cover the cost of onsite post construction restoration only. Security shall be in the form of an irrevocable letter of credit with CDFW as the beneficiary, mitigation fund holding account, or other approved performance bond method. PG&E shall create a separate letter of credit for onsite restoration and if needed offsite mitigation costs.

Significance after Mitigation

Implementation of mitigation measures MM BIO-1 through BIO-3, listed above, in addition to the previously described APMs, would minimize or reduce the potential for substantial adverse effects to special-status plants by requiring avoidance and protection measures to a point where clearly no significant effect would occur. The impact to special-status plant species would be less-than-significant.

Special-Status Wildlife

The potential direct effects, or effects on any special-status wildlife species through habitat modification as addressed in the Original Project and information related to the new project components are summarized below. All of the species described in Table 3.4-2 above meet the definition of Rare or Endangered under CEQA Guidelines Section 15125(c) and/or Section 15380 and therefore, they are addressed in the CEQA analysis below.

Temporary impacts from construction of the new project components would include direct and indirect effects to special-status wildlife and their habitats from project staging, excavation, stockpiling, and vehicle and pedestrian traffic during construction. These impacts could occur in aquatic, upland or ruderal sites.

Three of the special-status wildlife species described above, California tiger salamander, California red-legged frog, and western burrowing owl, were determined to have a high potential for occurrence at the R-893 or D-915 sites. Suitable habitat to support these species are present at both of the R-893 and the D-915 sites. Both direct and indirect effects and impacts to these species and their habitats could occur during construction of the Amended Project at the R-893 or D-915 sites. Direct effects may include mortality or injury of individuals that could occur through excavation or vehicle/equipment strikes, as well as burrow collapse or smothering. Indirect effects may also result from the proposed construction activities, including the reduction of habitat quality due to soil disturbance and the subsequent spread of non-native, invasive species, which may make it subsequently unsuitable for special-status wildlife. These potential effects would occur during project staging, excavation, and stockpiling activities within both the northern workspace of R-893 and within the workspaces around Locations A and B at the D-915 site, as well as vehicle disturbance associated with the use of the access route.

California Tiger Salamander

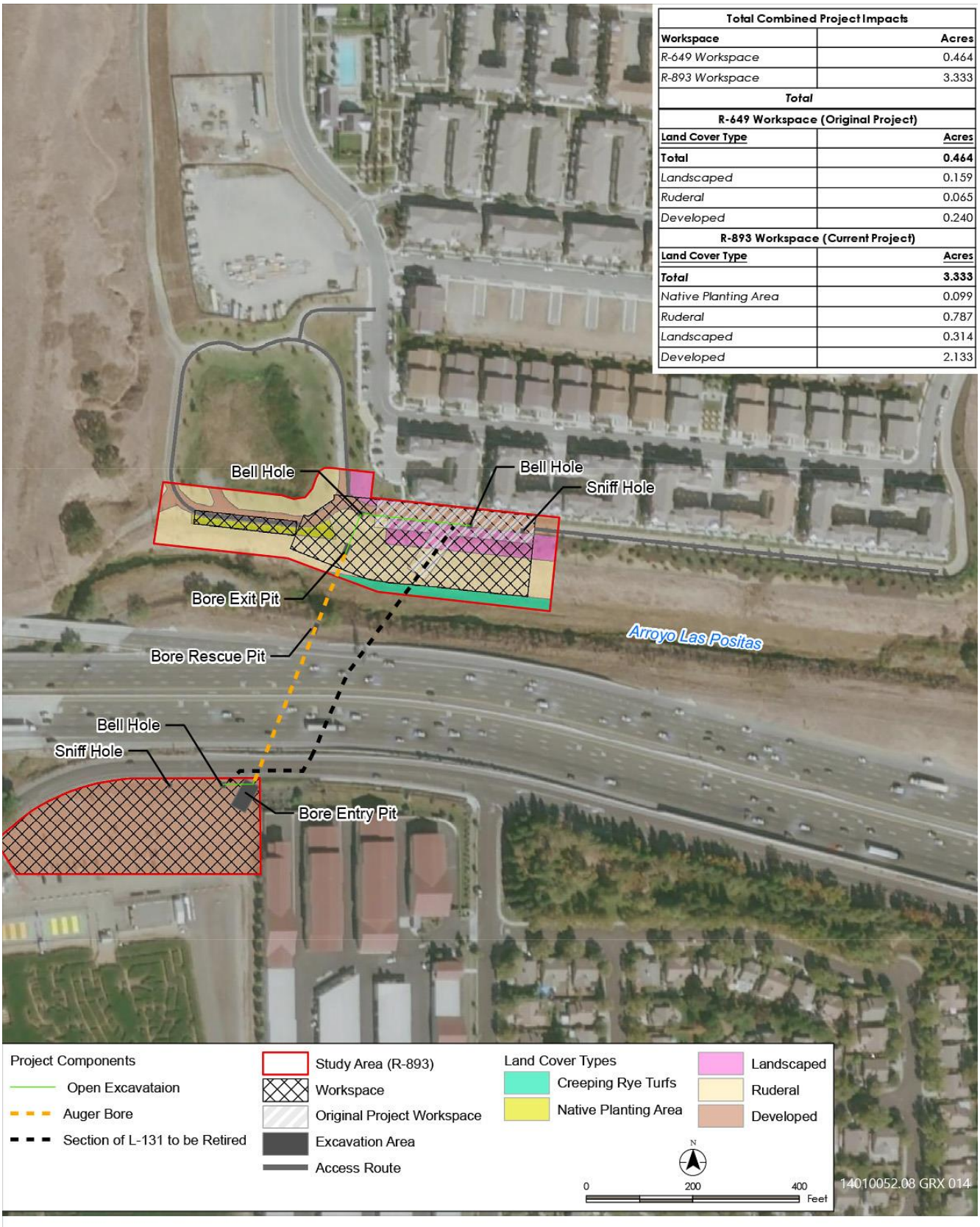
Suitable aquatic breeding habitat for California tiger salamander is absent from the R-893 site, but suitable upland habitat is present in the grassland community at both the R-893 and D-915 sites that supports ample burrows that could provide underground refugia. As shown in Table 3.4-4, a total of 1.370 acres of California tiger salamander upland and dispersal habitat (native grassland, non-native grassland, ruderal, and landscaped, and native planting area land cover types) would be temporarily affected by the new project components (Figures 3-3 and 3-4). This impact to California tiger salamander would be potentially significant.

Table 3.4-4 Temporary Impacts on California Tiger Salamander Habitat from the New Project Components

Habitat Type	Aquatic Breeding Habitat	Upland/Dispersal Habitat	Total
Native and Non-Native Grasslands	—	0.170	0.170
Ruderal	—	0.787	0.787
Landscaped/Native Planting Area	—	0.413	0.413
Total	—	1.370	1.370

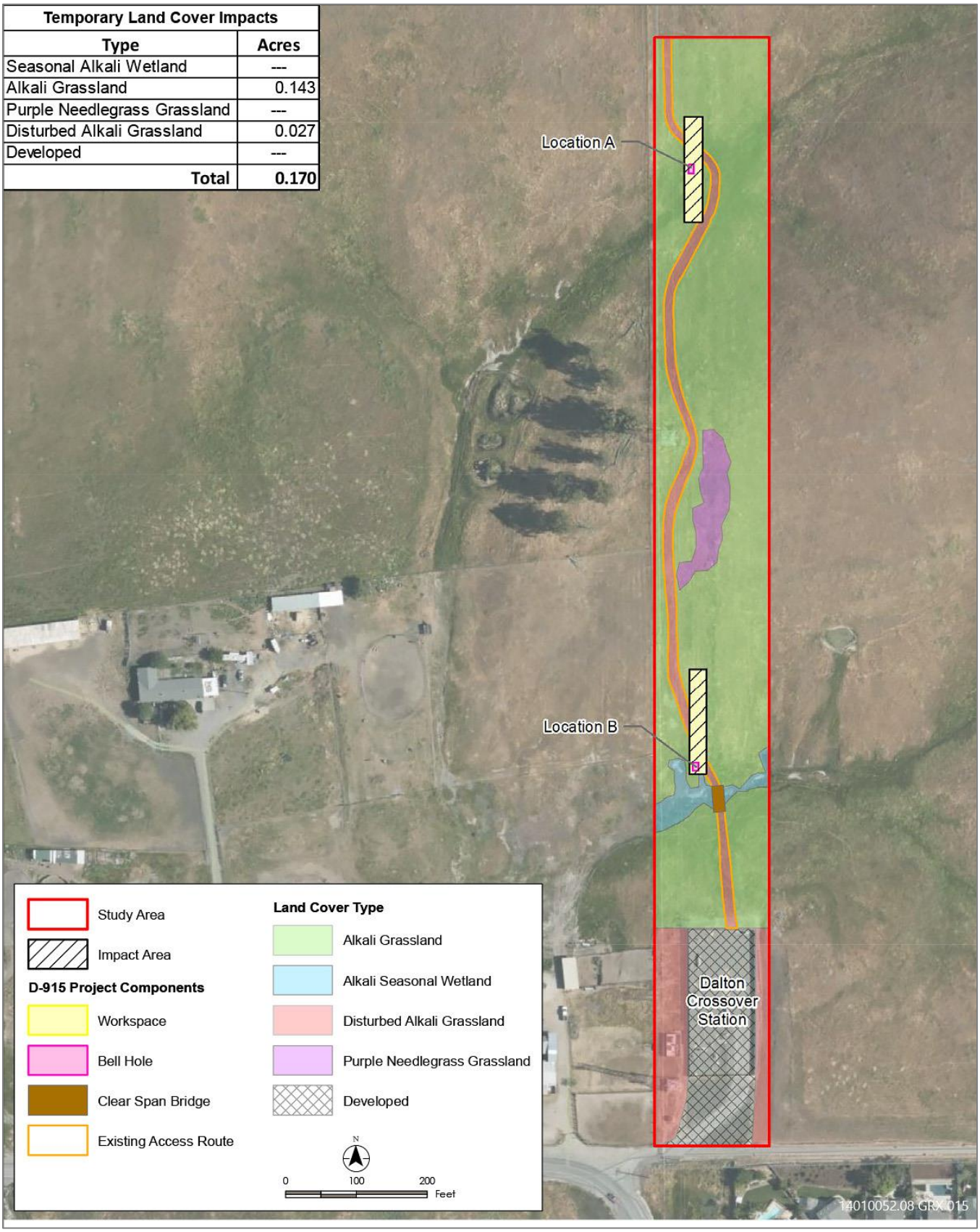
Burrowing Owl

Suitable nesting and foraging habitat for burrowing owl is present at both the R-893 and D-915 sites within the grassland communities. The grassland at these sites was documented to have healthy populations of California ground squirrel resulting in ample burrows that provide highly suitable nesting sites for burrowing owl. As shown in Table 3.4-6, a total of 1.370 acres of burrowing owl nesting and foraging habitat (native grassland, non-native grassland, and ruderal, landscaped, and native planting area land cover types) would be temporarily affected by the new project components (Figures 3-3 and 3-4). This impact to burrowing owl would be potentially significant.



Source: Image provided by Stantec in 2021

Figure 3-3 R-893 Land Cover Impacts



Source: Image provided by Stantec in 2021

Figure 3-4 D-915 Land Cover Impacts

Table 3.4-6 Temporary Impacts on Burrowing Owl Habitat from the New Project Components

Habitat Type	Upland Habitat	Total
Native and Non-Native Grasslands	0.170	0.170
Ruderal	0.787	0.787
Landscaped/Native Planting Area	0.413	0.413
Total	1.370	1.370

Because the special-status wildlife species discussed above have the potential to occur at the project sites and the Amended Project could have a substantial adverse effect, either directly or through habitat modification, this impact would be potentially significant.

Applicable APMs from the 2018 IS/MND to minimize impacts on these and other special-status wildlife species would include APMs: BIO-1: Worker Education and Training and BIO-1A: Biological Monitoring (which would provide continual protective oversight on all phases of project implementation); BIO-2: Pipe Storage and Inspection, BIO-3: Prohibited Activities, BIO-4: Debris Abatement, BIO-5: Vehicle Parking, BIO-6: Off-road Travel, BIO-7: Speed Limits, BIO-9: Night Work Restriction, BIO-10: Refueling and Equipment Maintenance, BIO-11: Erosion Control Materials, BIO-12: Stockpiling, BIO-12A: Work in Dry Weather, BIO-13: Access Across and Avoidance of Jurisdictional Features, BIO-14: Work Area Delineation, BIO-15: Seasonal Work Restriction, and BIO-17: Pre-Activity Wildlife Surveys (which would generally identify presence of wildlife resources prior to construction and allow preventative avoidance measures); BIO-18: Entrapment Avoidance and BIO-19: Implement Wildlife Barriers (which would reduce risk of entry of wildlife to the construction areas); BIO-20: Conduct Preconstruction Surveys for Vernal Pool Shrimp and Longhorn Fairy Shrimp, BIO-21: Conduct Preconstruction Surveys for Nesting Birds, BIO-22: Conduct Preconstruction Surveys for Burrowing Owl and Implement Impact Avoidance, Minimization and Mitigation, BIO-23: American Badger Impact Avoidance, Minimization and Mitigation, BIO-24: Conduct Preconstruction Surveys for San Joaquin Kit Fox, and BIO-25: California Red-legged Frog Protection, Avoidance, and Compensation (which would require avoidance, minimization, and mitigation measures for special-status species).

Impacts to the species described above, except for California tiger Salamander, would be minimized and reduced to a less-than-significant level with these APMs. However, even with implementation of these APMs, the new project components have the potential to have a substantial adverse effect, either directly or through habitat modification, to California tiger salamander, which is the species for which an ITP is required (the issuance of this permit is the discretionary action by CDFW that required the preparation of this Subsequent IS/MND). This impact would be potentially significant.

Mitigation Measures for California Tiger Salamander are as follows.

Mitigation Measure BIO-1: Vegetation Restoration Plan
See above.

Mitigation Measure BIO-2: Invasive Plant and Plant Pathogen Abatement
See above.

Mitigation Measure BIO-3: Financial Security
See above.

Mitigation Measure BIO-4: Amphibian Capture Best Practices for California Tiger Salamander

CDFW-approved biologists shall use their bare hands to capture California tiger salamander. CDFW-approved biologists shall not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within 2 hours before and during periods when they are capturing and relocating individual California tiger salamander. To avoid transferring disease or pathogens from handling, CDFW-approved biologists shall follow the Declining Amphibian Populations Task Force's Code of Practice (Appendix D). Captured California tiger salamanders shall be placed individually into a dark,

clean plastic container of suitable size with enough room, so the wildlife can move freely, and shall keep the container moist with damp paper towels, soft foam rubber, or natural or synthetic sponge free of soaps and anti-bacterial/antifungal treatments. Containers used for holding or transporting shall not contain any standing water. The lids of the containers shall have small air holes for ventilation. Sponges shall not be reused, and all other housing materials shall be disinfected between occupants according to the Task Force's Code of Practice.

Mitigation Measure BIO-5: California Tiger Salamander Handling and Injury

California tiger salamanders shall be handled and assessed according to the Restraint and Handling of Live Amphibians USGS, National Wildlife Health Center (D. Earl Creene, ARMI SOP No. 100; 16 February 2001, Appendix D). CDFW-approved biologist shall move California tiger salamanders to appropriate locations within 300 feet of the project boundary pursuant to the Relocation Plan (MM BIO-7). If an injured California tiger salamander is found during the project term, the individual shall be evaluated by the approved biologist who shall then immediately contact the PG&E project biologist who shall then contact the CDFW and USFWS, via email and telephone, to discuss the next steps. If the representatives cannot be contacted immediately, the injured salamander shall be placed in a shaded container and kept moist. If the representatives are not available or do not respond within two hours of initial attempts, then the following steps shall be taken:

a) If the injury is minor or healing and the salamander is likely to survive, it shall be released immediately as follows. The approved biologist shall relocate any California tiger salamander found within the work area to an active rodent burrow or burrow system located no more than 300 feet outside of the work area. The California tiger salamander shall be monitored until it is determined that it is not imperiled by predators or other dangers. Relocation areas shall be identified by the approved biologist based on best suitable habitat available and approved by the agencies prior to the start of project activities. The approved biologist shall document both locations by photographs and GPS positions. The California tiger salamander shall be photographed and measured (snout- vent and total length) for identification purposes prior to relocation. All documentation shall be provided by PG&E to CDFW and the USFWS within 24 hours of relocation.

b) If it is determined that the California tiger salamander has major or serious injuries as a result of project-related activities, the CDFW/USFWS-approved biologist shall immediately take it to the Lindsay Wildlife Experience or another agency-approved facility. If taken into captivity, the individual shall remain in captivity and not be released into the wild unless it has been kept in quarantine and the release is authorized by the agencies. The circumstances of the injury, procedure followed, and final disposition of the injured animal shall be documented in a written incident report, as described above.

Mitigation Measure BIO-6: Conduct Preconstruction Surveys for California tiger salamander and Avoid Impacts to Burrows

A CDFW-approved biologist shall survey the project area with potential habitat for California tiger salamander and immediately prior to ground-disturbing activities. Surveys shall include all potentially suitable upland habitat such as rodent burrows, cracks, ruts, holes near root structures, foundations, abutments, and leaf litter within the project area that contain potential habitat for these species. If any California tiger salamanders are found, the approved biologist shall contact CDFW and the USFWS to determine if moving any of these salamanders is appropriate. In making this determination, CDFW and USFWS shall consider if an appropriate relocation site exists as provided in the Relocation Plan (MM BIO-7). If CDFW and the USFWS approve moving animals, the CDFW- and USFWS-approved biologist would be allowed sufficient time to move California tiger salamander from the project area before work activities begin. Only CDFW- and USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California tiger salamander.

The approved biologist shall mark all burrows within the project area no less than seven days prior to earthmoving activities in those areas. All burrows shall be avoided to the maximum extent practicable during earthmoving activities. Areas with high concentrations of burrows shall be avoided by earthmoving activities to the maximum extent possible. In addition, when concentrations of burrows or large burrows are observed within the site, and if it is possible to avoid these burrows during construction activities, these areas shall be staked and/or flagged to ensure construction personnel are aware of their location and to facilitate avoidance of these areas when possible.

Mitigation Measure BIO-7: California Tiger Salamander Relocation Plan

A Relocation Plan for California tiger salamander shall be submitted to CDFW for approval no less than 15 days prior to the start of construction in any area with suitable breeding or estivation habitat The Relocation Plan shall include relocation site selection criteria. When a California tiger salamander is observed within work areas, the qualified biologist approved by USFWS and CDFW to handle and relocate the species shall do so. The approved biologist shall relocate any individual to an active rodent burrow system no greater than 300 feet from work area boundaries unless no suitable burrow systems are present within the area. If no suitable burrows are available within 300 feet of the work area, then the California tiger salamander will be released at the nearest suitable burrow system. If burrow density allows, the designated biologist shall only release one animal per burrow. Relocation burrows will be chosen based on the presence of similar characteristics to the burrows inside the work area to the extent possible. A suitable burrow should be at least 3 inches in depth and have moist and cool conditions. All relocation burrows will be away from roads and pavement/graveled areas to the extent possible. The biologist shall capture, handle, and assess Covered Species according to the Restraint and Handling of Live Amphibians Protocol, USGS, National Wildlife Health Center (D. Earl Greene, ARMI SOP NO. 100; 16 February 2001; Appendix D). California tiger salamander shall be released as soon as possible. If the animal repeatedly walks away from the burrow, or partially enters it and then turns around, the qualified biologist shall remove it and find another burrow. A qualified and approved biologist will be identified who will be within 30 minutes of travel time of the project area during construction to ensure prompt relocation.

The qualified biologist shall document occurrence and relocation sites by photographs and GPS positions. When handled, California tiger salamanders shall be photographed and measured (snout-vent and total length) for identification purposes prior to relocation. Individuals shall be monitored until it is determined that they are not imperiled by predators or other dangers. The qualified biologist shall release individuals one at a time rather than as a group. All documentation shall be provided to CDFW and USFWS within 48 hours of relocation.

Mitigation Measure BIO-8: Implement Wildlife Fencing for California Tiger Salamander

At least 30 days prior to commencing any ground disturbing Project activities, PG&E shall submit to CDFW a barrier proposal that shall address the level of need for California tiger salamander exclusion fencing at all project areas within suitable California tiger salamander habitat for CDFW approval. The Qualified Biologist shall evaluate site and planned work activities to determine the exclusion barrier proposal and consider season of work, California tiger salamander occurrence to date, time duration of site activity, and implications for wildlife movement in the proposal. A recommendation not to install fencing may be made if the effects of fencing installation could be greater in extent or duration than those associated with planned work activities.

Fencing will be installed prior to ground disturbing activities. Fencing will be installed using a trencher or hand digging. Fences will be made from silt fence, geotextile fabric, plastic mesh, or other similar materials and will not use plastic monofilament netting. The fencing shall include multiple escape funnels, ramp, or another method if approved by CDFW to allow wildlife to leave the project area. Fencing will be at least 3 feet in height, with the lower edge buried 6 inches underground. The remaining 2.5 feet will be left above ground to serve as a barrier for animals moving on the ground surface.

Gates will be installed within exclusion fencing where necessary for access. Gates will not be buried but will include a flexible rubber strip extending from its lower edge so that it lies flat against the ground when the gate is closed. Materials such as gravel bags will be placed on the edge of the gate when closed to form a seal with the ground.

PG&E shall maintain the barrier, and repair openings as soon as possible to ensure that it is functional and without defects. Any California tiger salamander found along the barrier shall be relocated in accordance with the Relocation Plan. Location and design of the barriers shall be included within the proposal. The barrier shall be installed under the supervision of a qualified biologist. Following fence installation, the qualified biologist(s) shall block holes or burrows entrances within project area, of burrows avoided by construction activities, if any, that appear to extend under the barrier to minimize California tiger salamander movement into the project area. The barrier shall be checked regularly (not less than three times per week) to look for animals and to ensure barrier integrity. Inspection intervals shall be based upon the planned construction activities at each site, recent and forecasted weather events, and the results of

preconstruction surveys and previous inspections. The barriers shall be continuously maintained until all construction activities are completed, and then removed as soon as possible, but no later than seven days after activities have ceased, unless required to remain longer to ensure SWPPP of S-ESCP compliance. The barrier shall continue to be checked regularly until it is removed.

Mitigation Measure BIO-9: Additional California Tiger Salamander Habitat Compensation

Prior to construction of the R-893 and D-915 sites, or no later than 18 months from issuance of an Amended ITP by CDFW, assuming financial assurance is provided to CDFW (see MM BIO-3), PG&E shall purchase additional credits at a USFWS/CDFW-approved Conservation Bank or secure conservation easements on USFWS/CDFW-approved mitigation parcels to compensate for unavoidable temporary impacts to upland California tiger salamander habitat at a ratio approved by the CDFW during the consultation process for this Amended Project. It is estimated that temporary loss of approximately 1.370 acres of California tiger salamander upland habitat needs to be mitigated; however, the final additional areas of temporary impacts and compensatory mitigation may differ.

Significance after Mitigation

Implementation of mitigation measures MM BIO-1 through MM BIO-9 listed above, in addition to the previously described APMs, would minimize or reduce the potential for substantial adverse effects to special-status wildlife by requiring avoidance and protection measures and compensation for impacts to a point where clearly no significant effect would occur. The impacts to special-status wildlife species would be less-than-significant.

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

The potential effects on riparian habitat and other sensitive natural communities as addressed in the Original Project and new information related to the Amended Project are summarized below.

Three sensitive natural communities (Wildflower Field, Native Grassland, and Alkali Grassland) were identified in the Original Project Area during botanical surveys performed in 2016 and 2017. A community of Purple Needlegrass was also found adjacent to but was not affected by the Original Project.

Botanical surveys conducted in 2020 at the R-893 site and D-915 site, respectively, identified three CDFW sensitive natural communities within the project sites. One community, Creeping Ryegrass Turfs, was found at the R-893 site (Figure 3-2), and two communities were found adjacent to the D-915 site including Alkali Seasonal Wetland and Purple Needlegrass Grassland (0.319 acre) (Figure 3-1). Little to no work would occur directly within these communities.

A portion of Creeping Ryegrass Turf habitat is adjacent to the R-893 site along the north upper bank of Arroyo Las Positas; however, no work would occur directly within this habitat. The Alkali Seasonal Wetland community occurs concurrently within the seasonal alkali wetland swale located south of D-915 Location B. Impacts to this area would be minimized by using an existing two-track dirt access route that extends from the Dalton Crossover Substation to Location B during summer months when the seasonal Alkali Wetland Swale (which supports the sensitive community) should have dry conditions and no vegetation present. A clear span bridge for all construction vehicles would be installed over the swale (APM BIO-13: Access Across and Avoidance of Jurisdictional Features). Given that no excavation would occur and the new project components would use the existing two-track, dirt access route through this sensitive community, no impacts are anticipated. No excavation areas or other disturbance areas overlap with the mapped Purple Needlegrass Grassland community, therefore no impact to this sensitive community is anticipated.

At the R-893 site, 51 trees would be removed. The site would be restored by replacing trees in-kind, where possible and to ensure safety of the pipeline. If trees cannot be replaced in-kind (i.e., due to safety of the pipeline) then PG&E would work with the property owners' Homeowners Association and CDFW to identify alternate vegetation and/or locations that trees and other landscaped vegetation can be planted to restore the visual landscape and provide adequate replacement of biological resources in the area. This impact to riparian habitat and other sensitive natural communities would be potentially significant.

Applicable APMs from the 2018 IS/MND to minimize impacts on riparian habitat and sensitive natural communities would include APMs: BIO-1: Worker Education and Training, BIO-1A: Biological Monitoring, BIO-3: Prohibited Activities, BIO-4: Debris Abatement, BIO-5: Vehicle Parking, BIO-6: Off-road Travel, BIO-7: Speed Limits, BIO-8: Vehicle Cleaning, BIO-9: Night Work Restriction, BIO-10: Refueling and Equipment Maintenance, BIO-11: Erosion Control Materials, BIO-12: Stockpiling, BIO-12A: Work in Dry Weather, BIO-13: Access Across and Avoidance of Jurisdictional Features, BIO-14: Work Area Delineation, BIO 15: Seasonal Work Restriction, BIO-16: Rare and Special-Status Botanical Surveys and Avoidance, and BIO-27: Tree Replanting. However, despite implementation of APMs, the new project components would have the potential to have a substantial adverse effect on a sensitive natural community. This impact would be potentially significant.

Mitigation Measures for riparian habitat and other sensitive natural communities are as follows.

Mitigation Measure BIO-1: Prepare and Implement Vegetation Restoration Plan

See above.

Mitigation Measure BIO-2 Invasive Plant and Plant Pathogen Abatement

See above.

Mitigation Measure BIO-3: Financial Security

See above.

Significance after Mitigation

Implementation of the APMs and mitigation measures listed above would minimize or reduce the potential for the new project components to have substantial adverse effects to sensitive natural communities by requiring avoidance and protection measures and compensation for impacts. This impact would be less-than-significant.

c) Have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means?

The potential effects on state and federally protected wetlands as addressed in the Original Project and new information related to the Amended Project are summarized below:

Five seasonal swales and two ephemeral drainages (including Cayetano Creek) were present within the Original Project area. Three of the swales were within the overland access route and were subject to temporary impacts, and one seasonal swale, the ephemeral drainage, and Cayetano Creek were also subject to temporary impacts.

A seasonal alkali wetland swale is present at the D-915 at Location B. Construction vehicles would use the existing two-track dirt route that extends from the Dalton Crossover Substation to D-915 Location A, and would cross the alkali seasonal wetland swale on a temporary bridge or when conditions are dry. At the R-893 site, there are no wetlands or other waters of the U.S. directly within the southern or northern work areas; however, Arroyo Las Positas Creek runs just south of the northern work area. With full separation of construction activities to the nearby creek, no temporary or permanent impacts to the creek are anticipated.

Potential temporary impacts to the seasonal alkali wetland located at the D-915 site would be potentially significant. Implementation of the applicable APMs from the 2018 IS/MND include APMs: BIO-1: Worker Education and Training, BIO-1A: Biological Monitoring, BIO-3: Prohibited Activities, BIO-4: Debris Abatement, BIO-5: Vehicle Parking, BIO-6: Off-road Travel, BIO-8: Vehicle Cleaning, BIO-9: Night Work Restriction, BIO-10: Refueling and Equipment Maintenance, BIO-12: Stockpiling, BIO-12A: Work in Dry Weather, BIO-13: Access Across and Avoidance of Jurisdictional Features, BIO-14: Work Area Delineation, and BIO-15: Seasonal Work Restriction. Despite implementation of these APMs, the new project components have the potential to adversely affect jurisdictional wetlands or waters. This impact would be potentially significant.

Mitigation Measure BIO-1: Prepare and Implement Vegetation Restoration Plan

Mitigation Measure BIO-2: Invasive Plant and Plant Pathogen Abatement
See above.

Mitigation Measure BIO-3: Financial Security
See above.

Significance after Mitigation
Implementation of the APMs and mitigation measures listed above would minimize or reduce the potential for the new project components to adversely affect wetlands or waters by minimizing encroachment, working in the dry season, requiring restoration of disturbed areas, monitoring, and requiring financial security for vegetation-specific restoration. Impact would be less-than-significant.

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

As with the Original Project, the new project components would not involve construction of any above-ground features, and as such, do not create any permanent impacts related to movements of fish or wildlife species.

Temporary impacts to California tiger salamander, California red-legged frog, and upland dispersal and foraging habitat for other terrestrial species may occur through removal of fossorial mammal burrows from ground disturbance within the work areas. Wildlife movements may also be interrupted during construction by trenches, wildlife exclusion barriers, and construction equipment. These impacts would be temporary, project work would most likely occur in the dry season, and habitat would be restored to approximate pre-project conditions, at which point small mammals could re-establish any disturbed burrows and movements can resume. No permanent barrier to dispersal would be constructed.

However, because there is the potential for work to occur in wet season, temporary impacts related to upland dispersal and foraging habitat and disruption of wildlife movements through these areas for California tiger salamander, California red-legged frog, and other terrestrial species would be potentially significant. Applicable APMs from the 2018 IS/MND to minimize impacts on upland and foraging habitat would include APMs: BIO-1: Worker Education and Training, BIO-1A: Biological Monitoring, BIO-3: Prohibited Activities, BIO-5: Vehicle Parking, BIO-6: Off-road Travel, BIO-7: Speed Limits, BIO-9: Night Work Restriction, BIO-10: Refueling and Equipment Maintenance, BIO-11: Erosion Control Materials, BIO-12: Stockpiling, BIO-12A: Work in Dry Weather, BIO-14: Work Area Delineation, BIO 15: Seasonal Work Restriction, BIO-16: Rare and Special-Status Botanical Surveys and Avoidance, BIO-17: Pre-Activity Wildlife Surveys, BIO-18: Entrapment Avoidance, BIO-19: Implement Wildlife Barriers, and BIO-25: California Red-Legged Frog Protection, Avoidance, and Compensation. However, despite implementation of APMs, the new project components would have the potential to have a substantial adverse effect on upland dispersal and foraging habitat. Despite implementation of these APMs, the new project components have the potential to adversely affect upland dispersal and foraging habitat and wildlife movements. This impact would be potentially significant.

Mitigation Measure BIO-1: Vegetation Restoration Plan:
See above.

Mitigation Measure BIO-6: Conduct Preconstruction Surveys for California tiger salamander and Avoid Impacts to Burrows
See above.

Mitigation Measure BIO-7: California Tiger Salamander Relocation
See above.

Mitigation Measure BIO-8: Implement Wildlife Fencing for California Tiger Salamander
See above.

Significance after Mitigation
Implementation of the APMs and mitigation measures listed above, would minimize or reduce the potential for substantial adverse effects to wildlife movement by requiring avoidance and protection measures and compensation for impacts to a point where clearly no significant effect would occur. The impacts to wildlife movement would be temporary and less-than-significant.

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

As with the Original Project, no local policies or ordinances are applicable to the new project components because the project is under the jurisdiction of the CPUC and outside of County right-of-way. Any impacts on biological resources, including tree removal, would be minimized or reduced through implementation of the APMs and mitigation measures as described in items a) thorough c), above. Therefore, there would be no conflict with any local policies or ordinances protecting biological resources.

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

As with the Original Project, the new project components would be located within Conservation Zone 4 of the East Alameda County Conservation Strategy (EACCS), a non-regulatory cooperative agreement intended to streamline and simplify the issuance of permits, establish priorities for mitigation and conservation, and help maintain native biological and ecological diversity in eastern Alameda County (ICF International 2010). The EACCS is a local planning guidance document. The EACCS is not a regulatory document, but provides guidance. The EACCS would be reviewed to inform mitigation ratios for California tiger salamander, in accordance with MM BIO-3 and MM BIO-9.

These project components are also located within PG&E's BAHCP area that provides coverage for select federally listed plants and wildlife during general operations and maintenance work on gas and electric facilities. All measures as noted within this document would be reviewed and executed as such that they are not in conflict with this existing programmatic permit.

There would be no conflict with the EACCS or any other local, regional, or state habitat plans adopted in the area.

3.4.3 Conclusion

Effects of the Amended Project on biological resources have been identified that were not evaluated in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project and APMs and mitigation measures from the 2018 IS/MND would be incorporated. In addition, new APMs and mitigation measures have been included above. With the incorporation of the APMs and mitigation measures above, all impacts on biological resources would be less-than-significant.

3.5 CULTURAL RESOURCES

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	Less-than-Significant	No	No	No	CUL-1 CUL-3 CUL-4 (R-893 only)	None	Less-than-Significant
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Less-than-Significant	No	No	No	CUL-1 CUL-3 CUL-4 (R-893 only)	None	Less-than-Significant
c) Disturb any human remains, including those interred outside of formal cemeteries?	Less-than-Significant	No	No	No	CUL-2	None	Less-than-Significant

3.5.1 Discussion

a) Cause a substantial adverse change in the significance of an historical or archaeological resource pursuant to Section 15064.5? or

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The new project components would involve approximately 825 feet of open trench excavation to install the new L-131 (R-893) pipeline that would overlap with the southern portion of the R-649 site of the Original Project, and excavation and potential repairs on approximately two 12-foot segments of the L-114 pipeline (D-915).

A cultural resource study for the new project components was completed and included a records search and pedestrian survey (PG&E 2019). The study did not identify any historical or archaeological resources within the Amended Project area. However, portions of the R-893 site are located along an existing water source (Arroyo Las Positas) and are underlain by Holocene to Historic age deposits. The portions of the site that are adjacent to Arroyo Las Positas, are more likely to contain buried archaeological deposits, and should be considered as having moderate to high buried site sensitivity. With regard to the D-915 site, due to the distance from perennial water and lack of known ethnographic villages or prehistoric sites within or in proximity, the buried site sensitivity is considered to be low. Nevertheless, there is the potential to encounter buried cultural resources during ground disturbing construction activities. APMs CUL-1: Prehistoric or Historic-Period Materials Discovered during Construction and CUL-3: Workers Awareness Training would be implemented to address inadvertent discovery protocols and worker awareness training. APM CUL-4: Paleontological Resources Discovered during Construction, archaeological and tribal cultural resources construction monitoring, only applies to the R-893 site as the D-915 site is not sensitive for buried resources. With implementation of these APMs, the severity of impacts to historic and archaeological resources would be maintained at less-than-significant.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Similar to the Original Project area, there is no indication that the Amended Project area has been used for burial purposes in the recent or distant past. However, the location of grave sites and Native American remains can occur outside of identified cemeteries or burial sites. Therefore, there is a possibility that unmarked, previously unknown Native American or other graves could be present within the Amended Project area and could be uncovered by project-related construction activities. APM CUL-2: Human Burials Encountered during Construction, from the 2018 IS/MND, which would require compliance with Section 7050.5 of the California Health and Safety Code and PRC 5097.98, would apply to the new project components and would be implemented. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

3.5.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project. Cultural resource impacts of the Amended Project would be less-than-significant with no mitigation required.

3.6 ENERGY

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	N/A (Topic subsequently added in CEQA Guidelines)	No	No	Yes	AIR-1 AIR-2	None	Less-than-Significant
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	N/A (Topic subsequently added in CEQA Guidelines)	No	No	Yes	None	None	Less-than-Significant

3.6.1 Discussion

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

PG&E is the electrical service provider for the City of Livermore and Alameda County. PG&E maintains a number of distribution lines and substation facilities in the area. Similar to the Original Project, energy resources that would be consumed as a result of construction, operation, and maintenance of the new project components would include natural gas and fossil fuels. Construction of the new project components would require the use of fuels (primarily gas, diesel, and motor oil) for a variety of construction activities, including excavation, grading, and vehicle travel. Use of these fuels would not be wasteful or unnecessary because their use is necessary to maintain the safety of PG&E's natural gas pipelines. However, excessive idling and other inefficient site operations during construction could result in the inefficient use of fuels. Fuels would not be used wastefully during construction because doing so would not be economically sustainable for PG&E or contractors. This impact would be less-than-significant. Furthermore, APMs AIR-1: BAAQMD Basic Control Measures and AIR-2: Minimize Exhaust Emissions would require implementation of emission control practices to reduce air pollutant emissions through a variety of methods including limiting idling, which would also reduce inefficient use of fuels. In addition, construction of the new project components would be temporary (3 months at the R-893 site and 1 month at D-915 site). PG&E's engineering and construction management staff have developed an efficient construction plan and sequence that minimizes vehicle trips and avoids wasteful, inefficient, or unnecessary consumption of energy. A limited amount of natural gas may need to be purged from the gas pipeline prior to replacement or repair. Natural gas would only be released once during construction, if at all, and natural gas in the pipeline would be drawn down by customers to minimize the amount of natural gas released.

Once the new project components are constructed, operation and maintenance of the pipelines would not result in an increase in energy usage. Therefore, new project components would not result in wasteful, inefficient, or unnecessary consumption of energy resources. With implementation of these APMs, the severity of this impact would be maintained at a less-than-significant level.

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

Relevant plans include the State's 2019 Integrated Energy Policy Report and Senate Bill 100, which focus on energy efficiency, demand response, renewable energy, and energy provisioning reliability and infrastructure (CEC 2020). Policies regarding these areas relate to commercial and residential energy use or electricity and natural gas provisioning. The operation and maintenance of the pipelines would not result in an increase in energy natural gas usage, and fuel used for maintenance trips would not increase as a result of the new project components. Therefore, the new project components would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This impact would be less-than-significant.

3.6.2 Conclusion

Energy resources was added as a new topic in the Environmental Checklist by State CEQA Guidelines amendments that went into effect on January 3, 2019. Therefore, this topic was not included in the 2018 IS/MND. No new potentially significant effects are evident. The impacts of the Amended Project related to energy resources would be less-than-significant with no mitigation required.

3.7 GEOLOGY AND SOILS

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides?	Less-than-Significant	No	No	No	GEO-2	None	Less-than-Significant
b) Result in substantial soil erosion or the loss of topsoil?	Less-than-Significant	No	No	No	HWQ-1	None	Less-than-Significant
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	Less-than-Significant	No	No	No	GEO-1 GEO-2	None	Less-than-Significant
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?	Less-than-Significant	No	No	No	GEO-1 GEO-2	None	Less-than-Significant

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No Impact	No	No	No	None	None	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Less-than-Significant	No	No	No	CUL-3 CUL-4	None	Less-than-Significant

3.7.1 Discussion

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

As described in the 2018 IS/MND, the new project components would involve replacing or repairing gas pipelines and would not involve construction of any above-ground occupied facilities. The Amended Project area is not within an earthquake fault zone or landslide zone, but is within a liquefaction zone (DOC 2010, Alameda County 2014). Without implementation of protection measures, this impact could be potentially significant. The new project components would implement APM GEO-2: Geotechnical Report Recommendations, to decrease the potential for the new pipeline to fail in the event of an earthquake and ensure the new pipeline would remain operable and safe. With implementation of this APM, the severity of impacts related to Alquist-Priolo Earthquake Fault Zones, the potential for failure due to ground shaking, seismic-related hazards due to liquefaction, and landslides would be maintained at a less-than-significant level.

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

Similar to the Original Project area, the R-893 construction site is on generally flat terrain. The D-915 site is in a flat area between hillsides. Preparation of the construction areas for the new project components would include vegetation removal, debris disposal, topsoil salvaging and separation, and grading, which could result in a temporary

increase in erosion. However, erosion controls would be installed as needed and as required by regulatory agencies, prior to or immediately following initial disturbance of the soils, and would be maintained throughout construction to contain excavated material within the approved temporary use areas. Construction areas would be continuously inspected and maintained to confirm erosion control measures, dust control measures, and waste management practices remain effective. This impact would be less-than-significant. Furthermore, APM HWQ-1: SWPPP Development and Implementation, Erosion, and Sedimentation, from the 2018 IS/MND, which would include development and implementation of a SWPPP or a S-ESCP, would apply to the Amended Project and would be implemented. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

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

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

A geotechnical study was conducted to evaluate the soil conditions within the R-893 site (Appendix B), and the site contains clay soils, which are not suitable for use as backfill. The D-915 site would not require import of any soils that have the potential to be unstable or expansive. Similar to the Original Project, APMs GEO-1: Backfill Operations and GEO-2: Geotechnical Report Recommendations, would be applied to the new project components. These measures require that all backfill above pipelines be mechanically compacted to at least 95 percent relative compaction; all imported fill consist of granular, non-expansive soil with an Expansion Index of 20 or less; soil not contain any expansive soil; and site-specific recommendations identified in the geotechnical study (Appendix B) be incorporated into the pipeline design. With implementation of these APMs, the severity of this impact would be maintained at a less-than-significant level.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No septic tanks are proposed as part of the new project components. Therefore, the Amended Project would not result in impacts related to soils incapable of supporting a septic system. There would be no impact.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Amended Project area has low potential for paleontological resources. Therefore, it is unlikely that paleontological resources would be encountered during construction of the new project components. However, the uplands in the vicinity of the Amended Project area have higher potential for containing paleontological resources. Without implementation of protective measures, this impact could be potentially significant. Implementation of APMs CUL-3: Workers Awareness Training and CUL-4: Paleontological Resources Discovered during Construction, would require construction personnel to be sufficiently trained on procedures of avoidance if paleontological resources are identified. With implementation of these APMs, the severity of this impact would be maintained at a less-than-significant level.

3.7.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project. Impacts to geology and soils from the Amended Project would be less-than-significant with no mitigation required.

3.8 GREENHOUSE GASES

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less-than-Significant	No	No	No	AIR-2	None	Less-than-Significant
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less-than-Significant	No	No	No	AIR-2	None	Less-than-Significant

3.8.1 Discussion

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? or

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The new project components would result in additional greenhouse gas (GHG) emissions not addressed in the 2018 IS/MND for the Original Project. Therefore, GHG emissions modeling was updated to include the new R-893 and D-915 components. During construction of the new project components, GHG emissions would be emitted by off-road equipment, worker commute trips, and trucks hauling equipment and materials. Although the Original Project has already been completed, this analysis addresses GHG emissions from all components of the Amended Project, including all components that were part of the Original Project. The GHG emissions associated with completion of the Original Project and new project components are summarized in Table 3.8-1. Detailed emission estimates are provided in Appendix C.

Table 3.8-1 Greenhouse Gas Emissions Associated with Construction of the Amended Project

Source	CO_2e Emissions (metric tons/year)
Original Project Construction Equipment Emissions	
Construction Activity	864
Venting of Natural Gas	390
R-893 Component Construction	283
D-915 Component Construction	16
Total Combined Original Project and New Project Component Construction Emissions	1,553

Notes: $MTCO_2e$ = metric tons of carbon dioxide–equivalent

Source: Emissions estimated by Stantec and compiled by Ascent Environmental

As shown in Table 3.8-1, implementation of the Original Project and new project components together would generate 1,553 metric tons of carbon dioxide–equivalent ($MTCO_2e$). These emissions would occur over approximately 2 years. The Bay Area Air Quality Management District (BAAQMD) has not developed a threshold of significance that applies directly to this type of infrastructure project. BAAQMD recommends a mass emission threshold of 1,100 $MTCO_2e$ per year ($MTCO_2e$/year) for land use development projects and 10,000 $MTCO_2e$/year for stationary sources (BAAQMD 2017:2-4). In addition, BAAQMD has not established a quantitative threshold of significance for construction-related GHG emissions. Instead, BAAQMD recommends that lead agencies "make a determination on the significance of these construction-generated GHG emission impacts in relation to meeting Assembly Bill (AB) 32 GHG reduction goals," referring to Assembly Bill 32, the California Global Warming Solutions Act, which was passed by the California legislature in 2006 (BAAQMD 2017:2-6). This approach is applied here.

As stated in Section 2.3, "Project Objectives," the basic objective of the Amended Project is to make safety improvements to existing natural gas pipelines and prevent natural gas leaks. This objective is important relative to climate change because natural gas consists primarily of methane, which is a GHG with a global warming potential that is approximately 21–28 times greater than carbon dioxide (CARB 2016:1). Preventing natural gas leaks is consistent with the CARB's *2017 Scoping Plan*, which is the overarching plan for reducing GHG emissions in California and meeting and maintaining the statewide GHG reduction targets mandated by AB 32 of 2006 and additional GHG reduction targets established by Senate Bill 32 of 2016 (CARB 2017). The Scoping Plan calls for implementation of the Short-Lived Climate Pollutant Strategy to reduce natural gas leaks from oil and gas wells, pipelines, valves, and pumps to reduce the emissions of methane, a GHG with a high global warming potential, associated with natural gas distribution and consumption.

Similar to the Original Project, the new project components would be consistent with the Short-Lived Climate Pollutant Strategy and the *2017 Scoping Plan*. Although the new project components would result in additional construction-related GHG emissions, they would reduce the long-term potential for natural gas leaks. In addition, the purging of natural gas from the old pipeline segments would be conducted in accordance with rules and protocol established by CARB to minimize the associated methane emissions. Also, PG&E is a covered entity under California's Cap-and-Trade Program and, therefore, is required to achieve GHG reductions to stay under the designated cap. This impact would be less-than-significant. Furthermore, the use of Tier 3 and 4 engines, as stipulated by APM AIR-2: Minimize Exhaust Emissions, would reduce construction-related GHGs. For these reasons, the contribution of the new project components to climate change would not be cumulatively considerable. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

3.8.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project. Impacts related GHG emissions would be less-than-significant with no mitigation required.

3.9 HAZARDS AND HAZARDOUS MATERIALS

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less-than-Significant	No	No	No	BIO-10 HAZ-1 HWQ-1 through HWQ-3	None	Less-than-Significant
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less-than-Significant	No	No	No	BIO-10 HAZ-1 HWQ-1	None	Less-than-Significant
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact	No	No	No	None	None	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No Impact	No	No	No	None	None	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or	No Impact	No	No	No	None	None	No Impact

	Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
	working in the project area?							
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less-than-Significant	No	No	No	T&T-1	None	Less-than-Significant
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Less-than-Significant	No	No	No	HAZ-2	None	Less-than-Significant

3.9.1 Discussion

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

As with the Original Project, the new project components would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

If refueling and maintenance of construction equipment is required for the new project components and protective measures are not implemented, this could be a potentially significant impact. However, any refueling would occur in designated areas within the Amended Project area and would not be within 150 feet of a wetland or water body unless appropriate spill control and containment areas are provided as specified in APM BIO-10: Refueling and Equipment Maintenance. Appropriate materials would be used on-site to prevent and manage any spills. These procedures are detailed in APM HAZ-1: Hazardous Substance Control and Emergency Response, and would be outlined in the project-specific SWPPP or S-ESCP, required pursuant to APM HWQ-1: SWPPP Development and Implementation, Erosion, and Sedimentation. APM HWQ-2: Worker Environmental Awareness Program Development and Implementation, would require that workers know the correct spill prevention and response measures and best management practices (BMPs) implementation.

The use, storage, and disposal of hazardous materials and wastes are controlled by existing regulations that would be followed during construction and operation of the new project components. Furthermore, the standard construction BMPs outlined in APM HWQ-1 would be implemented to further minimize the potential for pollutant discharge during construction.

Pipeline cleaning could generate contaminated water and cleaning fluids that would require transport and disposal. All hydrotest water generated from the cleaning the retired pipeline would be collected in temporary storage tanks, tested, and used onsite for dust control, if appropriate based on testing results, or hauled to an approved disposal site in accordance with all applicable federal, state, and local regulations. However, without implementation of protective measures, this impact could be potentially significant. APM HWQ-3: Secondary Containment, would require secondary containment such as such as rubber berms with lips, larger layflat hose, or other suitable materials, be provided for water piping/hoses, frac tanks, and other equipment used to convey and temporarily store water and

cleaning fluids. Therefore, the new project components would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Operation of the new project components would not require the transport, use, or disposal of hazardous materials. With implementation of APMs, the severity of this impact would be maintained at a less-than-significant level.

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

If accidental spills of contaminated water, cleaning fluids, or other hazardous materials occurs, emergency spill supplies and equipment would be kept at staging areas and would be clearly marked for easy access and use. PG&E would take appropriate precautions when handling and/or storing chemicals (e.g., fuel and hydraulic fluid) near waterways and wetlands, and all applicable laws and regulations would be followed. This impact would be less-than-significant. Furthermore, APMs BIO-10: Refueling and Equipment Maintenance, HAZ-1: Hazardous Substance Control and Emergency Response, and HWQ-1: SWPPP Development and Implementation, Erosion, and Sedimentation, as described above under item a) would be used to contain and manage emergency spills.

No hazardous materials were identified at or within 2,500 feet of the Amended Project area, so it is not anticipated that workers would encounter any contaminated soils during construction (SWRCB 2020), and this impact would be less-than-significant. If hazardous substances are unexpectedly encountered, work would be stopped until the material is properly characterized, and appropriate measures are taken to protect human health and the environment, pursuant to APM HAZ-1. If excavation of hazardous materials is required, they would be handled, transported, and disposed of in accordance with all applicable federal, state, and local regulations. Therefore, the new project components would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. With implementation of APMs, the severity of this impact would be maintained at a less-than-significant level.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no existing schools within 0.25 mile of the Amended Project area. Therefore, the new project components would not emit hazardous emissions or handle hazardous or acutely-hazardous substances or waste within 0.25 mile of an existing or proposed school and no impact would occur.

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

The new project components would not be located on a site that is included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. As such, it would not create a significant hazard to the public or environment and no impact would occur.

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

The D-915 site is not within 2 miles of an airport. The R-893 site is within 2 miles of the Livermore Municipal Airport and is within its Airport Influence Area as shown in the Livermore Municipal Airport Land Use Compatibility Plan. Although the R-893 site is not subject to this local plan, it would not conflict with it. After construction, the pipeline would be located below ground. Small above-ground pipeline markers would be located within the north and south workspaces along the pipeline easement. The new project components would be buried or small in size and would therefore not have potential to affect the safety of an airport, or the safety of people residing or working in the Amended Project area. There would be no impact.

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

The new project components would not introduce permanent features impairing implementation of, or physically interfering with, an emergency response plan or emergency evacuation plan. Public road closures are not proposed during construction of the new project components; however, if encroachment permits require temporary roadway closure, they would be limited to pipeline installation and restoration of pavement, and the construction site would be plated when construction is not actively occurring, to facilitate access. Encroachment permits could also require traffic control and detours as necessary. This impact would be less-than-significant. Furthermore, APM T&T-1: Traffic Coordination, would be implemented to notify emergency service providers of the timing, location, and duration of construction activities; traffic control devices and signage would be used as needed. As such, the new project components would not interfere with emergency plans or access around construction activities. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

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

The new project components would occur within or in areas surrounded by annual grassland that is susceptible to wildland fires. Work that involves flame, arcing, or sparking equipment (such as welding) during pipeline joining and cutting could potentially result in the combustion of native materials located close to the work area if sufficient controls are absent. All grassland sites would be mowed in construction work areas, including overland access routes, prior to mobilization of equipment. If needed, construction areas would be treated with water for dust control, which also enhances fire protection. Open fires would not be allowed at or near work areas. Heat or sparks from vehicles or equipment have the potential to ignite dry vegetation and cause a fire; however, CAL FIRE requires the use of spark arrestors on all internal combustion engines. Therefore, this impact would be less-than-significant. In addition, PG&E would implement fire prevention and suppression measures described in APM HAZ-2: Fire Avoidance and Suppression, during construction. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

3.9.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project. Impacts from hazards and hazardous materials from the Amended Project would be less-than-significant with no mitigation required.

3.10 HYDROLOGY AND WATER QUALITY

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	Less-than-Significant	No	No	No	HWQ-1 HWQ-2 BIO-10	None	Less-than-Significant
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Less-than-Significant	No	No	No	None	None	Less-than-Significant
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) result in substantial erosion or siltation on or off site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site; iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial	Less-than-Significant with Mitigation	No	No	No	BIO-13 HWQ-1	HWQ-1 HWQ-2	Less-than-Significant with Mitigation

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
additional sources of polluted runoff; or iv) impede or redirect flood flows.							
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact	No	No	No	None	None	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable ground water management plan?	N/A	No	No	No	None	None	Less-than-Significant

3.10.1 Discussion

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Similar to the Original Project, the new project components would involve water from hydrostatic testing, pipeline cleaning, and groundwater dewatering (if needed). Water would be piped to temporary storage tanks and tested before being used for dust control or disposed of off-site. If used for dust control, water would not be allowed to collect on-site and would not be allowed to enter adjacent wetlands. The alkali seasonal wetland swale at the D-915 site would use an existing, two-track, dirt, access route, and be bridged unless dry conditions make it unnecessary in the opinion of CDFW. This impact would be less-than-significant. Furthermore, APMs HWQ-1: SWPPP Development and Implementation, Erosion, and Sedimentation, HWQ-2: Worker Environmental Awareness Program Development and Implementation, and BIO-10: Refueling and Equipment Maintenance, would be implemented to avoid and minimize impacts to water quality. The new project components would not obstruct implementation of a water quality control plan or sustainable ground water management plan. With implementation of these APMs, the severity of this impact would be maintained at a less-than-significant level.

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

Groundwater levels at the R-893 site are expected to be approximately 10 to 30 feet bgs and excavations were relatively shallow at approximately 5 to 10 feet bgs. Deeper excavations would be required for mechanical boring beneath roadways. Groundwater levels at the D-915 site are expected to be about 7 to 9 feet bgs and excavations would be at approximately 8 feet bgs.

While not expected, if groundwater is encountered it would be conveyed by piping to temporary storage tanks for testing before being reused on site or hauled off-site for disposal. The new project components would not directly use groundwater or install new impervious surfaces that could affect groundwater recharge, and the potential for

encountering groundwater while digging bore pits is low. Therefore, impacts to local groundwater resources would be less-than-significant.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) result in substantial erosion or siltation on or off site;

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site;

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv) impede or redirect flood flows.

Construction of the new project components would occur during the dry season when streambeds are expected to be dry or at low levels. PG&E would bore under Arroyo Las Positas Creek at the R-893 site. Potential impacts to the seasonal alkali wetland at the D-915 site would be minimized by implementing APM BIO-13: Access Across and Avoidance of Jurisdictional Features.

The new project components have the potential to alter the existing drainage patterns of the site or area, result in erosion or siltation on- or off-site, increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite, and provide additional sources of polluted runoff. Without implementation of protection measures, this impact could be potentially significant. However, implementation of APM HWQ-1: SWPPP Development and Implementation, Erosion, and Sedimentation, would control and minimize erosion and control runoff during and after construction activities. Despite implementation of this APM, the new project components would still have the potential to affect drainages and flows downstream of the Amended Project area. This impact would be potentially significant.

Mitigation Measure HWQ-1: Prepare and Implement a Water Diversion and Dewatering Plan

Although flowing water is generally not expected at any work areas, there is some possibility for water to be present at both sites. A Water Diversion and Dewatering Plan shall be prepared and provided to CDFW for review and approval 7 days prior to the start of construction if it appears that dewatering may be necessary. The Plan shall include specific provisions for each site where dewatering or diversion would be necessary and measures to maintain natural flows to the greatest extent feasible and minimize erosion.

Mitigation Measure HWQ-2: Restore Swale and Channel Contours

Upon completion of excavation burial, and prior to October 15 in any construction year, swale and channel contours shall be restored to previous contours if impacts occur.

Significance after Mitigation

Implementation of the APMs and mitigation measures listed above would reduce the potential for the new project components to substantially alter the existing drainage pattern of the area by controlling and minimizing erosion and runoff, and restoring swale and channel contours. This impact would be less-than-significant.

d) Result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The Amended Project area outside the 100-year flood plain hazard area (FEMA 2009) and the new project components would not involve construction of housing structures that would impede or redirect flood flows. The R-893 component is located more than 7 miles away, and the D-915 component is located more than 4 miles from the

Los Vaqueros Reservoir. Both projects components are more than 45 miles from the Pacific Ocean and 10 miles from Suisun Bay. Because of these distances, as well as the sloping topography of the R-893 site and the lack of adjacent hillsides and embankments near D-915 site, the project would not be susceptible to seiche, tsunami, or mudflow. Therefore, no impact would occur.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable ground water management plan?

See item a) above.

3.10.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project and with the incorporation of Mitigation Measures HWQ-1 and HWQ-2, impacts to hydrology and water quality would be less-than-significant.

3.11 LAND USE AND PLANNING

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Physically divide an established community?	No Impact	No	No	No	None	None	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No Impact	No	No	No	None	None	No Impact

3.11.1 Discussion

a) Physically divide an established community?

Similar to the Original Project, the new project components involve pipeline repair and replacement activities that would not physically divide any communities. In addition, all construction areas and temporary and permanent easements would be restored to approximate pre-project conditions. There would be no impact.

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

The City of Livermore General Plan designates the R-893 project site as Open Space/Agriculture and Alameda County designates the D-915 project site as Resource Management. While PG&E is not subject to local discretionary regulations, the new project components would not conflict with the policies of the Alameda County General Plan or the City of Livermore General Plan. Additionally, PG&E's existing easement allows for maintenance and repair of utility lines, including pipeline replacement, when the replacement allows for continued and safe operation of the existing gas system and with any necessary permits from applicable state and federal agencies. All disturbed areas would be restored to approximate pre-project conditions and existing use of the property would continue after construction activities are complete. The new project components would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, there would be no impact.

3.11.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project. There would be no impact to land use and planning and no mitigation is required.

3.12 MINERAL RESOURCES

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	No Impact	No	No	No	None	None	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	No Impact	No	No	No	None	None	No Impact

3.12.1 Discussion

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

As with the Original Project, the new project components are located on land that the DOC Division of Mines and Geology classified as MRZ-1 and MRZ-4 (DOC 1983). The R-893 component is underlain by Pleistocene alluvium and the D-915 component is underlain with Pleistocene alluvium and Pliocene sedimentary rocks, which are unlikely to be economically significant sources of mineral resources (USGS 2006). The project would have no impact on mineral resources that would be of value to the state.

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

The new project components would disturb a total of approximately 3.012 acres, primarily in previously disturbed areas. The R-893 component is located next to I-580 and the Shea Homes residential development, and is unlikely to be used for future mineral extraction because of the proximity to major roadways and residences. The D-915 component is located along an existing pipeline and a permanent easement, within grazing land. There are no known locally important mineral resources and future mineral extraction is not expected near the Amended Project area. Therefore, there would be no impact related to locally important mineral resources.

3.12.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project. There would be no impact to mineral resources and no mitigation is required.

3.13 NOISE

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is there Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less-than-Significant	No	No	No	NOI-1 NOI-2	None	Less-than-Significant
b) Generation of excessive ground borne vibration or ground borne noise levels?	Less-than-Significant	No	No	No	None	None	Less-than-Significant
c) For a project located within the vicinity of a private airstrip an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport of public use airport, would the project expose people residing or working in the Project area to excessive noise levels?	No Impact	No	No	No	None	None	No Impact

3.13.1 Discussion

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

The types of noise-generating equipment used in construction of the R-893 and D-915 components would be similar to equipment used for the Original Project with individual heavy-duty equipment generating noise levels as high as 85 decibels (dB) at a distance of 50 feet. Additional residential land uses in the City of Livermore (City) would be exposed to increased noise levels from construction of the R-893 and D-915 components. Construction activity at the northern work area of the R-893 component would be as close as 20 feet from multifamily residential land uses along the south side of Tranquility Circle. At this distance, individual construction equipment could expose these multifamily dwellings to exterior noise levels as high as 93 db. Construction work at the southern work area of the R-893 component would be approximately 325 feet north of single-family residences on the south side of East Airway Boulevard. Construction of the D-915 component would be more than 500 feet from the single-family residences along Bridle Court and Gelding Lane. Although additional residences would be exposed to increased noise levels from construction of the R-893 and D-915 components under the Amended Project, the type and intensity of the impacts to these residences would be similar to the noise impacts to residence located near the Original Project that were identified in the 2018 IS/MND. Although noise impacts would be limited to temporary construction activities, without implementation of protection measures, they could be potentially significant. APMs NOI-1: Notify Residents and Ranchers of Construction Activities and NOI-2: Noise Minimization with Quiet Equipment, would be implemented

during construction as required under the Original Project. APM NOI-1 requires residents to be given at least a 7-day advance notice of the start of any construction-related activities located within 500 feet. APM NOI-2 requires the use of quiet construction equipment whenever feasible. Moreover, noise-generating construction activity in the City of Livermore would not take place during noise-sensitive evening and nighttime hours (7:00 p.m. to 6:00 a.m.) as required by the City. As such, the Amended Project would not change any of the 2018 IS/MND findings with respect to noise impacts and no new mitigation is required for the Amended Project. With implementation of APMs, the severity of this impact would be maintained at a less-than-significant level.

b) Generate excessive ground borne vibration or ground borne noise levels?

Like the Original Project, the Amended Project would not involve construction activities that generate high levels of ground vibration such as pile driving or blasting with explosives. Therefore, the project would not expose residences or other noise-sensitive receptors to levels of groundborne vibration or groundborne noise that would cause annoyance or result in structural damage to nearby buildings or structures. This impact would be less-than-significant.

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

Like the Original Project, the Amended Project would not result in the development of any new residential land uses or businesses. The Livermore Municipal Airport is located approximately 1 mile southwest of the R-893 site. All components of the project site are located outside the airport's 55 A-weighted dB Community Noise Equivalent Level (CNEL) contour (Alameda County 2012:3-23). Therefore, construction workers would not be exposed to aircraft-related noise levels greater than 55 CNEL. For these reasons, the Amended Project would not expose people residing or working in the project area to excessive noise levels. There would be no impact with respect to exposure to aircraft noise.

3.13.2 Conclusion

The Amended Project would not result in any new impacts from project modifications or substantial changes in circumstances beyond the effects described in the 2018 IS/MND for the Original Project. The conclusions of the 2018 IS/MND apply to the Amended Project. Impacts related to noise and ground vibration would be less-than-significant with no mitigation required.

3.14 POPULATION AND HOUSING

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No Impact	No	No	No	None	None	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact	No	No	No	None	None	No Impact

3.14.1 Discussion

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

The new project components would not include new housing, businesses, or land use changes. No new permanent jobs would be generated for operation and maintenance of the new project components. Construction would require up to 25 workers per day during the 3-month construction period at the R-893 site and up to 8 workers per day during the 1-month construction period at D-915 site. This increase in workers would be temporary and would be served by the existing workforce.

As with the Original Project, the new project components would result in no increase in population growth and would not alter the location, distribution, density, or growth rate of the population. The new project components have been designed to accommodate existing housing, and would not displace the existing population. Therefore, there would be no impact related to population growth.

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

The new project components would not result in additional impacts to population and housing beyond those described in the 2018 IS/MND. The R-893 component would be located south and partially overlap with the R-649 component of the Original Project, which is located just south of a multi-family residential development. The D-915 component is located in a sparsely developed area along a PG&E ROW. There are no existing houses within the project footprint. Therefore, the new project components would not displace people or houses. There would be no impact.

3.14.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project. There would be no impact to population and housing and no mitigation is required.

3.15 PUBLIC SERVICES

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:							
Fire protection?	Less-than-Significant	No	No	No	T&T-1	None	Less-than-Significant
Police protection?	Less-than-Significant	No	No	No	T&T-1	None	Less-than-Significant
Schools?	No Impact	No	No	No	None	None	No Impact
Parks?	No Impact	No	No	No	None	None	No Impact
Other public facilities?	No Impact	No	No	No	None	None	No Impact

3.15.1 Discussion

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection?

Police protection?

Schools?

Parks?

Other public facilities?

The new project components would not result in additional impacts to public services beyond those described in the 2018 IS/MND. The new project components would not include any new above ground facilities. During the construction of the new project components, the increase in workers on-site could incrementally increase the need for fire, medical, and police response services; however, this need would be temporary (3 months at the R-893 site and 1 month at D-915 site) and would not require construction of new fire or police protection facilities. Therefore, this impact would be less-than-significant. Furthermore, during construction, PG&E would implement APM T&T-1: Traffic Coordination, which would include coordination with emergency personnel regarding construction. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

The new project components would not require the construction of new or expanded school facilities, park facilities, or other public facilities. In addition, the project would not include construction of housing or increase the population of the area that would increase the demand for these facilities. Therefore, the new project components would have no impact on government facilities including schools, parks, or other public facilities.

3.15.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project. Impacts to public services would be less-than-significant and no mitigation is required.

3.16 RECREATION

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No Impact	No	No	No	None	None	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No Impact	No	No	No	None	None	No Impact
c) Conflict with established, designated, or planned recreation areas or activities?	Less-than-Significant	No	No	No	T&T-1	None	Less-than-Significant

3.16.1 Discussion

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? or

b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The new project components would not create a new or increased demand for existing public parks or recreational facilities nor would it require the construction or expansion of recreational facilities. Therefore, no impact to existing or expanded recreation facilities would occur.

c) Conflict with established, designated, or planned recreation areas or activities?

The nearest park, Cayetano Community Park, is approximately 0.3 mile north of the R-893 site and is accessed by Portola Avenue. Portola Avenue would also provide access to the R-893 site and construction could cause temporary disruptions to roadway access. Without implementation of protective measures, this impact could be potentially significant. However, with the implementation of APM T&T-1: Traffic Coordination, traffic control devices and signage would be used as needed to continue to provide access to Portola Avenue and Cayetano Community Park.

Christensen Park is located approximately 0.6 mile southeast of the D-915 component and is accessed by North Vasco Road. The D-915 site would also be accessed via North Vasco Road and construction could cause temporary

disruptions to roadway access. Without implementation of protective measures, this impact could be potentially significant. However, with the implementation of APM T&T-1, traffic control devices and signage would be used as needed to continue to provide access to North Vasco Road and Christensen Park. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

3.16.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project. Impacts to recreation facilities would be less-than-significant and no mitigation is required.

3.17 TRANSPORTATION AND TRAFFIC

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including, transit, roadway, bicycle, and pedestrian facilities?	Less-than-Significant	No	No	No	T&T-1	None	Less-than-Significant
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	N/A (Topic subsequently added in CEQA Guidelines)	No	No	No	None	None	Less-than-Significant
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less-than-Significant	No	No	No	None	None	Less-than-Significant
d) Result in inadequate emergency access?	Less-than-Significant	No	No	No	T&T-1	None	Less-than-Significant

3.17.1 Discussion

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

For the new project components, an average of 25 construction workers would drive to and from the R-893 site daily for approximately 3-months and an estimated 8 construction workers would travel to and from the D-915 site daily for approximately 1-month. There would be an average of fewer than three truck deliveries per day for the new project components and an estimated maximum of 17 trucks per day for a 4-day period within the construction window. During that 4-day period, the new project components would generate approximately 100 daily trips within the surrounding transportation network. These construction trips would not occur all at the same time and many of them would be outside of peak traffic periods. Therefore, this impact would be less-than-significant. Furthermore, APM T&T-1: Traffic Coordination, would be implemented to notify emergency service providers of the timing, location, and duration of construction activities. This measure will allow emergency service providers to proactively route vehicles away from the construction as necessary.

As with the Original Project, the increases in traffic would be temporary and construction would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including, transit, roadway, bicycle, and pedestrian facilities. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

The Office of Administrative Law approved the updated CEQA Guidelines on December 28, 2018, and the changes are reflected in new CEQA Guidelines (Section 15064.3). State CEQA Guidelines Section 15064.3 was added to address the determination of significance for transportation impacts. Pursuant to the new CEQA Guidelines, vehicle miles travelled (VMT) will replace congestion as the metric for determining transportation impacts. The updated CEQA Guidelines were not formally adopted until December 28, 2018, subsequent to the adoption of the 2018 IS/MND. Therefore, consistent with industry standards and the applicable General Plan goals and policies at the time, automobile delay (level of service [LOS]) was the primary metric used to evaluate the Original Project's CEQA transportation impacts. At the time of adoption of the 2018 IS/MND, VMT was a metric commonly used in connection with long-range planning, or as part of the CEQA analysis of a project's GHG emissions and impacts but was not a metric commonly used to analyze transportation impacts under CEQA. However, because information was known about the impact of VMT on the environment at the time the 2018 IS/MND was prepared, it could have been evaluated in the transportation section of the 2018 IS/MND. Therefore, the shift from automobile delay (LOS) to VMT as the primary metric used to analyze transportation impacts under CEQA, as dictated by CEQA Guidelines Section 15064.3, does not constitute "new information" as defined in CEQA Guidelines Section 15162.

Section 15064.3(b)(3), Qualitative Analysis, states that if existing models or methods are not available to estimate the VMT for the particular project being considered, a CEQA lead agency may analyze the project's VMT qualitatively. Additionally, this section notes that for many projects, a qualitative analysis of construction traffic may be appropriate. The new project components include replacement and maintenance of existing natural gas pipelines and would not result in changes in land use or an increase population. In addition, because the trip generation associated with the new project components is almost entirely construction related, and construction workers commuting to and from the Amended Project area would not result in any changes to regional VMT, Section 15064.3(b)(3) is applicable to the new project components. Operation of the new project components would occasionally generate trips for inspecting and maintaining the pipelines, as currently occurs and would not result in an increase in long-term vehicle trips. Therefore, the new project components would not result in an increase in VMT or conflict with CEQA Guidelines Section 15064.3(b). This impact would be less-than-significant.

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

The R-893 component would include the installation of a pipeline by boring under I-580 and by trenching south of Shea Homes and along the side of Airport Boulevard. Trenching would be done on one side of the road at a time to allow traffic to pass. The construction site would be plated or restored prior to re-opening the roadway to public use. The D-915 component is located off the main road and would therefore not cause traffic interruptions. Construction of the new project components would not substantially increase hazards on roadways, or near the staging areas. This impacts would be less-than-significant.

d) Result in inadequate emergency access?

Trenching would be done on one side of the road at a time to allow traffic to pass. However, road closures could have an impact on emergency access to the Amended Project area and to areas accessed by affected roadways. Without protective measures, this impact could be potentially significant. APM T&T-1: Traffic Coordination, would be implemented to notify emergency service providers of the timing, location, and duration of construction activities. This measure would allow emergency service providers to proactively route vehicles away from the construction as necessary. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

3.17.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project. Impacts to transportation and traffic would be less-than-significant and no mitigation is required.

3.18 TRIBAL CULTURAL RESOURCES

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined by Public Resources Code section 21047 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Less-than-Significant	No	No	No	CUL-1 through CUL-4 (R-893 Only) TCR-1	None	Less-than-Significant

3.18.1 Discussion

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined by Public Resources Code section 21047 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

An updated search of the Native American Heritage Center (NAHC) Sacred Lands File search was performed in April 2020, which resulted in negative findings. Consistent with PRC Section 21080.3.1, CDFW notified the following tribes about the Amended Project on April 14, 2020:

- Amah Mutsun Tribal Band of Mission San Juan Bautista,
- Costanoan Rumsen Carmel Tribe,
- Indian Canyon Mutsun Band of Costanoa,
- Muwekma Ohlone Indian Tribe of the SF Bay Area (Two recipients),
- North Valley Yokuts Tribe,
- The Ohlone Indian Tribe,
- The Confederated Villages of Lisjan, and
- Federated Indians of Graton Rancheria.

Under PRC Section 21080.3.1, tribes have 30 days to respond to notification letters. However, on April 22, 2020, Governor Newsom signed Executive Order N-54-20 to address the need to extend certain government functions and legal requirements as a result of the March 4 State of Emergency regarding COVID-19. This included a suspension of certain legally mandated timeframes for tribal consultation which were set forth by AB 52. Section 9 of the Executive Order states:

> The timeframes set forth in Public Resources Code sections 21080.3.1 and 21082.3, within which a California Native American tribe must request consultation and the CEQA lead agency must begin the consultation process relating to an Environmental Impact Report, Negative Declaration, or Mitigated Negative Declaration under the California Environmental Quality Act, are suspended for 60 days.
>
> If an initial project notification letter was mailed pursuant to 21080.3.1(d) before April 22 and the 30-day response window had not closed by that date, then the requirement for the tribes to respond within 30 days of that notice has been suspended. As a practical matter, this means that under these circumstances, tribes have until June 21, or the end of the 60-day suspension, to request consultation.

Therefore, the timeframe for tribes to request consultation was extended to June 21, 2020. No tribes requested consultation for the Amended Project by that date. Therefore, this impact would be less-than-significant. Furthermore, implementation of APMs CUL-1: Prehistoric or Historic-Period Materials Discovered during Construction, through CUL-4: Paleontological Resources Discovered during Construction, and TCR-1: Management of Unanticipated

Tribal Cultural Resources, from the 2018 IS/MND would reduce potential impacts to previously unrecorded tribal cultural resources. APM CUL-4 does not apply to the D-915 site because this site is not within the sensitive area described as requiring monitoring (PG&E 2019). With implementation of these APMs, the severity of this impact would be maintained at a less-than-significant level.

3.18.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project, and no new potentially significant effects are evident. Tribal cultural resource impacts of the Amended Project would be less-than-significant with no mitigation required.

3.19 UTILITIES AND SERVICE SYSTEMS

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	No Impact	No	No	No	None	None	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Less-than-Significant	No	No	No	None	None	Less-than-Significant
c) Result in a determination by the wastewater treatment provider that serves or may serve the Proposed Project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Less-than-Significant	No	No	No	None	None	Less-than-Significant
d) Generate solid waste in excess of State of local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Less-than-Significant	No	No	No	None	None	Less-than-Significant
e) Comply with federal, state, and local statutes and regulations related to solid waste?	No Impact	No	No	No	None	None	Less-than-Significant

3.19.1 Discussion

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

As with the 2018 IS/MND, the new project components would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, or telecommunications facilities. The new project components would include repair or replacement existing natural gas pipelines that are in poor condition. No new natural gas pipelines would be constructed and no pipelines would be relocated. Therefore, there would be no impact.

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

Approximately 34,800 gallons (0.1 acre foot) of water would be required for hydrotesting of the new pipeline, pipeline cleaning, potholing, and dust control for construction of the R-893 component, and no more than 10,000 gallons (0.03 acre foot) per day would be used, if needed for dust control or potholing for construction of D-915. Water would likely be sourced through a local water supply municipality (City of Livermore) and trucked to the construction areas. Zone 7 Water Agency, which is the water wholesaler for the City of Livermore and Alameda County, provides water for municipal, industrial use, and supplies non-potable water to non-municipal users such as agricultural operations (City of Livermore General Plan 2004). The 2015 Zone 7 Urban Water Management Plan projects that Zone 7 would have a minimum water supply in dry years of 48,000 acre-feet. In the City of Livermore, the long-term water demand is estimated to be approximately 22,000 acre-feet/year (Livermore Municipal Water 2016). Therefore, sufficient water supplies would be available to support the new project components and reasonably foreseeable future development during normal, dry, and multiple dry years. If encountered, groundwater would either be used for dust control or conveyed via piping into temporary storage tanks before it is tested and hauled off-site for disposal at an approved facility or discharged to a sewer drain connecting to a publicly-owned treatment network. Because the increase in water demand would be temporary and water suppliers in the Amended Project area have adequate water supplies to serve the project, this impact would be less-than-significant.

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

Although construction of the new project components would generate wastewater, the increase in wastewater would be temporary and would not exceed the capacity of a wastewater treatment provider that serves or may serve the Amended Project area. This impact would be less-than-significant.

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

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

Approximately 1,000 cubic yards of soil is expected to be removed from the R-893 site and disposed of at the Vasco Road Landfill. Any other solid waste generated by the new project components would be minimal and temporary. As of 2016 (the latest date for which capacity was reported), Vasco Road Landfill had a remaining capacity of 7,379,000 cubic yards. The new project components would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. Construction of the new project components would comply with federal, state, and local statutes and regulations related to solid waste. Therefore, these impacts would be less-than-significant.

3.19.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project. Impacts to utilities and service systems would be less-than-significant and no mitigation is required.

3.20 WILDFIRE

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	Less-than-Significant	No	No	No	T&T-1	None	Less-than-Significant
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	N/A (Topic subsequently added in CEQA Guidelines)	No	No	No	HAZ-2	None	Less-than-Significant
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	N/A (Topic subsequently added in CEQA Guidelines)	No	No	No	None	None	Less-than-Significant
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	N/A (Topic subsequently added in CEQA Guidelines)	No	No	No	None	None	No Impact

3.20.1 Discussion

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

As discussed in Section 3.17, "Transportation and Traffic" above, trenching would be done on one side of the road at a time to allow traffic to pass. Without implementation of protection measures, road closures could have a potentially significant impact on emergency access to the Amended Project area and to areas accessed by affected roadways. However, APM T&T-1: Traffic Coordination, would be implemented to ensure project construction and operation would not impair an adopted emergency response plan or emergency evacuation plan. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

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

State Responsibility Areas are defined as areas where CAL FIRE is the primary emergency response agency responsible for fire suppression and prevention. Portions of the Amended Project area are within a State Responsibility Area. The Amended Project area is not within areas classified as very high fire hazard severity zones (CAL FIRE 2008). Heat or sparks from vehicles or equipment have the potential to ignite dry vegetation and cause a fire; however, CAL FIRE requires the use of spark arrestors on all internal combustion engines. Therefore, this impact would be less-than-significant. Furthermore, APM HAZ-2: Fire Avoidance and Suppression, would be implemented to ensure construction and operation associated with the new project components would not exacerbate fire risk exposing people or structures to significant risks post-fire, should a fire occur in the area. With implementation of this APM, the severity of this impact would be maintained at a less-than-significant level.

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

The new project components would involve installation and maintenance of utility lines; however, a primary purpose of the new project components is to repair or replace existing natural gas pipelines that are in poor condition to make safety improvements, which would reduce wildfire risks. No new pipelines would be constructed that could exacerbate wildfire risk. In addition, the effects on the environment related to repairing and replacing these pipelines are analyzed throughout Chapter 3 of this Subsequent IS/MND. This impact would be less-than-significant.

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

The new project components would not include construction of any new housing or structures. In addition, the project would improve the safety of existing natural gas pipelines, which would reduce wildfire risk in the Amended Project area. Therefore, the new project components would not expose people or structures to significant risks, including post-fire flooding or landslides. There would be no impact.

3.20.2 Conclusion

Wildfire was added as a new topic in the Environmental Checklist by State CEQA Guidelines amendments going into effect on January 3, 2019. Therefore, this topic was not included in the 2018 IS/MND. No new potentially significant effects are evident. The impacts of the Amended Project related to wildfire would be less-than-significant with no mitigation required.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

Would the Project:	Original Project's 2018 IS/MND Significance Determination	Would the Proposed Modifications Involve New or Substantially More Severe Impacts?	Do Changes in Circumstances Involve New or Substantially More Severe Impacts?	Is There Substantial New Information Requiring Analysis?	Applicable APMs	Applicable Mitigation Measures	Amended Project's Subsequent IS/MND Significance Determination
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	Less-than-Significant with Mitigation	No	No	No	See Section 2.7 for applicable APMs	See Sections 3.4 and 3.10 for applicable mitigation measures	Less-than-Significant with Mitigation
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	Less-than-Significant with Mitigation	No	No	No	See Section 2.7 for a list of APMs	See Sections 3.1 through 3.20 for applicable mitigation measures	Less-than-Significant with Mitigation
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less-than-Significant with Mitigation	No	No	No	See Section 2.7 for a list of APMs	See Sections 3.4 and 3.10 for applicable mitigation measures	Less-than-Significant with Mitigation

3.21.1 Discussion

a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Similar to the 2018 IS/MND, the new project components would result in potentially significant impacts to biological resources and hydrology and water quality. However, adoption and implementation of mitigation measures described in Sections 3.4 and 3.10 above, would reduce these individual impacts to less-than-significant levels.

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

Cumulative environmental effects are multiple individual effects that, when considered together, would be considerable or compound or increase other environmental impacts. Individual effects may result from a single project or a number of separate projects and may occur at the same place and point in time or at different locations and over extended periods of time. Similar to the 2018 IS/MND, the new project components would not make a considerable contribution to a cumulative impact. This impact would be less-than-significant.

c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

As identified in this Subsequent Initial Study, all impacts identified for the Amended Project, including cumulative impacts, would either be less-than-significant with the implementation of APMs and mitigation, or less-than-significant or no impact and do not require mitigation. Therefore, the Amended Project would not result in environmental impacts that would cause substantial adverse impacts on human beings, either directly or indirectly. Impacts would be less-than-significant with implementation of APMs and mitigation.

3.21.2 Conclusion

The Amended Project would not result in any new impacts from the new project components or have substantial changes in circumstances beyond the effects described in the 2018 IS/MND. The conclusions of the 2018 IS/MND apply to the Amended Project and with the incorporation of APMs and mitigation measures, all impacts of the Amended Project would be less-than-significant.

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No references were used in this section.

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