APPENDIX T

Mitigation and Avoidance Measure Summary Table

Mitigation Number	Mitigation Measure	Project Component	Location
MM-BIO-1a **Mitigation for Upland Impacts**	In order to off-set the permanent impacts to sensitive upland vegetation communities, 6.61 acres of mitigation would be required for the Miramar Reservoir Alternative and 8.14 acres of mitigation would be required for the San Vicente Reservoir Alternative. Mitigation would be provided through restoration and preservation of uplands at the SANDER Vernal Pool and Upland Mitigation Site. All mitigation would occur within the Multiple Species Conservation Program's (MSCP's) Multi-Habitat Planning Area (MHPA). Additionally, in order to satisfy the cumulative impacts requirement, 1.30 acres of native grassland creation would be conducted outside the MHPA for either alternative and a Native Grassland Creation Mitigation Plan – Pueblo South (Appendix S) would be implemented.	*Components Common to both Alternatives*	
		North City Pure Water Facility (NCPWF; includes the North City Pure Water Pump Station)	Entire facility
		San Vicente Reservoir Alternative	
		San Vicente Pipeline – Tunnel Alternative Terminus (San Vicente Pipeline – TAT)	Entire alignment
		San Vicente Pipeline – In-Reservoir Alternative Terminus (San Vicente Pipeline – IRAT)	Entire alignment
		San Vicente Pipeline – Marina Alternative Terminus (San Vicente Pipeline – MAT)	Entire alignment
		Mission Trails Booster Station (MTBS)	Entire facility
		San Vicente Pipeline - Repurposed Pipeline	At air and blow-off valve locations along the alignment
MM-BIO-1b **Mitigation for Vernal Pool Impacts**	In order to off-set permanent impacts to vernal pools, 0.75 acre of mitigation would be required for both Project Alternatives. Mitigation would be provided through restoration of vernal pools and adjacent uplands at the SANDER Vernal Pool and Upland Mitigation site, which is within the Vernal Pool Habitat Conservation Plan (VPHCP) hard line preserve. The SANDER Vernal Pool and Upland Mitigation Site within MHPA lands; therefore, mitigation would occur within the MSCP's MHPA and would be implemented in accordance with City/U.S. Army Corps of Engineers (ACOE)/California Department of Fish and Wildlife (CDFW)/Regional Water Quality Control Board (RWQCB) guidelines. The SANDER Vernal Pool and Upland Mitigation Plan (Appendix R) would be developed and implemented at the SANDER Vernal Pool and Upland Mitigation Site. Both upland vegetation, including in Tier mitigation, and vernal pool impacts would be mitigated at the SANDER site.	*Components Common to both Alternatives*	
		NCPWF	Vernal pools within the facility
MM-BIO-1c **Mitigation for Impacts to Jurisdictional Aquatic Resources**	In order to off-set permanent impacts to jurisdictional resources (excluding vernal pools), 1.12 acres of mitigation would be required for the San Vicente Reservoir Alternative. Mitigation would be provided at the SANDER Mitigation site (subject to the satisfaction of ACOE and RWQCB) or through allocation of credit at the San Diego River Mitigation Site subject to ACOE and RWQCB approval. All mitigation would occur within the MSCP's MHPA and is in accordance with City/ACOE/CDFW/RWQCB guidelines.	*San Vicente Reservoir Alternative*	
		San Vicente Pipeline – TAT	Impacts to open water and intermittent stream southeast of San Vicente Reservoir and north of Lake Vicente Drive
		San Vicente Pipeline – IRAT	Impacts to open water southwest and within San Vicente Reservoir
		San Vicente Pipeline – MAT	Impacts to open water southwest of San Vicente Reservoir
		San Vicente Pipeline - Repurposed Pipeline	Within impact areas near the Miramar National Cemetery and Marine Corps Air Station (MCAS) Miramar north of SR-52
MM-BIO-2 **Habitat Revegetation**	Habitat revegetation and erosion control treatments will be installed within temporary disturbance areas in native habitat, in accordance with the San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012a) and the San Diego Municipal Code, Land Development Code—Landscape Standards (City of San Diego 2016~~b~~). A Conceptual Revegetation Plan (Appendix P) was prepared by a Qualified Biological or Restoration Specialist. Habitat revegetation will feature native species that are typical of the area, and erosion control features will include silt fence and straw fiber rolls, where appropriate. The revegetation areas will be monitored and maintained for 25 months to ensure adequate establishment and sustainability of the plantings/seedings. **Revegetation Plan(s) and Specifications:** 1. Landscape Construction Documents (LCD) shall be prepared on D-sheets and submitted to the City of San Diego Development Services Department, Landscape Architecture Section (LAS) for review and approval. LAS shall consult with Mitigation Monitoring Coordination (MMC) and obtain concurrence prior to approval of LCD. The LCD shall consist of revegetation, planting, irrigation and erosion control plans; including all required graphics, notes, details, specifications, letters, and reports as outlined below. 2. Landscape Revegetation Planting and Irrigation Plans shall be prepared in accordance with the San Diego Land Development Code (LDC) Chapter 14, Article 2, Division 4, the LDC Landscape Standards submittal requirements, and Attachment "B" (General Outline for Revegetation/ Restoration Plans) of the City of San Diego's LDC Biology Guidelines (April 2012). The Principal Qualified Biologist (PQB) shall identify and adequately document all pertinent	*Components Common to both Alternatives*	
		Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines)	Coastal sage scrub in Rose Canyon east of Genesee Rd and north of the railroad tracks
		NCPWF	Temporary impact to non-native grassland within the facility site
		Landfill Gas Pipelines (LFG Pipeline)	Entire Alignment
		Miramar Reservoir Alternative	
		North City Pure Water Pipeline (North City Pipeline)	West of Eastgate Mall and north of Miramar Rd; east of I-15 north of Pomerado Rd; south of Evans Pond; south of Miramar Reservoir
		San Vicente Reservoir Alternative	
		San Vicente Pure Water Pipeline (San Vicente Pipeline)	East of I-15 and south of Clairemont Mesa Blvd within disturbed coastal sage scrub; along Tierrasanta Blvd north of Mission Gorge Rd within coastal sage scrub and open water; along Mission Gorge Rd through Mission Trails Regional Park within non-native grassland; within Critical Habitat that crosses SR-52 north of Mission Gorge Rd

Mitigation Number	Mitigation Measure	Project Component	Location
	information concerning the revegetation goals and requirements, such as but not limited to, plant/seed palettes, timing of installation, plant installation specifications, method of watering, protection of adjacent habitat, erosion and sediment control, performance/success criteria, inspection schedule by City staff, document submittals, reporting schedule, etc. The LCD shall also include comprehensive graphics and notes addressing the ongoing maintenance requirements (after final acceptance by the City). For areas where a water source is not available, irrigation can be completed by a water truck. Additionally, it is recommended that planting/seeding occur in the fall or early winter, to the maximum extent practical, in order to minimize the amount of water truck visits needed. 3. The Revegetation Installation Contractor (RIC), Revegetation Maintenance Contractor (RMC), PQB, and Grading Contractor (GC), where applicable shall be responsible to insure that for all grading and contouring, clearing and grubbing, installation of plant materials, and any necessary maintenance activities or remedial actions required during installation and the 120-day plant establishment period are done per approved LCD. The following procedures at a minimum, but not limited to, shall be performed: a. The RMC shall be responsible for the maintenance of the upland mitigation area for a minimum period of 120 days. b. At the end of the 120-day period the PQB shall review the revegetation area to assess the completion of the short-term plant establishment period and submit a report for approval by MMC. If the 120-day plant establishment period success criteria has not been met, an extension may be warranted at the discretion of the PQB. c. MMC would provide approval in writing to begin the 25-month maintenance and monitoring program. d. Existing indigenous/native species shall not be pruned, thinned or cleared in the revegetation/mitigation area. e. The revegetation site shall not be fertilized. f. The RIC is responsible for reseeding (if applicable) if weeds are not removed, within one week of written recommendation by the PQB. g. Weed control measures shall include the following: (1) hand removal, (2) cutting with power equipment, and (3) chemical control. Hand removal of weeds is the most desirable method of control and would be used wherever possible. h. Damaged areas shall be repaired immediately by the RIC/RMC. Insect infestations, plant diseases, herbivory, and other pest problems would be closely monitored throughout the 25-month maintenance period. Protective mechanisms such as metal wire netting shall be used as necessary. Diseased and infected plants shall be immediately disposed of off site in a legally-acceptable manner at the discretion of the PQB or Qualified Biological Monitor (City approved). Where possible, biological controls would be used instead of pesticides and herbicides.	San Vicente Pipeline – IRAT	Entire alignment
		San Vicente Pipeline – MAT	Entire alignment
MM-BIO-3 **Nesting Birds**	To avoid any direct impacts any species identified as a candidate, sensitive, or special status species in the MSCP or other local or regional plans, policies or regulations, or by the CDFW or USFWS, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, the Qualified Biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The applicant shall submit the results of the pre-construction survey to City Development Services Department for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable state and federal law (i.e., appropriate follow up surveys, monitoring schedules, and construction barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs is avoided. The report or mitigation plan shall be submitted to the City for review and approval, and implemented to the satisfaction of the City. The City's MMC Section and Biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.	*Components Common to both Alternatives*	
		Morena Pipelines	Coastal sage scrub in Rose Canyon east of Genesee Rd and north of the railroad tracks and eucalyptus woodland within the alignment
		North City Water Reclamation Plant Expansion (includes NCPWF Influent Pump Station and North City Renewable Energy Facility) (NCWRP)	Areas of coastal sage-scrub and non-native grassland within the facility
		NCPWF	Entire facility
		LFG Pipeline	Entire alignment
		Metro Biosolids Center (MBC) Improvements	Sensitive vegetation within the facility
		Miramar Reservoir Alternative	
		North City Pipeline	Eucalyptus woodland within the alignment
		Miramar Water Treatment Plant (WTP)	Eucalyptus woodland within the facility
		Pure Water Dechlorination Facility (Dechlorination Facility)	Eucalyptus woodland within the facility
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	East of I-15 and south of Clairemont Mesa Blvd within disturbed coastal sage scrub; crosses the San Diego River

Mitigation Number	Mitigation Measure	Project Component	Location
			south of SR-52 and west of Santo Rd within non-native grassland and coastal sage scrub; along Mission Gorge Rd through Mission Trails Regional Park within coastal sage scrub; urban environments along Mission Gorge Rd within eucalyptus woodland; within Critical Habitat that crosses SR-52 north of Mission Gorge Rd; north of the San Diego River along Mission Gorge Rd within eucalyptus woodland; along Mast Blvd north of Lakeside Baseball Park within coastal sage scrub and non-native grassland; along the San Diego River and crosses SR-67 within non-native grassland, coastal sage scrub, southern cottonwood-willow riparian forest, southern arroyo willow riparian forest, and eucalyptus woodland; along Moreno Ave south of San Vicente Reservoir within eucalyptus woodland, non-native grassland, coastal sage scrub, and coast live oak woodland
		San Vicente Pipeline – TAT	Entire alignment
		San Vicente Pipeline – IRAT	Entire alignment
		San Vicente Pipeline – MAT	Entire alignment
		MTBS	Entire facility
		San Vicente Pipeline - Repurposed Pipeline	At all air and blow-off valve locations along the alignment
MM-BIO-4a **Coastal California Gnatcatcher**	Prior to the preconstruction meeting, the Assistant Deputy Director (ADD) or MMC shall verify that the MHPA boundaries and the project requirements regarding the coastal California gnatcatcher, as specified below, are shown on the construction plans. No clearing, grubbing, grading, or other construction activities shall occur during the coastal California gnatcatcher breeding season (March 1 to August 15), until the following requirements have been met to the satisfaction of the ADD/MMC: 1. A Qualified Biologist (possessing a valid Endangered Species Act Section 10(a)(1)(a) Recovery Permit) shall survey those habitat areas within the MHPA that would be subject to construction noise levels exceeding 60 decibels [dB(A)] hourly average for the presence of the coastal California gnatcatcher. Surveys for coastal California gnatcatcher shall be conducted pursuant to the protocol survey guidelines established by the USFWS within the breeding season prior to the commencement of any construction. If coastal California gnatcatchers are present, then the following conditions must be met: a. Between March 1 and August 15, no clearing, grubbing, or grading of occupied coastal California gnatcatcher habitat shall be permitted. Areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; and b. Between March 1 and August 15, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB(A) hourly average at the edge of occupied coastal California gnatcatcher habitat. An analysis showing that noise generated by construction activities would not exceed 60 dB(A) hourly average at the edge of occupied habitat must be completed by a Qualified Acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the ADD/MMC at least 2 weeks prior to the commencement of construction activities. Prior to the commencement of construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; or c. At least 2 weeks prior to the commencement of construction activities, under the direction of a Qualified Acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities would not exceed 60 dB(A) hourly average at the edge of habitat occupied by the coastal California gnatcatcher. Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the Qualified Acoustician or Biologist,	*Components Common to both Alternatives*	
		Morena Pipelines	Coastal sage scrub within MHPA in Rose Canyon east of Genesee Rd and north of the railroad tracks and within San Clemente Canyon, just south of the SR-52 and east of Genesee Avenue.
		NCWRP	Coastal sage scrub within the MHPA south of Miramar Rd.
		LFG Pipeline	Coastal sage scrub within the MHPA south of Miramar Rd.
		Miramar Reservoir Alternative	
		North City Pipeline	Coastal sage scrub within the MHPA east of Eastgate Mall.
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	Within MHPA areas containing coastal sage scrub along the alignment: east of I-15 and south of Clairemont Mesa Blvd; crosses the San Diego River south of SR-52 and west of Santo Rd; along Mission Gorge Rd through Mission Trails Regional Park; urban environments along Mission Gorge Rd; north of the San Diego River along Mission Gorge Rd; along Mast Blvd north of Lakeside Baseball Park; along the San Diego River and crosses SR-67; along Moreno Ave south of San Vicente Reservoir
		San Vicente Pipeline – IRAT	Within MHPA areas with coastal sage scrub along the alignment
		San Vicente Pipeline – MAT	Within MHPA areas with coastal sage scrub along the alignment

Mitigation Number	Mitigation Measure	Project Component	Location
	then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (August 16). Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the ADD/MMC, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment. 2. If coastal California gnatcatchers are not detected during the protocol survey, the Qualified Biologist shall submit substantial evidence to the ADD/MMC and applicable resource agencies which demonstrates whether or not mitigation measures such as noise walls are necessary between March 1 and August 15 as follows: a. If this evidence indicates that the potential is high for coastal California gnatcatcher to be present based on historical records or site conditions, then Condition 1(a) shall be adhered to as specified above. b. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.		
MM-BIO-4b **Coastal California Gnatcatcher**	Ambient noise levels on MCAS Miramar, in particular in the vicinity of the airfield, exceed typical construction noise level. On MCAS Miramar construction noise levels are not anticipated to exceed ambient noise levels. Potential impacts associated with construction activities on MCAS Miramar would be mitigated through the following: 1. Qualified Biologist (possessing a valid federal Endangered Species Act (FESA) Section 10(a)(1)(a) Recovery Permit) shall conduct a pre-construction survey within suitable habitat. Between February 15 and August 31, no clearing, grubbing, or grading of occupied coastal California gnatcatcher habitat shall be permitted. Areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; and 2. For potential impacts associated with construction noise; presence or absence of coastal California gnatcatcher would be determined by pre-construction surveys conducted by a Qualified Biologist adjacent to the Project area. Coastal sage scrub outside of the impact area would be flagged to protect it from construction equipment as directed by the Project Biologist. Between February 15 and August 31 no noise-generating construction activities that exceed ambient noise levels would occur in close proximity to occupied habitat. If necessary other measures shall be implemented in consultation with the Project Biologist as necessary, to reduce noise levels. Measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.	*Components Common to both Alternatives*	
		NCWRP	Coastal sage scrub adjacent to the facility within MCAS Miramar.
		LFG Pipeline	Coastal sage scrub along the alignment within MCAS Miramar.
		MBC Improvements	Coastal sage scrub within the facility within MCAS Miramar.
		Miramar Reservoir Alternative	
		North City Pipeline	Coastal sage scrub within MCAS Miramar south of Miramar Rd.
		San Vicente Reservoir Alternative	
		San Vicente Pipeline - Repurposed Pipeline	Coastal sage scrub impacted by air and blow-off valve locations along the alignment within MCAS Miramar
MM-BIO-5 **Burrowing Owl**	The following is a species-specific mitigation measure, required to meet MSCP Subarea Plan Conditions of Coverage. The mitigation measure would reduce potential impacts to burrowing owl and associated habitat located outside the MHPA (burrowing owl and associated habitat impacts within the MHPA must be avoided). **Prior to Permit or Notice to Proceed Issuance:** 1. As this project has been determined to have burrowing owl occupation potential, the Permit Holder shall submit evidence to the ADD of the City's Entitlements verifying that a Biologist possessing qualifications pursuant to the "Staff Report on Burrowing Owl Mitigation," State of California Natural Resources Agency, California Department of Fish and Game (hereafter referred as CDFG 2012, Staff Report), has been retained to implement a burrowing owl construction impact avoidance program. 2. The Qualified Biologist shall attend the pre-construction meeting to inform construction personnel about the City's burrowing owl requirements and subsequent survey schedule. **Prior to Start of Construction:** 1. The Permit Holder and Qualified Biologist must ensure that initial pre-construction/take avoidance surveys of the Project "site" are completed between 14 and 30 days before initial construction activities, including brushing, clearing, grubbing, or grading of the Project site; regardless of the time of the year. "Site" means the Project site and the area within a radius of 450 feet of the Project site. A report detailing the results of the surveys shall be submitted and approved by the Wildlife Agencies and/or City MSCP staff prior to construction or burrowing owl eviction(s) and shall include maps of the Project site and burrowing owl locations on aerial photos. 2. The pre-construction survey shall follow the methods described in CDFG 2012, Staff Report, Appendix D.	*San Vicente Reservoir Alternative*	
		San Vicente Pipeline	North of the San Diego River and along Tierrasanta Blvd within coastal sage scrub (including disturbed), disturbed habitat, non-native vegetation, eucalyptus woodland, coast live oak woodland, and southern willow scrub; crosses the San Diego river at SR-52 north of Mission Gorge Rd within coastal sage scrub (including disturbed), disturbed habitat, non-native grassland, and coast live oak woodland; along SR-52 west of Carlton Oaks Dr within non-native vegetation, non-native grassland, and non-native woodland; north of SR-67 along Mast Blvd, along Moreno Ave south of San Vicente Reservoir within non-native grassland and general agriculture

Mitigation Number	Mitigation Measure	Project Component	Location
	3. 24 hours prior to commencement of ground-disturbing activities, the Qualified Biologist shall ~~verify~~ update and report results of preconstruction/take avoidance surveys. Verification shall be provided to the City's MMC Section. If results of the preconstruction surveys have changed and burrowing owl are present in areas not previously identified, immediate notification to the City and Wildlife Agencies shall be provided prior to ground disturbing activities. **During Construction:** 1. Best Management Practices shall be employed as burrowing owls are known to use open pipes, culverts, excavated holes, and other burrow-like structures at construction sites. Legally permitted active construction projects which are burrowing owl occupied and have followed all protocol in this mitigation section, or sites within 450 feet of occupied burrowing owl areas, should undertake measures to discourage burrowing owls from recolonizing previously occupied areas or colonizing new portions of the site. Such measures include, but are not limited to, ensuring that the ends of all pipes and culverts are covered when they are not being worked on, and covering rubble piles, dirt piles, ditches, and berms. 2. On-going burrowing owl detection—If burrowing owls or active burrows are not detected during the pre-construction surveys, Section "a" below shall be followed. If burrowing owls or burrows are detected during the pre-construction surveys, Section "b" shall be followed. Neither the MSCP Subarea Plan nor this mitigation section allows for any burrowing owls to be injured or killed outside or within the MHPA; in addition, impacts to burrowing owls within the MHPA must be avoided. a. **Post Survey Follow Up if Burrowing Owls and/or Signs of Active Natural or Artificial Burrows Are Not Detected During the Initial Pre-Construction Survey**. Monitoring the site for new burrows is required using the protocol in Appendix D of the Burrowing Owl Staff Report (CDFG 2012) for the period following the initial pre-construction survey, until construction is scheduled to be complete and is complete. (NOTE: Using a projected completion date (that is amended if needed) will allow development of a monitoring schedule which adheres to the required number of surveys in the detection protocol.) i. If no active burrows are found but burrowing owls are observed to occasionally (1–3 sightings) use the site for roosting or foraging, they should be allowed to do so with no changes in the construction or construction schedule. ii. If no active burrows are found but burrowing owls are observed during follow up monitoring to repeatedly (4 or more sightings) using the site for roosting or foraging, the City's MMC Section shall be notified and any portion of the site where owls have been sighted and that has not been graded or otherwise disturbed shall be avoided until further notice. iii. If a burrowing owl begins using a burrow on the site at any time after the initial pre-construction survey, procedures described in Section b must be followed. iv. Any actions other than these require the approval of the City and the Wildlife Agencies. b. **Post-Survey Follow Up if Burrowing Owls and/or Active Natural or Artificial Burrows are detected during the Initial Pre-Construction Survey.** Monitoring the site for new burrows is required using the protocol in Appendix D of the Burrowing Owl Staff Report (CDFG 2012) for the period following the initial pre-construction survey, until construction is scheduled to be complete and is complete. (NOTE: Using a projected completion date (that is amended if needed) will allow development of a monitoring schedule which adheres to the required number of surveys in the detection protocol.) i. This section (b) applies only to sites (including biologically defined territory) wholly outside of the MHPA; all direct and indirect impacts to burrowing owls within the MHPA SHALL be avoided. ii. If one or more burrowing owls are using any burrows (including pipes, culverts, debris piles etc.) on or within 300 feet of the proposed construction area, the City's MMC Section shall be contacted. The City's MMC Section shall contact the Wildlife Agencies regarding eviction/collapsing burrows and enlist the appropriate City biologist for on-going coordination with the Wildlife Agencies and the qualified consulting burrowing owls biologist. No construction shall occur within 300 feet of an active burrow without written concurrence from the Wildlife Agencies. This distance may increase or decrease, depending on the burrow's location in relation to the site's topography, and other physical and biological characteristics. 1. Outside the Breeding Season: If the burrowing owl is using a burrow on site outside the breeding season (i.e., September 1 – January 31), the burrowing owl may be evicted after the qualified burrowing owl biologist has determined via fiber optic camera or other appropriate device, that no eggs, young, or adults are in the burrow and written concurrence from the Wildlife Agencies for eviction is obtained prior to implementation.		

Mitigation Number	Mitigation Measure	Project Component	Location
	2. During Breeding Season: If a burrowing owl is using a burrow on site during the breeding season (February 1 to August 31), construction shall not occur within 300 feet of the burrow until the young have fledged and are no longer dependent on the burrow, at which time the burrowing owls can be evicted. Eviction requires written concurrence from the Wildlife Agencies prior to implementation. 3. Survey Reporting During Construction: Details of construction surveys and evictions (if applicable) carried out shall be immediately (within 5 working days or sooner) reported to the City's MMC Section and the Wildlife Agencies and must be provided in writing (as by e-mail) and acknowledged to have been received by the required Wildlife Agencies and Developmental Services Department Staff member(s). **Post Construction:** 1. Details of all the surveys and actions undertaken on site with respect to burrowing owls (i.e. occupation, eviction, locations etc.) shall be reported to the City's MMC Section and the Wildlife Agencies within 21 days post-construction and prior to the release of any grading bonds. This report must include summaries of all previous reports for the site; and maps of the Project site and burrowing owl locations on aerial photos.		
MM-BIO-6 **Riparian Birds**	Prior to the preconstruction meeting, the Assistant Deputy Director (ADD) or MMC shall verify that MHPA boundaries and the Project requirements regarding the least Bell's vireo and southwestern willow flycatcher, as specified below, are shown on the construction plans. No clearing, grubbing, grading, or other construction activities shall occur during the least Bell's vireo breeding season (March 15 to September 15) and southwestern willow flycatcher breeding season (May 1 to September 1) until the following requirements have been met to the satisfaction of the ADD/MMC: 1. A Qualified Biologist (possessing a valid Endangered Species Act Section 10(a)(1)(a) Recovery Permit) shall survey those habitat areas within the MHPA that would be subject to construction noise levels exceeding 60 decibels [dB(A)] hourly average for the presence of the least Bell's vireo and southwestern willow flycatcher. Surveys for least Bell's vireo and southwestern willow flycatcher shall be conducted pursuant to the protocol survey guidelines established by the USFWS within the breeding season prior to the commencement of any construction. If least Bell's vireo or southwestern willow flycatcher, are present, then the following conditions must be met: a. Between March 15 to September 15 for least Bell's vireo, and May 1 to September 1 for southwestern willow flycatcher, no clearing, grubbing, or grading of occupied habitat shall be permitted. Areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; and b. Between March 15 to September 15 for least Bell's vireo, and May 1 to September 1 for southwestern willow flycatcher, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB(A) hourly average at the edge of occupied habitat. An analysis showing that noise generated by construction activities would not exceed 60 dB(A) hourly average at the edge of occupied habitat must be completed by a Qualified Acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the ADD/MMC at least 2 weeks prior to the commencement of construction activities. Prior to the commencement of construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; or c. At least 2 weeks prior to the commencement of construction activities, under the direction of a Qualified Acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities would not exceed 60 dB(A) hourly average at the edge of habitat occupied by the least Bell's vireo and southwestern willow flycatcher. Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring shall be conducted at the edge of the occupied habitat area to ensure that levels do not exceed 60 dB(A) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the Qualified Acoustician or Biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (August 16). Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the ADD/MMC, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the	*Components Common to both Alternatives*	
		Morena Pump Station	San Diego River at Friars Rd
		Morena Pipelines	Within riparian habitat near Mission Bay at W Morena Blvd and Tecolote Rd; San Clemente Canyon at SR-52; Rose Canyon Open Space Park and Nobel Dr
		LFG Pipeline	Within riparian habitat associated with Rose Creek Canyon.
		MBC	Within riparian habitat associated with San Clemente Canyon north of the MBC.
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	San Clemente Canyon south of SR-52; Murphy Canyon at I-15; Mission Trails Regional Park along Mission Gorge Rd and at SR-52; San Diego River along Carlton Oaks Dr; San Diego River south of Mast Blvd; San Diego River at SR-67; south of San Vicente Reservoir at SR-67
		San Vicente Pipeline - Repurposed Pipeline	At air and blow-off valve locations within riparian habitat in both San Clemente Canyon and the Veteran's Administration property at the Miramar National Cemetery

Mitigation Number	Mitigation Measure	Project Component	Location
	placement of construction equipment and the simultaneous use of equipment. 2. If least Bell's vireo and/or southwestern willow flycatcher are not detected during the protocol survey, the Qualified Biologist shall submit substantial evidence to the ADD/MMC and applicable resource agencies which demonstrates whether or not mitigation measures such as noise walls are necessary between March 15 to September 15 for least Bell's vireo, and/or May 1 to September 1 for southwestern willow flycatcher, adherence to the following is required: a. If this evidence indicates that the potential is high for least Bell's vireo and/or southwestern willow flycatcher to be present based on historical records or site conditions, then Condition 1(a) shall be adhered to as specified above. b. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.		
~~**MM-BIO-7**~~ ~~**Western Pond Turtle**~~	~~Since the Miramar Reservoir is maintained and operated as a drinking water reservoir and contains a warm water fishery, both of which create conditions that provide less than optimal habitat for western pond turtle, and because an adaptive management program for this species would be contradictory to these uses, the City prepared a trapping and relocation plan for this species (Appendix U). Relocation would be conducted in accordance with the plan and in consultation with the California Department of Fish and Wildlife (CDFW) with input from the U.S. Geological Survey and approval by the Development Services Department and by MSCP Planning. The relocation plan provides the methods for the trapping of western pond turtles and relocation to the most proximate suitable habitat that would not be affected by the proposed project.~~ ~~Specific trapping timing and methodology/recurrence intervals would be developed in consultation with CDFW and would be performed by a Qualified Biologist operating under an active California State Scientific Collecting Permit. However, trapping would be performed in late April through early August to remove egg-laying females from the reservoir prior to egg deposition, thus eliminating the potential for stranding of eggs or hatchlings.~~	~~*Miramar Reservoir Alternative*~~	
		~~North City Pipeline~~	~~Miramar Reservoir~~
MM-BIO-~~7~~8 **Vernal Pool Watershed**	There would be permanent indirect impacts within the PW36, VP697, and VP699 watersheds from air and blow-off valves associated with the San Vicente Pipeline - Repurposed 36-inch Recycled Water Line only if the San Vicente Reservoir Alternative is implemented. As required under the Integrated Natural Resources Management Plan (INRMP), mitigation for permanent indirect impacts from the San Vicente Reservoir Alternative to an occupied watershed (PW36, VP697, and VP699) within the Level I and Level V Management Areas (MAs) would include: enhancement of remaining portions of watershed (protection by temporary fencing or other means, enlarge another portion); monitoring of species in the feature may be necessary to document extent of actual impacts to threatened or endangered species; if impacts are documented to threatened or endangered species, then additional action would be required for indirect impacts to the threatened or endangered species by habitat enhancement, possibly elsewhere; and no work around the vernal pool during the rainy season or when ground is wet (about November 1 to June 1). The City typically applies a 100-foot-wide avoidance buffer surrounding wetland resources; however, the width of the buffer may be determined on a case-by-case basis depending on the need and value. Therefore, no work within a 100-foot buffer around the vernal pool during rainy season or when ground is wet (about November 1 to June 1), unless it is determined that a reduced buffer is more appropriate.	*San Vicente Reservoir Alternative*	
		San Vicente Pipeline – Repurposed 36-inch Recycled Water Line	At air and blow-off valve locations along the alignment within the watersheds of vernal pools PW36, VP697, and VP699.
MM-BIO-~~8~~9 **Wetland Permits**	The owner/permittee shall provide evidence that all required regulatory permits, such as those required under Section 404 of the federal Clean Water Act, Section 1600 of the California Fish and Game Code, and the Porter-Cologne Water Quality Control Act, has been obtained.	*Miramar Reservoir Alternative*	
		North City Pipeline	Placement of pipeline within the Miramar Reservoir
		Components Common to both Alternatives	
		NCPWF	Vernal pools within the facility
		Morena Pipelines	Impacts within Tecolote Creek
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	Along the San Diego River, crosses I-15, and along Clairemont Mesa Blvd within coastal sage scrub (including disturbed); along the San Diego River, crosses SR-52, north of Mission Gorge Rd within coastal sage scrub and non-native grassland; north of SR-52 along Carlton Oaks Dr within non-native grassland; east of SR-67 along Willow Rd within coastal sage scrub, non-native grassland, and open water
		San Vicente Pipeline – TAT	Open water impact areas
		San Vicente Pipeline – IRAT	Open water impact areas
		San Vicente Pipeline – MAT	Open water impacts areas

Mitigation Number	Mitigation Measure	Project Component	Location
		San Vicente Pipeline - Repurposed Pipeline	At air and blow-off valve locations within riparian habitat in both San Clemente Canyon and the Veteran's Administration property at the Miramar National Cemetery
MM-BIO-~~9~~10a Qualified Biologist	The owner/permittee shall provide a letter to the City's Mitigation Monitoring Coordination (MMC) section stating that a Project Biologist (Qualified Biologist) as defined in the City of San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2012a), has been retained to implement the project's biological monitoring program. The letter shall include the names and contact information of all persons involved in the biological monitoring of the project.	*Components Common to both Alternatives*	
		Morena Pump Station	Overflow pipe near San Diego River at Friars Rd
		Morena Pipelines	Coastal sage scrub in Rose Canyon east of Genesee Rd and north of the railroad tracks; Mission Bay at W Morena Blvd and Tecolote Rd; San Clemente Canyon at SR-52; Rose Canyon Open Space Park and Nobel Dr
		NCWRP	Coastal sage scrub within the facility
		NCPWF	Entire facility
		LFG Pipeline	Entire Alignment
		MBC Improvements	Sensitive vegetation within the facility
		Miramar Reservoir Alternative	
		North City Pipeline	West of Eastgate Mall and north of Miramar Rd within coastal sage scrub; east of I-15 north of Pomerado Rd within non-native grassland; south of Evans Pond within non-native grassland; south of Miramar Reservoir within non-native grassland, coastal sage scrub (including disturbed), coastal sage-chaparral transition, and southern mixed chaparral
		Miramar WTP	Coastal sage scrub within the facility
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	East of I-15 and south of Clairemont Mesa Blvd within coastal sage scrub; crosses the San Diego River south of SR-52 and west of Santo Rd within southern arroyo willow riparian forest; San Clemente Canyon south of SR-52 within coastal sage scrub; Murphy Canyon at I-15 within coastal sage scrub (including disturbed), non-native grassland, and southern arroyo willow riparian forest; San Diego River along Carlton Oaks Dr within coastal sage scrub; San Diego River south of Mast Blvd within non-native grassland and coastal sage scrub; along Mission Gorge Rd through Mission Trails Regional Park within coastal sage scrub; urban environments along Mission Gorge Rd; within Critical Habitat that crosses SR-52 north of Mission Gorge Rd; north of the San Diego River along Mission Gorge Rd within southern willow scrub (including disturbed); along Mast Blvd north of Lakeside Baseball Park within non-native grassland and coastal sage scrub; north of the San Diego River and along Tierrasanta Blvd within non-native grassland and coastal sage scrub; along the San Diego River and crosses SR-67 within non-native grassland and coastal sage scrub; along Moreno Ave south of San Vicente Reservoir within coastal sage scrub
		San Vicente Pipeline – TAT	Entire alignment
		San Vicente Pipeline – IRAT	Entire alignment
		San Vicente Pipeline – MAT	Entire alignment
		MTBS	Entire facility
		San Vicente Pipeline - Repurposed Pipeline	At all air and blow-off valve locations along the alignment

Mitigation Number	Mitigation Measure	Project Component	Location
MM-BIO-~~9~~10b Preconstruction Meeting	The Qualified Biologist shall attend the preconstruction meeting, discuss the Project's biological monitoring program, and arrange to perform any follow up mitigation measures and reporting including site-specific monitoring, restoration or revegetation, and additional fauna/flora surveys/salvage.	*Components Common to both Alternatives*	
		Morena Pump Station	San Diego River at Friars Rd
		Morena Pipelines	Coastal sage scrub in Rose Canyon east of Genesee Rd and north of the railroad tracks; Mission Bay at W Morena Blvd and Tecolote Rd; San Clemente Canyon at SR-52; Rose Canyon Open Space Park and Nobel Dr
		NCWRP	Coastal sage scrub within the facility
		NCPWF	Entire facility
		LFG Pipeline	Entire alignment
		MBC Improvements	Sensitive vegetation within the facility
		Miramar Reservoir Alternative	
		North City Pipeline	West of Eastgate Mall and north of Miramar Rd; east of I-15 north of Pomerado Rd; south of Evans Pond; south of Miramar Reservoir
		Miramar WTP	Coastal sage scrub within the facility
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	East of I-15 and south of Clairemont Mesa Blvd; crosses the San Diego River south of SR-52 and west of Santo Rd; San Clemente Canyon south of SR-52; Murphy Canyon at I-15; San Diego River along Carlton Oaks Dr; San Diego River south of Mast Blvd; along Mission Gorge Rd through Mission Trails Regional Park; urban environments along Mission Gorge Rd; within Critical Habitat that crosses SR-52 north of Mission Gorge Rd; north of the San Diego River along Mission Gorge Rd; along Mast Blvd north of Lakeside Baseball Park; north of the San Diego River and along Tierrasanta Blvd; along the San Diego River and crosses SR-67; along Moreno Ave south of San Vicente Reservoir
		San Vicente Pipeline – TAT	Entire alignment
		San Vicente Pipeline – IRAT	Entire alignment
		San Vicente Pipeline – MAT	Entire alignment
		MTBS	Entire facility
		San Vicente Pipeline - Repurposed Pipeline	At all air and blow-off valve locations along the alignment
MM-BIO-~~9~~10c Documentation	The Qualified Biologist shall submit all required documentation to MMC verifying that any special mitigation reports including but not limited to, maps, plans, surveys, survey timelines, or buffers are completed or scheduled per City Biology Guidelines, Multiple Species Conservation Program (MSCP), Environmentally Sensitive Lands Ordinance, project permit conditions; California Environmental Quality Act (CEQA); National Environmental Policy Act (NEPA); endangered species acts (federal Endangered Species Act and California Endangered Species Act); and/or other local, state or federal requirements.	*Components Common to both Alternatives*	
		Morena Pump Station	San Diego River at Friars Rd
		Morena Pipelines	Coastal sage scrub in Rose Canyon east of Genesee Rd and north of the railroad tracks; Mission Bay at W Morena Blvd and Tecolote Rd; San Clemente Canyon at SR-52; Rose Canyon Open Space Park and Nobel Dr
		NCWRP	Coastal sage scrub within the facility
		NCPWF	Entire facility
		LFG Pipeline	Entire alignment
		MBC Improvements	Sensitive vegetation within the facility
		Miramar Reservoir Alternative	
		North City Pipeline	West of Eastgate Mall and north of Miramar Rd; east of I-15 north of Pomerado Rd; south of Evans Pond; south of Miramar Reservoir

Mitigation Number	Mitigation Measure	Project Component	Location
		Miramar WTP	Coastal sage scrub within the facility
		Dechlorination Facility	Eucalyptus trees within the facility footprint.
		San Vicente Reservoir	
		San Vicente Pipeline	East of I-15 and south of Clairemont Mesa Blvd; crosses the San Diego River south of SR-52 and west of Santo Rd; San Clemente Canyon south of SR-52; Murphy Canyon at I-15; San Diego River along Carlton Oaks Dr; San Diego River south of Mast Blvd; along Mission Gorge Rd through Mission Trails Regional Park; urban environments along Mission Gorge Rd; within Critical Habitat that crosses SR-52 north of Mission Gorge Rd; north of the San Diego River along Mission Gorge Rd; along Mast Blvd north of Lakeside Baseball Park; north of the San Diego River and along Tierrasanta Blvd; along the San Diego River and crosses SR-67; along Moreno Ave south of San Vicente Reservoir
		San Vicente Pipeline – TAT	Entire alignment
		San Vicente Pipeline – IRAT	Entire alignment
		San Vicente Pipeline – MAT	Entire alignment
		MTBS	Entire facility
		San Vicente Pipeline - Repurposed Pipeline	At all air and blow-off valve locations along the alignment
MM-BIO-~~9~~10d Biological Construction Mitigation/Monitoring Exhibit	The Qualified Biologist shall present a Biological Construction Mitigation/Monitoring Exhibit (BCME), which includes the biological documents above. In addition, the BCME would include: restoration/revegetation plans, plant salvage/ relocation requirements (e.g., burrowing owl exclusions, etc.), avian or other wildlife surveys/survey schedules (including general avian nesting and U.S. Fish and Wildlife (USFWS) protocol), timing of surveys, wetland buffers, avian construction avoidance areas/noise buffers/barriers, other impact avoidance areas, and any subsequent requirements determined by the Qualified Biologist and the City Assistant Deputy Director (ADD)/MMC. The BCME shall include a site plan, written and graphic depiction of the Project's biological mitigation/monitoring program, and a schedule. The BCME shall be approved by MMC and referenced in the construction documents.	*Components Common to both Alternatives*	
		Morena Pump Station	San Diego River at Friars Rd
		Morena Pipelines	Coastal sage scrub in Rose Canyon east of Genesee Rd and north of the railroad tracks; Mission Bay at W Morena Blvd and Tecolote Rd; San Clemente Canyon at SR-52; Rose Canyon Open Space Park and Nobel Dr
		NCWRP	Coastal sage scrub within the facility
		NCPWF	Entire facility
		LFG Pipeline	Entire alignment
		MBC Improvements	Sensitive vegetation within the facility
		Miramar Reservoir Alternative	
		North City Pipeline	West of Eastgate Mall and north of Miramar Rd; east of I-15 north of Pomerado Rd; south of Evans Pond; south of Miramar Reservoir
		Miramar WTP	Coastal sage scrub within the facility
		Dechlorination Facility	Eucalyptus trees within the facility footprint.
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	East of I-15 and south of Clairemont Mesa Blvd; crosses the San Diego River south of SR-52 and west of Santo Rd; San Clemente Canyon south of SR-52; Murphy Canyon at I-15; San Diego River along Carlton Oaks Dr; San Diego River south of Mast Blvd; along Mission Gorge Rd through Mission Trails Regional Park; urban environments along Mission Gorge Rd; within Critical Habitat that crosses SR-52 north of Mission Gorge Rd; north of the San Diego River along Mission Gorge Rd; along Mast Blvd north of Lakeside Baseball Park; north of the San Diego River and

Mitigation Number	Mitigation Measure	Project Component	Location
			along Tierrasanta Blvd; along the San Diego River and crosses SR-67; along Moreno Ave south of San Vicente Reservoir
		San Vicente Pipeline – TAT	Entire alignment
		San Vicente Pipeline – IRAT	Entire alignment
		San Vicente Pipeline – MAT	Entire alignment
		MTBS	Entire facility
		San Vicente Pipeline - Repurposed Pipeline	At all air and blow-off valve locations along the alignment
MM-BIO-~~9~~10e Construction Fencing	Prior to construction activities, the Qualified Biologist shall supervise the placement of orange construction fencing or equivalent along the limits of disturbance adjacent to sensitive biological habitats and verify compliance with any other project conditions as shown on the BCME. This phase shall include flagging plant specimens and delineating buffers to protect sensitive biological resources (e.g., habitats/flora & fauna species, including nesting birds) during construction. Appropriate steps/care should be taken to minimize attraction of nest predators to the site.	*Components Common to both Alternatives*	
		Morena Pump Station	San Diego River at Friars Rd
		Morena Pipelines	Coastal sage scrub in Rose Canyon east of Genesee Rd and north of the railroad tracks; Mission Bay at W Morena Blvd and Tecolote Rd within disturbed wetlands; Coastal sage scrub within Tecolote Canyon Natural Park; San Clemente Canyon at SR-52 within sensitive vegetation including coastal sage scrub (including disturbed), coast live oak woodland, and non-native grassland; Rose Canyon Open Space Park and Nobel Dr within coastal sage scrub (including disturbed)
		NCWRP	Coastal sage scrub within the facility
		NCPWF	Entire facility
		LFG Pipeline	Entire alignment
		MBC Improvements	Sensitive vegetation within the facility
		Miramar Reservoir Alternative	
		North City Pipeline	West of Eastgate Mall and north of Miramar Rd; east of I-15 north of Pomerado Rd; south of Evans Pond; south of Miramar Reservoir
		Miramar WTP	Coastal sage scrub within the facility
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	East of I-15 and south of Clairemont Mesa Blvd; crosses the San Diego River south of SR-52 and west of Santo Rd; San Clemente Canyon south of SR-52; Murphy Canyon at I-15; San Diego River along Carlton Oaks Dr; San Diego River south of Mast Blvd; along Mission Gorge Rd through Mission Trails Regional Park; urban environments along Mission Gorge Rd; within Critical Habitat that crosses SR-52 north of Mission Gorge Rd; north of the San Diego River along Mission Gorge Rd; along Mast Blvd north of Lakeside Baseball Park; north of the San Diego River and along Tierrasanta Blvd; along the San Diego River and crosses SR-67; along Moreno Ave south of San Vicente Reservoir
		San Vicente Pipeline – TAT	Entire alignment, southeast of San Vicente Reservoir and north of Lake Vicente Dr
		San Vicente Pipeline – IRAT	Entire alignment, south, southwest and within San Vicente Reservoir
		San Vicente Pipeline – MAT	Entire alignment
		MTBS	Entire facility
		San Vicente Pipeline - Repurposed Pipeline	At all air and blow-off valve locations along the alignment

Mitigation Number	Mitigation Measure	Project Component	Location
MM-BIO-~~9~~10f **On-site Education**	Prior to commencement of construction activities, the Qualified Biologist shall meet with the owner/permittee or designee and the construction crew and conduct an on-site educational session regarding the need to avoid impacts outside of the approved construction area and to protect sensitive flora and fauna (e.g., explain the avian and wetland buffers, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas).	*Components Common to both Alternatives*	
		Morena Pump Station	San Diego River at Friars Rd
		Morena Pipelines	Coastal sage scrub in Rose Canyon east of Genesee Rd and north of the railroad tracks; Mission Bay at W Morena Blvd and Tecolote Rd; San Clemente Canyon at SR-52; Rose Canyon Open Space Park and Nobel Dr
		NCWRP	Coastal sage scrub within the facility
		NCPWF	Entire facility
		LFG Pipeline	Entire alignment
		MBC Improvements	Sensitive vegetation within the facility
		Miramar Reservoir Alternative	
		North City Pipeline	West of Eastgate Mall and north of Miramar Rd; east of I-15 north of Pomerado Rd; south of Evans Pond; south of Miramar Reservoir
		Miramar WTP	Coastal sage scrub within the facility
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	East of I-15 and south of Clairemont Mesa Blvd; crosses the San Diego River south of SR-52 and west of Santo Rd; San Clemente Canyon south of SR-52; Murphy Canyon at I-15; San Diego River along Carlton Oaks Dr; San Diego River south of Mast Blvd; along Mission Gorge Rd through Mission Trails Regional Park; urban environments along Mission Gorge Rd; within Critical Habitat that crosses SR-52 north of Mission Gorge Rd; north of the San Diego River along Mission Gorge Rd; along Mast Blvd north of Lakeside Baseball Park; north of the San Diego River and along Tierrasanta Blvd; along the San Diego River and crosses SR-67; along Moreno Ave south of San Vicente Reservoir
		San Vicente Pipeline – TAT	Entire alignment
		San Vicente Pipeline – IRAT	Entire alignment
		San Vicente Pipeline – MAT	Entire alignment
		MTBS	Entire facility
		San Vicente Pipeline - Repurposed Pipeline	At all air and blow-off valve locations along the alignment
MM-BIO-~~9~~10g **Biological Monitoring**	During construction, a Qualified Biologist would be present to assist in the avoidance of impacts to native vegetation, jurisdictional aquatic resources, sensitive plants and wildlife, and nesting birds. Specific biological monitoring and or mitigation measures for sensitive wildlife, sensitive vegetation communities, and jurisdictional aquatic resources are described further in the mitigation measures.	*Components Common to both Alternatives*	
		Morena Pump Station	San Diego River at Friars Rd
		Morena Pipelines	Coastal sage scrub in Rose Canyon east of Genesee Rd and north of the railroad tracks; Mission Bay at W Morena Blvd and Tecolote Rd; San Clemente Canyon at SR-52; Rose Canyon Open Space Park and Nobel Dr
		NCWRP	Coastal sage scrub within the facility
		NCPWF	Entire facility
		LFG Pipeline	Entire alignment
		MBC Improvements	Sensitive vegetation within the facility
		Miramar Reservoir Alternative	
		North City Pipeline	West of Eastgate Mall and north of Miramar Rd; east of I-15 north of Pomerado Rd; south of Evans Pond; south of Miramar Reservoir

Mitigation Number	Mitigation Measure	Project Component	Location
		Miramar WTP	Coastal sage scrub within the facility
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	East of I-15 and south of Clairemont Mesa Blvd; crosses the San Diego River south of SR-52 and west of Santo Rd; San Clemente Canyon south of SR-52; Murphy Canyon at I-15; San Diego River along Carlton Oaks Dr; San Diego River south of Mast Blvd; along Mission Gorge Rd through Mission Trails Regional Park; urban environments along Mission Gorge Rd; within Critical Habitat that crosses SR-52 north of Mission Gorge Rd; north of the San Diego River along Mission Gorge Rd; along Mast Blvd north of Lakeside Baseball Park; north of the San Diego River and along Tierrasanta Blvd; along the San Diego River and crosses SR-67; along Moreno Ave south of San Vicente Reservoir
		San Vicente Pipeline – TAT	Entire alignment
		San Vicente Pipeline – IRAT	Entire alignment
		San Vicente Pipeline – MAT	Entire alignment
		MTBS	Entire facility
		San Vicente Pipeline - Repurposed Pipeline	At all air and blow-off valve locations along the alignment
MM-BIO-~~9~~10h **Cover Trenches**	General biological monitoring shall include verifying that the contractor has covered all steep-walled trenches or excavations overnight or after shift. If trenches or excavations cannot be covered, the monitor would verify that the contractor has installed exclusionary fencing (e.g., silt fence) around the trenches or excavation areas or installed ramps to prevent entrapment of wildlife (e.g., reptiles and mammals). If animals are encountered within any trenches or excavated areas, they would be removed by the biological monitor, if possible, or provided with a means of escape (e.g., a ramp or sloped surface) and allowed to disperse. In addition, the biological monitor would provide training to construction personnel to increase awareness of the possible presence of wildlife beneath vehicles and equipment and to use best judgment to avoid killing or injuring wildlife. The biological monitor would be available to assist with moving wildlife, if necessary.	*Components Common to both Alternatives*	
		Morena Pipelines	Coastal sage scrub in Rose Canyon east of Genesee Rd and north of the railroad tracks; Mission Bay at W Morena Blvd and Tecolote Rd; San Clemente Canyon at SR-52; Rose Canyon Open Space Park and Nobel Dr
		LFG Pipeline	Entire alignment
		Miramar Reservoir Alternative	
		North City Pipeline	West of Eastgate Mall and north of Miramar Rd; east of I-15 north of Pomerado Rd; south of Evans Pond; south of Miramar Reservoir
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	East of I-15 and south of Clairemont Mesa Blvd; crosses the San Diego River south of SR-52 and west of Santo Rd; San Clemente Canyon south of SR-52; Murphy Canyon at I-15; San Diego River along Carlton Oaks Dr; San Diego River south of Mast Blvd; along Mission Gorge Rd through Mission Trails Regional Park; urban environments along Mission Gorge Rd; within Critical Habitat that crosses SR-52 north of Mission Gorge Rd; north of the San Diego River along Mission Gorge Rd; along Mast Blvd north of Lakeside Baseball Park; north of the San Diego River and along Tierrasanta Blvd; along the San Diego River and crosses SR-67; along Moreno Ave south of San Vicente Reservoir
		San Vicente Pipeline – TAT	Entire alignment
		San Vicente Pipeline – IRAT	Entire alignment
		San Vicente Pipeline – MAT	Entire alignment

Mitigation Number	Mitigation Measure	Project Component	Location
MM-BIO-~~9~~10i **Nighttime Construction**	To reduce impacts to nocturnal species in those areas where they have a potential to occur, nighttime construction activity within undeveloped areas containing sensitive biological resources would be minimized whenever feasible and shielded lights would be utilized when necessary. Construction nighttime lighting would be subject to City Outdoor Lighting Regulations per San Diego Land Development Code (LDC) Section 142.0740.	*Components Common to both Alternatives*	
		Morena Pipelines	Coastal sage scrub in Rose Canyon east of Genesee Rd and north of the railroad tracks; Mission Bay at W Morena Blvd and Tecolote Rd; San Clemente Canyon at SR-52; Rose Canyon Open Space Park and Nobel Dr
		Miramar Reservoir Alternative	
		North City Pipeline	West of Eastgate Mall and north of Miramar Rd; east of I-15 north of Pomerado Rd; south of Evans Pond; south of Miramar Reservoir
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	East of I-15 and south of Clairemont Mesa Blvd; crosses the San Diego River south of SR-52 and west of Santo Rd; San Clemente Canyon south of SR-52; Murphy Canyon at I-15; San Diego River along Carlton Oaks Dr; San Diego River south of Mast Blvd; along Mission Gorge Rd through Mission Trails Regional Park; urban environments along Mission Gorge Rd; within Critical Habitat that crosses SR-52 north of Mission Gorge Rd; north of the San Diego River along Mission Gorge Rd; along Mast Blvd north of Lakeside Baseball Park; north of the San Diego River and along Tierrasanta Blvd; along the San Diego River and crosses SR-67; along Moreno Ave south of San Vicente Reservoir
MM-BIO-~~9~~10j **BMPs/Erosion/Runoff**	The City will incorporate methods to control runoff, including a Stormwater Pollution Prevention Plan (SWPPP) to meet National Pollutant Discharge Elimination System (NPDES) regulations or a batch discharge permit from the City. Implementation of stormwater regulations are expected to substantially control adverse edge effects (e.g., erosion, sedimentation, habitat conversion) during and following construction both adjacent and downstream from the study area. Typical construction best management practices (BMPs) specifically related to reducing impacts from dust, erosion, and runoff generated by construction activities would be implemented. During construction, material stockpiles shall be placed such that they cause minimal interference with on-site drainage patterns. This will protect sensitive vegetation from being inundated with sediment-laden runoff. Dewatering shall be conducted in accordance with standard regulations of the Regional Water Quality Control Board (RWQCB). An NPDES permit, issued by RWQCB to discharge water from dewatering activities, shall be required prior to start of dewatering. This will minimize erosion, siltation, and pollution within sensitive communities. Design of drainage facilities shall incorporate long-term control of pollutants and stormwater flow to minimize pollution and hydrologic changes.	*Components Common to both Alternatives*	
		Morena Pump Station	San Diego River at Friars Rd
		Morena Pipelines	Coastal sage scrub in Rose Canyon east of Genesee Rd and north of the railroad tracks; a concrete-lined channel north of the intersection of Morena Blvd and Tecolote Rd; San Clemente Canyon at Genesee and SR-52; Rose Canyon Open Space Park and Nobel Dr.
		NCWRP	Mule-fat scrub located immediately east of the facility
		NCPWF	Entire facility
		LFG Pipeline	Entire alignment
		MBC Improvements	Sensitive vegetation within the facility
		Miramar Reservoir Alternative	
		North City Pipeline	Sensitive habitat west of Eastgate Mall and north of Miramar Rd; east of I-15 north of Pomerado Rd; a non-vegetated channel along Via Pasar; work easement adjacent to Evans Pond; staging area south of Miramar Reservoir
		Miramar WTP	Coastal sage scrub within the facility
		Dechlorination Facility	Entire facility site
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	East of I-15 and south of Clairemont Mesa Blvd; crosses the San Diego River south of SR-52 and west of Santo Rd; San Clemente Canyon south of SR-52; Murphy Canyon at I-15; San Diego River along Carlton Oaks Dr; San Diego River south of Mast Blvd; along Mission Gorge Rd through Mission Trails Regional Park; urban environments along Mission Gorge Rd; within Critical Habitat that crosses SR-

Mitigation Number	Mitigation Measure	Project Component	Location
			52 north of Mission Gorge Rd; north of the San Diego River along Mission Gorge Rd; along Mast Blvd north of Lakeside Baseball Park; north of the San Diego River and along Tierrasanta Blvd; along the San Diego River and crosses SR-67; along Moreno Ave south of San Vicente Reservoir
		San Vicente Pipeline – TAT	Entire alignment
		San Vicente Pipeline – IRAT	Entire alignment
		San Vicente Pipeline – MAT	Entire alignment
		MTBS	Entire facility
		San Vicente Pipeline - Repurposed Pipeline	At all air and blow-off valve locations along the alignment
MM-BIO-~~9~~10k Toxics/Project Staging Areas/Equipment Storage	Projects that use chemicals or generate by-products such as pesticides, herbicides, and animal waste, and other substances that are potentially toxic or impactive to native habitats/flora/fauna (including water) shall incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. No trash, oil, parking, or other construction/development-related material/activities shall be allowed outside any approved construction limits. Where applicable, this requirement shall be incorporated into leases on publicly owned property when applications for renewal occur. Provide a note in/on the CDs that states: "All construction-related activity that may have potential for leakage or intrusion shall be monitored by the Qualified Biologist/Owners Representative or Resident Engineer to ensure there is no impact to the MHPA."	*Components Common to both Alternatives*	
		Morena Pump Station	San Diego River at Friars Rd
		Morena Pipelines	Coastal sage scrub in Rose Canyon east of Genesee Rd and north of the railroad tracks; Mission Bay at W Morena Blvd and Tecolote Rd; San Clemente Canyon at SR-52; Rose Canyon Open Space Park and Nobel Dr
		NCWRP	Coastal sage scrub within the facility
		LFG Pipeline	Entire alignment
		MBC Improvements	Sensitive vegetation within the facility
		Miramar Reservoir Alternative	
		North City Pipeline	West of Eastgate Mall and north of Miramar Rd; east of I-15 north of Pomerado Rd; south of Evans Pond; south of Miramar Reservoir
		Miramar WTP	Coastal sage scrub within the facility
		San Vicente Reservoir Alternative	
		San Vicente Pipeline	East of I-15 and south of Clairemont Mesa Blvd; crosses the San Diego River south of SR-52 and west of Santo Rd; San Clemente Canyon south of SR-52; Murphy Canyon at I-15; San Diego River along Carlton Oaks Dr; San Diego River south of Mast Blvd; along Mission Gorge Rd through Mission Trails Regional Park; urban environments along Mission Gorge Rd; within Critical Habitat that crosses SR-52 north of Mission Gorge Rd; north of the San Diego River along Mission Gorge Rd; along Mast Blvd north of Lakeside Baseball Park; north of the San Diego River and along Tierrasanta Blvd; along the San Diego River and crosses SR-67; along Moreno Ave south of San Vicente Reservoir
		San Vicente Pipeline – TAT	Entire alignment
		San Vicente Pipeline – IRAT	Entire alignment
		San Vicente Pipeline – MAT	Entire alignment
		MTBS	Entire facility
		San Vicente Pipeline - Repurposed Pipeline	At all air and blow-off valve locations along the alignment

Mitigation Number	Mitigation Measure	Project Component	Location
MM-BIO-9l **Silt Fencing**	Covered projects shall require temporary fencing (with silt barriers) of the limits of project impacts (including construction staging areas and access routes) to prevent additional vernal pool impacts and prevent the spread of silt from the construction zone into adjacent vernal pools. Fencing shall be installed in a manner that does not impact habitats to be avoided. Final construction plans shall include photographs that show the fenced limits of impact and all areas of vernal pools to be impacted or avoided. If work inadvertently occurs beyond the fenced or demarcated limits of impact, all work shall cease until the problem has been remedied to the satisfaction of the City. Temporary construction fencing shall be removed upon project completion.	*Components Common to both Alternatives*	
		LFG Pipeline	Vernal pools located in MCAS Miramar including the features within Miramar National Cemetery, three other seasonally ponded features (OSPFs) (VP653, VP654, and VP656), three basins (VP657, VP1859, and VP2480), and vernal pool PW36.
		MBC Improvements	Vernal pool PW8.
		Miramar Reservoir Alternative	
		North City Pipeline	Vernal pools or road ruts (not assigned identifiers) in MCAS Miramar south of Miramar Road.
		San Vicente Reservoir Alternative	
		San Vicente Pipeline - Repurposed Pipeline	At OSPFs VP697 and VP699 and vernal pool PW36 located in MCAS Miramar.
MM-BIO-9m **Dust**	Impacts from fugitive dust that may occur during construction grading shall be avoided and minimized through watering and other appropriate measures.	*Components Common to both Alternatives*	
		LFG Pipeline	Vernal pools located in MCAS Miramar including the features within Miramar National Cemetery, three OSPFs (VP653, VP654, and VP656), three basins (VP657, VP1859, and VP2480), and vernal pool PW36.
		MBC Improvements	Vernal pool PW8.
		Miramar Reservoir Alternative	
		North City Pipeline	Vernal pools or road ruts (not assigned identifiers) in MCAS Miramar south of Miramar Road.
		San Vicente Reservoir Alternative	
		San Vicente Pipeline - Repurposed Pipeline	At OSPFs VP697 and VP699 and vernal pool PW36 located in MCAS Miramar.
MM-BIO-9n **Vernal Pool Biologist**	A qualified monitoring biologist that has been approved by the City shall be on site during Project construction activities to ensure compliance with all mitigation measures identified in the CEQA environmental document. The biologist shall be knowledgeable of vernal pool species biology and ecology. The biologist shall perform the following duties: a. Oversee installation of and inspect the fencing and erosion control measures within or upslope of vernal pool restoration and/or preservation areas a minimum of once per week and daily during all rain events to ensure that any breaks in the fence or erosion control measures are repaired immediately. b. Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust. c. Train all contractors and construction personnel on the biological resources associated with this project and ensure that training is implemented by construction personnel. At a minimum, training shall include (1) the purpose for resource protection; (2) a description of the vernal pool species and their habitat(s); (3) the conservation measures that must be implemented during Project construction to conserve the vernal pool species, including strictly limiting activities, and vehicles, equipment, and construction materials to the fenced Project footprint to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps or on the Project site by fencing); (4) environmentally responsible construction practices as outlined in measures 5, 6, and 7; (5) the protocol to resolve conflicts that may arise at any time during the construction process; and (6) the general provisions of the project's mitigation monitoring and reporting program (MMRP), the need to adhere to the provisions of FESA, and the penalties associated with violating FESA. d. Halt work, if necessary, and confer with the City to ensure the proper implementation of species and habitat protection measures. The biologist shall report any violation to the City within 24 hours of its occurrence. e. Submit regular (e.g., weekly) letter reports to the City during Project construction and a final report following completion of construction. The final report shall include as-built construction drawings with an overlay of habitat that was impacted and avoided, photographs of habitat areas that were avoided, and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conservation measures was achieved.	*Components Common to both Alternatives*	
		LFG Pipeline	Vernal pools located in MCAS Miramar including the features within Miramar National Cemetery, three OSPFs (VP653, VP654, and VP656), three basins (VP657, VP1859, and VP2480), and vernal pool PW36.
		MBC Improvements	Vernal pool PW8.
		Miramar Reservoir Alternative	
		North City Pipeline	Vernal pools or road ruts (not assigned identifiers) in MCAS Miramar south of Miramar Road.
		San Vicente Reservoir Alternative	
		San Vicente Pipeline - Repurposed Pipeline	At OSPFs VP697 and VP699 and vernal pool PW36 located in MCAS Miramar.

Mitigation Number	Mitigation Measure	Project Component	Location
MM-BIO-9o Limits of Work	The following conditions shall be implemented during Project construction: a. Employees shall strictly limit their activities, vehicles, equipment, and construction materials to the fenced Project footprint. b. The Project site shall be kept as clean of debris as possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the site. c. Disposal or temporary placement of excess fill, brush, or other debris shall be limited to areas within the fenced Project footprint.	*Components Common to both Alternatives*	
		LFG Pipeline	Vernal pools located in MCAS Miramar including the features within Miramar National Cemetery, three OSPFs (VP653, VP654, and VP656), three basins (VP657, VP1859, and VP2480), and vernal pool PW36.
		MBC Improvements	Vernal pool PW8.
		Miramar Reservoir Alternative	
		North City Pipeline	Vernal pools or road ruts (not assigned identifiers) in MCAS Miramar south of Miramar Road.
		San Vicente Reservoir Alternative	
		San Vicente Pipeline - Repurposed Pipeline	At OSPFs VP697 and VP699 and vernal pool PW36 located in MCAS Miramar.
MM-BIO-9p Equipment Staging	All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities shall occur in designated areas within the fenced Project impact limits. These designated areas shall be located in previously compacted and disturbed areas to the maximum extent practicable in such a manner as to prevent any runoff from entering the vernal pools or their watersheds, and shall be shown on the construction plans. Fueling of equipment shall take place within existing paved areas greater than 100 feet from the vernal pools or their watersheds. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary. A spill kit for each piece of construction equipment shall be on -site and must be used in the event of a spill. "No-fueling zones" shall be designated on construction plans.	*Components Common to both Alternatives*	
		LFG Pipeline	Vernal pools located in MCAS Miramar including the features within Miramar National Cemetery, three OSPFs (VP653, VP654, and VP656), three basins (VP657, VP1859, and VP2480), and vernal pool PW36.
		MBC Improvements	Vernal pool PW8.
		Miramar Reservoir Alternative	
		North City Pipeline	Vernal pools or road ruts (not assigned identifiers) in MCAS Miramar south of Miramar Road.
		San Vicente Reservoir Alternative	
		San Vicente Pipeline - Repurposed Pipeline	At OSPFs VP697 and VP699 and vernal pool PW36 located in MCAS Miramar.
MM-BIO-9q Grading Activities	Grading activities immediately adjacent to vernal pools shall be timed to avoid wet weather to minimize potential impacts (e.g., siltation) to the vernal pools unless the area to be graded is at an elevation below the pools. To achieve this goal, grading adjacent to avoided pools shall comply with the following: a. Grading shall occur only when the soil is dry to the touch both at the surface and 1 inch below. A visual check for color differences (i.e., darker soil indicating moisture) in the soil between the surface and 1 inch below indicates whether the soil is dry. b. After a rain of greater than 0.2 inch, grading shall occur only after the soil surface has dried sufficiently as described above, and no sooner than 2 days (48 hours) after the rain event ends. c. To prevent erosion and siltation from stormwater runoff due to unexpected rains, best management practices (i.e., silt fences) shall be implemented as needed during grading. d. If rain occurs during grading, work shall stop and resume only after soils are dry, as described above. e. Grading shall be done in a manner to prevent runoff from entering preserved vernal pools. f. If necessary, water spraying shall be conducted at a level sufficient to control fugitive dust but not to cause runoff into vernal pools. g. If mechanized grading is necessary, grading shall be performed in a manner to minimize soil compaction (i.e., use the smallest type of equipment needed to feasibly accomplish the work).	*Components Common to both Alternatives*	
		LFG Pipeline	Vernal pools located in MCAS Miramar including the features within Miramar National Cemetery, three OSPFs (VP653, VP654, and VP656), three basins (VP657, VP1859, and VP2480), and vernal pool PW36.
		MBC Improvements	Vernal pool PW8.
		Miramar Reservoir Alternative	
		North City Pipeline	Vernal pools or road ruts (not assigned identifiers) in MCAS Miramar south of Miramar Road.
		San Vicente Reservoir Alternative	
		San Vicente Pipeline - Repurposed Pipeline	At OSPFs VP697 and VP699 and vernal pool PW36 located in MCAS Miramar.

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