PROJECT MODIFICATION
MITIGATION MONITORING AND REPORTING PROGRAM

SECOND ADDENDUM TO EIR
PRECISE DEVELOPMENT PLAN
AND DESALINATION PLANT PROJECT

State Clearinghouse Number 2004041081

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SECTION 1.0 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that public agencies approving projects take affirmative steps to ensure that adopted mitigation measures are implemented. The lead or responsible agency must adopt a monitoring and reporting program for all mitigation measures incorporated into a project or included as conditions of approval that avoid, minimize or mitigate significant environmental effects on the environment. The program must be designed to ensure compliance during project implementation (Public Resources Code, Section 21081.6(a)(1)).

This Mitigation Monitoring and Reporting Program (MMRP) will be used by the San Diego County Water Authority (Water Authority), as Responsible Agency pursuant to State CEQA Guidelines, to ensure compliance with adopted mitigation measures associated with the Second Addendum to the Precise Development Plan and Desalination Plant Project EIR (project). References throughout Table 2.1 to the City, and specific departments and personnel will apply to the Water Authority, and its equivalent departments and personnel, as appropriate.

Implementation of the project design features and mitigation measures would reduce impacts described in the Second Addendum to below a level of significance for aesthetics, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise and vibration, and transportation and traffic.

This MMRP consists of two tabular checklists that identify the project design features and mitigation measures, by resource, for each project component. The tables identify the source document, including appropriate numeric or section references for the project design feature or mitigation measure, as well as a description of the mitigation monitoring and reporting requirements, including the party(ies) responsible for verifying implementation of the design feature or mitigation measure, timing of verification (prior to, during, or after construction) and agency responsible for ensuring compliance. Space is provided for sign-off following completion/implementation of the design feature or mitigation measure. The source documents are the Precise Development Plan and Desalination Plant Project Final EIR MMRP (FEIR MMRP), and the Water Authority's Natural Community Conservation Plan/Habitat Conservation Plan and appendices (PLAN).

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SECTION 2.0 PROJECT DESIGN FEATURES AND MMRP CHECKLISTS

Table 2-1

TOVWTP, Pipeline 3 Relining and Pipeline 4 Vent and Pipeline Replacement and Pipeline Interconnect Modifications

Project Design Features and MMRP Checklist

Design Feature/ Mitigation Measure No.	Mitigation Measures/Design Features	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Cost.		Initials	Date	
BIOLOGICAL RESOURCES									
Project Design Features									
2.1 (PLAN-APPX-B)	Conditions for Coverage The following general measures will apply to all Covered Species: 1. Conduct pre-activity surveys within suitable habitat to ensure that Covered Species are adequately addressed by impact avoidance, minimization, and mitigation (see Appendix F of the Plan). Surveys must be conducted by an Environmental Surveyor during the appropriate field conditions for detection prior to any proposed impacts in the Plan Area. 2. Avoid and minimize impacts to occupied Covered Species habitat or potential migration and/or dispersal corridors for all new facilities and O&M Activities of existing facilities through project design considerations. 3. Establish a habitat buffer when appropriate and feasible around covered plant species populations to support the natural suite of pollinators unless a biologically appropriate mitigation approach is agreed to with the Wildlife Agencies at the time of project-specific environmental review. 4. Fence and/or flag Covered Species populations and sensitive habitat in or adjacent to work areas. Where necessary, install signage to prohibit access and/or flag areas being restored or protected for their biological value.	Project Engineer and Environmental Surveyor	X	X		Water Authority			

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	5. Avoid driving or parking on sensitive and/or occupied habitat by keeping vehicles on roads and in designated staging areas. 6. Deter unauthorized activities (such as trampling and off-road vehicle use) and perform litter abatement, including proper disposal of illegally dumped materials, as part of routine patrol of access roads. 7. Monitor encroachment of non-native and invasive species into Covered Species populations and perform weed abatement as needed to improve the habitat. 8. Stabilize work areas to control erosion or sedimentation problems when working near Covered Species populations within the Plan Area. Populations within or adjacent to work areas would be protected from vehicular traffic, excessive foot traffic, or other activities that result in soil surface disturbance. 9. Control dust when working near Covered Species populations and/or habitat in accordance with applicable regulations. 10. All identified populations of Covered Species within rights-of-ways must be managed to control edge effects to the maximum extent possible (see Sections6.4 and 6.5 of the Plan). 11. Any restoration and monitoring program prepared as a component of the mitigation plan for impacts to a Covered Species shall include, but not be limited to, species propagation ratios, restoration site selection and assessment, site preparation, implementation strategies, weed control procedures, required management and monitoring in perpetuity, funding commitment, and reporting procedures. The program would be prepared in advance of project impacts and approved by the Wildlife Agencies.								

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	12. Any planting stock used shall be inspected by an Environmental Surveyor to ensure that it is free of pest species that may invade natural areas, including, but not limited to, Argentine ants (*Iridomyrmex humii*), fire ants (*Solenopsis invicta*), and other pests. Any planting stock that is infested would not be allowed within restoration areas or within 300 feet of native areas unless documentation is provided to the Wildlife Agencies that these pests already occur in the native areas around the project site. The stock would be quarantined, treated, or disposed of according to best management principles by qualified experts in a manner that precludes invasions into native habitat. Runoff from mitigation sites in native habitat would be minimized and managed. 13. To the maximum extent possible, conduct Covered Activities occurring within wetland habitats during the dry season when flows are at their lowest or nonexistent to minimize impacts to aquatic species and/or habitats. 14. Reseed temporary impact areas with an appropriate native seed mix (as discussed in Section 6.5.1.4.2, Permanent and Temporary Impacts, of the Plan) and allow for natural recolonization of the area by adjacent populations. 15. For new facilities adjacent to native habitat, minimize ornamental landscaping or irrigation not associated with native habitat restoration. 16. Collection of covered plant and wildlife species by Water Authority personnel and contractors is prohibited. 17. Maintain and manage dispersal/movement corridors within the Plan Area that contribute to long-term population viability (see Section								

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	4.5, Habitat Linkages and Wildlife Corridors and Figure 4-3, Conceptual Habitat Linkages in NCCP/HCP Plan Area, of the Plan). 18. The use of outdoor lighting within or adjacent to potential Covered Species habitat will be discouraged. If lighting must be used for reasons of safety and security, light sources would be shielded away from habitat and only low pressure sodium lighting would be used. In addition to the general Conditions for Coverage above, species-specific conditions are listed for all species that the Water Authority is requesting coverage for under the Plan. Where a general or species-specific condition requires concurrence from the Wildlife Agencies, the Wildlife Agencies will make their best efforts to provide their concurrence or comments within 60 days or as soon as possible based on their respective staffing and work priorities. In the event that the Wildlife Agencies issue a statement of nonconcurrence, the Water Authority will be provided with specific recommendations on how concurrence can be achieved.								

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2.2 (PLAN-APPX-B)	Narrow Endemic Policy and Vernal Pool Protection Policy Habitat-based protection and mitigation measures are also applicable in accordance with Sections 6.5.1.6 for narrow endemics and 6.7.3 for vernal pools in the Plan. In addition, the Water Authority will attempt to use tunneling and facility location and design planning to avoid vernal pools/vernal pool habitat to the maximum extent feasible. If off-site mitigation is required, then the Water Authority will attempt to acquire property that has suitable potential vernal pool enhancement/restoration (or creation) habitat, preferably property that is near existing vernal pools.	Project Engineer and Environmental Surveyor	X	X		Water Authority			
2.3 (PLAN-APPX-B)	Avian Breeding Season Policy Breeding season dates may be modified to reflect the species known or expected to occur on the specific site. For the purposes of Plan implementation, the following general breeding season dates shall be used: January 15 to July 31 for raptor species; March 15 to September 15 for riparian species; and February 15 to August 15 for upland species (Section 6.4.2.1 of the Plan).	Environmental Surveyor	X	X		Water Authority			
2.4 (PLAN-APPX-B)	Buffers Species-specific buffer requirements are identified as needed for Covered Species (including three Major Amendment Species) in Sections 3.0 Covered Plants, 4.0 Covered Invertebrates, 5.0 Covered Amphibians, 6.0 Covered Reptiles, 7.0 Covered Birds, and 8.0 Covered Mammals. Species-specific buffer requirements are identified as needed for non-Covered Species in Sections 9.0 Non-Covered Plants, 10.0 Non-Covered Reptiles, and 11.0 Non-Covered Birds. In the event that the buffer criteria for a species cannot be	Project Engineer and Environmental Surveyor	X	X		Water Authority			

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	achieved at a particular project site, the Water Authority would design and implement alternative compensatory measures during project development to achieve the same or superior level of protection. Any deviations from management actions would be performed in consultation with the Wildlife Agencies and described in the annual report. In addition, specific buffer requirements may be reduced on a project-by-project basis as appropriate, in consultation with the Wildlife Agencies, based on site considerations such as, but not limited to: extant decibel conditions, topography, vegetative structure, or presence of physical barriers.								
6.4.1.1-6.4.1.3 (PLAN)	Environmental Surveyor The Water Authority provides an Environmental Surveyor to monitor construction activities, and advise the project managers to assure implementation and compliance with design features, mitigation measures, and permit conditions; and document project implementation relative to covered species, any other sensitive biological resources, and design features, mitigation measures, and permit conditions (NCCP/HCP Section 6.4.1.1 thru 6.4.1.3). The Environmental Surveyors' qualifications and duties are identified in the NCCP/HCP, including conducting and documenting the results of a Pre-Activity Survey to verify biological baseline conditions at the actual start of construction, and conducting field personnel education training. These design features reduce the likelihood of unauthorized impacts to covered species and sensitive biological resources.	Project Engineer and Environmental Surveyor	X	X		Water Authority			

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6.4.1.4 (PLAN)	Field/Contractor Personnel Responsibilities 1. Contractors or other project personnel will not collect plants or wildlife, unless specifically authorized and directed by the Environmental Surveyor. Only qualified and appropriately authorized personnel will handle or collect plants or wildlife as required by species-specific measures (see Appendix B). 2. Field personnel will not intentionally harm or harass wildlife or damage nests, burrows, rock outcrops, or other habitat components. 3. Drivers on unpaved roads in native habitats will not exceed a speed of 20 miles per hour in order to avoid injury to animals and minimize dust generation. 4. Impacts to adjacent native vegetation that would be significantly affected by excessive fugitive dust will be avoided and minimized through watering of access roads (except in areas with vernal pools) or other appropriate measures, such as reducing the number or speed of vehicles or adding inert materials that reduce dust. Projects with the potential for excessive dust generation include those that involve more than occasional use of roads in dust-prone soils (i.e., more than three to five vehicle roundtrips per day) or require multiple vehicles to transport heavy equipment and supplies. 5. Vehicles will not park in areas where catalytic converters may ignite vegetation. Construction vehicles will be equipped with shovels and fire extinguishers in order to reduce the risk of wildfires. 6. Littering will be strictly prohibited. All trash will be deposited in secured, closed containers or hauled out daily by field personnel. 7. No pets will be allowed on any construction site.	Project Engineer and Environmental Surveyor		X		Water Authority			

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	8. No firearms or other weapons will be allowed on any construction site except as carried by governmental law enforcement, or as authorized in writing by Water Authority staff. 9. Field personnel will be prohibited from pushing or dumping soil and brush into sensitive habitats. 10. All vehicles, tools, and machinery will be restricted to access roads, approved staging areas, or within designated construction zones. 11. If any field personnel identify a previously unnoticed Covered Species on a construction site, work activities will cease in order to immediately notify the Water Authority's construction manager, project engineer, and the Environmental Surveyor. In conjunction with Water Authority environmental staff, the Environmental Surveyor will determine what actions would be taken to avoid or minimize impacts to the species according to the species-specific conditions outlined in Appendix B. 12. Field personnel will notify the project engineer/environmental staff of any sick, injured, or dead wildlife found on site. 13. Parking or driving underneath oak trees, except in established traffic areas, will not be allowed in order to protect root structures.								
6.4.2.4 (PLAN)	Existing Pipeline Relining Design Features NCCP/HCP Plan Minimization Measures specific to pipeline relining (NCCP/HCP Section 6.4.2.4) are listed below: 1. Where habitat for Covered Species occurs, pre-activity surveys and appropriate USFWS protocol surveys (for listed species for which protocols have been written) will be conducted in accordance with	Project Engineer and Environmental Surveyor	X	X		Water Authority			

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	species specific measures outlined in [NCCP/HCP] Appendix B. 2. Portals will be located within disturbed or developed areas, and away from habitat occupied by Covered Species to the extent feasible. 3. Project construction will be initiated outside the Covered Species breeding seasons (as explained in [NCCP/HCP] Section 6.4.2.1), including vegetation removal or other habitat modifications. If construction must occur during the breeding season (e.g., due to water system operational constraints, amount of pipeline to be relined, and pipeline condition), a pre-construction nesting survey will be conducted to assess the potential for direct impacts to nests/breeding sites and/or indirect noise effects. Conditions that may be imposed on the activity are described in [NCCP/HCP] Section 6.4.2.1 and in the species-specific Conditions for Coverage (see [NCCP/HCP] Appendix B). 4. If Covered Activities need to occur during the breeding season, an Environmental Surveyor will evaluate the need for noise walls or other feasible noise reduction measures to reduce construction noise levels. 5. The project's biotechnical report will specify the appropriate noise minimization requirements. If least Bell's vireo nesting sites are effected by noise, noise levels at the nest will be restricted to less than 60 dB(A) Leq(1) or the ambient noise level plus three decibels (perceptible change threshold), whichever is greater. If noise cannot be kept below 60 dB(A) Leq(1), construction will cease until nests have fledged or failed (as determined by the Environmental Surveyor). 6. The project's biological technical report will specify the appropriate sound minimization techniques, possibly including activity								

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	setbacks/buffers, temporary noise barriers, limited hours of work, etc.								
6.11.1 (PLAN)	Fire Management 1. Prepare site-specific fire management plans. Include local fire department contacts and guidelines for pre-fire prevention activities, fire suppression, and post-fire restoration. 3. When available, fuel management zones should take advantage of existing roads and disturbed or developed habitats, thus avoiding sensitive habitats. 8. All post-fire actions, such as restoration, invasive species removal, erosion control, or trail stabilization, will be planned in consultation with the Wildlife Agencies prior to project initiation.	Construction Contractor and Environmental Surveyor	X	X		Water Authority			
6.11.3 (PLAN)	Fencing 2. Maintain or install fencing when necessary to: a. limit road kills; b. direct wildlife through wildlife movement corridors, including undercrossings e. protect erosion control or revegetation efforts; f. protect native vegetation during construction; g. protect particularly sensitive resources (e.g., vernal pools, small populations of sensitive plants, etc.); and h. provide public safety or security. 3. Select fencing that best accomplishes access control with minimal wildlife interference. 4. Maintain fence lines in a way that minimizes impacts to sensitive species and habitats.	Construction Contractor and Environmental Surveyor	X	X	X	Water Authority			

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6.11.6 (PLAN)	Lighting and Noise 1. Eliminate lighting in or adjacent to conserved habitat (or Biological Significant Resource Areas (BSRA)) except where essential for roadway use, facility use, safety, or security purposes. 2. Use low-pressure sodium illumination sources. Do not use low voltage outdoor or trail lighting, spotlights, or bug lights. Shield light sources adjacent to conserved habitat (or BSRA) so that the lighting is focused downward. 3. Incorporate a 100-foot buffer zone between the edges of lighted areas and conserved habitat (or BSRA). Fuel management zones that may be required could be considered part of the buffer zone. Buffer zone width could vary with lighting intensity, lighting type, use of shields, and topography. 5. Address potential indirect effects of noise at the nest location of least Bell's vireo by keeping noise levels at or below 60 dB(A) Leq(1) or an increase of three decibels above ambient noise levels, whichever is greater, during the breeding season. For other avian species, follow guidance for the Covered Species (PLAN, Appendix B).	Construction Contractor and Environmental Surveyor		X	X	Water Authority			
6.11.9 (PLAN)	Invasive Exotic Species Control 1. Prioritize areas for exotic species control based on aggressiveness of invasive species and degree of threat to the native vegetation. Monitor those species of high priority for eradication as determined by the *California Invasive Plant Inventory*	Construction Contractor and Environmental Surveyor		X	X	Water Authority			

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	(Cal-IPC 2006). Species with a Cal-IPC rating of "high" will be a priority for eradication, with the objective to control and remove it as soon as possible after discovery. Examples of high priority plant species include giant reed (*Arundo donax*), salt cedar (*Tamarix spp*.), castor bean (*Ricinus communis*), fennel (*Foeniculum vulgare*), tree tobacco (*Nicotiana glauca*), artichoke (*Cynara cardunculus*), and pampas grass (*Cortaderia* spp.). "Moderate" or "Limited" rated species may be allowed at low population levels following initial eradication efforts. 2. Where feasible, use an integrated pest management (IPM) approach to eradicate undesirable species; i.e., use the least biologically intrusive control methods, at the most appropriate period of the growth cycle, to achieve the desired goals. 3. Consider both mechanical and chemical methods of control. Only herbicides compatible with biological goals and consistent with reservoir management goals will be used. Licensed pest control advisors qualified under the Department of Pesticide Regulations will be used to make specific pest control recommendations. 4. Dispose of all exotic plant materials that are removed from or adjacent to a Preserve Areas (or BSRA) at a landfill or on-site at a secure, designated location to avoid the spread of nonnative plant species through seeds or propagules. Exotic vegetation shall be chipped and staged in a designated mulch site. All exotic plant materials will be covered during transport and the compost pile will be periodically spot-treated with herbicide to kill any resprouting plants. Exotic plant material will be removed off-site to a green waste								

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	recycling facility, or otherwise legally disposed of, as necessary. 5. Revegetate invasive plant and exotic weed removal areas with native species appropriate to biological goals for the area and/or adjacent native habitat. 6. Control the spread of invasive ant species by following the guidelines below: a. Ensure that all ornamental landscaping and native habitat restoration materials do not contain invasive ant or other species by inspecting all container stock before it enters Preserve Areas (or BSRA). b. Control landscaping irrigation adjacent to Preserve Areas (or BSRA) to avoid any overflow, which may attract non-native ants by increasing soil moisture. c. Empty trash receptacles located along trails and/or associated with edges of the Preserve Area (or BSRA) on a regular basis, as determined by the manager's monitoring of actual needs.								
Mitigation Measures									
6.5.1.4.2 (PLAN)	Permanent and Temporary Impacts *Permanent Impacts.* Permanent impacts result from Covered Activities that cause the removal of habitat (e.g., sensitive vegetation community or Covered Species) that cannot be mitigated on-site through revegetation and other restoration efforts. Mitigation for permanent impacts requires the acquisition of credits at a Water Authority upland or wetland HMA, other Wildlife Agency-approved bank, or through the	Project Engineer, Environmental Surveyor, Wildlife Agencies	X		X	Water Authority			

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	acquisition/protection of a qualifying habitat area that augments the Plan's Preserve Areas or reserves in another approved conservation plan, at the ratios specified in this Plan (Tables 6-6 and 6-7). If the mitigation ratio is greater than 1:1, the Water Authority may choose to provide the portion of the mitigation that is over the 1:1 component by restoring disturbed lands within this Plan's Preserve Areas or other protected habitat areas if those areas have no required restoration requirement imposed by this Plan or another plan, and no other legal/regulatory obligation or other requirement for habitat enhancement and/or restoration. If the Water Authority determines, based on project monitoring and performance criteria, that enhancement or restoration efforts are not likely to be successful, equivalent credits of the appropriate habitat type will be deducted from the appropriate Water Authority HMA or purchased from an existing bank. Project monitoring methods and performance criteria will be developed in consultation with the Wildlife Agencies, who will also review and provide concurrence that the criteria have been met or are not likely to be met. See Section 6.6 for a discussion of restoration approaches and specifics. *Temporary Impacts.* Temporary impacts to sensitive (mitigation-requiring) vegetation communities are impacts resulting from Covered Activities that do not disturb or remove vegetation root stock or that can be mitigated on-site through revegetation and other restoration efforts. Revegetation and restoration of temporary impacts will occur on-site in the area of initial disturbance. Effective implementation and								

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	monitoring of the mitigation and invasive species control ensures that habitat and plant species are re-established or recover to the original condition or a biologically superior condition. See Section 6.5 for a discussion of restoration approaches and specifics. The Water Authority identifies two types of temporary impacts: (1) the impacts are considered to be a one-time disturbance, or (2) the impacts are considered to be repeated (known or expected to occur more frequently than the time period in which the restored area is scheduled to return to fully-restored status) within the duration of the Plan's permit. The Water Authority will use different approaches when dealing with these two types of temporary impacts, as described below. For projects or portions of projects with one-time temporary impacts, restoration and revegetation of the impacted area will be implemented at a 1:1 ratio. The specific habitat enhancement (restoration and revegetation) measures will be selected to address site specific needs. Performance (success) criteria will be defined for each project and will generally conform to the Water Authority's revegetation guidelines (Section 02940 in the General Conditions and Standard Specifications, 2005 edition, Appendix D). Success criteria will be reviewed and concurred with by the Wildlife Agencies before restoration projects may commence. Restoration measures will be developed to restore the site's previous biological resources and minimize establishment of invasive non-native plant species.								

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	Habitat enhancement and restoration activities will occur under the supervision and direction of an Environmental Surveyor who has experience developing and implementing native restoration plans in southern California. Within a project site, any disturbed areas that do not require regular maintenance or future disturbance, whether inside or outside of preserves, will be improved either through enhancement, restoration, or a combination of the two. No off-site mitigation will be required for one-time temporary impacts unless the restoration is determined unsuccessful by the Wildlife Agencies. The Water Authority must receive concurrence from the Wildlife Agencies that each restoration effort is successful, as discussed in Section 6.6. For project or portions of projects for which the Water Authority believes there will be a need for repeated temporary impacts to an area, the Water Authority will treat the initial disturbance as permanent and mitigate off-site at the appropriate mitigation ratio prior to initiating work at the site. Mitigation for initial disturbance will be performed off-site using the same approach as described above for permanent impacts (e.g., using credit from a Water Authority HMA or other Wildlife Agency-approved bank, acquiring/protecting habitat that augments the Plan's Preserve Areas or other reserve lands). Also, the disturbed area would be reseeded with a native seed mixture appropriate to the site. No performance criteria will be associated with the restoration efforts in this case.								

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	Subsequent disturbances in the same area would only require that the affected area be revegetated to its original condition, and no additional off-site mitigation would be required. The Water Authority will be responsible for ensuring that the temporary disturbance areas are properly reseeded/revegetated. During the construction warranty period (varies with projects, but is generally 24 months), the project contractor(s) will be responsible for reseeding/revegetating. The Water Authority, through the requirements of this Plan and using the Environmental Surveyor, will ensure that these areas will be monitored and managed for a three-to-five year period, based on the site-specific process. Additional project-specific design features and mitigation measures implemented through the environmental process would be reviewed during the CEQA process. If other revegetation techniques not presented in this Plan are considered, they will be submitted to the Wildlife Agencies for concurrence performance conditions. If the restoration has not met the restoration plan's success criteria within two years of reseeding, the Water Authority may initiate a second round of reseeding efforts to meet the mitigation requirements. The Water Authority may install container plants and irrigation to aid revegetation efforts. This decision would be based on weather, site conditions, and the value of the habitat in the area. If success criteria have not been met during the restoration process, and the Water Authority determines that subsequent effort will not								

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	achieve the success standards, the Water Authority will consider impacts to be permanent and mitigate off-site at one of the HMAs or a Wildlife-Agency approved bank. Restoration techniques utilized by the Water Authority are described in more detail in Section 6.6. For activities affecting riparian/wetland areas, enhancement and mitigation measures are outlined in the Wetlands Protection and Mitigation Program (see Section 6.7). Habitat restoration guidelines are set forth in Section 02940 of the Water Authority General Conditions and Standard Specifications, which were updated in 2005 (see Appendix D). Updates to the guidelines (e.g., site-specific seed mixes) will be submitted for Wildlife Agency review and comment as part of the annual reporting process. Additional project-specific design features and mitigation measures implemented through the environmental process would be reviewed during the CEQA process. If other revegetation techniques not presented in this Plan are considered, they will be submitted to the Wildlife Agencies for concurrence.								
6.6.2 (PLAN)	Restoration Areas Potentially Subject to Future Disturbance Restoration for temporarily impacted areas subject to future, repeat disturbance will conform to the following protocols for seeding/planting, weed control, erosion control, species relocation, and soil and plant salvage. For individual restoration/enhancement areas larger than five acres, a restoration plan (described in Section 6.6.1) will be required and must be approved by the Wildlife Agencies, who will make their best efforts to review and provide	Project Engineer, Environmental Surveyor, Wildlife Agencies			X	Water Authority			

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	concurrence (or objection, with recommendations to make the plan acceptable) to the Water Authority within 60 days of receipt of the plan, or the plan will be considered acceptable. *Seeding/Planting* 1. Seeding will generally be performed within 30 days after topsoil replacement (see Section 6.6.4), but each project will specify the topsoil replacement timing to correspond with the appropriate season for application. The seed mix to be used will consist of local native vegetation species that are suitable for restoration as dictated by the terrain, soils, and surrounding native habitat. As conditions allow, native plant species that are a typical component of the pre-existing or surrounding vegetation community will be used in the seed mix. If justified and feasible, plant materials will be derived from local seed and/or cutting sources to maintain genetic integrity. Species lists and sources and quantities of seeds to be applied will be based on local conditions, as determined by the Water Authority. The Wildlife Agencies will be notified of seeding efforts within the regular annual reports (see Section 6.12). 2. Hydroseeding will consist of a slurry mix of native seed, soil stabilizer (100 pounds per acre), fiber mulch (2,000 pounds per acre), water, and other additives to be hydraulically sprayed on the ground as specified in the Water Authority standard specifications or restoration plan. The slurry (but not the seed mix) may be altered by the project engineer to meet any site-specific needs. After application, this will allow absorption of moisture and rainfall to percolate to the								

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	underlying soil. 3. Hand-seeding may be used to spread seed by hand and rake it into the topsoil. 4. Drill-seeding may be used in restoration efforts to reduce soil disturbance. 5. Established preserves within the Plan Area will be reseeded only with appropriate native species for the site and surrounding area. 6. Areas requiring erosion control will be reseeded with an erosion control native seed mix as determined in Section 02940 of the Water Authority standards (see Appendix G). Such seed mixes may include a selection of native grasses, low-growing forbs, and shrubs, consistent with the surrounding area and the ultimate disposition of the reseeded site. 7. Hydroseeded areas will be periodically inspected by the Environmental Surveyor. Inspections generally will be conducted on a quarterly basis but could be more or less frequent depending on site specific conditions. Areas failing to show acceptable germination and growth of native species, as determined by the Environmental Surveyor, will be scheduled for reseeding. Acceptability will be determined by uniformity of germination and native plant growth. Any supplemental seeding should take place from September through November, prior to winter rains. The need for supplemental seeding will be evaluated upon whether seedling establishment provides a reasonable expectation that it will develop into self-sustaining native habitat over time with consideration for annual rainfall and other underlying abiotic factors (e.g., slope, aspect, soils).								

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	8. Areas of approximately 4,360 square feet (0.1 acre) or larger that have not achieved 20-percent cover of native plants at the end of the first summer following seeding may require reseeding. Factors such as overall percent cover, health, and vigor will be considered in determination of satisfactory establishment. If supplemental seeding is required, seed mixes may be altered upon direction of the Water Authority to achieve more successful germination based on habitat conditions; however, seed mixes must contain only native species. Exceptions to use non-native, non-invasive species may be made by the Environmental Surveyor in disturbed areas that have been landscaped with non-native species, or elsewhere with concurrence from the Wildlife Areas.								
6.6.3 (PLAN)	Weed Control 1. Weeds will be controlled in all areas planted and/or seeded throughout the plant establishment and maintenance period. Weed eradication will be performed within 10 days prior to initiating seeding and planting operations. 2. All planted areas will be weeded prior to the weeds reaching 12 inches in height and/or before ripening of seed, unless otherwise directed by the Environmental Surveyor. Weed control methods may include herbicide application, hand weeding, or mechanical removal as approved for the site by the Environmental Surveyor. Herbicides will be applied in conformance with all applicable laws and regulations. 3. All high-rated invasive weeds on the most current California Invasive Plant Council (Cal-IPC) list (Appendix H) will be prioritized	Contractor and Environmental Surveyor		X	X	Water Authority			

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	and targeted for control at restoration sites, although additional weeds may be controlled based on recommendations by the Environmental Surveyor.								
6.6.4 (PLAN)	Soil and Plant Salvage As a means of enhancing revegetation success, the Water Authority will salvage soil, seed, and plant material on a project-by-project basis, where appropriate and feasible. Project review and CEQA analysis will identify appropriate salvage opportunities. Mitigation measures and conditions of project approval will specify the soils, seed, and plant material to be salvaged, identify the procedures for salvage, and specify locations and time frames for use of material, as appropriate. 1. Where feasible, the project will reuse topsoil that supported native plant species for revegetation and restoration purposes. 2. Where feasible, the project will collect representative cactus joints and/or other rooted materials within impact areas for subsequent planting in restoration sites or areas that will not be impacted. 3. During construction in areas of native habitat, topsoil consisting of the top four to six inches of earthen material will be salvaged and stockpiled separately from other excavated materials. Topsoil piles will be stored within a fenced or a flagged and posted enclosure. These piles will be kept relatively weed free without the use of a pre-emergent herbicide. Weeds will be removed and disposed of off-site	Environmental Surveyor	X	X		Water Authority			

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	before weeds produce mature seed heads. Prior to topsoil salvage, existing native vegetation will be salvaged, removed and mulched, or crushed into the topsoil. If mulched, vegetative material will be no larger than six inches long by one inch wide. Mulched native vegetation may be incorporated and stored with salvaged topsoil at the discretion of the Water Authority. If stockpiles are projected to remain for more than one year, then the Water Authority will provide a maintenance plan. 4. Once construction has been completed, the stockpiled topsoil/mulched plant material will be applied in a layer over all portions of the construction corridor that previously contained native habitat. Both the topsoil and the mulched material contain native propagules beneficial to the growth of native plant species. Additionally, the mulch will reduce erosion potential for the area. This method is suited for temporary roads and staging areas (once ripped), as well as for other areas of prior intensive activities. 5. Topsoil compaction during placement will be avoided. The topsoil will be tilled prior to seeding to increase water infiltration and root growth. Disking or ripping to a depth of 12 inches will also reduce topsoil slippage on steep slopes. Tilling after initial seed germination may promote weed growth and will only be utilized when an influx of pest species would not adversely damage or diminish adjacent native plant populations as determined by the environmental Surveyor. 6. When available and determined acceptable by the Environmental Surveyor, salvaged species may be used in restoration areas to allow the introduction of mature and diversely-aged plants that have								

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	developed root systems with symbiotic fungal associations. Plant salvage will begin at least one month prior to clearing and grubbing of the site to allow sufficient salvage time. Salvageable individual plants will be removed from the ground using hand tools or mechanized equipment to remove the root ball and surrounding soil. Plants will then be transplanted and stored in soil per standard horticultural practices for native species until the restoration areas are prepared for planting (e.g., cool season weather arrives or water is available) and until all signs of transplant shock have subsided. When possible, individuals will be removed from a designated grading area and replanted without delay in a prepared revegetation site.								
CULTURAL RESOURCES									
Mitigation Measures									
CULT-1 (FEIR MMRP)	Where project construction will impact cultural resources that have been determined to be significant, mitigation shall include either avoidance, or if avoidance is not feasible, then a data recovery program shall be completed to recover a large enough sample of cultural material so that information of importance in addressing regional research questions will not be irretrievably lost. The data recovery program shall be developed by a qualified archaeologist and approved by the City of Carlsbad.	Project Archeologist	X	X		Water Authority			
CULT-2 (FEIR MMRP)	In cases where the precise alignment of the pipeline is not available, and therefore the potential to affect cultural resources cannot be specifically determined, the applicant shall be required to retain a qualified archaeological monitor during construction so that buried cultural resources can be identified in the field. The archaeological	Project Archeologist	X	X	X	Water Authority			

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	monitor shall meet the minimum qualifications as required by the City of Carlsbad. If significant resources are identified within the areas that could be affected by construction, the resources shall be tested (pursuant to the mitigation measure CULT-1, above) to determine significance with appropriate mitigation measures employed as necessary. Monitoring Program Requirements The evaluation and monitoring program will be used for cultural resources within the project study area that are located within developed areas where surface evaluation is precluded and specific mitigation cannot be determined at this time. For these sites, a monitoring program is required if construction is to occur within or adjacent to the cultural resource site. Components of such a monitoring program would include, but not be limited to the following: Prior to Preconstruction (Precon) Meeting *Planning Department (PD) Plan Check*: Prior to the first Precon Meeting, the Planning Director of the appropriate jurisdiction or his designee / shall verify that the requirements for Archaeological Monitoring and Native American monitoring, if applicable, have been noted on the appropriate construction documents. *Submit Letter of Qualification to ERM:* Prior to the first Precon Meeting, the applicant shall provide a letter of verification to the Planning Director or his designee stating that a qualified								

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	Archaeologist has been retained to implement the monitoring program. *Records Search Prior to Precon Meeting:* At least thirty days prior to the Precon Meeting the qualified Archaeologist shall verify that a records search has been completed and updated as necessary and be prepared to introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities. Verification includes, but is not limited to, a copy of a confirmation letter from South Coast Information Center or, if the search was in-house, a letter of verification from the Archaeologist stating that the search was completed. Precon Meeting *Monitor Shall Attend Precon Meetings:* Prior to beginning any work that requires monitoring, the Applicant shall arrange a Precon Meeting that shall include the Archaeologist, Construction Manager and/or Grading Contractor. The qualified Archaeologist shall attend any grading related Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor. *Identify Areas to be Monitored:* At the Precon Meeting, the Archaeologist shall submit to the Planning Director or his designee a copy of the site/grading plan (reduced to 11x17) that identifies areas to be monitored as well as areas that may require delineation of								

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	grading limits. During Construction *Monitor Shall be Present During Grading/Excavation:* The qualified Archaeologist shall be present full-time during grading/excavation of native soils and shall document activity via the Consultant Monitor Record. This record shall be sent to the Planning Director or his designee, as appropriate, each month. *Monitoring of Trenches Will Include Mainline, Laterals, and all Appurtenances:* Monitoring of trenches is required for the mainline, laterals, services and all other appurtenances that impact native soils one foot deeper than existing as detailed on the plans or in the contract documents identified by drawing number or plan file number. It is the Construction Manager's responsibility to keep the monitor(s) up-to-date with current plans. *Discoveries:* In the event of a discovery, and when requested by the Archaeologist, or the Principal Investigator (PI) if the Monitor is not qualified as a PI, the Construction Manager (CM), as appropriate, shall be contacted and shall divert, direct or temporarily halt ground disturbing activities in the area of discovery to allow for preliminary evaluation of potentially significant archaeological resources. The PI shall also immediately notify the Planning Director or his designee of such findings at the time of discovery.								

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	Determination of Significance: The significance of the discovered resources shall be determined by the PI. For significant archaeological resources, a Research Design and Data Recovery Program shall be prepared, approved by the agency and carried out to mitigate impacts before ground-disturbing activities in the area of discovery will be allowed to resume. *Minor Discovery Process for Pipeline Projects:* For all projects: The following is a summary of the criteria and procedures related to the evaluation of small cultural resource deposits during excavation for pipelines. *Coordination and Notification:* Archaeological Monitor shall notify PI, CM and the Planning Director or his designee, as appropriate. *Criteria Used to Determine if it is a Small Cultural Resource Deposit* a. The deposit is limited in size both in length and depth; and, b. The information value is limited and is not associated with any other resources; and, c. There are no unique features/artifacts associated with the deposit. d. A preliminary description and photographs, if available, shall be transmitted to the Planning Director or his designee. The information will be forwarded to the Planning Department for								

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	consultation and verification that it is a small historic deposit. *Procedures for documentation, curation and reporting:* The following constitutes adequate mitigation of a small historic deposit to reduce impacts due to excavation activities to below a level of significance. a. 100% of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of sidewalls, recovered, photographed after cleaning and analyzed and curated. b. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact. c. The Final Results Report shall include a requirement for monitoring of any future work in the vicinity. *Human Remains:* If human remains are discovered, work shall halt in that area and procedures set forth in the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) as follows: a. Notification (1) Archaeological Monitor shall notify the PI, CM and the Planning Director or his designee. (2) The PI shall notify the County Coroner after consultation. b. Stop work and isolate discovery site								

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	(1) CM/ the Planning Director or his designee, as appropriate, shall stop work immediately and overlay adjacent human remains until a determination can be made by the County Coroner in consultation with the PI concerning the origin of the remains and the cause of death. (2) The County Coroner, in consultation with the PI, shall determine the need for a field investigation to examine the remains and establish a cause of death. (3) If a field investigation is not warranted, the PI, in consultation with the County Coroner, shall determine if the remains are of Native American origin. c. If Human Remains are Native American (1) The Coroner shall notify the Native American Historic Commission (NAHC). (By law, ONLY the Coroner can make this call.) (2) NAHC will identify the person or persons it believes to be the Most Likely Descendent (MLD). (3) The MLD may make recommendations to the landowner or PI responsible for the excavation work to determine the treatment, with appropriate dignity, of the human remains and any associated grave goods (PRC 5097.98). d. If Human Remains are not Native American (1) The PI shall contact the NAHC and notify them of the historical context of the burial.								

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	(2) NAHC will identify the person or persons it believes to be the MLD. (3) The MLD may make recommendations to the landowner or PI responsible for the excavation work to determine the treatment of the human remains (PRC 5097.98). (4) If the remains are of historic origin, they shall be appropriately removed and conveyed to the Museum of Man for analysis. The decision for reinterment of the human remains shall be made in consultation with the or his designee, the landowner, the NAHC and the Museum of Man. e. Disposition of Human Remains The landowner, or his authorized representative, shall reinter the Native American human remains and any associated grave goods, with appropriate dignity, on the property in a location not subject to further subsurface disturbance, IF: (1) The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 24 hours after being notified by the Commission; OR; (2) The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner.								

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	Notification of Completion: The Archaeologist shall notify the or his designee, in writing of the end date of monitoring. Post Construction *Handling and Curation of Artifacts and Letter of Acceptance* a. The Archaeologist shall be responsible for ensuring that all cultural remains collected are cleaned, catalogued, and permanently curated with an appropriate institution; that a letter of acceptance from the curation institution has been submitted to the; that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate. b. Curation of artifacts associated with the survey, testing and/or data recovery for this project shall be completed in consultation with the or his designee and the Native American representative, as applicable. *Final Results Reports (Monitoring and Research Design and Data Recovery Program)* a. Within three months following the completion of monitoring, two copies of the Final Results Report (even if negative) and/or evaluation report, if applicable, which describes the results, analysis, and conclusions of the Archaeological Monitoring								

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	Program (with appropriate graphics) shall be submitted to the or his designee for approval. b. For significant archaeological resources encountered during monitoring, the Research Design and Data Recovery Program shall be included as part of the Final Results Report. *Recording Sites with State of California Department of Park and Recreation.* The Archaeologist shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Results Report.								
CULT-3 (FEIR MMRP)	A qualified paleontological monitor shall be present at a pre-grading meeting with the construction contractor and environmental review coordinator. The purpose of the meeting would be to consult and coordinate the role of the paleontologist during construction. The paleontological monitor shall have adequate knowledge and experience with fossilized remains likely to be present to identify them in the field. The paleontological monitor shall be adequately experienced to remove paleontological resources for further study.	Project Paleontologist	X	X		Water Authority			
CULT-4 (FEIR MMRP)	The paleontological monitor shall be present during the applicable stages of grading and construction (including trenching) as determined at the pre-grading meeting. The paleontological monitor	Project Paleontologist	X	X		Water Authority			

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	shall have the authority to temporarily direct, divert, or halt grading in the area of an exposed fossil to facilitate evaluation and, if necessary, salvage. At the discretion of the monitor, recovery may include washing and picking of soil samples for microvertebrate bone and teeth. The contractor shall be aware of the random nature of fossil occurrences and the possibility of a discovery of such scientific and/or educational importance which might warrant a long-term salvage operation or preservation. All fossils collected shall be donated to a museum with a systematic paleontological collection, such as the San Diego Natural History Museum. The shall ensure the grading contractor is aware of this provision. Conflicts regarding the role and authority of the monitor shall be resolved by the or his designee.								
CULT-5 (FEIR MMRP)	A paleontological monitoring report shall be submitted to the City of Carlsbad. The report shall describe the materials recovered by the monitoring program.	Project Paleontologist			X	Water Authority			
GEOLOGY AND SOILS									
Mitigation Measures									
4.5-2 (FEIR MMRP)	A pre-construction geotechnical investigation shall be prepared to address geotechnical considerations related to constructing and operating all of the offsite project components including water delivery pipelines, the pump station, and surge control facilities. The report shall contain all necessary requirements to address any adverse soils conditions that may be encountered in final design of the facilities. The project will be required to adhere to all such requirements. The report shall include a discussion of site-specific	Construction Contractor	X			Water Authority			

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	geology, soils and foundational issues, a seismic hazards analysis to determine the potential for strong ground acceleration and ground shaking, potential groundwater issues, and structural design recommendations. The soil engineer and engineering geologist shall review the grading plans prior to finalization to verify the plans' compliance with the recommendations of the report. A third party review of the geotechnical report and final grading plans shall be conducted by the of the appropriate local jurisdiction (e.g., the City of Carlsbad) prior to issuance of grading permits and encroachment permits. Compliance with this measure shall be verified by the local jurisdiction.								
HAZARDS AND HAZARDOUS MATERIALS									
Mitigation Measures									
HAZ-1 (FEIR MMRP)	To mitigate the potential for exposure of existing contamination during construction of offsite pipelines, construction monitoring will be provided in areas identified as having the potential for such risks, and appropriate actions, as determined by the construction inspector shall be taken if such materials are encountered. Such actions may include avoidance or removal of contaminated materials, or special handling measures to avoid exposure to materials.	Construction Contractor		X		Water Authority			
HYDROLOGY AND WATER QUALITY									
Mitigation Measures									
HYDRO-1 (FEIR MMRP)	Prior to issuance of grading permits or other permits, the project applicant shall demonstrate compliance with all applicable regulations established by the United States Environmental	Construction Contractor	X	X	X	Water Authority			

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	Protection Agency (USEPA) as set forth in the National Pollutant Discharge Elimination System (NPDES) permit requirements for urban runoff and storm water discharge and any regulations adopted by the city within which construction will take place, pursuant to the NPDES regulations or requirements of that city (Carlsbad, Oceanside and Vista). Further, the applicant shall file a Notice of Intent (NOI) with the State Water Resources Control Board to obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activity and shall implement a Storm Water Pollution Prevention Plan (SWPPP) concurrent with the commencement of grading activities. The SWPPP shall include both construction and post-construction pollution prevention and pollution control measures and shall identify funding mechanisms for post-construction control measures. The following best management practices shall be adhered to during construction: • Gravel bags, silt fences, etc. shall be placed along the edge of all work areas as determined appropriate by the City's construction inspector in order to contain particulates prior to contact with receiving waters. • All concrete washing and spoils dumping will occur in a designated location. • Construction stockpiles will be covered in order to prevent blow-								

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	off or runoff during weather events. • A pollution control education plan shall be developed by the General Contractor and implemented throughout all phases of development and construction. • Severe weather event erosion control materials and devices shall be stored onsite for use as needed. Other best management practices as determined necessary by the								
HYDRO -2 (FEIR MMRP)	Prior to issuance of grading or building permits, whichever occurs first, the applicant shall submit for a Storm Water Management Plan (SWMP). The SWMP shall demonstrate compliance with the city of Carlsbad Standard Urban Storm water Mitigation Plan (SUSMP), Order 2001-01, issued by the San Diego Region of the California Regional Water Quality Control Board and City of Carlsbad Municipal Code.	Construction Contractor	X			Water Authority			
HYDRO-3 (FEIR MMRP)	Construction within any area the identifies as a 100-year flood hazard shall occur only during dry months (May 1 – September 30). The may waive this restriction if the applicant satisfactorily demonstrates, as determined by the, that construction would not impede or redirect flood flows and would not expose people or structures to flooding. Such demonstration shall occur before the issues grading or other permits to permit construction in the flood hazard area in the wet months and may require the applicant to submit plans and details regarding the type, location, quantities and duration of construction equipment and materials as well as any other information that the may require.	Construction Contractor	X	X		Water Authority			

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LAND USE/PLANNING									
Mitigation Measures									
LAND USE-1 (FEIR MMRP)	The applicant shall coordinate with and receive approval from the McClellan-Palomar Airport Operations Manager before constructing within the Airport Influence Area and particularly within any Flight Activity Zone and Runway Protection Zone or on airport property.	Construction Contractor	X			Water Authority			
NOISE AND VIBRATION									
Project Design Features									
Project Design Feature NOI-1	Consistent with the Water Authority's typical construction practices, temporary noise walls would be incorporated into the Project as project design features to reduce construction noise levels at nearby residences.			X		Water Authority			
TRANSPORTATION/TRAFFIC									
TRAFFIC-1 (FEIR MMRP)	Prior to issuance of grading permits and/or encroachment permits for work within public rights-of-way, the Applicant shall provide the ultimate location of soil disposal sites to the appropriate (if they are different from the disposal site identified in this analysis), and shall further demonstrate transport of soil and materials to and from the proposed sites will not result in Levels of Service during peak hour periods on affected roadways and intersections falling below acceptable standards established by the affected cities.	City Engineer(s), Construction Contractor	X			Water Authority			

Table 2-1
TOVWTP, Pipeline 3 Relining and Pipeline 4 Vent and Pipeline Replacement and Pipeline Interconnect Modifications

Project Design Features and MMRP Checklist

Design Feature/ Mitigation Measure No.	Mitigation Measures/Design Features	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Cost.		Initials	Date	
TRAFFIC-2 (FEIR MMRP)	Prior to improvement plan approval, a traffic control plan will be prepared for approval by each jurisdiction within which the project is proposed to be located. The traffic control plan will show all signage, striping, delineate detours, flagging operations and any other devices which will be used during construction to guide motorists safely through the construction zone and allow for adequate access and circulation, to the satisfaction of the city with applicable jurisdiction. The traffic control plan will also include provisions for coordinating with local emergency service providers regarding construction times and locations of lane closures as well as specifications for bicycle lane safety. The construction contractors will coordinate traffic diversions, street and lane closures, and obstruction of intersections with each jurisdiction's engineering department prior to commencing construction activities through the development of routing and detour plans. This Traffic Control Plan will be prepared in accordance with each jurisdiction's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties and businesses, and that emergency access will not be restricted. Additionally, the Plan will ensure that congestion and delay of traffic resulting from project construction are not substantially increased and will be of a short-term nature. The limits of construction work area(s) and suggested alternate traffic routes for through traffic will be published in a local newspaper	City Engineer(s), Construction Contractor	X	X		Water Authority			

Table 2-1
TOVWTP, Pipeline 3 Relining and Pipeline 4 Vent and Pipeline Replacement and Pipeline Interconnect Modifications

Project Design Features and MMRP Checklist

Design Feature/ Mitigation Measure No.	Mitigation Measures/Design Features	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Cost.		Initials	Date	
	periodically throughout the construction period. In addition, the construction contractor shall provide not less than a 2-week written notice prior to the start of construction by mailing to owners/occupants along streets to be impacted during construction. During construction, the contractor will ensure that continuous, unobstructed, safe and adequate pedestrian and vehicular access to and from public facilities such as schools, parks, post offices and fire stations. If normal access to these facilities is blocked by construction for more than four hours in any given workday, alternative access will be provided. The contractor will coordinate with each facility's administrators in preparing a plan for alternative access. During construction, the contractor will ensure that continuous, unobstructed, safe and adequate pedestrian and vehicular access remains to commercial/ industrial establishments during regular business hours. If normal access to business establishments is blocked by construction for more than four hours in any given workday, alternative access will be provided. The contractor, and possibly the, will coordinate with the businesses in preparing a plan for alternative access. During construction, the contractor will maintain continuous vehicular and pedestrian access to residential driveways from the public street to the private property line, except where necessary construction								

Table 2-1
TOVWTP, Pipeline 3 Relining and Pipeline 4 Vent and Pipeline Replacement and Pipeline Interconnect Modifications

Project Design Features and MMRP Checklist

Design Feature/ Mitigation Measure No.	Mitigation Measures/Design Features	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Cost.		Initials	Date	
	precludes such continuous access for reasonable periods of time. For example, when the pipeline is initially being excavated, access to individual driveways may be closed during the course of a workday. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, the construction contractor shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure. Methods to maintain safe, vehicular and pedestrian access includes the installation of temporary bridge or steel plates to cross over unfilled excavations. Whenever sidewalks or roadways are removed for construction, the contractor will place temporary sidewalks or roadways promptly after backfilling until the final restoration has been made. The traffic control plan will include provisions to ensure that the construction contractor's work in any public street does not interfere unnecessarily with the work of other agencies such as emergency service providers, mail delivery, school busses and waste services.								

Table 2-2
Macario Canyon Pipeline Alignment Modification and Pumping Well

and Aqueduct Connection Point Modification MMRP Checklist

Mitigation Measure No.	Mitigation Measures	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Cost.		Initials	Date	
AESTHETICS									
AES-4 (FEIR MMRP)	Construction staging areas within the PDP area shall be screened from public view or located in an area away from direct public view. Plans showing the staging area locations and screening shall be submitted to the Planning director or his/her designee for review and approval.	City Planner	X			City of Carlsbad			
BIOLOGICAL RESOURCES									
BIO-1 (FEIR MMRP)	Proposed mitigation for impacts to non-native grasslands shall be mitigated per the mitigation measure identified in the FEIR, FEIR MMRP, and consistent with City of Carlsbad Habitat Management Conservation Plan (HMP) by the payment of the in lieu impact fee in effect at the time HMP permit is issued for the proposed Macario Canyon Pipeline modification and pumping well.	Project Biologist, City Planner	X			City of Carlsbad			
BIO-3 (FEIR MMRP)	Indirect impacts including dust, soil erosion, pollution, siltation, and runoff shall be reduced through implementation of construction BMPs and implementation of an approved SWPPP. At a minimum, implementation of these practices shall include the following. • Placement of stockpiles of soils and materials such that they cause minimal interference with onsite drainage patterns. • Hay bale barriers or gravel bags shall be placed along areas of exposed soil to help reduce sedimentation during grading operations. • Placement of a silt curtain or other drainage control device	Project Biologist, City Planner		X		City of Carlsbad			

Table 2-2
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and Aqueduct Connection Point Modification MMRP Checklist

Mitigation Measure No.	Mitigation Measures	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Cost.		Initials	Date	
	around construction areas shall be required to protect natural drainage channels from sedimentation. • Any dewatering that is needed shall be conducted in accordance with the standard regulations of the RWQCB. A permit to discharge water from dewatering activities will be required. • Use of paved roadways or designated staging areas (existing developed areas) for all equipment and vehicle refueling and maintenance. • Implementation of dust control measures such as watering. • Temporary fencing of the limits of the construction area with clearly visible orange construction fencing. • Temporary fencing of the Nuttall's scrub oak population located adjacent to the work area and northeast of the intersection of El Camino Real and Palomar Airport Road to avoid impacts. In order to assure that these measures are adequately protecting adjacent biological resources, construction activity shall be monitored by a qualified biologist familiar with the sensitive flora and fauna of the area. Biological monitoring shall be of a frequency and duration necessary to reasonably assure that indirect impacts are minimized. This shall include implementation of a contractor education program, verification of proper construction and maintenance of staking/fencing, full-time monitoring of vegetation removal, periodic monitoring of construction activity adjacent to sensitive resource areas, and reporting of contractor compliance and impact minimization measures on a monthly basis. These measures shall ensure that indirect impacts on vegetation communities, including dust, erosion,								

Table 2-2
Macario Canyon Pipeline Alignment Modification and Pumping Well
and Aqueduct Connection Point Modification MMRP Checklist

Mitigation Measure No.	Mitigation Measures	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Cost.		Initials	Date	
	sedimentation, pollution, siltation, and runoff are reduced to level below significant.								
BIO-4 (FEIR MMRP)	The potential for direct impacts on coastal California gnatcatcher individuals shall be mitigated by restricting the clearing of coastal sage scrub within the project alignment to outside of the gnatcatcher breeding season (August 16 through February 14).	Project Biologist, City Planner		X		City of Carlsbad			
4.3-5 (FEIR MMRP)	Impacts to sensitive habitat areas would be less than significant. To avoid potential adverse effects from hydro-fracturing that could occur as a result of horizontal directional drilling or micro-tunneling, the applicant shall provide evidence to the local jurisdiction that demonstrates that the design of the drilling operation provides sufficient horizontal distance and depth from sensitive habitat areas. Information provided shall provide appropriate engineering calculations to demonstrate to the local jurisdiction's satisfaction that surface rupture will not occur within sensitive habitat areas.	Project Biologist, Project Acoustician, City Planner		X		City of Carlsbad			
CULTURAL RESOURCES									
CULT-1 (FEIR MMRP)	Refer to Table 2-1.	Project Archeologist		X		City of Carlsbad			
CULT-2 (FEIR MMRP)	Refer to Table 2-1.	Project Archeologist		X		City of Carlsbad			

Table 2-2
Macario Canyon Pipeline Alignment Modification and Pumping Well

and Aqueduct Connection Point Modification MMRP Checklist

Mitigation Measure No.	Mitigation Measures	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Cost.		Initials	Date	
CULT-3 (FEIR MMRP)	Refer to Table 2-1.	Project Paleontologist		X		City of Carlsbad			
CULT-4 (FEIR MMRP)	Refer to Table 2-1.	Project Paleontologist		X		City of Carlsbad			
CULT-5 (FEIR MMRP)	Refer to Table 2-1.	Project Paleontologist		X		City of Carlsbad			
GEOLOGY AND SOILS									
GEO-2 (FEIR MMRP)	Refer to Table 2-1.	City Engineer		X		City of Carlsbad			

Table 2-2
Macario Canyon Pipeline Alignment Modification and Pumping Well
and Aqueduct Connection Point Modification MMRP Checklist

Mitigation Measure No.	Mitigation Measures	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Cost.		Initials	Date	
HAZARDS AND HAZARDOUS MATERIALS									
HAZ-1 (FEIR MMRP)	Refer to Table 2-1.	City Engineer		x		City of Carlsbad			
HAZ-3 (FEIR MMRP)	All hazardous materials shall be handled and stored in accordance with all applicable federal, state and local codes and regulations. Specific requirements of the California Fire Code that reduce the risk of fire or the potential for a release of hazardous materials that could affect public health or environment include: • Provision of an automatic sprinkler system for indoor hazardous material storage areas; • Provision of an exhaust system for indoor hazardous material storage areas; • Separation of incompatible materials by isolating them from each other with noncombustible partition. • Location of incompatible materials as far away from each other as practical. • Spill control in all storage, handling and dispensing areas; • Separate secondary containment for each liquid chemical storage system. The secondary containment shall be designed to hold 110 % of the entire contents of the tank. The secondary containment for the cleaning chemicals located inside the RO building shall have an extra volume to hold the water for the fire suppression system that could be used for fire protection for a period of 20 minutes in the event of a catastrophic spill. The secondary	County of San Diego Dept. of Public Health and City's Fire Inspector		X	X	City of Carlsbad			

Table 2-2
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and Aqueduct Connection Point Modification MMRP Checklist

Mitigation Measure No.	Mitigation Measures	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Cost.		Initials	Date	
	containment of the chemical storage tanks located outside the RO building shall have extra storage capacity to hold precipitation from a 25-year, 24-hour event. • Use of chlorine in liquid form (sodium hypochlorite) to mitigate concerns associated with accidental toxic gas plume releases and potential odor emissions from the chlorine storage facility; • Use of aqua ammonia of concentration below the regulatory threshold limit of 20 % and amount below the regulatory threshold of 20,000 gallons to mitigate concerns associated with accidental release of significant toxic ammonia gas plume releases. All liquid chemical storage tanks shall be equipped with a pressure relief valve, vapor equalization, a carbon filter vent, and vacuum breaker. Any potential vapor fume releases from the storage tanks shall be absorbed by the carbon filter vent, thereby providing an effective odor control for volatile chemicals, such as ammonia and chlorine.								
HYDROLOGY AND WATER QUALITY									
HYDRO -1 (FEIR MMRP)	Refer to Table 2-1.	City Planner/Engineer		X		City of Carlsbad			
HYDRO-2 (FEIR MMRP)	Refer to Table 2-1.	City Planner/Engineer		X		City of Carlsbad			

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and Aqueduct Connection Point Modification MMRP Checklist

Mitigation Measure No.	Mitigation Measures	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Cost.		Initials	Date	
HYDRO-3 (FEIR MMRP)	Refer to Table 2-1.	City Planner/Engineer		X		City of Carlsbad			
LAND USE/PLANNING									
LAND USE-1 (FEIR MMRP)	Refer to Table 2-1.	City Planner		X		City of Carlsbad			
TRANSPORTATION/TRAFFIC									
TRAFFIC-1 (FEIR MMRP)	Refer to Table 2-1.	City Engineer	X	X		City of Carlsbad			
TRAFFIC-2 (FEIR MMRP)	Refer to Table 2-1.	City Engineer	X	X		City of Carlsbad			